

SOVIET FOREIGN TRADE IN THE NEP ECONOMY  
AND SOVIET INDUSTRIALIZATION STRATEGY

by

MICHAEL REPPLIER DOHAN  
B.A., Haverford College  
(1961)

SUBMITTED IN PARTIAL FULFILLMENT  
OF THE REQUIREMENTS FOR THE  
DEGREE OF DOCTOR OF  
PHILOSOPHY

at the

MASSACHUSETTS INSTITUTE OF  
TECHNOLOGY

September 1969

Signature of Author.....

Department of Economics, August 18, 1969

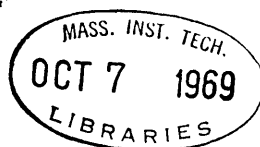
Certified by.....

Thesis Supervisor

Accepted by.....

Chairman, Departmental Committee  
on Graduate Students

Archives



## SOVIET FOREIGN TRADE IN THE NEP ECONOMY AND SOVIET INDUSTRIALIZATION STRATEGY

Michael Repplier Dohan

Submitted to the Department of Economics on August 18, 1969 in partial fulfillment of the requirement for the degree of Doctor of Philosophy.

Problem: The study is an economic analysis of the growth of Soviet foreign trade, foreign trade plans, and Soviet foreign trade policy during the period 1921-1928 (the NEP period). Two focal questions of this study are the causes of export stagnation and the effects of the resultant import constraint and balance of payments problems on the recovery of Soviet economy and economic policy decisions. Analysis is concentrated on the interaction between the problems and poor performance in foreign trade sector and 1) changes in the operation and institutions of Soviet foreign trade, 2) Soviet agricultural policies, 3) Soviet goals of rapid growth, price stability, political stability and social justice, 4) foreign market structure, and 5) various Soviet policies (including export-expansion and import-substitution) to accelerate economic growth and industrialization during both the NEP and in the adoption of the 1st FYP.

New statistical data: The study develops several new statistical resources for the period 1913-1940 including 1) the foreign trade plans for the NEP and for the FYP, 2) new estimates of the prices and volume indexes for total foreign trade and by commodity group, 3) estimates of Soviet export of precious metals, Soviet foreign reserves and Soviet foreign debt, 4) estimates of the import-consumption ratios and export-output ratios for pre-1914 and Soviet foreign trade, 5) time series of domestic and foreign prices of selected exports, and 6) estimates of the purchasing power of selected agricultural products. The reliability and classification of Soviet foreign trade statistics are evaluated.

Findings: The important characteristics of pre-1914 Russian foreign trade were that 1) export-output ratios for most exports were relatively small, 2) import-consumption ratios were high for many materials and machinery products, 3) light industry was significantly dependent on imported materials, 4) investment was significantly dependent on imported machinery, 5) exports lagged behind imports during industrialization in the late 1890's, 6) exports consisted largely of agricultural products, and 7) much import substitution was occurring in pre-1914 Russia.

World War I, civil war and nationalization totally disrupted Russian foreign trade and destroyed much of the foreign trade network.

Soviet foreign trade recovered slowly relative to other sectors and stagnated far below pre-1914 levels. Despite depletion of foreign reserves and accumulation of foreign debt during the NEP, imports could not supply sufficient materials to Soviet industry. Materials shortage restricted the growth of light industrial output and the initial output plans (especially light industry) had to be reduced because of cutbacks in the initial import plan. The demand for materials led to a curtailment of finished consumer goods imports, but the share of imports used directly or indirectly by the consumer (including materials used for consumer



goods) remained high and contrasted sharply with developments during the 1st FYP. Machinery imports were financed largely by foreign credits; by the end of the NEP, Soviet planners worried about machinery shortages as a potential constraint on investment. Increasing emphasis was placed on import-substitution as the shortage of import capacity intensified; import-substitution followed pre-1914 trends.

Although other agricultural and industrial exports also failed to recover, the low-level stagnation and collapse of Soviet grain exports was the major cause for the poor recovery of Soviet exports. The study examined various causes for the failure of Soviet exports to recover to pre-1914 levels. Territorial losses were an insignificant factor in retarding the recovery of most exports to pre-1914 levels, and should have actually increased the export capacity for grain. The terms of trade were slightly better than before 1914. Limited foreign markets hindered the expansion of some exports, (particularly of products of the extractive industries and several agricultural products). The major constraint, however, was the inability of the Soviet government to formulate an appropriate set of policy measures both with respect to aggregate demand and to relative prices, wages, and economic institutions to expand exports through the production or marketing of exportable surpluses. Increasing overvaluation of the ruble forced the Soviet government to abandon their goal of 1) reestablishing a convertible gold ruble, and 2) reestablishing Soviet foreign trade operations on the basis of commercial profitability and initiative of individual enterprises. Exports were "forced" and foreign prices ceased to influence domestic prices of export goods (especially in agriculture).

The foreign trade plans for the first FYP (1928/29-1932/33) projected high growth rates for exports based on industrial exports in the early years and then on a resumption of grain exports based on moderate collectivization of agriculture. Imports were to expand at a lower rate than exports because of balance of payments pressures. Imports were considered a major constraint on growth and much import substitution was planned.

Despite the forced expansion of exports during 1929-32, a huge trade deficit was incurred, which was financed by short term debt and precious metals export. The deficit was caused by the collapse of the Soviet terms of trade in 1929-33. Trade barriers against Soviet exports, increasing domestic shortages of export goods, instability of foreign credits and adverse terms of trade all contributed to the Soviet government's decision to sharply reduce imports (and exports) in 1932-34 and run a trade surplus to avoid default on outstanding debt. The level of imports and exports during the mid-1930's was not the result of a policy of economic autarky but the result of unexpected developments in the world and domestic economy.

Thesis Supervisor: Evsey D. Domar  
Title: Professor of Economics

TO BLANCHE AND MICHAEL B.

## ACKNOWLEDGMENTS

I would like to acknowledge my indebtedness to Professor Evsey D. Domar, under whose direction this study was conducted. An additional note of gratitude goes to Professor Charles P. Kindleberger, who was kind enough to make extensive comments on the preliminary draft, and Professor Richard Eckaus. Many others have read and commented on parts of this study including Professor Holland Hunter of Haverford College, Professor Abram Bergson of Harvard University, Professor Merle Fainsod of Harvard University, and my colleagues at the California Institute of Technology. The faults and errors which remain are, of course, to be attributed solely to the author.

Financial support had been provided in various forms and at various times by the Foreign Area Fellowship Program of the Ford Foundation, the Massachusetts Institute of Technology and by the Division of Humanities and Social Sciences of the California Institute of Technology. The California Institute of Technology also provided invaluable secretarial assistance, computer facilities and library facilities. Especial mention must be made of Ruth Bowen, Inter-library Loan Librarian of the Millikan Library of California Institute of Technology, for she accomplished impossible feats in locating obscure journals and books throughout the country. Acknowledgment should also be made for the invaluable help rendered by the Russian

Research Center of Harvard University, by the secretarial staff of the Division of Humanities and Social Sciences of the California Institute of Technology, and by the MIT, Harvard and UCLA's libraries.

Special thanks must be given to Miss Constance Viancour of the California Institute of Technology who ably typed much of both the first draft and the final manuscript and to Mrs. Ann Ringle and Miss Pamela Hawes, both of Harvard University, whose cheerful and skillful secretarial assistance much lightened the otherwise thankless task of preparing the final manuscript.

Last, I thank my wife who supported this work in infinite ways, not only through innumerable hours of typing and computational work, but also as an insightful critic and discussant of ideas and issues.

Michael R. Dohan

August 1969  
Cambridge, Massachusetts

## TABLE OF CONTENTS

	Page
ABSTRACT . . . . .	2
ACKNOWLEDGMENTS . . . . .	5
TABLE OF CONTENTS . . . . .	7
LIST OF TABLES IN TEXT AND APPENDIXES . . . . .	12
LIST OF TABLES IN TABULAR SECTION . . . . .	19
LIST OF FIGURES. . . . .	23
ABBREVIATIONS USED IN STUDY . . . . .	24
CHAPTER	
I. INTRODUCTION . . . . .	25
II. THEORETICAL AND POLICY ISSUES IN THE SOVIET ECONOMIC RECOVERY AND FOREIGN TRADE DURING THE NEP. . . . .	49
Goals and constraints in the NEP Soviet economy. . . . .	49
Theoretical issues in the recovery of Soviet foreign trade during NEP . . . . .	59
Foreign trade and the Soviet industrialization debate. . . . .	74
III. RUSSIAN ECONOMIC GROWTH AND FOREIGN TRADE . . . . .	89
Tsarist Russia: growth and trade. . . . .	89
World War I and Russian foreign trade . . . . .	154
Loss of Baltic territories and future Russian foreign trade. . . . .	157

CHAPTER	Page
IV. COLLAPSE AND RECONSTRUCTION OF SOVIET FOREIGN TRADE IN EARLY YEARS 1927 - 1922/23 . . . . .	170
V. THE FIRST GOOD YEAR 1923/24: GRAIN EXPORTS	182
Factors influencing the 1923/24 foreign trade plan. . . . .	182
The 1923/24 foreign trade plan . . . . .	188
Fulfillment of the 1923/24 foreign trade plan . . . . .	194
VI. FIRST PERSPECTIVE PLAN FOR FOREIGN TRADE 1923/24 - 1927/28 . . . . .	203
VII. THE FIRST SETBACK IN 1924/25: AND UNPLANNED GRAIN IMPORTS	214
Economic factors in the 1924/25 foreign trade plan. . . . .	214
1924/25 foreign trade plan. . . . .	215
Fulfillment of the 1924/25 foreign trade plan . . . . .	221
Exports and imports of grain in 1924/25 . . . . .	222
Economic policy, price stability and foreign trade in 1924/25 . . . . .	235
VIII. THE YEAR OF MISCALCULATION 1925/26: CRISIS IN A GOOD YEAR	244
Factors influencing the foreign trade of 1925/26 . . . . .	244
The 1925/26 foreign trade plan. . . . .	247
Grain exports in 1925/26: plan and failure . . . . .	263
Poor growth of non-grain exports . . . . .	295
Effect of import restrictions on economy . . . . .	305
Balance of payments, gold shipments, credits and reserves 1925/26. . . . .	312
IX. A MIDDLING GOOD YEAR: 1926/27 PAYMENTS SURPLUS	322
The 1926/27 foreign trade plan . . . . .	324
Good fulfillment of the 1926/27 foreign trade plan. . . . .	331
Grain exports and plan in 1926/27 (AY) . . . . .	334
Imports and plan. . . . .	362

CHAPTER	Page	
IX.	Industrial materials and import substitution . . . . .	365
	Overvalued ruble and a new import tariff . .	374
	Summary, the problem of exports . . . . .	378
X.	STAGNATION OF EXPORTS 1927/28: CRISIS IN A BAD YEAR	381
	Outlook and goals for foreign trade in 1927/28. . . . .	381
	Foreign trade plan 1927/28 . . . . .	396
	Foreign trade in 1927/28 . . . . .	398
	Rapid import expansion in 1927/28: its causes . . . . .	411
XI.	SOVIET FOREIGN TRADE AND THE "GRAIN PROBLEM" DURING NEP	421
	The collapse of grain exports and the stagnation of Soviet foreign trade during NEP . . . . .	421
	The grain problem and the 1927/28 marketing crisis . . . . .	425
	Alternative explanations of the grain marketing problem during the NEP . . . . .	430
	Relative prices, the grain problem and foreign trade. . . . .	452
	Addendum to Chapter XI . . . . .	468
XII.	THE RECOVERY OF SOVIET FOREIGN TRADE DURING THE NEP AND THE PROBLEM OF RAPID INDUSTRIALIZATION: SUMMARY AND CONCLUSIONS	470
	Failure of Soviet foreign trade to recover during NEP . . . . .	470
	Terms of trade . . . . .	474
	Balance of trade and payments during the NEP . . . . .	475
	Fundamental changes in the planning criteria for export and import . . . . .	481
	Problems in the poor recovery of exports during NEP . . . . .	488
	Imports and economic recovery during NEP: summary. . . . .	503

## CHAPTER

Page

XIII. FOREIGN TRADE PLANS AND SOVIET  
INDUSTRIALIZATION STRATEGY IN THE  
FIRST FIVE YEAR PLAN

512

Drafting of the five year perspective plans and foreign trade during the NEP. . . . .	512
VSNKh's import plan 1927/28 - 1931/32 . . . .	519
Foreign trade plan for draft FYP 1928/29 - 1932/33 . . . . .	522
The final foreign trade plan for the approved version of the 1st FYP . . . . .	535
Equilibrium in the 1st FYP and import substitution . . . . .	551
Foreign trade during NEP and the decisions on the 1st FYP . . . . .	558

XIV. POSTSCRIPT: THE SOVIET FOREIGN TRADE  
CRISIS AND SOVIET ECONOMIC AUTARKY IN  
THE 1930's

560

Foreign trade and the 1st FYP. . . . .	560
Foreign trade and the revised (revealed ?) priorities of the FYP: A hypothesis . . . .	575
The Soviet foreign trade and payments crisis 1932-33. . . . .	593
1934 - toward stabilization at lower levels of trade . . . . .	612
The sequel: moderate trade expansion in 1935-1938 . . . . .	615
Soviet goals and absolute autarky . . . . .	619

TABULAR SECTION. . . . . 620

APPENDIXES . . . . . 701

A. TECHNICAL NOTES

Technical note 1: sources of Soviet foreign trade statistics . . . . .	701
Technical note 2: reliability and related problems in using Soviet foreign trade statistics . . . . .	710
Technical note 3: differences in recorded aggregate statistics of Soviet foreign trade. . . . .	728



APPENDIXES	Page	
A.	Technical note 4: classification system used to record and plan Soviet foreign trade during the 1920's and early 1930's. . . . .	733
	Technical note 5: unified trade classification system for Soviet foreign trade statistics used in VTSSR-60 . . . . .	743
	Technical note 6: usage of the expression "khlebnye eksport" (grain export) in Soviet and Russian foreign trade statistics. . . . .	743
B.	NOTES TO TABLES AND FIGURES IN CHAPTER I TO XIV. . . . .	751
C.	NOTES TO TABLES IN TABULAR SECTION. . . . .	787
D.	ESTIMATES OF SOVIET FOREIGN TRADE IN GOLD, SILVER, AND PLATINUM . . . . .	837
E.	ESTIMATES OF SOVIET FOREIGN RESERVE HOLDINGS. . . . .	861
F.	ESTIMATING PRICE AND VOLUME INDEXES FOR SOVIET FOREIGN TRADE 1913, 1924-1938 . . . . .	873
	BIBLIOGRAPHY. . . . .	926
	BIOGRAPHICAL NOTE . . . . .	966

## LIST OF TABLES IN TEXT AND APPENDIXES

Table		Page
III. 1	The foreign trade of Russia, 1887-1913. . . . .	93
III. 2	Russia: value of exports by commodity group 1909-13. . . . .	96
III. 3	Growth and structure of Russian exports 1909-1913 .	98
III. 4	Russian exports of selected commodities by weight 1909-1913. . . . .	100
III. 5	Gross harvest, export and shipment of major grains in the Russian empire 1909-13. . . . .	107
III. 6	Russian grain harvest and export 1891-1913. . . . .	109
III. 7	Russian harvest and export of wheat, rye, barley and oats 1895-1913. . . . .	112
III. 8	Structure of Russian imports, 1909-13 and 1913. . .	114
III. 9	The development of Russian imports 1886-1913 . . .	117
III. 10	Russian: dependence of economy on imports . . . .	121
III. 11	Import substitution in Russia, 1876-1892, 1913 . . .	126
III. 12	Russia: estimates of cotton production and imports 1900-1915. . . . .	127
III. 13	Russia: pre-1914 wool imports and yarn output . . .	128
III. 14	Relative importance of imported machinery in machinery supply to Russia in 1913 . . . . .	130
III. 15	Russia: imports and sales of agricultural machinery 1900-1913. . . . .	139
III. 16	Russia: production and imports of agricultural machinery in 1913 . . . . .	140
III. 17	Machinery not produced in Tsarist Russia . . . . .	142
III. 18	Russia: balance of payments during 1881-1897 and 1898-1913. . . . .	151

Table	Page
III. 19	Foreign trade of Russia and the USSR 1913-1924. . . . . 155
III. 20	Comparison of industrial output of selected commodities in territory of Russia and territory of the USSR in 1913. . . . . 159
III. 21	Russia: share of output in 1913 located in separated territories . . . . . 161
III. 22	Russia: share of sown area and agricultural output in 1913 located in the separated territories . . . . . 163
III. 23	Exports of selected products in 1913 from the territory of Russia and from the future territory of the USSR 1909-1913, 1913. . . . . 165
III. 24	Official Soviet estimates of foreign trade in 1913 for Russia and future territory of USSR . . . . . 166
IV. 1	USSR: recovery of economy and of foreign trade 1920-1924/25 . . . . . 177
V. 1	USSR: export plan and exports across all borders 1923/24 . . . . . 189
V. 2	USSR: estimated exportable surpluses and actual exports in 1923/24 . . . . . 191
VI. 1	USSR: Gosplan's five-year plan for exports 1923/24 - 1927/28 . . . . . 205
VI. 2	USSR: Gosplan's five-year plan for imports 1923/24 - 1927/28 . . . . . 207
VII. 1	USSR: export plan and exports 1924/25. . . . . 217
VIII. 1	USSR: foreign trade and foreign trade plan 1925/26 (orientation figures, July 31, 1925). . . . . 249
VIII. 2	USSR: official exchange rate of foreign currency and exchange rate of foreign currency on the private exchange market 1923/1926. . . . . 315
VIII. 3	Exchange rate of chervonets on foreign exchanges 1924-1927 . . . . . 317
IX. 1	USSR: 1926/27 export plan . . . . . 330

Table	Page
XI. 1	USSR: gross harvest of all grain and marketable surplus on Soviet territory . . . . . .434
XII. 1	USSR: the recovery of Soviet foreign trade, 1913, 1922/23 - 1927/28 . . . . . .472
XIII. 1	USSR: orientation estimates of exports in 1932/33 of draft FYP (basic and optimal variants) compared with exports of 1927/28 . . . . . .524
XIII. 2	USSR: orientation estimates of import requirements for draft FYP in 1932/33 compared with imports of 1927/28 . . . . . .525
XIII. 3	USSR: planned import substitution in draft variant and in optimal variant of FYP, 1913, 1927/28, 1932/33, 1932, 1933 . . . . . .531
XIII. 4	USSR: foreign trade plan for value of exports and imports during 1st FYP . . . . . .537
XIII. 5	USSR: index of foreign trade planned for 1st FYP and based on the value of exports and imports in current prices, 1927/28 = 100 . . . . . .538
XIII. 6	USSR: annual growth rates of foreign trade during NEP and planned for 1st FYP . . . . . .539
XIII. 7	USSR: structure of foreign trade during NEP and planned structure during 1st FYP . . . . . .540
XIII. 8	USSR: projected annual grain exports for 1st FYP and their effect on the total foreign trade plan . . . . .541
XIII. 9	USSR: NKT's export plan for 1st FYP and for 1932/33 compared to 1927/28 . . . . . .542
XIII. 10	USSR: NKT's import plan for 1st FYP (1928/29 - 1932/33) . . . . . .545
XIII. 11	Comparison of foreign trade plan and basic indicators of the optimal variant of the FYP . . . . . .546
XIV. 1	USSR: gross grain product exports 1927/28 - 1934 . .562
XIV. 2	USSR: machinery imports for industry and transport, planned and actual imports 1927/28 - 1933 . . . . .568

Table	Page
XIV. 3	USSR: exports, imports and balance of trade in current prices, 1922/23 - 1940 . . . . . 576
XIV. 4	USSR: volume index for exports, 1913, 1922/23 - 1938 . . . . . 579
XIV. 5	USSR: volume index for imports, 1913, 1922/23 - 1938 . . . . . 580
XIV. 6	USSR: price index for exports, 1913, 1922/23 - 1938 . . . . . 581
XIV. 7	USSR: price index for imports, 1913, 1922/23 - 1938 . . . . . 582
XIV. 8	USSR: commodity terms of trade, 1913, 1922/23 - 1938 . . . . . 583
XIV. 9	USSR: volume indexes for selected export commodity groups, 1923/24 - 1938 . . . . . 584
XIV. 10	USSR: volume indexes for selected import commodity groups, 1923/24 - 1938 . . . . . 585
XIV. 11	USSR: import-supply ratios, imports and total supply for selected commodities . . . . . 586
XIV. 12	USSR: consumer-oriented imports, 1913, 1923/24 - 1938 . . . . . 589
A. 1a	USSR: foreign trade rubles and conversion coefficients . . . . . 704
A. 1b	USSR: exports, imports, and balance of trade across all borders: quarterly data 1924 - 1938 . . . . . 711
A. 1c	USSR: exports, imports and balance of trade, monthly data 1924 - 1937 . . . . . 712
A. 2a	USSR: exports and imports of precious metals reported in VTSSSR-60 for the commodity group SOVTC 28 "precious metals" . . . . . 722
A. 3a	USSR: Data for total exports and total imports reported in selected sources, 1913, 1920 - 1930 . . . . . 729

Table	Page
A. 4a	USSR: basic commodity classification for Soviet exports used during the 1920's and the early 1930's . . . . . 736
A. 4b	USSR: basic commodity classification for Soviet imports used during the 1920's and the early 1930's . . . . . 740
A. 5	Summary of uniform commodity nomenclature used in VTSSSR-60 . . . . . 744
D. 1	Export and import of gold from the USSR reported by other countries 1920 - 1938 . . . . . 843
D. 2	USSR: estimates of the value of gold export . . . . . 844
D. 3	USSR: exports and imports of silver 1924 - 1937. . . . . 845
D. 4	USSR: export of platinum by weight. . . . . 846
D. 5	USSR: estimates of the value of platinum export 1922 - 1938 . . . . . 847
D. 6	Unit values and New York prices of platinum. . . . . 848
D. 7	USSR: annual average exchange rate at official rate in rubles. . . . . 849
D. 8	USSR: net exports of precious metals, 1923 - 1938. . . . . 851
D. 9	USSR: exports and imports of precious metals. . . . . 852
E. 1	USSR: stock of gold based on Golowatscheff's study 1923 - 1928. . . . . 867
E. 2	USSR: estimates of foreign reserves excluding gold based on non-gold reserves of State Bank 1923 - 1935 . . . . . 868
E. 3	USSR: estimates of total foreign reserves 1923 - 1938 . . . . . 869
E. 4	USSR: value and quantity of platinum output 1922/23 - 1927/28 . . . . . 870
E. 5	USSR: gold output, 1922/23 - 1926/27 . . . . . 870

Table	Page
F. 1	Items included in the basic price and volume indexes for Soviet imports . . . . . 901
F. 2	USSR: weights for combining components of total export index and ratios used adjusting basic export volume index for changes in coverage . . . . . 902
F. 3	USSR: basic volume indexes for exports, 1913, 1922/23 - 1938 . . . . . 903
F. 4	USSR: basic volume indexes for exports adjusted for changes in coverage of basic index . . . . . 904
F. 5	Items included in the basic price and volume indexes for Soviet imports . . . . . 905
F. 6	USSR: weights for combining components of import indexes . . . . . 906
F. 7	USSR: basic volume indexes for imports . . . . . 907
F. 8	USSR: basic volume indexes for imports adjusted for changes in coverage of basic index . . . . . 908
F. 9	Coefficients of devaluation of the dollar and the pound sterling . . . . . 909
F. 10	USSR: unit values of Soviet fur exports for aggregate fur exports, raw furs, dressed furs, and dressed and dyed furs . . . . . 910
F. 11	USSR: index of fur prices for eight major raw furs . . 911
F. 12	USSR: volume index of raw fur exports . . . . . 912
F. 13	USSR: price index of all furs exports, 1913, 1922/23 - 1938 . . . . . 913
F. 14	USSR: volume index of all fur exports, 1913, 1922/23 - 1938 . . . . . 914
F. 15	Price indexes used for deflating Soviet machinery imports . . . . . 915
F. 16	USSR: comparison of price indexes of machinery imports based on American and German price indexes, 1913, 1927/28, 1937 . . . . . 916

Table		Page
F. 17	USSR: comparison of volume of machinery imports deflated with American and German price indexes for the general machinery component 1913 - 1938 .	917
F. 18	USSR: comparison of volume of imports estimated with German machinery price indexes and American machinery price indexes, 1913 - 1938. .	918
F. 19	USSR: comparison of import price indexes estimated with German machinery price indexes and American machinery prices, 1913 - 1938. . . .	919
F. 20	USSR: volume index for Soviet imports of manufactured consumer goods . . . . .	920



## LIST OF TABLES IN TABULAR SECTION

Table	Page
T-1	USSR: annual foreign trade plans during the NEP: 1923/24 - 1927/28 . . . . . 620
T-2	USSR: value of exports, 1913, 1923/24 - 1927/28 . . . . 622
T-3	USSR: quantities of exports for selected products, 1913, 1923/24 - 1927/28 . . . . . 624
T-4	USSR: structure of exports, 1913, 1923/24 - 1927/28 . . 626
T-5	USSR: value of imports, 1913, 1923/24 - 1927/28 . . . . 628
T-6	USSR: quantity of imports for selected commodities, 1913, 1923/24 - 1927/28 . . . . . 630
T-7	USSR: structure of imports, 1913, 1923/24 - 1927/28. . 632
T-8	USSR: harvest, procurements and exports of grain products 1909-13, 1922-1930 . . . . . 634
T-9	USSR: exports of grains and related products, 1909-13 to 1928/29 . . . . . 636
T-10	USSR: procurement and exports of grain and related products: quarterly data 1924-1929. . . . . 637
T-11	USSR: exports of grain and related products, value and quantity, 1909-13, 1923/24 - 1927/28 . . . . . 638
T-12	USSR; per capita output of grain products, 1913, 1924-1938 . . . . . 639
T-13	USSR: foreign trade in current and 1913 prices 1909-13 to 1927/28 . . . . . 640
T-14	USSR: estimates of Soviet balance of payments: 1924/25 - 1930/31 . . . . . 641
T-15	USSR: estimates of foreign debt 1923-1936 . . . . . 643

Table		Page
T-16	USSR: estimates of exports and imports of precious metals: 1925-1938. . . . .	644
T-17	USSR: estimates of Soviet foreign reserves 1924-1930. . . . .	646
T-18	USSR: consumer-oriented imports, 1913, 1923/24 - 1927/28 . . . . .	647
T-19	USSR: exports classified by producing sector, 1913, 1923/24 - 1927/28 . . . . .	648
T-20	USSR: ratio of export to output, marketing or procurements for selected commodities, 1909-13, 1913, 1924/25 - 1927/28 . . . . .	649
T-21	USSR: ratio of imports to total supply of selected commodities during NEP . . . . .	653
T-22	USSR: import-supply ratios for selected types of machinery during NEP. . . . .	654
T-23	USSR: investment and machinery supply to industry and electric power installations. . . . .	655
T-24	USSR: volume indexes for exports, 1913, 1922/23 - 1927/28 . . . . .	656
T-25	USSR: volume indexes for imports, 1913, 1922/23 - 1927/28 . . . . .	657
T-26	USSR: volume of exports of selected commodity groups, 1913, 1923/24 - 1929 . . . . .	658
T-27	USSR: volume of imports of selected commodity groups, 1913, 1923/24 - 1929 . . . . .	659
T-28	USSR: export price indexes, import price indexes and commodity terms of trade, 1913, 1924/25 - 1931. . . . .	660
T-29	USSR: export price indexes of selected commodity groups, 1913, 1924/25 - 1929 . . . . .	661
T-30	USSR: import price indexes of selected commodity groups, 1913, 1924/25 - 1929 . . . . .	662

Table	Page
T-31	USSR: wholesale price index by Gosplan. . . . . 663
T-32	USSR: retail price index for goods sold in the private trade: old series, 1924-1927 . . . . . 665
T-33	USSR: retail price index for goods sold in the private trade: new series, 1927-1928. . . . . 666
T-34	USSR: agricultural procurement price index for agricultural products purchased by centrally planned procurement agencies, 1924/25 - 1928/29. . . . . 668
T-35	USSR: purchasing power of agricultural goods in terms of manufactured consumer goods sold in the private trade 1924-1929 . . . . . 671
T-36	USSR: prices paid by private traders and planned agencies for four major grains, 1925/26 - 1928/29. 674
T-37	Wholesale price indexes for selected trading partners of the USSR, 1913-1938. . . . . 675
T-38	Price of wheat on USSR and foreign markets, 1909-13 - 1929 . . . . . 676
T-39	Price of rye on USSR and foreign markets, 1909-13 - 1929 . . . . . 679
T-40	Price of barley on USSR and foreign markets, 1909-13 - 1929 . . . . . 682
T-41	Price of flax on USSR and foreign markets, 1909-13 - 1929 . . . . . 684
T-42	Prices of butter and eggs on USSR and foreign markets, 1909-13 - 1929 . . . . . 686
T-43	USSR: estimates of profitability of grain exports (all grains), 1923/24 - 1926/27 . . . . . 688
T-44	USSR: estimates of profitability of flax exports, 1924 -1926. . . . . 688
T-45	USSR: estimates of profitability of butter exports, 1913-1925/26 . . . . . 689

Table		Page
T-46	USSR: estimates of profitability of egg exports, 1925-1926. . . . .	689
T-47	Import tariffs for Russia and the USSR enacted in 1903, 1922, 1924, 1927 . . . . .	690
T-48	USSR: population, total, urban, rural 1913-1939. . . . .	694
T-49	USSR: estimates of livestock, 1916-1938. . . . .	695
T-50	USSR: gross capital investment in fixed capital in the socialist sector 1923/24 - 1938. . . . .	696
T-51	USSR: export, output, procurements and marketing of selected agricultural products: 1909-13, 1913, 1924/25 - 1927/28 . . . . .	698

## LIST OF FIGURES

Figure		Page
II.1	Foreign trade equilibrium of Soviet foreign trade monopoly and Tsarist free trade. . . . .	60
II.2	"Optimum" grain purchase-export program by state trading agency with grain purchase monopsony and cloth sales monopoly . . . . .	67
II.3	"Optimum" grain purchase-export program by state trading agency facing imperfect world markets. . . . .	70
II.4	Effect of reduction of fixed monetary obligations of peasant on peasant marketing of grain . . . . .	73
II.5	Effect on private traders' prices when official prices are "forced reduced" below the market clearing price . . . . .	86
VIII.1	USSR: foreign prices, procurement prices, and procurements of wheat by month, 1925-1929. . . . .	284
VIII.2	USSR: foreign prices, procurement prices, and procurements of rye by month, 1925-1929. . . . .	285
VIII.3	USSR: foreign prices, procurement prices, and procurements of barley by month, 1925-1929 . . . . .	286
IX.1	Indexes of prices paid by state procurement agencies for grain products and butter-eggs-meat, 1924-1929. . . . .	402

## LIST OF ABBREVIATIONS

NKT	Narodnye Kommissariat Torgovli (People's Commissariat of Trade).
NKVT	Narodnye Kommissariat Vneshnei Torgovli (People's Commissariat of Foreign Trade).
Gosplan	Gosudarstvennaia Planovaia Kommissiia (State Planning Commission)
VSNKh	Vysshii Sovet Narodnogo Khoziaistva (Supreme Council of the National Economy)
Gostorg	Gosudarstvennaia Eksportno-importnaia kontora (State import-export bureau)
pood	a Russian measure of weight equal to 16.3805 kilograms
FYP	Five Year Plan
m. t.	metric ton
kg	kilogram
smychka	Literally link, clasps; used in reference to "links between the town and country (i. e., worker-peasant alliance).
[       ]	estimates of data based on secondary sources
(       )	simple extrapolation, interpolations on averages

## CHAPTER I

## INTRODUCTION

Purpose of study

This study examines the development of Soviet foreign trade, foreign trade plans, and foreign trade policy during the period 1921-1928 (the NEP period). An attempt is made to identify the causes of export stagnation and the effects of the resultant import constraints on the rapidly growing Soviet economy. The study is focused on the interaction between the problems and poor performance in the foreign trade sector and Soviet agricultural policies, Soviet goals of growth, price stability political stability and social justice and various Soviet policies (including export-expansion and import-substitution) to accelerate economic growth and industrialization during both the NEP and in the adoption of the 1st FYP. Little was known about Soviet problems in the foreign trade sector during NEP so that it was not possible to evaluate the feasibility (much less the optimality) of the various growth strategies debated prior to the adoption of the 1st FYP from the viewpoint of the constraints imposed on economic growth by foreign trade and from the viewpoint of the opportunities offered for growth by foreign trade.<sup>1</sup> Because of this lack of

---

<sup>1</sup> The debate among Soviet economists about industrialization strategy and economic goals in the 1920's has been carefully analyzed in Erlich-60. Source citations are in an abbreviated form, which is described below on p. 48, and in the introduction to the bibliography.

information, the problems and behavior of Soviet foreign trade during the interwar period have not been considered or adequately integrated into conventional Western and orthodox Soviet explanations of the causes and rationality of both the growth strategy and growth policies embodied in the 1st FYP (1928/29-1932/33) and also the growth patterns and policies actually followed up to 1939. Thus, I also have re-examined these Soviet debates about growth strategy and the conventional explanations of Soviet growth strategy in terms of this study's findings about the problems and prospects of Soviet foreign trade in the 1920's and the implications of those findings about the feasibility or desirability of various growth strategies and goals. From this latter analysis, we can better judge the extent to which and perceive the reasons why Soviet planners and leaders during late NEP intended to forego some gains of trade in favor of other conflicting economic and non-economic goals in the process of developing the Soviet economy.

#### Case study focused on five empirical questions

The study is focused on five questions about Soviet foreign trade and growth during the NEP.

First, what were the significant developments, characteristics and patterns in Russian foreign trade and balance of payments before World War I and to what extent and in which areas was the Russian economy and Russian economic policy oriented toward export specialization, import-substitution, and import-dependence?

Second, what were the Soviet foreign trade policies, methods of foreign trade planning, and foreign trade plans during NEP; what were



the actual developments of Soviet foreign trade, balance of payments and foreign reserves during NEP and how did those developments compare to the foreign trade plans, to developments of other domestic economic sectors during NEP, and to pre-1914 trade?

Third, why did Soviet foreign trade fail to recover to pre-1914 levels along with other sectors of the economy and how were other sectors of the economy and economic policy formation influenced by this relatively slow recovery of foreign trade and by corrective measures, 1) to expand foreign trade (such as investments and price-support policies) and, 2) to mitigate the restrictive effects of slow-growing foreign trade (such as foreign capital, import-substitution and import-deprivation)?

Fourth, under various assumptions about growth rate, investment level, and allocation, consumption, etc., what were the real and imagined barriers to export expansion (demand deficiencies, and supply deficiencies) and what were the actual possibilities and Soviet expectations for rapidly expanding Soviet exports to pre-1914 levels and beyond? Under similar assumptions about growth, investment allocation, etc., what were the requirements for importable goods projected by the Soviet planners and to what extent did the Soviet planners intend to provide these importable goods via imports financed by export receipt and foreign capital and to what extent were they to be provided by domestic output based on existing capacity and on new capacity?

Fifth, what did Soviet economists consider to be the relationship between rapid industrialization and foreign trade and how did the past problems and future prospects for expanding foreign trade influence

and restrict their policy decisions (choices) about the "tempo" and "strategy" (investment allocation, source of saving" and the feasible goals available to Soviet planners and policy-makers in the late 1920's?

The discussion of the theoretical interpretations of the problems and growth of Soviet foreign trade and of the effect of Soviet economic policies during NEP is deferred to Chapter II. We have not presented here any formal analytical model developed specifically to analyse the relationship between foreign trade, various investment allocation policies, policies to mobilize savings and selected economic goals considered during NEP (autarky, minimum investment goods capacity, maximum GNP at specific times and in long-run, embargo etc.).<sup>2</sup>

### Summary of findings

Pre-1914 Russia. Russian foreign trade and industry grew at an uneven but relatively rapid rate in the decades preceding 1914. Russian exports were largely dependent on a near-subsistence level agriculture which was growing at a much slower rate. Grain exports constituted about one-half of total exports, but export-specialization in grain (with the exception of barley) failed to keep pace with growing domestic demand, so that the share of grain exports (as a fraction of grain) output declined in the decades before 1914. Measured by export-output ratios, export-specialization in Russia had also occurred for several other products including flax, timber, manganese ore, asbestos ore,

---

<sup>2</sup> For a discussion of these policies in an open multi-sector fixed coefficient growth model for the NEP Soviet economy, see Dohan-67. This study was written in the spring of 1966 for presentation to Abram Bergson's seminar on Soviet economy in 1966 and was written up

furs, platinum, butter, eggs and several minor agricultural products and held large shares of the world market for these products. But exports were a relatively small fraction (8-10%) of GNP. Moreover, exports of most products competed directly with increased domestic consumption and relatively little capital was invested in producing output with zero or negligible-utility uses elsewhere in the domestic economy.

Russian imports were about 2/5 industrial materials, slightly more than 2/5 consumers' goods and about 1/9 equipment. The import-dependence of the economy for some consumer goods and raw materials and types of equipment was high as measured by import-consumption ratios. In addition to the expected complete import-dependence for so-called non-competing imports (rubber, jute, copra, tea, tin, nickel, aluminum), Russian industry and especially the consumers' goods industry relied extensively on imports for their supply of cotton, wool, leather, dyes, tanning materials, paper, zinc, lead, and to a lesser extent, coal, copper and several chemicals. On the other hand, Russian industry usually supplied all the domestic demand for (and occasionally exported) major textiles, ferrous metals, basic industrial chemicals, and sugar, substantial import-substitution was occurring in cotton, copper, zinc, paper and chemicals. Although consumers' goods were 2/5 of total imports, only two imported goods - tea and herring - were of direct importance in the consumption pattern of the general population; in general, the other consumers' goods imports were diversified and purchased by the wealthier segment of the population or reflected

differences in transportation costs.

The large Russian machinery industry, protected by a tariff, provided a major part of the large growing demand for agricultural, railroad and electrical equipment and substantial portions of the textile and metal-working equipment. The Russian machinery industry supplied however, only about one-half of the machinery installed in 1913 and investment in the newer fields, or newer processes, or requiring complex equipment depended almost entirely on imported equipment, so that short-run acceleration of investment rates and "modernization" were highly import-dependent.

The Russian balance of trade was very favorable in the two decades before 1914, but interest payments, tourism and other "invisible" items on current account caused a deficit on "current account" and the pressure on the balance of payments forced continual borrowing from abroad. Considerable capital, management, and skilled technicians came from foreign countries.

Recovery of foreign trade during NEP. World War I and the Civil War totally disrupted Soviet foreign trade and destroyed the commercial and financial network in foreign commerce. This disruption of foreign trade and the dependence on imports for modern equipment, parts and raw materials hindered the mobilization and defense efforts of the Tsarist government during World War I and severely aggravated the economic crisis during War Communism. Regarded as a "commanding height" of the economy, foreign trade operations were declared a state monopoly soon after the Bolshevik revolution. As foreign trade began to recover in 1921, the effectiveness and compatibility of the

state foreign trade monopoly in the emerging NEP economy was bitterly debated among Party leaders and economists. Although the general principles of the foreign trade monopoly were retained and still subjected to government planning, the initiative and implementation of export and import operations (within the plan) was decentralized to individual enterprises or special trading firms, whose basic motivations were "commercial profitability" subject to the constraints of the plan. The collapse of industrial output and the famine forced the Soviet government to expand imports much faster than exports in the initial years of foreign trade so that the Soviet gold stock was almost exhausted and compelled a cutback in imports in 1922/23. In 1923, the exchange rate for the new stable currency unit (chevrontz ruble) was established at the pre-1914 gold parity of the gold ruble and exports were initially so profitable that export quotas, export tariffs and price limits were set to prevent upward pressure on prices and to insure availability of domestic supplies. The initial basis for planning exports was "exportable surplus" which was the difference between output and domestic demand with price stability in retail markets.

Exports expanded rapidly in 1923/24 and the large trade surplus (forced because of the currency reforms) was achieved despite above-plan imports of raw materials. The resumption of substantial grain exports from a moderate harvest led to great optimism about a rapid restoration of Soviet foreign trade along the export structure of pre-1914 Russian foreign trade. A five year foreign trade plan for 1923/24 to 1927/28 in its optimal variant predicted a complete recovery of Soviet exports by 1927/28 (based largely on grain).

The expansion of exports in 1924/25 slowed to a near standstill when the export plan had to be cut because of a poor 1924 harvest. Other agricultural exports were pushed and resulting domestic price rise conflicted with price ceilings set by the government to maintain price stability. Grain prices were rapidly bid up and grain purchased with foreign exchange reserves was imported to stabilize domestic grain prices in the spring of 1925. Price stability was a primary policy goal in 1924/25 and at least in the foreign trade sector, economic planners behaved in a stabilizing manner by running a large trade deficit. Expanding output in light industries depending on imports increased demand for imported materials and along with increased imports of foodstuffs for the price stabilization policy forced up imports much more than exports. Machinery imports were relatively unimportant because of excess capacity in industry. It was under these conditions, when the first important exchanges in the industrialization debates occurred. The "goods famine" (scarcity of manufactured goods) became progressively worse but there was little leeway to increase manufactured goods imports through further depletion of foreign exchange reserves or through further changes in the import structure, for a Preobrazhensky recognised, cutting back imports of "producers' goods" (mostly industrial materials) in order to import consumer goods would reduce output of consumer goods dependent on imported raw materials.

The year 1925/26 was to be the pivotal year in restoring foreign trade and in the recovery of the Soviet economy in general. A doubling of exports was projected largely on the basis of large grain

exports from the expected excellent harvest. Consumer goods and raw materials for light industry purchased on credit were imported on a substantial scale for sale in grain surplus regions. But the many grain-purchasing agencies rushed to fill their quotas and halted and reversed the decline in domestic grain prices: grain exports became commercially unprofitable and early attempts to force down grain prices (eventually accomplished by elimination of private grain traders) resulted in drastic drops in state procurements for export. Procurements by state agencies fell far short of the goal in the fall of 1925 and the export targets for grain were cut sharply and forced a drastic downward revision of both export and import plans. This in turn resulted in a cutback in many output targets in industries depending on imported materials.

Foreign prices of several major agricultural products (eggs, butter, flax) also fell while domestic prices were rising (especially in retail markets), so that exports of these products became commercially unprofitable from the viewpoint of the exporting agency. Attempts to lower procurement prices to make these exports commercially profitable caused a reduction in state procurements exports and output of these products. Part of the high price-elasticity of procurements (especially of animal products) could be explained by the active competition of private traders shipping to higher-price domestic markets, but total marketing and output of many agricultural products also seemed sensitive to relative prices. Which set of relative prices (i. e., among agricultural products or between agricultural prices and manufactured goods) was the important question! The "exportable surplus" of some agricultural products was further reduced in 1925/26 by the diversion of pro-

cured butter and eggs, destined for export, to domestic urban areas to stabilize these markets. Timber exports also become commercially unprofitable and domestic firms began to ship to domestic markets rather than to honor export commitments: the decentralized system of export initiative, based on more or less orthodox commercial principles began to falter as foreign prices weakened and domestic prices rose under a demand-pull, wage-push sequence of increases in agricultural and industrial prices. Social and political pressures tended to prevent deterioration in the real wages of the workers. Thus, agricultural exports other than grain failed to expand at all while industrial exports were hindered by imperfect foreign markets and growing domestic demand. The drastically pared export plans were underfulfilled and even this level of exports required the "forced export" of products which could be sold more "profitably" on domestic markets. The voluntary act of exporting by the individual firms was becoming a binding obligation.

The import plan was cut even more (to yield a trade surplus), but actual imports exceeded the plan because of repeated "emergency" imports of raw materials, etc., and a large trade deficit was incurred requiring the additional shipment from the sinking Soviet foreign reserves and the accumulation of additional short-term foreign credits. The continued trade and payments deficit forced the Commissariat of Finance to abandon their attempts to reintroduce the chevronetz-ruble on foreign exchanges and to stop spending foreign reserves to maintain defacto convertibility between gold and the chevronetz-ruble on the "free Moscow bourse". Another orthodoxy dead. But significant improvements in the availability of foreign credits occurred in mid-1926



when Germany guaranteed a 150 million ruble medium-term credit for machinery imports.

Machinery imports, financed almost entirely with foreign credits, became increasingly important as the rising investment levels caused the demand for machinery to outpace the recovery of domestic metallurgy and machine-building. The failure of Soviet exports to grow much even in a good year had obvious implications about the risks and limitations of relying on the expansion of agricultural exports as a basis for expanding the supply of materials and machinery required for industrialization (as it had been proposed by the Right wing of the Party leadership).

Under the strict directive to force a large trade surplus, the 1926/27 foreign trade plan was drawn up more carefully than the 1925/26 plan and projected a cutback in imports and a moderate increase in exports based largely on additional grain exports from the larger harvest. The policy of "goods intervention" with imported consumer goods was judged a failure because possible imports of consumer goods were too small relative to excess demand. The policy was judged too costly in terms of the alternative demands (especially raw materials) on import capacity. Thus, imports of consumer goods were to be cut back and replaced by additional raw materials imports (especially cotton because of a poor crop). The import structure was still oriented toward the direct or indirect satisfaction of the consumer needs (especially when compared with the import structure in 1932 or 1933). The dependence of both industrial output and the level of investment and modernization on imports was also very evident in drawing up the output and investment

targets for 1926/27.

The 1926/27 foreign trade plan, at least in current prices, was successfully fulfilled. Agricultural exports (excluding grain), however, fell somewhat. Even the grain export plan was only partially fulfilled and grain exports were actually suspended in the spring because of domestic shortages. It was clear by the end of 1926/27 that the "reconstruction" of exports was to proceed very slowly (even with increased emphasis on industrial exports).

Increased machinery imports made up a large portion of total machinery installed in 1926/27, while the expansion of industrial output (especially in light industry) was very dependent on large increases in raw material imports. To continue similar rates of expansion of investment and output in the future would require finding new domestic sources of machinery and materials, given the current expectation about export growth, availability of credit, and the absence of any further possibilities to eliminate consumer goods imports in favor of materials and machinery. Thus, already in 1926 considerable efforts and plans were devoted to expanding both the important traditional import-substitute sectors - cotton, paper, non-ferrous metals, dyes, chemicals and also machinery - as well as developing several new industries.

The year 1927/28 was a crisis year in Soviet foreign trade - a fact apparently foreseen by Soviet planners because of the virtual absence of any (published) foreign trade plans in early 1927/28. The primary problem of expanding exports was posed by the decline in the grain crop and the increasing grain procurement problem in 1927/28. Increasing domestic demand and weak foreign markets for other important export

products complicated the picture. The planned increase in exports was modest. Exports failed to grow at all in 1927/28 because of an almost total collapse of grain exports and even this level of exports had been attained only by forcing the exports of goods which were in increasing excess demand in domestic markets. By 1927/28, the earlier concept of commercially profitable "exportable surplus" based on satisfaction of the domestic demand at some desired price level had been abandoned and replaced by a policy of "forcing exports" and the economic criteria for deciding which exports to "force" were much less clear. Imports rose sharply in 1927/28 because of increased machinery imports, increased raw materials import and emergency grain imports.

Although machinery imports (financed largely by credits) were not a constraint on investment levels in 1927/28, they formed both a very large fraction of total machinery installed and a large fraction of imports in 1927/28. The demand for imported raw materials, however, was not at all met despite upward revisions of the materials import plan and increased domestic output. Imports had become an important constraint on achieving desired output targets if not investment targets in 1927/28.

The large trade deficit in 1927/28 was only partially covered by the expansion of foreign credits and large expenditures of foreign reserves were again necessary from the now depleted stock of Soviet foreign reserves. Furthermore, Soviet efforts to force exports were encountering more foreign competition and prices of several major export products declined as Soviet exports tried to expand Soviet market shares. The balance of payments crisis of 1927/28 was so bad as to

force a cutback in imports in the following year.

The failure of Soviet exports to recover to pre-1914 levels by 1927/28 can be attributed largely to the complete failure of grain exports during NEP. Although the debate continues over the cause of this failure, I attribute it to the poor recovery of rural per capita grain output, lack of draft power, low relative prices of grain to other cash agricultural products (and especially animal products which used some grain as an input), higher urban demands, higher disposable incomes of peasants, and, to a much lesser extent, to the conventional explanations based on poor relative prices of grain to manufactured products purchased by the peasant and to the redistribution of output from large estates to small individual producers. It is important to note that the possibilities and policies of solving the grain export problem are different and more difficult if the true causes of the grain export problem are closer to the first set of causes than the conventional explanation of the grain and grain export problem.

Other exports also failed to recover to pre-1914 levels. In part this can be explained by the territorial losses. But the failure of some major exports to recover was caused by a number of reasons including the failures of output to recover on a per-capita basis, smaller marketings, and large domestic demand for marketed output of exportable products (from rising living standards and increased output of industry using "exportable products"). The possibilities for attracting large amounts of foreign capital was unfavorable, for not only had the policy of attracting foreign capital through concession grants failed by 1927/28, Soviet relations with its major creditors had deteriorated in

1927 and 1928 and the prospects of a large expansion of foreign credit seemed remote.

The possibility of rapid restoring of exports to pre-1914 levels along traditional lines of agricultural exports based on the NEP agricultural economy had to be abandoned, primarily because of the governments' inability to manage its agricultural policy (and general economic policy) to generate growing exportable surpluses (and especially grain surpluses) with some regularity. Increased emphasis was being placed on the traditional industrial exports over which the government had much greater control and on so-called secondary exports - the traditional pattern of Russian exports was not completely abandoned, but rather altered toward commodities, which the Soviet government could rely on as a basis for the expansion of exports with more certainty that could be found in relying on agricultural exports. The poor crop of 1928 and the worsening grain marketing problems was correctly interpreted as preventing any large-scale resumption of grain exports in the near future (at least as long as a market system existed). This complete failure of grain exports by the end of NEP both diminished the chances of a rapid restoration of exports to pre-1914 levels, increased the urgency of finding new export resources and forced the Soviet government to vigorously promote import-substitution if industrial growth was to grow at the desired rates. The alternative was to accept lower growth rates.

Soviet industrialization policy as adopted in late 1928 called for rapid expansion of exports (based on both expanded industrial exports) and eventually of grain exports from the moderate number of collective farms planned for in the 1st FYP. Exports were to expand faster than

world trade and it was thought that foreign competition would be an important constraint on the growth of industrial exports. Despite the planned rapid expansion of exports during the 1st FYP, exports were still a "lagging sector" relative to the demands for imports implied in the 1st FYP and the balance-of-payments position inherited from the NEP. The growth of imports had to be restricted to relatively modest levels compared to the growth of exports and the other sectors of the economy. Not only did the balance of payments have to be restored to equilibrium (after disastrous deficits during NEP), but extra caution in making import commitments had to be exercised due to 1) the unfavorable conditions for obtaining more credit abroad, 2) the rising deficit on the "invisible items" part of current accounts, and most important, 3) the very small size of Soviet foreign reserves relative to both the balance of payments deficits during NEP, and relative to the amount of outstanding short-term foreign debt. Since the growth of demand for the so-called non-competing imports would be accelerated with rapid industrialization, this implied that other growing import-demands had to be met by the import-substitution (cotton, non-ferrous metal, chemicals and some types of machinery) and by the continued development of those industries, such as ferrous metallurgy and textiles, from which both Russia and the USSR had been almost totally independent of imports before 1914 and during NEP. To a large extent, I think, the 1st FYP continued the trend which had been evolved in the pre-1914 economy - the real novelty of the 1st FYP was the targeted growth rate - and the very high targeted growth rate accentuated these pre-1914 trends.

The development of foreign trade during the 1st FYP and beyond

is discussed in Chapter XIV.

#### Note on statistics and sources

The basic data of Soviet foreign trade during the period 1917-1938 were taken from primary Soviet sources and Soviet trade journals; these sources are discussed briefly in Appendix A, Technical Note 1. These data consist basically of annual figures for exports of merchandise of domestic origin (excluding bullion), f. o. b., in current prices, recorded at the time they cross the border, and for import of merchandise for internal use (excluding bullion), c. i. f. in current prices, recorded at the time goods are released for domestic use from customs warehouse. Several problems arise in using these statistics for international and intertemporal comparisons, some of which can be easily corrected. The major exceptions to the above description occurred between 1918-1923/24 when trade across various Asian borders was not recorded and when all trade was recorded in "pre-World War I" prices: these variations are described briefly in Appendix A, Technical Note 2. The major problem in comparing Russian foreign trade statistics with Soviet foreign trade statistics is the adjustment for the loss of the Baltic and Polish provinces from the Russian empire in the formation of the Soviet state; this problem and the interpretation of various types of adjustments is discussed in detail in Chapter III.

Another inconsistency in the Soviet trade data includes the haphazard inclusion and exclusion of platinum and silver exports and imports with various time series and between various sets of data. All figures cited in this study for total export and import are net of any trade in silver, gold and platinum. Since platinum exports became quite

important, a separate series including platinum is given in Table A. 3a in Appendix A, Technical Note 3. Platinum exports and its relative importance as an earner of foreign exchange are presented in Tables D. 5 and D. 8 in Appendix D. This explains some but not all of the inconsistencies between various times series of data presented in Soviet primary sources (see Technical Note 3 in Appendix A).

At certain periods during 1918-1940 considerable amounts of exports were shipped abroad to warehouses without being sold (and paid for), and therefore the values recorded for the customs statistic reflected the then prevailing world prices or the officials' opinion of what they should be sold for abroad. Little was exported on the basis of credits to the buyers. This export to warehouses abroad distorted the measurement of the export receipts in two ways. First, actual export receipts from the ultimate sale of these goods were often less than the recorded value when prices were falling (as they tended to do) between the time of export and the time of sale, and second, exports receipts were overstated in the recorded statistics when inventories were accumulating in warehouses abroad.

Although the currency used to record Soviet foreign trade statistics was the ruble, the ruble value was derived (in most cases) by an artificially established cross-rate of the invoice currency to the dollar or some other gold-based currency as described in Appendix A, Technical Note 1. That is, the values of Soviet trade in rubles reflect foreign prices trends rather than domestic prices and only for a brief period in the mid-1920's were the two price levels at all similar at parity exchange rates.



The extensive series of foreign trade plans drawn up by various economic agencies during NEP and the 1st FYP are almost completely unstudied in both the West and the USSR. The basic data on these foreign trade plans presented in this study have been reconstructed from both direct and indirect information appearing at the time in Soviet economic journals, Soviet trade and professional journals, and an occasional monograph.

Output prices and marketing data for selected agricultural and industrial products for most of the NEP have been taken directly from contemporary sources (journals, books, statistical handbooks), for this was the data available to economic planners and policy-makers at the time. When analysing planning and policy decisions, the data published at the closest date to the time of the decision were used even though they differed significantly from data published at a later date. For the years after 1927/28, most data on output, marketing and prices were taken from major Western studies done at the RAND Corporation and other research institutes. The reliability and qualitative problems of these data have been discussed in Grossman-60, Nutter-62, Nove-66, Jasny-49, and others.

The most difficult data to obtain for this study were reliable and consistent data on production and trade in precious metals, on foreign reserves, and on foreign credit, and on other items in the balance of payments. For the balance of payments and foreign credits during NEP, this study has drawn most of its data with some modification from Shenkman (Shenkman-32a and Birmingham-32a), and as described in the Notes to Table T-14; these data for some items are at

best a rough approximation. Since few figures on Soviet trade in precious metals (including gold, silver, and platinum) were published in Soviet sources, estimates of Soviet trade in precious metals were reconstructed from trading partners' trade statistics (see Appendix D). These trade estimates combined with estimates of changes in foreign currency holdings abroad, and in the State Bank, gives us rough estimates of the Soviet holdings of foreign exchange. This entire estimating procedure is briefly described in Appendix E.

Since Soviet foreign trade statistics were recorded in current prices (with the exception of some estimates in pre-1914 prices) it was necessary to calculate both price and volume indexes for selected commodity groups as well as for total exports and imports in order to estimate plan fulfillment, the recovery of foreign trade in constant prices, and also the change in export and import prices and the commodity terms of trade. This was done for the weight years, 1913, 1926/27, 1927/28, 1932 and 1937: the procedures are described in Appendix F.

The second major set of operations on available Soviet foreign trade data was: 1) to reclassify later foreign trade data into the commodity groups used in planning during NEP; 2) to classify imports into "consumer-oriented imports" used directly and with some processing by consumers; and 3) to reclassify exports into "agricultural-dependent exports" along the lines used to divide American trade into agricultural and other classifications. These procedures are described in the notes to Tables T-18 and T-19, Appendix A, Technical Note 4 and Appendix F.

Organization of study. This study consists of textual chapters a tabular section, and several appendixes. A brief discussion of theor-

etical implication and interpretations of the problems of Soviet foreign trade and economic growth in terms of modern international trade theory is presented in Chapter II. In Chapter III we review the development of Russian foreign trade before 1914, the relationship of the economy to foreign trade, and the impact of the territorial losses on the volume and structure of Soviet trade.

The next six chapters (IV-X) describe and analyze the foreign trade plans and the recovery of Soviet foreign trade during NEP and the relationships between the foreign trade plans, actual performance of Soviet foreign trade, the recovery of the economy, and Soviet economic policy.

Chapter XI analyzes the causes of the collapse of Soviet grain exports and its impact on the recovery of foreign trade. Chapter XII summarizes the major trends in foreign trade during NEP while Chapter XIII relates the problems of developing foreign trade to the expectations and projections for foreign trade during the 1st FYP. Chapter XV reviews briefly the actual development of foreign trade and the forces which pushed the Soviet economy to an unplanned degree of economic autarky during the 1930's. Description of procedural matters, terminology, statistical techniques, and sources have been relegated to the appendixes.

#### A note on Soviet terminology and other terms used in this study

Several terms encountered frequently in this study are described below.<sup>3</sup>

---

<sup>3</sup> For a more detailed breakdown of commodities considered in each term, see Appendix A, Technical Note 4.

Industrial exports (Soviet usage in 1920's) included export of all processed products including sugar, flour, vegetable oil.

Agricultural exports (Soviet usage) included not only the usual agricultural exports products, but also fish and furs.

Producers' goods (imports) included all goods used for production including machinery, semi-processed and raw materials.

Consumers' goods (imports) included goods consumed directly by consumers such as foodstuffs or manufactured consumers' goods.

Consumer-oriented imports included imports consumed either directly by consumers, or indirectly through use in producing consumer goods in domestic tanning agents).<sup>4</sup>

Gross marketings of agriculture produce includes all sales of products by peasants to all buyers gross of repurchases by the peasants.

Net marketings of agriculture produce includes sales of product to all buyers net of repurchases by peasants.

Planned procurement agencies or planned agencies are economic and trading agencies which are given or allocated or permitted specific plan of purchases of agricultural goods (procurement) and whose purchases became more and more under the control of the government.

Economic year runs from October 1 to September 31 of the following year and is indicated usually by the simple "split year" e. g., 1923/24. But when there could be confusion between the economic year and the agricultural years, the economic year is indicated by the split year followed by (EY).

Agricultural year runs from July 1 to June 30 of the following year and is indicated by the split year followed by (AY), e. g., 1924/25 (AY).

Grain product exports includes exports of all grains, all grain by-products (bran and flour) and beans, peas, and lentils.

Exports of grain and related products includes not only all grain products but also oil seed and oil cake.

"Goods famine" refers to shortage or absence of manufactured

---

<sup>4</sup> See Notes to Table T-18.

consumer "goods" for sale at current prices (i. e., excess demand) especially in rural areas.

"Commercially profitable exports" refers to exports which are profitable to the exporting agencies when the receipts, converted into rubles at the current exchange rate, are compared to costs.

Ruble when used in discussing Soviet foreign trade statistics refers only to the "gold" ruble with a gold content of 0.77423 grams. For the relationship of the gold ruble to other rubles of different gold content used in later periods to record Soviet foreign trade statistics, see Appendix A, Technical Note 1.

Russia all pre-1918 data refers to the territory of Tsarist Russia (excluding Finland) unless otherwise noted.

USSR all post-1918 data refers to territory on which Soviet power existed at the time. The coverage of Soviet foreign trade statistics varies in the years 1918-1922/23 and the reader is referred to Appendix A, Technical Note 2 for further description of these variations.

Soviet territory (abbreviated Sov. Terr.) refers to the territory of the USSR as of 1925. Thus, adjustment of pre-1918 Russian data for the loss of Polish Russia, Latvia, Estonia, Lithuania, Bessarabia and the Kars province are described as data for the Soviet territory of Sov. Terr.

### Transliterations and Translations

A modified form of the Library of Congress system of Slavic transliteration is employed: the only modification is the omission of the connective and the double apostrophe for the hard sign.

Translations from Russian, German, or French references are by the author of this study unless otherwise noted.

Notes and sources for tables and charts. All notes and sources for tables and figures presented in the text are in Appendix B. Similarly, all notes and sources for tables presented in the Tabular Section will be found in Appendix C.

Note on method of citation<sup>6</sup>

Due to the large number of sources cited in this study, a system of abbreviated references has been adopted to simplify citation. Sources are indicated by surname of author, or name of issuing organization or by abbreviated versions of the title. This is followed by a hyphen and the last two digits of the publication date and the page numbers. Where more than one publication in a year is cited for the same author, etc., identifying letters are shown after the last two digits of the publication date. A full list of sources is provided in alphabetical order in the bibliography.

References to anonymous journal articles are cited in the following manner: abbreviation of journal title, volume number (if available), issue number, date in parentheses if relevant, and pages. The list of journals is located at the beginning of the bibliography.

---

<sup>6</sup> Adapted from Moorsteen-66, p. 17.

## CHAPTER II

### THEORETICAL AND POLICY ISSUES IN THE SOVIET ECONOMIC RECOVERY AND FOREIGN TRADE DURING THE NEP

The purpose of this chapter is to 1) outline the goals of and the constraints on the new Soviet government as compared to the Tsarist government, 2) examine the theoretical issues in the recovery of Soviet foreign trade during NEP, and 3) to outline the major policy and theoretical issues of the industrialization debate.

#### Goals and Constraints in the NEP Soviet Economy

The ideological framework of Marxism-Leninism was worker- and industry-oriented. The Marxist revolution assumed essentially an advanced industrial state with a mass of workers and a few capitalists rather than a few workers and a mass of peasants and peasant-capitalists. The Soviet leadership, by virtue of its fundamental ideology, was biased toward industrialization, as opposed to agrarian development.

#### Major economic changes from the Revolution

The Bolsheviks' rise to power in 1917 was accompanied or followed by several fundamental changes in the Russian economy which were to be important factors in the recovery of the Soviet Russian economy from the economic depths of War Communism and in the transition to a policy of rapid economic growth.

Agriculture. The major changes in agriculture were 1) the distribution of the estates and large peasant holdings to the poor and middle peasants, and 2) the collapse of the system of taxes-rents-debts which were considered to be an important pressure on the peasant to produce and market grain and other agricultural produce.<sup>1</sup>

By 1922 four other major changes had occurred in agriculture which were to affect the behavior of the peasant; namely, the government policy of confiscating (with the aid of the poor peasants) most visible grain supplies during the period of War Communism, the great famine of 1921, a drastic decline in workstock because of the famine, and the existence of many legal restrictions (as compared to Tsarist

---

<sup>1</sup>Jasny-49 (pp. 151-160) and Carr-52 (pp. 36-52) described the distribution of land to the peasants after the revolution, the Land Decrees of 1917 and 1918 and the ambivalent Bolshevnik attitude toward land tenure. Solovei-31 (pp. 285-286) discusses the taxes and rents paid by the peasants before and after the Revolution. Before the Revolution, in addition to the land tax, there existed numerous local taxes (zemstro dues, etc.) and the peasant's cash rental payments to the landowners (in addition to payment-in-kind) were alone as much as the Soviet direct agricultural tax in 1927-28 (375 million rubles) (Solovei-31, p. 285). The Land Decree of 1917 ended the renting and buying of land by law, and although the land was "nationalized" and belonged to the "people," it was effectively "owned" by the peasants, who did not have to pay rent to the state (Jasny-49, p. 154). Even if the renting of land had not been (temporarily) prohibited, the redistribution of the land from large landowners would have effectively reduced the quantity of land rented. With respect to the debt of the individual peasant, I suspect that the Revolution, elimination of landlord and local capitalist, and the monetary chaos wiped the slate clean for many peasants. Erlich-55 (p. 84) cited Preobrazhenkii's view (in 1925) that the Russian peasant enjoyed "a much greater freedom [than before the Revolution] in the choice of the time and terms at which to dispose of his own surpluses because of the decrease in "forced sales," in order to meet such obligations as taxes of in pre-Revolutionary Russia or payments to the landlord." See also Pasvolsky-24, p. 37.



Russia) on the leasing of land and hiring of labor.<sup>2</sup>

Most important, the attitude of the Party was politically and ideologically hostile towards the peasantry in general and in particular toward the rich peasant or "kulak," who was regarded as a "peasant capitalist" exploiting the labor of the hired labor and who represented by virtue of their economic position a political challenge to Soviet authority in the countryside.<sup>3</sup>

This ideological hostility was reflected in the Party's concern about the changes in the political and economic power which might result from various economic growth "paths" (agriculture versus industry). The Party by and large was particularly apprehensive of a rapid growth of the rich peasant, whom they regarded as a potential base for the restoration of capitalism in Russia and in the long-run, it was clear to the Party that the socialist sector (either State industry or collectivized agriculture) must grow faster than the capitalist elements (rich peasants, traders, and small entrepreneurs) if the Bolsheviks were to be secure in their power.<sup>4</sup>

---

<sup>2</sup>Baykov-47 (pp. 20-24) and Carr-52 (pp. 147-152 and 284-285) described the confiscating measures and the famine in the Volga districts in 1920-21. The necessity to confiscate grain arose basically because of the lack of goods to exchange with the peasant for grain (Carr-52, p. 50). Furthermore, the peasantry held large sums of paper money, the value of which was depreciating rapidly in 1917-1920 (*Ibid.*, p. 51). Carr-52 (pp. 288-289) described the legal restrictions on hiring of land and labor.

<sup>3</sup>Carr-52, pp. 291-295. The early political challenge came from the SR's (Social Revolutionaries), the peasants' party.

<sup>4</sup>Preobrazhensky-26, pp. 78, 280 for example. This theme ran throughout his work.

Thus, for both ideological and political reasons, the Soviet government wanted (and tended) to favor the poor peasant, the hired agricultural worker and collective types of agricultural organization. Nevertheless, the Party leadership was ambivalent in its stance toward the middle and rich peasant (kulak), because the leadership (with varying opinions among them) thought that until the resources could be found for the rapid development of large scale socialist farms, agricultural recovery and growth had to be based primarily on the successful individual peasant - and if the peasant was successful, he became a middle or rich peasant. But these economic gains from the emerging kulak and middle peasant conflicted with the Party's ideological political and social goals so that the measures to relax the restrictions on hiring of labor and renting of land (to improve resource allocation and provide incentives) precipitated sharp intra-Party debates.<sup>5</sup> Lenin's alliance of the workers and the peasants (smychka) as a basis of continued Soviet power (and the NEP economic recovery) was founded on economic interests rather than basic ideology of the Bolshevik Party.<sup>6</sup>

The foreign sector. Foreign capital inflow and foreign commercial relations were almost totally disrupted by the 1917 Revolution, the annulment of all foreign obligations, nationalization of industry, banks and trade (including foreign-owned) without compensation and the Bolsheviks' ideological hostility toward "capital" and the capitalist

---

<sup>5</sup>Carr-52, pp. 289-296, Carr-54, pp. 85-89 and Carr-58, Chapter V. The relaxation of the restrictions on hiring of land and of agricultural workers aided the development of a "kulak" class; it also improved the position of the now legally unemployable agricultural worker and poor peasant.

<sup>6</sup>See Carr-54, pp. 3-5, 16-19.

world.<sup>7</sup> The possible economic benefits of attracting foreign capital led to an ambivalent attitude toward a future role of foreign capital in the Soviet economy and from late 1919 to 1930, the Soviet government tried without much success to attract direct foreign investments in "concessions" in the USSR.<sup>8</sup> All attempts to get massive reconstruction loans from the West failed.<sup>9</sup> The basic source of foreign capital inflow during NEP was to be short-term credits for foreign trade.

#### Economic independence as a Soviet policy goal

The goal of economic independence has figured prominently in Soviet discussion of economic policy and has its roots in Marxist theory of foreign trade, in Tsarist Russia's industrialization experience, in Lenin's writings, in the economic disruption caused by the blockaded trade routes during World War I and during the Civil War, and in the requirements of a modern military machine.<sup>10</sup>

In particular, Soviet leaders felt that the technological backwardness and the inadequate size of the Soviet machine building industry (and the supporting metal and chemical industries) was most

<sup>7</sup>Pasvolsky-24 (pp. 197-198) for decree on annulment of foreign debt.

<sup>8</sup>Dohan-65.

<sup>9</sup>Pasvolsky-24, p. 162 ff and pp. 199-236.

<sup>10</sup>The relationship of Marxist theory of foreign trade to Soviet goals of economic independence is discussed below. Carr-58 (pp. 338) attributed part of the Soviet desire to be self-sufficient in heavy industry to the Tsarist industrialization policies for pre-1914 Russia. See Lenin, Sochineniia (5th ed.), Vol. XLV, pp. 209, 287 as cited by Carr-67, p. 279; Stalin-28a, pp. 257-262; Bukharin-28a, Bazarov-28a, in Spulber-64, p. 261 and p. 223.

strategic type of import dependence on the capitalist world.<sup>11</sup> There were many reasons for the early Soviet emphasis on "economic independence" (especially in machine building and heavy industry).

First, military security - especially in a hostile capitalist world - was an important reason for being "import-independent" in some fields and most all Party leaders supported the development of selected "national defense industries."<sup>12</sup> World War I and the Blockade had revealed Russia's weaknesses in this area. Early steps were taken to diversify Soviet technological capacity for domestic construction of airplanes, auto-transport (trucks) and tractors (convertible to tanks and other military production).<sup>13</sup>

Second, the Soviet leaders emphasized "economic" independence as the only alternative to becoming an exploited "economic appendage" of the capitalist industrial nations. Some Soviet leaders, based on their Marxist heritage and their interpretation of Russian economic history, believed that to trade "cheap" Soviet raw materials for manufactured goods (and especially machinery) was to open the economy

---

<sup>11</sup>The Soviet leaders were as concerned about the technological capabilities of producing most modern types of machinery on a moderately large-scale basis as well as being able to completely satisfy all their equipment needs from domestic producers - technological independence perhaps even more than the economic productive "capacity" independence was the Soviet leaders' chief concern.

<sup>12</sup>See, for example, Bazarov-28a in Spulber-64, p. 223.

<sup>13</sup>The early secret military agreements with Russia exchanged the right of the German army to develop, test, and maneuver with new weapons on Russian soil for the German obligation to build munitions factories and train workers and officers, and to grant technical aid in building tanks and airplanes (Dyck-66, pp. 20-24, 25).

to exploitation by foreign capitalist manufacturers. And clearly the Soviet leaders did not wish to become a mere exploited agrarian colony of Western Europe, in the way India was of Great Britain.<sup>14</sup> Development of selected import-substitution industries would also increase the bargaining power of the state monopoly of foreign trade in their dealing with capitalist cartels. But this desire to avoid economic exploitation was more an ideological concept and did not preclude the expansion of foreign trade and specialization along the lines of their comparative advantage, along with industrialization.

Third, Soviet leaders realized that economic growth and the level of investment depended on the supply of investment goods and they wished to be sure of their ability to maintain an adequate level of investment regardless of the behavior of the capitalist world (i. e., embargo). As stated in the resolution on industrialization at the 14th Party Congress in December 1925:

that the Soviet Union be converted from a country which imports machines to a country which produces machines, in order that by this means the Soviet Union in the midst of capitalist encirclement should not become an economic appendage of the capitalist world economy, but an independent economic unit which is building socialism.<sup>15</sup>

Krzhizhanovsky summarized the problem again in 1927:

---

<sup>14</sup>The Soviet fear of becoming an "economic appendage" of the industrial world can be traced back to Marx's Capital. "A new international division of labor, a division suited to the requirements of the chief centers of modern industry springs up, and converts one part of the globe into a chiefly agricultural field of production, for supplying the other part which remains a chiefly industrial field" (Marx-06, p. 493). See also Gottheil-66, pp. 122-127.

<sup>15</sup>As cited in Dobb-48, p. 192.

The unavoidable implacability of the whole capitalist encirclement toward us obliges us to give special attention to organizing our own internal market and building the kind of economic complex that will ensure both our defensive capability and further economic progress "on our own": hence, the unavoidable emphasis on both heavy industry and the production of means of production as central to our general economic efficiency and defense capacity.<sup>16</sup>

And Stalin reiterated the theme of economic appendage:

Should we, perhaps, for the sake of greater caution, retard the development of heavy industry and make light industry, which produces chiefly for the peasant market, the basis of our industry as a whole? Not in any circumstances! That would be suicidal; it would undermine our whole industry including light industry. It would mean abandoning the slogan of industrializing our country, it would transform our country into an appendage of the world capitalist system of economy.<sup>17</sup>

Thus, import-substitution especially in the investment goods industries was essentially a policy of "risk reduction" or a "less-regret strategy" which would reduce the effects of depression or embargo on Soviet economic development so that the Soviet economy could continue to grow regardless of developments in the foreign sector.<sup>18</sup> Even Stalin, however, realized that if other socialist states existed, industrialization might proceed without preliminary expansion of their investment goods industry, but that under Soviet conditions of a hostile capitalist encirclement, the Soviet economy must be considered a "closed economy."<sup>19</sup>

<sup>16</sup>Krzhizhanovsky-27a in Spulber-65, p. 424.

<sup>17</sup>Stalin-28b, p. 98.

<sup>18</sup>See Neuberger-63.

<sup>19</sup>Krzhizhanovsky-27a in Spulber-65, p. 424. Stalin-28a in Spulber-65, p. 270, Feldman-28b in Spulber-65, p. 327.

The foreign trade problems during the NEP, however, were not the result of the "hostile capitalist encirclement" but rather the result of the inability of the USSR to increase its export capacity. With respect to the various growth paths, Soviet Party leaders thought that industrialization and in particular the development of heavy industry would make the Soviet economy more independent of both the world economy and the peasant, while emphasis on agrarian expansion for export (even temporarily) would increase their dependence on both the world capitalist economy and the peasant. Thus, Soviet goals were from the start biased against growth policies based exclusively on development of the traditional Russian comparative advantage in agriculture and extractive industries.

The question really was the extent to which they would forego the gains of trade which still might be got from this development path. As Strumilin wrote in 1928 in reply to Bazarov's advocacy of greater attention to the "international division of labor" in the perspective five-year plans:

it seems to me that this advocacy of the division of labor on an international scale is somewhat premature. . . . There are only two ways of solving fully [emphasis added] the problem of the international division of labor: either by bringing world revolution closer or by capitulating to capitalist encirclement. Only the first method is acceptable to us. . . .<sup>20</sup>

Nevertheless, the Soviet desire to be economically independent of the world capitalist economy did not imply the absence of any desire to expand foreign trade - on the contrary, the Soviet government

---

<sup>20</sup> Strumilin-28a in Spulber-64, p. 456.

formulated very ambitious trade expansion plans during NEP and for the 1st FYP as can be seen in Chapter XIII.

Income distribution. The socialist nature of the Revolution and its supposed sources of political support caused a redistribution of income, not only away from the rich propertied classes, but also toward the workers in terms of real income, and distribution of goods and government services. Ideological and political criteria were important in the distribution of taxes and "forced savings" among various social classes. The worker or poor peasant tended to be increasingly favored by tax exemptions during NEP.<sup>21</sup> Furthermore, the socialist nature of the Revolution probably imparted an urban bias in the distribution of available commodities and an upward bias in the wage-determination system and made it more difficult for industry to restrain the growth of money wages, especially when food prices were rising.<sup>22</sup>

Active government economic policy and rapid industrialization. The Revolution brought into power a government whose goals were basically economic goals and which took an active economic policy through interference in the economy to achieve these goals of economic recovery, income-distribution, price-stability, industrialization, etc. The Party leadership believed that planning and government direction of the economy were important instruments in promoting industrialization - not

---

<sup>21</sup>Reingold-31, pp. 164-166, 174.

<sup>22</sup>See Deutscher-50 and Carr-54, pp. 69-87. See Chapter VII, p. 236.



entirely unlike S. Witte's attitude about the government's role in economic growth. Furthermore, the Soviet leaders believed that the "socialist form of economy" was superior to the capitalist form of economy, so that the tempo of Soviet industrialization had to exceed the tempo of capitalist industrial growth in order to demonstrate the superiority of the socialist system and to eventually change the balance of industrial power so as to increase the international security of the Soviet state. As Strumilin in 1927 summarized the issue:

The tempo of our industrial expansion in the coming five years period is governed by a whole series of objectives and material factors. . . . That tempo must be faster than the rate of our agricultural development, or we shall never eliminate the dangerous disproportion between our industry and agriculture. It must also surpass the rate of development in capitalist countries, for unless we were able to show the advantages of the collectivist over the capitalist economy in this respect, there would be no chance of victory for the socialist revolution on a world scale.<sup>23</sup>

### Theoretical Issues in the Recovery of

#### Soviet Foreign Trade During NEP

In this section we examine analytically some of the problems affecting the recovery of foreign trade during NEP.

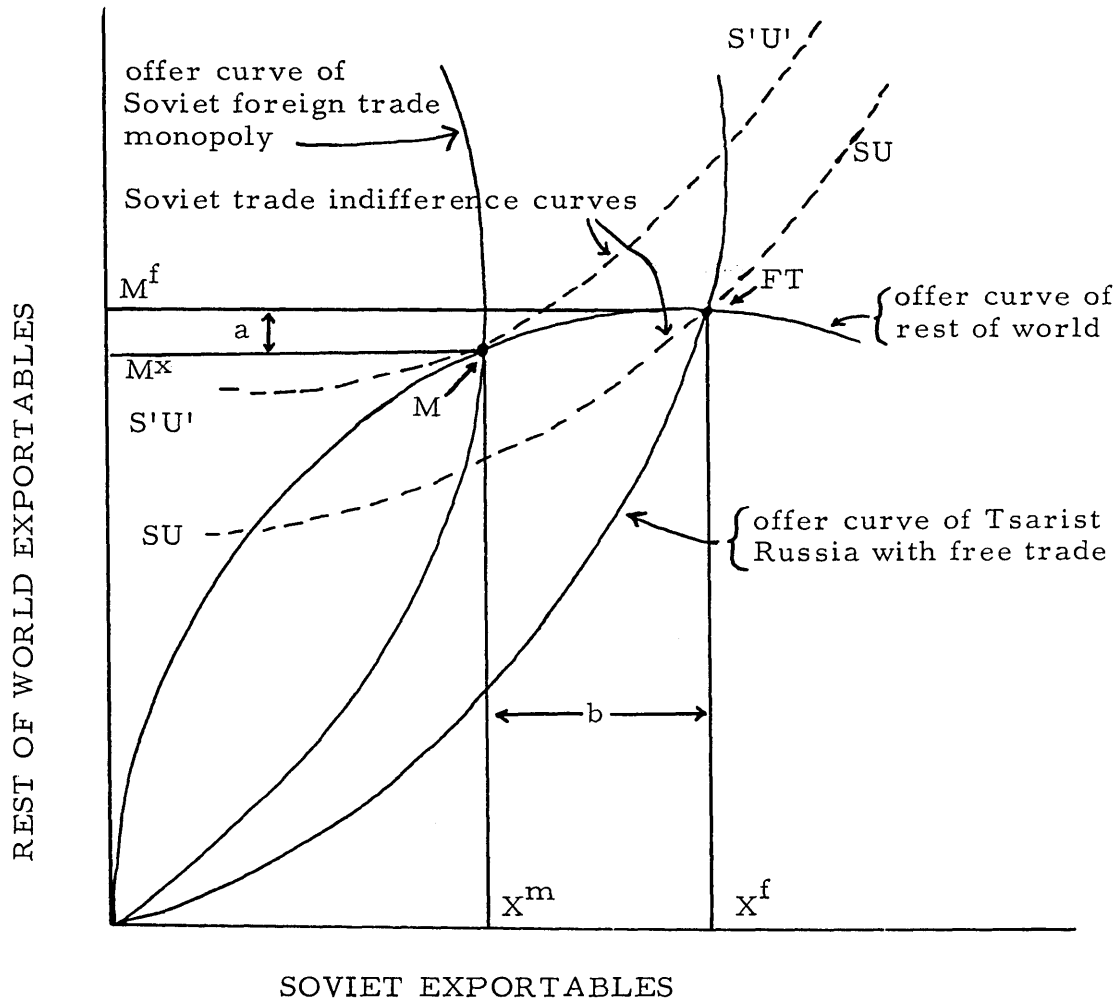
#### Monopoly of foreign trade

Foreign trade was a State monopoly, which was aware of "the capacity of the market" for Soviet goods. Although the purpose of this monopoly was basically the enforcement of State priorities in the

---

<sup>23</sup>Strumilin-27a in Spulber-64, p. 434.

FIGURE II.1  
FOREIGN TRADE EQUILIBRIUM OF SOVIET FOREIGN  
TRADE MONOPOLY AND TSARIST FREE TRADE



<u>SOVIET FOREIGN TRADE MONOPOLY</u>	<u>TSARIST FREE TRADE</u>
M = equilibrium at highest Soviet trade indifference curve	FT = equilibrium reached in free trade
$X^m$ = Soviet exports	$X^f$ = Russian exports
$M^m$ = Soviet imports	$M^f$ = Russian imports

import sector, the maintenance of the balance of payments, and the forcing of exports, it is valuable to ask what effect a monopoly of foreign trade in a large economy has on the level and pattern of foreign trade as compared with a free trade situation (assumed to be more representative of trade under Tsarism despite the high protective tariffs). The monopoly of foreign trade is assigned the task to achieve as high a "social indifference curve" as possible, where the marginal rates of transformation in trade, output and consumption are all equal and where trade is balanced. The main decision variables available to the foreign trade monopoly are the quantity of export offered on the world markets, and quantity of imports demanded on world markets. Looking at the Soviet Union's trade indifference curves and the offer curve of the rest-of-the-world in Figure II.1, the problem is analytically similar to the question of the optimum tariff and the solution is also the same. The point FT represents the competitive solution if Soviet foreign trade was conducted on a free trade competitive basis. Clearly FT is a sub-optimal position for the Soviet Union, for by exporting fewer exportables and thereby reducing imports by some amount the USSR could reach its highest indifference curve S'U' at M in Figure II.1. This is also the point which the optimum tariff will reach (barring retaliation) with the offer curve OT in Figure II.1.<sup>24</sup> Since the State foreign trade monopoly is the Soviet Union's sole entrepreneur on world markets, tariffs are not necessary

---

<sup>24</sup>See Kindleberger-63, pp. 663-666 for a discussion of the optimum tariff.

for the purpose of inducing many independent buyers and sellers to adjust their supply and demand. Rather the State monopoly simply buys the proper amount for export from the otherwise free domestic market and sells it abroad; similarly, it buys the optimum amount on the world markets and sells it for the highest possible price which clears its supplies of imports.<sup>25</sup>

Two important points about Soviet foreign trade emerge from the above discussion of monopoly.

First, all other things being equal, theory suggests that the monopolization of foreign trade by the Soviet government in a large export economy would result in less foreign trade than under the more competitive system operating before the revolution, and as the economy recovered, the optimum level of foreign trade under a State foreign trade monopoly would be constantly lower than the level of trade operating on a free trade basis. Considerable evidence points to a Soviet awareness of their influence of price on specific commodities, and that they (1) tried to use their influence and (2) that this perceived influence did affect resource allocation.

Second, the monopoly of foreign trade, aware of the downward-sloping demand curve for its exports, and the rest-of-the-world supply curves, equates the marginal rates of transformation in domestic production to the marginal rate of transformation in

---

<sup>25</sup>The reasons for tariffs during NEP are discussed in Chapters IV-X.

world trade and these two to the marginal rate of substitution in consumption. Thus, the expansion of exports and the expansion of the export sector will be less than under competitive free trade. The State monopoly, unlike competitive free trade, would halt the expansion of exports (and production for export) somewhat before the unit elasticity point on the rest-of-the-world's offer curve, namely at the point where the marginal rate of transformation of exportables into import goods on the world market (which is higher than the price ratio or average rate of transformation) equals the marginal rate of transformation domestically. The important conclusion here is that at this optimal equilibrium point, difference between domestic relative prices based on domestic relative costs and world relative prices still persists in favor of the export good, so that the price system and profit-and-loss signals continue to call for expanded output and export of exportables. To do so, however, would be to move to a lower indifference curve.

The difference between marginal and average rates of transformation of Soviet goods in world markets for the Soviet Union weakens the arguments of the export-expansion protagonists on the Right and strengthens the arguments of the Left for import substitution and industrialization.

Retaliation against the foreign trade monopoly worried the Soviet Union, and could invalidate the above conclusions. The Soviet Union, however, successfully overcame most forms of outright discriminatory retaliation against their monopoly. Indeed, evidence demonstrates a rational use of monopoly power in countering Western

oligopolies.

Foreign trade as a solution to the "Goods Famine"

The purchase of "sufficient" agricultural goods and especially grain by the State purchasing agency on the domestic marketplace turned out to be quite difficult in the USSR during the NEP, and the inadequacy of agricultural foodstuffs and raw materials hindered the provisioning of urban populations, industry and the growth of exports.<sup>26</sup> Most Soviet economists believed that the main cause of the peasants' unwillingness to market more grain was the lack of additional consumer goods to trade with the peasant for additional grain.<sup>27</sup> A policy of "goods intervention" was advocated by many Soviet party leaders, whereby consumer goods would be imported to trade with the peasants for grain which would then be exported to pay for the imported consumer goods.<sup>28</sup> And the whole operation would leave some extra grain (or some extra consumer goods) in the hands of the State trading agency because at current domestic price ratios and world price ratios, it was thought that the USSR had the comparative advantage in the export of grain. The policy of a "goods intervention" and grain export would overcome the "goods famine" and expand the marketing of grain - at least this was the argument and rationale behind the policy of the "goods intervention" in 1925.

---

<sup>26</sup>This theme is developed through in Chapters VII-XI.

<sup>27</sup>This hypothesis is examined critically in Chapter XI. See also references to "good famine" in Chapter VIII, p. 273.

<sup>28</sup>See Chapters VII, VIII and XI.

Let us develop a simple model to examine the conditions under which the policy of consumer good imports and grain exports - namely, expanding foreign trade - will solve the grain marketing problem and the "goods famine." To let the cat out of the bag, we find that such a policy of "good intervention and grain purchase export" will not necessarily increase grain marketing and overcome the "goods famine," but, on the contrary, under Soviet conditions, such a policy may actually result in diminished grain marketing and worsen the goods famine.

There are two goods, cloth (denoted by C) and grain (denoted by G). The peasants sell grain solely to buy cloth. The State trading agency has a monopoly on the sale of cloth and a monopsony in the purchase of grain; its policy is to hold the ruble price of cloth constant and to vary the price of grain.<sup>29</sup> For analytical simplicity, we shall assume a simple linear supply curve of unit elasticity:

$$G = a P_g$$

$G$  = grain marketed by peasants  
 $P_g$  = price offered for grain by State trading agencies  
 $a$  = price coefficient

where the peasant assumes that he can spend his income purchasing cloth at the fixed price  $P_{c_0}$ . Thus, changes in  $P_g$  result in real changes in the value of grain (if cloth were available at the fixed price). (In reality, the marketing curve of grain is probably more elastic at lower prices and less elastic at higher prices -- it might even bend backwards.)

---

<sup>29</sup>This assumption is very close to actual Soviet practice during the mid 1920's; see Chapter VIII.

The total income of the peasant from the sale of grain is  $TR = P_g G = a P_g^2$ . The most important point here is that in our simple model the marginal cost in rubles to the State trading agency is twice the average price offered for grain in rubles. And since the only item the State trading agency traded with the peasant was cloth which it sold at a constant price to the peasant, the State must offer in cloth double the value of the average price of grain in order to coax the peasant to market another unit of grain.

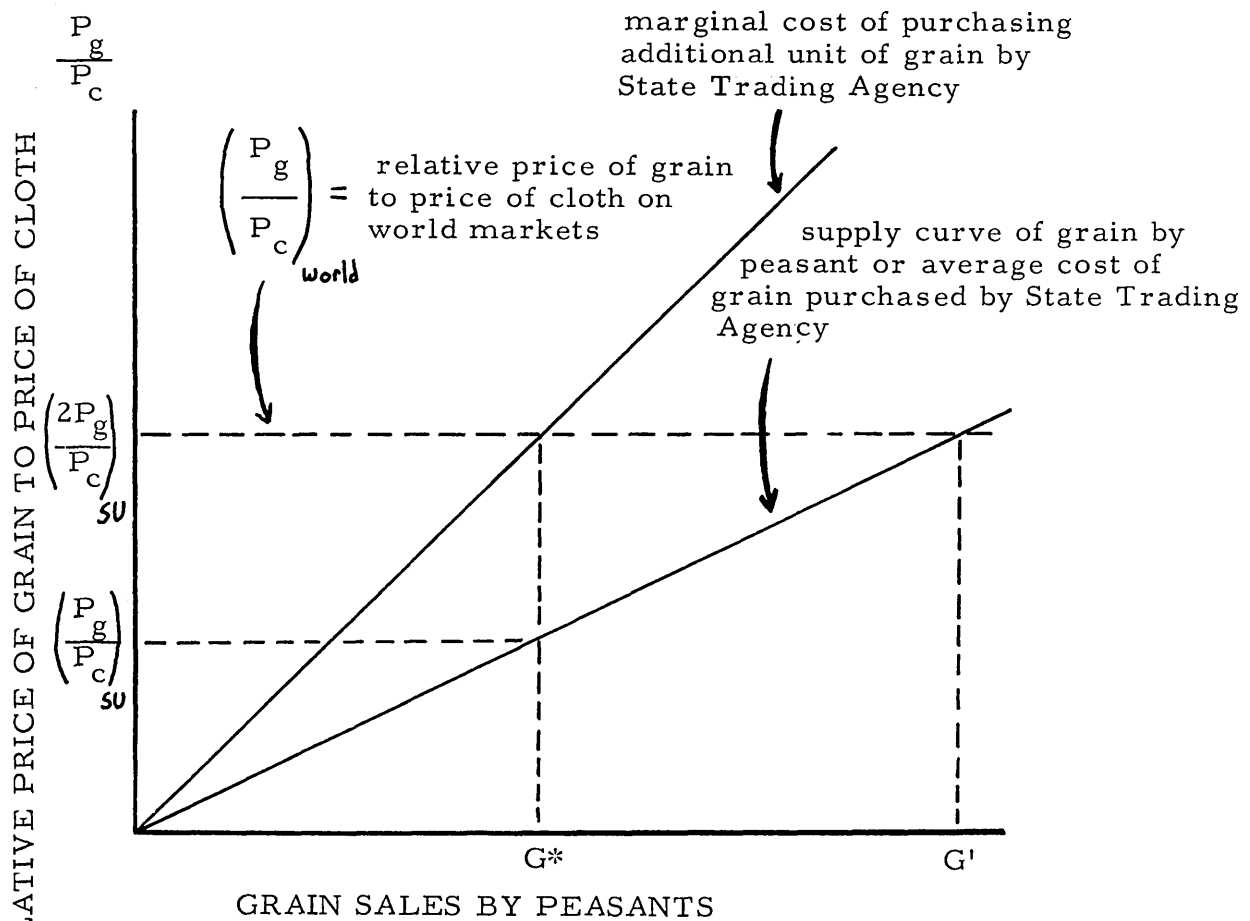
Now let us assume that the State trading agency wants to purchase a certain amount of grain ( $G_0$ ) for the cities and for export at the necessary price ( $P_{g_0}$ ) so that the peasant would earn  $P_{g_0} Q_0$  ( $a P_{g_0}^2$ ). Now the State trading agency, much to its dismay, finds that its supply of cloth at constant prices ( $C_0 P_{c_0}$ ) would be less than the demand for cloth by the peasant, i.e.  $P_{g_0} G_0 < P_{c_0} C_0$ , so that there would be excess demand for cloth. For various reasons we assume that the Russian peasant saved little of his money income.

Now the question is, "Should the State Trading Agency raise its grain purchase program, export the extra grain, and import cloth in order to attempt to eliminate the excess demand for cloth?"

The answer, of course, depends on the commodity terms of trade of grain for cloth on foreign markets. (Initially we shall assume that the State Trading Agency can buy and sell on world markets at a constant commodity terms-of-trade.) If we compare the "domestic terms of trade" of cloth for grain  $(P_{g_0}/P_{c_0})_{su}$  originally set by the State Trading Agency (prices which do not clear the market for cloth) and the foreign terms of trade  $(P_g/P_c)_w$ , we (presumably) find that



FIGURE II. 2  
 "OPTIMUM" GRAIN PURCHASE-EXPORT PROGRAM BY  
 STATE TRADING AGENCY WITH GRAIN PURCHASE  
 MONOPSONY AND CLOTH SALES MONOPOLY



1. Under free trade grain purchases would proceed toward G'.
2. Under State Trading Agency, purchases of G\* equate the domestic marginal rates of transformation of grain into cloth to the marginal (and average) rates of transformation of grain into cloth on world markets.

Russia indeed has the "classical comparative advantage" in grain exports (for, if anything, the domestic price of cloth should be higher). That is,  $(P_g/P_c)_{su}$  is less than  $(P_g/P_c)_w$ .

Should the State Trading Agency buy the extra grain and import cloth according to the classical theory of comparative advantage - as was advocated by several Party members? Not at all certain! In fact, maybe the best policy is to reduce grain purchases and exports and cloth imports. Because the State Trade Agency is a monopsony in its purchase of grain from the peasant, the relevant comparison is the domestic marginal cost of purchasing grain in terms of cloth (rather than the domestic average price) to the foreign price ratios. In our simple case, the marginal cost is twice the average cost, so the State Trading Agency should expand grain exports (and cloth imports) only if  $(2P_g/P_c)_{su}$  is less than  $(P_g/P_c)_w$  and cut back grain purchase and grain exports if  $(2P_g/P_c)_{su}$  is greater than  $(P_g/P_c)_w$ . In Figure II.2, the domestic price ratio of grain to cloth of  $(P_g/P_c)_{su}^*$  is the borderline price ratio between expanding and contracting grain purchase for exports in exchange for cloth if the world price ratio is  $(P_g/P_c)_w$ . The optimum amount of grain to buy from the viewpoint of minimizing the excess demand for cloth is  $G^*$  and it would be purchased at  $(P_g/P_c)^*$ . To the naive, however, the theory of comparative advantage ("international division of labor") would recommend expanding grain purchases and exports out to  $G'$  - but this would actually increase the excess demand for cloth. While it might be clear to officials in the State Trading Agency, that grain purchases for export beyond  $G'$  are irrational in terms of increasing the excess demand (goods famine) for

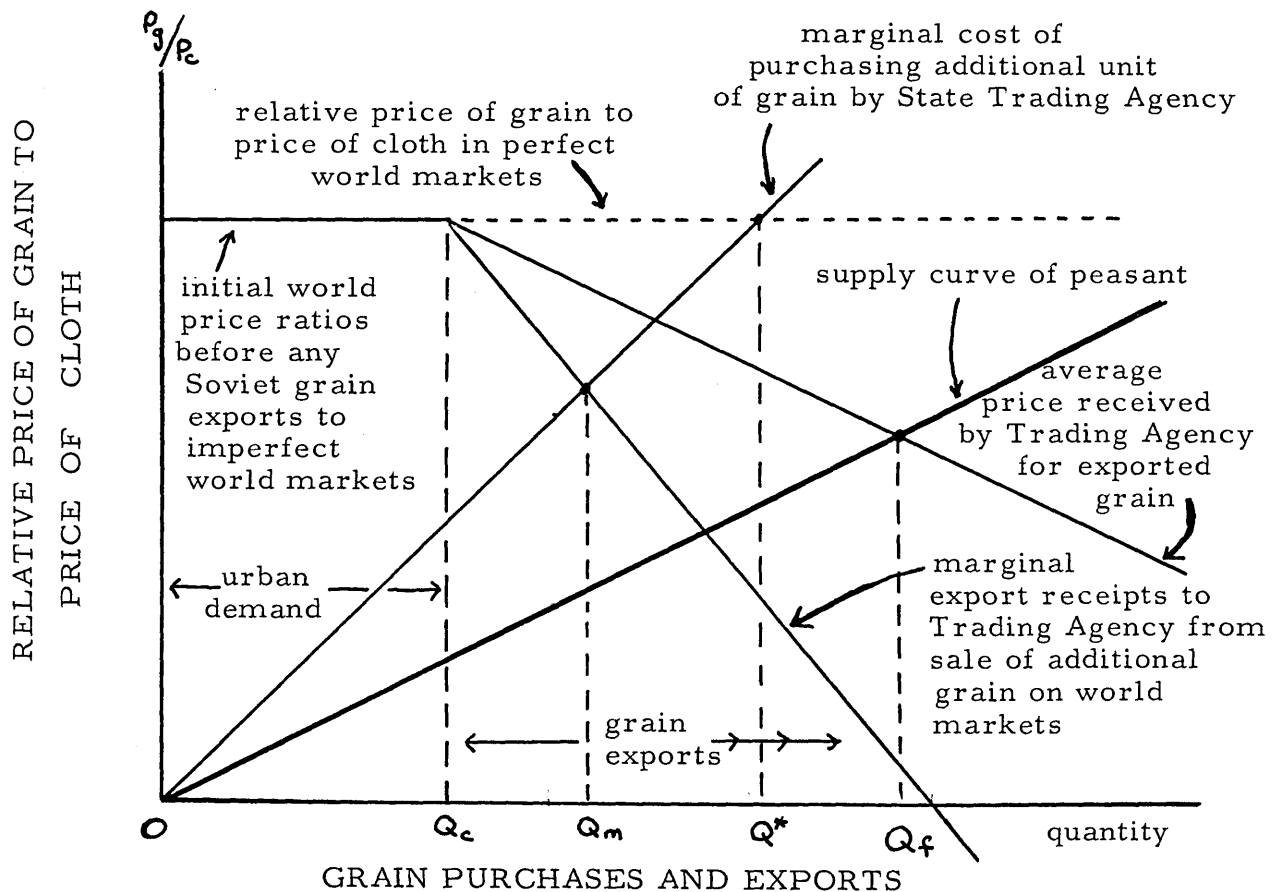
cloth, these same officials thinking in terms of average prices rather than marginal cost might have difficulty in understanding why any grain purchase-and-export program between  $G^*$  and  $G'$  should be cut back to  $G^*$  as a method of cutting excess demand for cloth. Thus, the monopsonist position of the State Trading Agency is an important factor to consider when evaluating the policy of the "goods intervention" in 1925 for at that time it was believed that the additional grain purchased with the imported consumer goods could be exported to pay for the imports and that at these prices the State Trading Agencies could accumulate grain or consumer goods.

If we add the complicating factor that the USSR was (or could be) a large grain exporter relative to world markets, so that the commodity terms-of-trade decline as grain exports increase - as we discussed above - this further reduced the profitability of exporting grain and importing cloth. To a limited extent, foreign trade monopoly of the USSR was a monopsonist in the purchase of grain on domestic markets and faced a downward sloping demand for Soviet grain in foreign markets, so that the marginal "cloth imports" made possible by exporting another unit of grain is less than average cloth imports purchased with the receipts from grain exports (Figure II. 3).

The level of grain exports which best reaches the government's goal (namely minimizing the excess demand for cloth [ $Q_m$ ] in Figure 3) would in this case be even lower than  $Q^*$  in Figure II. 2 ( $Q^*$  in Figure II. 3), and domestic and foreign price ratios become even a less relevant guide for the State Trading Agency which is attempting to

FIGURE II. 3

"OPTIMUM" GRAIN PURCHASE-EXPORT PROGRAM BY STATE TRADING AGENCY FACING IMPERFECT WORLD MARKETS



$0Q_c$  = grain required by cities.

$0Q_f$  = grain purchased in free trade market of which  $Q_c - Q_f$  is exported to an imperfect world market.

$0Q^*$  = grain purchased by State Trading Agency, of which  $Q_c - Q^*$  is exported to a perfectly competitive market.

$0Q_m$  = grain purchased by State Trading Agency, of which  $Q_c - Q_m$  is exported to an imperfect world market

The State Trading Agency is a monopsonist in the purchase of grain on the domestic market and a monopolist in the sale of cloth to the grain-selling peasants. In this example, we illustrate its equilibrium in imperfect and perfectly competitive world markets.

establish equilibrium in the rural cloth market.<sup>30</sup>

Three comments are appropriate here. First, the grain purchases target had to at least meet the domestic demand for marketed grain from urban areas, and that this minimum amount might be greater than the optimum amount  $Q^*$ , so that no leeway would be available to cut export and grain purchases so as to reduce the goods famine. As will be seen in Chapters VII-X, grain export plans were rarely fulfilled, primarily because of the inability of the State to purchase sufficient grain for the export plan without causing an excessive increase (or inadequate decline) in the price of grain - but it is doubtful if the above type of marginal cost estimates were even considered, much less actually estimated or used.

Second, if the peasant's short-run supply curve becomes more inelastic, the policy of goods intervention and additional grain exports is much less likely to be a beneficial policy to overcome the "goods famine" and, in fact, the purchase of grain at rising prices in order to pay for the imported consumers' goods will most likely aggravate it.

Third, the obvious policy solution to excess demand for consumer goods in the countryside (given that adjusting the level of grain purchases is not possible because of minimum needs in the city) would be 1) increase direct taxes on agriculture, 2) divert additional consumer goods from the urban population, or 3) allocate more funds from existing export receipts or foreign reserves to import additional consumer goods.

---

<sup>30</sup>The State Trading Agency is not deliberately trying to maximize profits or export receipts. Rather it is trying to reduce excess demand for cloth in rural areas.

The real situation during NEP was much more complicated than our simple model, because grain was exported, raw materials for consumer goods were imported, labor was hired to turn these raw materials into consumer goods, the workers purchased additional grain, consumer goods, and exportable goods from their earnings, etc. Nevertheless, our simple model represents a most important problem of expanding grain exports during NEP.

Reduced fixed obligations on peasants. The reduction of fixed monetary payments due about harvest time (or through the year) from the peasants would, under most circumstances, reduce the quantity of agricultural goods marketed by the peasant at any given set of prices. In Figure II.4, offer curve R-R would be the peasant's offer curve, given fixed payments of  $r$  in terms of grain, where  $r$  equals the value of the fixed payment divided by the price of grain. Curve SU-SU is the offer curve of the Soviet peasant of grain, all other things being equal, except that his fixed payments are lower. The curve SU-SU lies below RR because of the Soviet peasants higher "disposable income" resulting from reduced fixed payments, and the assumption that within the income ranges of a Russian peasant, the total demand for grain in all forms - grain, grain-based products (livestock products and alcohol), the "asset-demand for grain reserves," and for feed for workstock - exhibits some positive income elasticity. Thus, for any terms of trade (dotted line) between manufactured goods and grain (as agricultural goods) the peasant tends to market less.

Two other important points should be noted. First, the

FIGURE II.4

## EFFECT OF REDUCTION OF FIXED MONETARY OBLIGATIONS OF PEASANT ON PEASANT MARKETING OF GRAIN



\*Money price of grain assumed to be constant between periods.

strategy for maximizing grain marketing is to reduce grain prices when the most taxes, rents, and other fixed obligations are due because the peasant will be forced to sell more grain ("r" in Figure II.4) to cover his fixed money debts; then raise the grain price to induce additional marketing. It should be pointed out that if grain and grain-based products are a superior good with respect to income, so that the offer curve could turn down at some point, then increasing the terms of trade would not necessarily increase grain marketing, but on the contrary, might decrease it.

Second, the users of hired agricultural laborers - estates and kulaks - also were forced to sell their grain because of the wage bill (insofar as they were not paid in kind). The estate was forced to market at least some grain (equal to the annual wage bill), and this factor as well as the diminishing marginal utility of large surpluses of grain to the estate owner as compared to other goods, led to large grain marketing by estates. What I am suggesting here is that the larger the amount of hired labor, etc., in grain production, the larger the gross marketing from any given crop will be.

Foreign trade and the Soviet industrialization debate.<sup>31</sup>

The goal of "rapid industrialization" was widely accepted in the Party leadership. In the mid-1920's the major issues were not industrialization versus agricultural development, but rather about

---

<sup>31</sup>Based largely on Erlich-60, Carr 58a, articles in Spulber-64, and Dohan-65.



the tempo of industrialization, the pattern of industrialization and the method of accumulating the resources for industrialization, during the next five or ten or fifteen years. The basic ground rule in the intra-Party debate on these issues was that the NEP form of economic organization and markets - especially in agriculture - would continue to exist or could be modified only slowly in the coming years. Below we summarize in an oversimplified way the major alternatives and issues proposed by various factions within the Party. The "Right" refers to arguments developed by Bukharin, Rykov, Shanin and others, while the "Left" refers primarily to the arguments of Preobrazhenskii, Trotsky, and others.

The Right's strategy for industrialization emphasized the development of agriculture, light industry and export fields up to the capacity of world and domestic markets or exhaustion of favorable investment opportunities. It was argued that this path was the faster and least-cost way of satisfying the rapidly expanding demand for imported raw materials and for equipment for the expansion of industry when compared with a policy of immediate "forced draft development" of heavy industry. Heavy industry, it was argued, had larger capital (output) requirements, were less profitable and hence a poor source for accumulation (corporate savings and taxes) and would aggravate the "goods famine" because of a longer period for construction and because of the higher "prime costs" (especially labor) of domestically produced heavy industry goods as compared to similar goods obtained through the foreign trade sector. The Right

conceded that the exigencies of national defense compelled selective development of several branches of heavy industry, and the limited capacity of world markets for Soviet agricultural produce and other exports and increasing costs would eventually retard the growth of foreign trade and the profitability of expansion along the traditional lines of comparative advantage. It was inevitable that in the future, some resources would have to be diverted toward heavy industry to ensure the growth in the supply of machinery and raw materials for the growing Soviet economy. But until this point, the development of heavy industry was to be postponed in favor of exploiting the economy's comparative advantage as the better method of obtaining these products.

The justification for expanding agriculture and light industry had two other important aspects in addition to the greater productivity of resources in agriculture. First, such a growth path was thought to strengthen the smychka (alliance) between the worker and the peasant, while "forced draft industrialization" was imagined to destroy the smychka by antagonizing the peasant producer through an unfavorable price relationship between agricultural products and industrial consumer products and a worsening of the goods famine. It was thought, by both Right and Left, that much of the economy's surplus value (required for investment) was created in agriculture (because of its large share in national income and its higher "rate"), so that the rate of investment in industry was determined by the amount of surplus value which could be transferred ("alienated") from agriculture for industrial

investment. Since the peasants would be antagonized by an attempt to take from them excessive amounts of "surplus value" (either through high direct taxes, or relatively high manufactured goods prices reflecting indirect excise taxes or monopoly profits), the Right emphasized that the preservation and strengthening the smychka of worker and peasant placed an upper limit on the rate of investment in industry which could be "financed" through surplus value transferred from agriculture. It was in the interest of the smychka that the Right counceled more moderate rates of industrial investment (especially in heavy industry) than did the Left.

Second, the Right argued that the capacity to accumulate (invest) for industrial expansion would actually be larger in the long run than if resources were invested in agriculture and light industry initially rather than being immediately diverted into a forced draft development of heavy industry. Not only would national income increase faster, but the rate of accumulation (investment) would be higher with the development of agriculture and light industry because the higher profitability (rate of surplus value) of light industry and agriculture could be used to finance (through taxation of surplus value and direct reinvestment) a higher rate of industrial expansion than if the same resources had been initially invested in heavy industry. Light industry and agriculture would grow faster than heavy industry (at least in the short run), according to the proponents of agricultural development, but heavy industry could grow faster in the long-run under the policy of the Right than under the policy of forced industrialization because

of the higher growth rate of investment resources (savings) and the increased availability of inexpensive imported machinery.

The overall success of the Right's policy for industrialization was critically dependent on the government's success in three interdependent areas - foreign trade, stimulating agricultural marketing of foodstuffs and raw materials for a growing urban work force, industry and exports, and maintaining macro-economic and intersectoral equilibrium. The whole argument of the Right loses meaning if exports can not be expanded rapidly enough to provide an uninterrupted increase in imports of raw materials and equipment for the reconstruction and expansion of industry. Furthermore since the Russian peasant was free to grow and market what he desired (after the payment of the monetary tax), the success in all three areas depended on the government's ability to maintain overall price stability and the proper configuration of relative prices among various agricultural goods and between industrial and agricultural goods. It had to formulate a tax and price-policy which would "optimize" marketing and growth of output of the relatively most desirable items while restraining peasant demand to the availability in rural areas of consumer and agricultural producer's goods (determined by current output and extrarural demand), and also to determine the optimum level of imports of this latter group of goods for sale to the peasants (the policy of "goods intervention"). A sophisticated non-ideological approach to the formulation and administration of economic policy and the price system was required of Marxist revolutionaries raised on ideology,

class warfare, and the labor theory of value.<sup>32</sup>

Preobrazhenskii and the Left. The Left's industrialization policy called for rapid development of industry based on high rates of investment to be financed through credit expansion and profits from a monopolistic industrial price policy vis-a-vis the peasant (which would alienate or transfer "surplus value" from the private peasant sector to the socialist industrial sector). Usually, advocates of rapid industrialization also advocated rapid expansion of heavy industry and especially metallurgy and machine-building - recall, however, that in Tsarist Russia these industries also grew very rapidly and at times more rapidly than light industry so that by 1913, for example, Russian industry supplied most of the domestic iron and steel requirements. Most economists on the Left recognized that resources currently employed in heavy industry seemed less efficient in producing heavy industrial goods than obtaining these same goods through foreign trade. Even Tsarist machine-building and metallurgy required tariff protection and lucrative government contracts to survive and grow, and in the mid-1920's, variable costs (primarily labor input) were substantially higher than during the Tsarist period.

---

<sup>33</sup>The Right would also encourage foreign investment of capital in concessions and through foreign loans, and would perhaps reduce the rate of expansion of investment, especially in heavy industry, until the goods famine was overcome.

This is an oversimplified description of the Right's position, and was not unanimously supported by those on the so-called "Right" of the Party. Besides Erlich-60, see Shanin-25 and Shanin-26 for two articles expounding the above version of the Right's policy. These are reprinted in part in Spulber-64, pp. 205-220.

Recognizing the comparative disadvantage of domestic heavy industrial products, the Left appealed for the continued development of a domestic heavy industry on a melange of other arguments (national defense, capitalist exploitation, capitalist encirclement, risk of embargo, etc.) as discussed above. More important than these arguments for an increased degree of economic independence was perhaps the Left's fear of the continual increase in the economic and political power of the non-socialist peasant agriculture which was implied by relying on expanding foreign trade to supply machinery and other heavy industrial goods. For the Right's path clearly called for a rapid expansion of agriculture - largely on the basis of private peasant efforts, and especially on the efforts of the middle peasants and the kulak - to expand exports.

Thus, continued expansion of socialist industry increasingly depended on the cooperation (and market response) of the private peasant sector, which by its very nature - private ownership of the means of production - was hostile to the socialist state and therefore, the growing private sector would increasingly threaten the political existence of the socialist state. Was the demise of socialism not inevitable if private agriculture grew faster than socialist industry? These two essentially non-economic arguments for heavy industry - capitalist-encirclement and a reluctance to rely on the private peasantry - seemed to be at the heart of the Left's policy of forced draft industrialization.<sup>33</sup>

---

<sup>33</sup>This theme ran through Preobrazhensky's New Economics. See, for example, Preobrazhensky-26, pp. 78, 178, 231-232, 246,

Another justification for forced draft industrialization, as put forward first by the Left in the mid-1920's and then by Stalin in 1928 and 1929, was that it was the only permanent solution for successfully overcoming the goods famine within a short period. According to this argument, immediate massive expansion of heavy industry would permit large-scale production of the capital equipment needed to expand light industry and the mechanization of agriculture, and the expanded light industry would then supply the additional consumer goods necessary to end the goods famine.<sup>34</sup> This simple argument seemed economically irrational and carried little weight in mid-1925, just on the eve of an anticipated massive expansion of exports and imports based on the expected increase in grain marketing and grain exports (see Chapter VIII). For all recognized that the quickest and cheapest method of equipping light industry was via the export sector.<sup>35</sup> But by the end of 1927/28, this simple argument of the Left seemed to reflect the realities of the moment - for foreign trade simply could not be forced fast enough to meet the expanding demand for raw materials and equipment (see Chapter X).

---

248-251, 298. "If our country were now to become bourgeois, such proportions of accumulation would not be demanded by economic necessity, and the expansion of foreign trade would solve many of the problems [my emphasis] which we can solve only Preobrazhensky-emphasis by intensive accumulation and rapid industrialization (Ibid., p. 298).

<sup>34</sup>See Preobrazhensky-26, pp. 178, 186-187, 248-250, 252, 269, 282, 298-299. See Stalin-29a, pp. 61 passim.

<sup>35</sup>Preobrazhensky-26, pp. 116-122, 127-128, 139, 163-166.

Preobrazhenskii, however, maintained that in the long-run expansion of Soviet heavy industry was rational from the economic viewpoint. He asserted that domestic costs in heavy industry would eventually fall below the costs of its Western counterparts as a result of introducing the most modern equipment, scientific "management," and increasing skill of the work force.<sup>36</sup> That is, the difference in the costs between domestic and imported machinery was due entirely to the "technical backwardness" of Soviet machine building industry and the lack of skills and discipline in the labor force, rather than "factor proportions" a la Heckscher-Ohlin; these deficiencies, however, could be overcome by the "technical reconstruction" of Soviet industry and training of the worker.<sup>37</sup>

Closely associated with the Left's emphasis on heavy industry was their support of a monopolistic pricing policy in the sale of industrial goods to agriculture to transfer or "alienate" "surplus value" from the private peasant sector and private trader to the socialist industrial sector.<sup>38</sup> Not only was this to speed the growth of the

---

<sup>36</sup>See Preobrazhensky-26, pp. 250-256.

<sup>37</sup>Preobrazhensky-26, pp. 127-128, 250-251, 254, 261. An essential distinction between primitive socialist accumulation and socialist accumulation was that in the initial years in backward economies, the inefficient socialist industrial sector can exist and be expanded only behind a wall of socialist protectionism and a monopolistic price policy which is the instrument of transferring surplus value from the private sector to the socialist sector for investment. As accumulation (investment) proceeds and the industry is modernized, costs fall and eventually prices can be lowered to world prices without retarding accumulation in state industry.

<sup>38</sup>Alienation of "surplus value" could be interpreted as a method of providing the monetary means for financing industry or in its real counterpart, namely the reduction of the quantity of industrial



socialist sector, it was also to restrict the growth of private capital, an act which was desirable from a political viewpoint, if not from an economic viewpoint. Preobrazhenskii argued that the most efficient method - more efficient than direct taxes - of alienating surplus value from the peasant was to maintain prices sufficiently high to yield a large profit to socialist industry which could be used to finance the construction of industry.<sup>39</sup> Since domestic industrial prices were much higher (both absolutely and relative) to agricultural prices than world prices, the price policy toward the peasant was described as "non-equivalent exchange." Exchange at world prices, which would prevail under free trade, was denoted by the term "equivalent exchange." The policy of "primitive socialist accumulation" through a price policy of "non-equivalent exchange with agriculture" and the survival of domestic heavy industry depended on the shield of "Socialist protectionism" (foreign trade monopoly) and Preobrazhenskii opposed any step toward a trade policy of freer trade and away from the foreign trade monopoly.

The Right, on the other hand, stressed the importance of reducing prices of industrial goods sold in the countryside as a key element in their policy to expand agricultural output and marketing (and hence, export surplus). The Right assumed that the price elasticity of the peasant's demand for industrial goods was greater than one, so that the peasant would market and produce more agricultural goods in

---

goods which had to be exchanged for a unit of agricultural produce.

<sup>39</sup>See Preobrazhensky-26, p. 11.

response to higher prices. Preobrazhenskii on the Left also assumed that the peasant's price elasticity of demand at the then prevailing price levels was greater than unit.<sup>40</sup> As we saw above, however, the beneficial effects on maintaining intersectional equilibrium by increasing agricultural marketing (and foreign trade) through lower relative prices of industrial goods should be questioned in each case.

#### Official Price Policy during NEP

The official price policy during most of NEP was a policy to reduce industrial prices as a method of improving the terms of trade between agriculture and industry while maintaining overall price stability (Chapters VII-X).<sup>41</sup> In fact, prices of industrial goods in the cooperative and state wholesale and retail systems were often "forced reduced" despite the existence of excess demand at the higher price. The economic rationality of this policy of "forced reduction of prices" during NEP in the face of excess demand is questionable.

This "forced reduction of manufactured goods prices in the state and cooperative trading network and at the wholesale level" was supposed to lower the price level of manufactured consumer goods and to compete down the prices of similar goods sold in the private trade network which in general were much closer to the "market clearing prices" for the goods available to the private trader. With a fixed supply of industrial goods and existing excess demand at "official

---

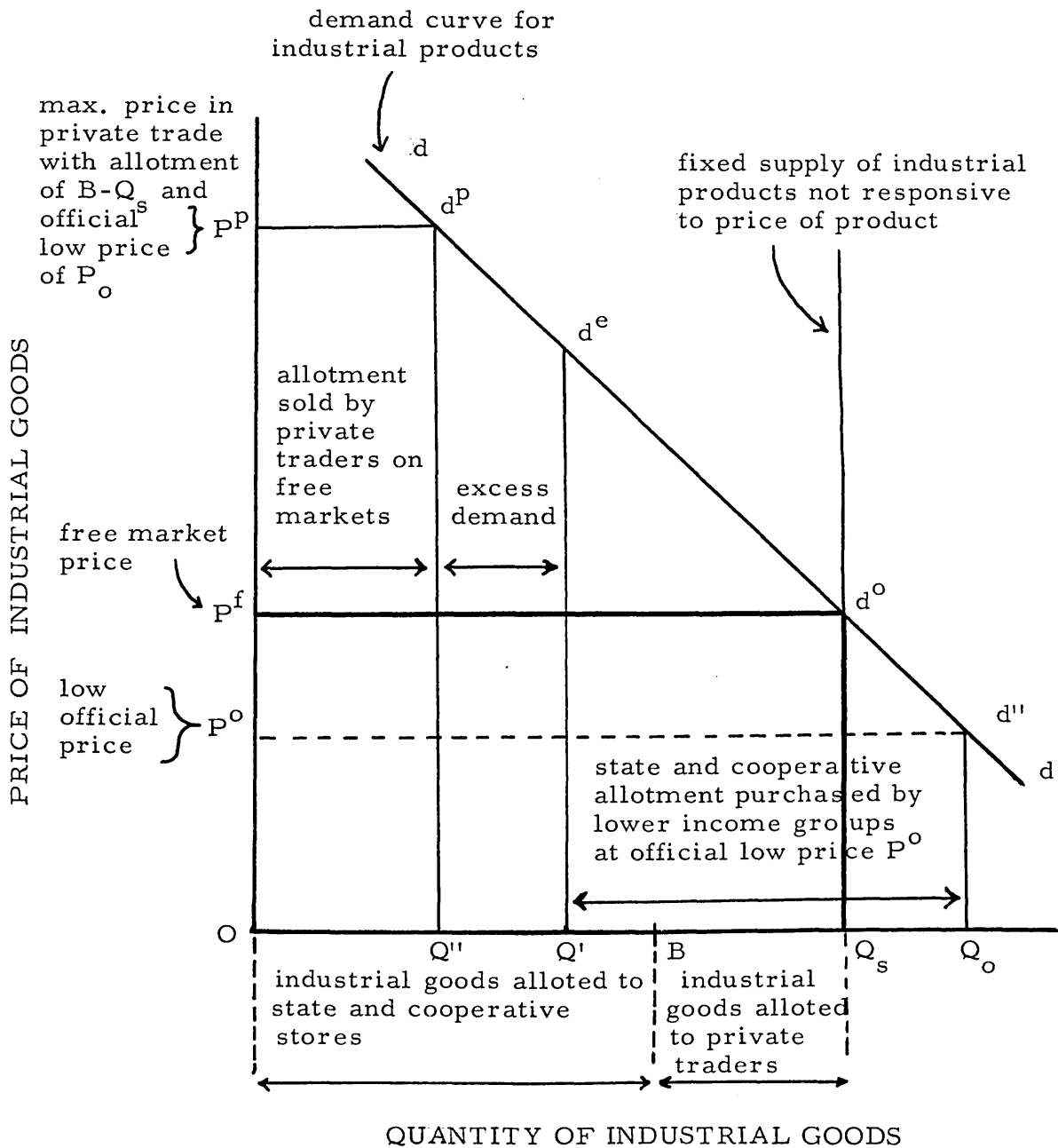
<sup>40</sup>Preobrazhensky-27, in Spulber-64, pp. 137-138, and 169-170, and Preobrazhensky-26, pp. 176-177.

<sup>41</sup>Zalkind-26c, pp. 4-6.

prices," (so that private trade prices were above "official prices"), it is likely that further reduction in "official price" would actually increase (the market clearing) prices of private traders. In Figure II.5, we have a simple representation of the demand and supply for manufactured goods, where  $Q_s$  is the fixed supply of industrial goods and  $d$  is the demand curve for industrial goods.  $P_f$  is the market clearing price in a free market and prices in both private trade and State and cooperative trade are equal. Now the State wants to lower the "official price" below  $P_f$  in order to improve the terms of trade of agriculture. We shall assume that a definite quantity of industrial goods ( $OB$ ) is made available to the State trade network to sell at the new lower price ( $P_o$ ) while  $BQ_s$  is allocated for sale by the private trader at any price. What happens to prices in private trade? The demand for industrial goods rises to  $Q_o$ . The behavior of prices in the private trade depends on who buys the industrial goods in the state and cooperative network at the lower official price. If, for example, industrial goods were sold only on a "socialist basis" to the poorer peasant and worker, whose demand (we shall assume as an extreme example) makes up the demand curve between  $d^e$  and  $d''$  or a quantity of  $OB$  (the entire amount sold by the State and cooperative trade network) between  $Q'$  and  $Q_o$  then the entire part of the demand curve from  $d'$  up must be satisfied by the sale of  $BQ_s$  by the private trader, and in this extreme case, the private trader would be able to sell it for  $P_p$ , far above the previous market clearing price in a free market (see Figure III.5) where  $OQ''$  equals  $BQ_s$ , the private

FIGURE II. 5

EFFECT ON PRIVATE TRADERS' PRICES WHEN OFFICIAL PRICES ARE "FORCED REDUCED" BELOW THE MARKET CLEARING PRICES



traders' allotment. Those demanders on the demand curve between  $d_p$  and  $d_e$  are not willing to buy  $P_p$  in the private trade, but are willing to buy at lower price, queue up at the State stores and represent part of the "goods famine."

In general, the smaller the allotment of the private trader, and the greater the sales on the demand curve below  $d_p$ , the higher the private trade price will rise above the free market price, and the greater the excess demand. In fact, simple rigorous division of the market into private trade (from  $d_p$  up) and state-cooperative trade (from  $d_p$  down) - i. e., price discrimination - will have the same effect on private trade prices - this was in fact the bias in Soviet selling policies during NEP. A private trader's price above the official price therefore, may result from sales at an official price below the real market clearing price to those on the demand curve below the real market clearing price, or from segregation of the market place (on a socialist basis?). The "free market" or private market clearing price, it should be noted, is above the real market clearing prices in a free market (in almost all cases).

In summary, lowering the official price (below the market clearing price) and given a fixed supply and allocation of goods between the private and state-cooperative trading networks tends to raise prices in private trade, and increase excess demand (worsen the "goods famine").

From the viewpoint of "socialist accumulation" and the overall effectiveness of the policy of price reduction, Preobrazhenskii

made the most telling criticism of the policy of lowering retail and wholesale prices of manufactured consumer goods during the goods famine (excess demand for consumer goods at current prices). Preobrazhensky opposed the extensive price reduction policy during NEP not merely because it reduced the surplus value transferred to socialist industry and trade, but also and equally important, the many benefits of price reduction (especially of wholesale prices) accrued not to the peasant but to the private trader capitalist who continued to sell his wares at high or higher prices. The peasant wanted consumer goods, not low list prices on empty shelves.

#### Economic growth and sectoral investment patterns in the USSR

The NEP was basically a period of economic recovery. The debate during NEP about sectoral growth patterns was a debate largely about future allocations of investment and the structure of the economy, although the debate often raged over the distribution of investment during the NEP - investment intended basically to overcome some sectoral disproportions during the NEP caused by territorial losses (textile, paper, chemicals), damage from the war (ferrous metallurgy), or changes in the supply and demand for selected commodities from changes in economic organization (land redistribution), income redistribution, etc. Investment during NEP was more oriented at establishing equilibrium within the recovering economy than establishing the proper sectoral configuration to achieve the desired long-term growth rate.

## CHAPTER III

## RUSSIAN ECONOMIC GROWTH AND FOREIGN TRADE TO 1917

The economic causes and significance of the failure of Soviet foreign trade to recover to pre-1914 levels during the NEP are understood better if we review the major characteristics and trends of pre-1914 Russian foreign trade and its relationship to both the domestic economy and world markets. The economic effects on foreign trade resulting from the economic, social, and political changes wrought by the 1917 Revolution, and the basic continuity of the policies and problems of import substitution, protectionism, export-expansion and export instability between the Russian economy and the NEP Soviet economy can be more easily defined within this context.

Tsarist Russia: Growth and TradeRussian economic growth before World War I<sup>1</sup>

While Russia of 1913 was economically backward compared to the major industrial powers of its time -- United States, Great Britain, Germany and France -- Russia was significantly more developed in 1913 than many so-called underdeveloped countries today not only absolutely

---

<sup>1</sup>For a more complete discussion of Russian economic growth between 1860 and 1913, see Gerschenkron-65a, Goldsmith-61, Gerschenkron-47 and the Soviet historian's study, Liashchenko-49.

(in terms of per capita GNP, educational systems, social overhead capital, etc.) but even more so relative to the industrial powers of their respective periods.<sup>2</sup> Russian output grew at about 2% from 1860 to the early 1880's and then accelerated to about 3% from the early 1880's to 1913; per capita growth of output was slow - about 1% - and close to the European average, but much below the United States, Germany and Japan.<sup>3</sup> Agricultural output grew at 1.75-2% per year, crops grew at 1.75-2.25% per year, and livestock grew at 1.0-1.25% per year from 1860 to 1913.<sup>4</sup> Since population grew at 1.5% per year during this period, per capita output of crops rose slightly but per capita output of animal products declined from 1860 to 1913.<sup>5</sup> There is evidence that growth

---

<sup>2</sup>A rough estimate of per capita output in 1913 in 1958 dollars for Tsarist Russia would be 300 dollars. This rough estimate is based on estimates of 1928 per capita output of Soviet Russia of 170 1929 dollars (cited in Bergson-63, p. 2) adjusted roughly for change in per capita output between 1913 and 1928 on Soviet territory (about 11% according to STAT-56, p. 21 when adjusted for a 7% population increase [Table T-48] and adjusted for a doubling of U. S. prices between 1929 and 1950 (Implicit price deflator for U. S. GNP in ERP-67, p. 216). Kuznets-66 (pp. 360-361) cited gross domestic products per capita in 1958, in 1958 U. S. dollars, of roughly \$84 in Mainland China, \$69 in other Communist Asian nations, \$262 in Latin America, \$196 in Middle East, \$70 in India, \$128 in Africa. Per capita GNP in the U. S. in 1929 was about 1700 dollars in 1929 and \$2560 in 1958 (both in 1958 dollars, GNP divided by population in ERP-67, p. 219, p. 235). Liashchenko-49 (p. 697) cited the following figures estimated by Gosplan on per capita output (Soviet definition) in 1913: Russia, 102 rubles; England, 463 rubles; Germany, 292 rubles; France, 355 rubles; and the United States, 695 rubles.

<sup>3</sup>Goldsmith-61, p. 443.

<sup>4</sup>Goldsmith-61, p. 453.

<sup>5</sup>Goldsmith-61, p. 441, and Eason-63, p. 72 from 1860 to 1914 on Soviet territory. For references to decline in meat consumption in Moscow and for entire country during 1860-1913 see Goldsmith-61, p. 452.



rates of crops accelerated from the mid-1880's (to about 2.3%) and that the growth rate of livestock herds in size and quality increased after 1900 (possibly as high as 1.75%) under the stimulus of expanding foreign markets.<sup>6</sup>

Industry (manufacturing and mining) expanded at the relatively rapid rate of 5% from 1860 to 1913; heavy industry (coal, oil, iron and steel) grew more rapidly during this period, but textile and other consumer goods industries remained relatively more important during this period.<sup>7</sup> Industry expanded most rapidly between 1888 and 1900 (7.0-7.6% per year) when the Russian government, under the guidance of Minister of Finance, S. Witte, embarked on a major expansion of the railway system built deliberately with domestically supplied products which were protected by government tariffs and subsidies.<sup>8</sup> An influx of foreign capital, both direct investments in Russian industry and banks and indirect investment in State loans, helped finance this upsurge in investment during the 1890's.<sup>9</sup> The growth rate of industrial output slowed to about 3.8-4% during 1900-1913 because of a shift in government

---

<sup>6</sup>Goldsmith-61, pp. 447, 453.

<sup>7</sup>Goldsmith-61, p. 442.

<sup>8</sup>Goldsmith-61, p. 465 for growth rate. See Gerschenkron-65 (pp. 124-134) for discussion of the role of government in Russian industrialization. See Liashchenko-49 (pp. 532-534) for role of railway construction and (pp. 553-560) for his interpretation of the expansionary role of government in the 1890's. The new import tariff of 1891 raised rates considerably (Liashchenko-49, p. 558).

<sup>9</sup>See Liashchenko-49 (pp. 534-538) for role of foreign direct investment in industry. See Pasvolsky-24 (pp. 16-22) for discussion of growth of foreign-held Russian state debt.

priorities and government resources away from industrialization, a temporary depression, the 1905 Revolution, and a diminished inflow of foreign capital.<sup>10</sup> According to both Gerschenkron and Liashchenko, the expansionary role of the government of the 1890's was to a limited extent replaced by the creation of an autonomous internal market and the expansionary monetary policies and entrepreneurial guidance of the growing banking system; after eight years of fairly slow growth (1900-1908), an industrial boom got under way in 1908 which carried right through to World War I.<sup>11</sup> Thus, the new Soviet government's task on the assumption of power was not to start self-sustaining rapid economic and industrial growth, but rather to maintain the growth rate and to accelerate the growth rate. Tempo - not stagnation - was to be the problem. But did the 1917 Revolution destroy vital parts of the economic growth mechanism?

#### The growth of Russian trade in 1913<sup>12</sup>

The value of exports grew on the average at about 3.25% per year from the late 1880's to World War I, but exports stagnated almost completely between the late 1880's to 1900 because of low grain prices

---

<sup>10</sup>Goldsmith-61, p. 465, and Gerschenkron-65, pp. 132-133. For foreign capital, compare Liashchenko-49, p. 536 and p. 716.

<sup>11</sup>Gerschenkron-65, pp. 135-136, and Liashchenko-49, pp. 700-717. Liashchenko emphasized that foreign capital controlled Russian industry through foreign capital in the Russian banking system (pp. 707-708) as well as through direct investment (pp. 717-719).

<sup>12</sup>See Pokrovskii-47 for a Marxist analysis of pre-1917 Russian trade. See Pasvolsky-24 for a non-Marxist analysis of pre-1914 Russian trade.

TABLE III. 1

## THE FOREIGN TRADE OF RUSSIA 1887 - 1913

(millions of rubles in current prices)

	Export <sup>a</sup>	Import <sup>a</sup>	Balance <sup>a</sup> of Trade	Grain Exports			Value of Non-grain Exports
				Weight	Value	% of total export	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1887-91	722	401	321				
1892	476	404	72				
1893	599	464	135				
1894	672	562	110				
1895	698	545	153				
1896	689	590	99				
1897	727	560	167				
1898	733	617	116				
1899	627	650	-23				
1900	716	626	90	4991	305	42.6	411
1901	762	594	168	5637	344	45.1	418
1902	860	599	261	7080	432	50.3	428
1903	1001	682	319	7823	478	47.8	523
1904	1006	651	355	8113	495	49.2	511
1905	1077	635	442	9286	567	52.5	510
1906	1095	801	294	7707	471	43.0	624
1907	1053	847	206	7012	428	40.6	625
1908	998	913	85	6153	376	37.7	622
1909	1428	906	522	12,258	748	52.4	680
1910	1449	1084	365	12,221	746	51.5	703
1911	1591	1162	429	12,045	735	46.2	856
1912	1519	1172	347	8962	547	36.0	976
1913	1520	1374	146	9663	590	38.8	930

<sup>a</sup> Including platinum but excluding bullion and specie.

Source: Notes to Table III. 1, Appendix B, p. 751.

and poor harvests (Table III. 1).<sup>13</sup> The value of imports on the other hand grew fairly steadily at about 5% per year from the late 1880's to 1913 so that by the end of the 1890's, the large trade surpluses of the late 1880's had been converted to a small trade deficit (Table III. 1).<sup>14</sup> The value of both imports and exports grew more rapidly than national output between the late 1880's and 1913, but precisely during the critical period of the great industrialization push by the Russian government in the 1890's exports failed to expand while imports grew at about 4% per year (even after the 1891 tariff). Thus the Russian government was forced to push grain exports and to seek foreign loans abroad.

The value of Russian exports and imports grew faster (about 6% per year) and more than doubled during the fourteen years preceding World War I; the annual trade surplus was much larger than in the preceding decade (Table III. 1). But exports grew unevenly and remained at a plateau of 1000-1100 million rubles between 1903 and 1908.<sup>15</sup> The value of exports then jumped to another plateau around 1425-1590 million rubles during 1909-1913; the increase in 1909 was largely due to a near doubling of grain exports in 1909, when grain exports equalled 53% of

---

<sup>13</sup>Growth rates based on average value of exports from 1887 to 1891 and 1911-1913. Data from Pasvolsky-24, p. 27. See Pasvolsky-24 (p. 29) for volume and value of grain exports from 1870 to 1913.

<sup>14</sup>Growth rates based on average value of imports 1887-1891 and 1911-1913. Data from Pasvolsky-24, p. 27.

<sup>15</sup>Liashchenko-49, pp. 666-667. The harvests were good in 1908.

total exports.<sup>16</sup> Non-grain exports grew steadily and doubled during the 1900-1913 period. Imports fluctuated around 600-700 million rubles during the crisis and depression years of 1900-1905, and then rose steadily to 1375 million rubles in 1913.

The structure and role of exports  
in the Russian economy

Russian exports before 1914, consisted primarily of agricultural products dominated by grain (Tables III. 1, III. 2, III. 3). Agricultural-dependent exports were 66. 3% of total exports according to Soviet definition excluding furs and fish, and 75. 2% of total exports according to U. S. definition (Table T-19).<sup>17</sup> In addition to grain, the most important export products during 1909-1913 (% of value) were flax (5. 7%), butter (4. 2%), eggs (5. 1%), oil seed and oil cake (4%), timber (9. 6%), sugar (2. 7%), petroleum products (2. 5%), and cotton fabric (2. 2%) (Table III. 3). Grain plus these eight products made up 81% of the value of average annual exports during 1909-1913. Fur exports, manganese exports and even petroleum products exports were relatively unimportant in the total structure of pre-1914 Russian exports (4. 3% of total exports) especially when compared to their share in Soviet exports (Tables III. 3 and T-4). Platinum exports were also unimportant (0. 6%

---

<sup>16</sup> Grain exports from Table III. 2 and exclude oil seed and oil cake. Grain exports including oil seed and oil cake exports equalled 56. 4% of total exports in 1909. Liashchenko-49, pp. 669 ff.

<sup>17</sup> See Notes to Table T-19, p. 803, for discussion. The Soviet definition excludes sugar, vegetable oil and several other products.

TABLE III. 2

## RUSSIA: VALUE OF EXPORTS BY COMMODITY GROUP 1909-13

(millions of rubles at current prices)

	1909	1910	1911	1912	1913	1909-13
TOTAL EXPORTS	1415.5	1435.6	1576.1	1502.7	1506.0	1487.1
Agricultural <sup>a</sup>	1109.5	1127.1	1196.2	1099.6	1104.3	1127.3
A. <u>Crops</u> <sup>b</sup>	886.2	898.8	907.8	773.4	784.9	850.2
grain <sup>c</sup>	750.1	748.0	739.5	551.9	594.5	676.8
oil seed	14.8	24.8	28.8	31.3	21.2	24.1
oil cake	33.6	31.6	34.4	39.1	38.9	35.5
flax <sup>d</sup>	67.9	73.9	70.4	116.1	94.2	84.5
hemp <sup>d</sup>	12.4	11.5	17.6	19.5	22.9	16.7
tobacco	2.8	3.6	4.8	5.6	7.7	4.9
other crops <sup>e</sup>	4.6	5.4	12.3	9.9	5.5	7.5
B. <u>Animal Pro-</u> <u>ducts</u> <sup>f</sup>	169.1	167.1	221.9	250.2	247.2	211.1
butter	48.9	51.3	71.1	68.5	71.6	62.2
eggs	62.2	63.7	80.8	84.7	90.6	76.4
meat	3.2	5.4	6.1	8.5	9.6	6.5
rawhides	22.9	16.9	29.1	48.1	36.1	30.6
horsehair	3.7	1.5	2.8	4.3	3.1	3.0
bristles	4.8	6.0	6.8	9.5	8.9	7.2
wool	6.8	5.5	8.0	11.2	10.7	8.4
C. <u>Fish and Furs</u>	20.1	23.3	24.7	29.8	25.3	24.6
fur	12.0	15.1	15.8	22.9	17.1	16.5
caviar	3.6	3.6	4.3	3.3	4.2	3.8
D. <u>Other Agric.</u> <sup>g</sup>	34.1	37.9	41.8	46.2	46.9	41.3
live animals	20.8	24.0	26.4	31.0	34.4	27.3

TABLE III. 2 (continued)

	1909	1910	1911	1912	1913	1909-13
D. <u>Other</u> (cont.)						
vegetable oil	1.0	1.0	1.5	3.0	2.3	1.7
Industrial	305.9	308.5	379.9	403.1	401.7	359.8
A. <u>Timber</u>	126.6	138.2	142.4	153.4	164.9	145.1
B. <u>Mining</u>	58.6	51.8	51.9	61.4	74.1	59.6
oil products	34.8	29.7	30.4	38.4	50.1	36.6
manganese ore	7.6	7.7	6.6	12.0	14.6	1.0
iron ore	3.2	5.2	5.4	4.1	3.0	4.1
other mining <sup>i</sup>	13.0	9.2	9.5	7.1	6.4	9.0
C. <u>Other indust.</u> <sup>j</sup>	120.7	118.5	185.6	188.1	162.7	155.1
sugar	28.2	25.4	66.2	56.6	27.5	40.8
cotton cloth	23.4	25.2	32.0	37.8	43.9	32.4
alcohol	5.2	5.5	7.5	9.3	5.2	6.5

Source and explanatory notes: Notes to Table III. 2, Appendix B, p. 751.

TABLE III. 3

## GROWTH AND STRUCTURE OF RUSSIAN EXPORTS 1909-1913

(per cent of total exports)

	1909	1910	1911	1912	1913	Annual average 1909-1913
TOTAL EXPORTS	100.0	100.0	100.0	100.0	100.0	100.0
Agricultural	78.4	78.5	75.9	73.2	73.3	75.8
A. <u>Crops</u>	62.6	62.6	57.6	51.5	52.1	57.2
grain	53.0	52.1	46.9	36.7	39.5	45.5
oil seed	1.0	1.7	1.8	2.1	1.4	1.6
oil cake	2.4	2.2	2.2	2.6	2.6	2.4
flax	4.8	5.1	4.5	7.7	6.3	5.7
hemp	0.9	0.8	1.1	1.3	1.5	1.1
tobacco	0.2	0.3	0.3	0.4	0.5	0.3
other crops	0.3	0.4	0.8	0.7	0.4	0.5
B. <u>Animal Products</u>	12.0	11.6	14.1	16.7	16.4	14.2
butter	3.5	3.6	4.5	4.6	4.8	4.2
eggs	4.7	4.4	5.1	5.6	6.0	5.1
meat	0.2	0.4	0.4	0.7	0.6	0.4
rawhides	1.6	1.2	1.8	3.2	2.4	2.1
horsehair	0.3	0.1	0.2	0.3	0.2	0.2
bristles	0.3	0.4	0.4	0.6	0.6	0.5
wool	0.5	0.4	0.5	0.7	0.7	0.6
C. <u>Fish and Furs</u>	1.4	1.6	1.6	2.0	1.7	1.7
fur	0.8	1.1	1.0	1.5	1.1	1.1
caviar	0.3	0.3	0.3	0.2	0.3	0.3



TABLE III. 3 (continued)

	1909	1910	1911	1912	1913	Annual average 1909-13
D. <u>Other Agric.</u>	2.4	2.6	2.7	3.1	3.1	2.8
live animals	1.5	1.7	1.7	2.1	2.3	1.8
vegetable oil	0.1	0.1	0.1	0.2	0.2	0.1
Industrial	21.6	21.5	24.1	26.8	26.7	24.2
A. <u>Timber</u>	8.9	8.7	9.0	10.2	10.9	9.6
B. <u>Mining</u>	4.2	3.2	3.3	4.1	4.6	4.2
oil products	2.5	2.1	1.9	2.6	3.3	2.5
manganese ore	0.5	0.5	0.4	0.8	1.0	0.7
iron ore	0.2	0.4	0.3	0.3	0.2	0.3
other mining	0.9	0.6	0.6	0.5	0.4	0.6
C. <u>Other Indust.</u>	8.5	8.3	11.8	12.5	10.8	10.4
sugar	2.0	1.8	4.2	3.8	1.8	2.7
cotton	1.7	1.8	2.0	2.5	2.9	2.2
alcohol	0.4	0.4	0.5	0.6	0.3	0.4

Source: Notes to Table III. 3, Appendix B, p. 752.

TABLE III. 4

RUSSIAN EXPORTS OF SELECTED COMMODITIES  
BY WEIGHT 1909 - 1913

(000's of metric tons)

	1909	1910	1911	1912	1913	Yrly Av. 1909-1913
Grain excluding oil seed, etc. <sup>a</sup>	12480	13899	13499	9037	10662	11915
Grain including oil seed, etc. <sup>a</sup>	13243	14628	14410	10032	11647	12792
Wheat	5151	6136	3940	2638	3329	4613
Rye	581	664	882	501	647	832
Barley	3581	4008	4302	2764	3927	3636
Oats	1223	1375	1394	848	600	1206
Corn	674	449	1340	769	582	721
Oil seed	140	207	252	291	250	} 993
Oil cake	623	576	659	704	735	
Flax	275.1	254.4	225.7	353.2	305.1	305
Hemp	54.6	48.3	67.2	64.5	67.9	54
Tobacco	9.8	9.8	10.8	11.3	13.4	10.9
Butter	57.0	56.4	76.5	72.9	78.0	68.1
Eggs (millions)	2845	2998	3682	3397	3572	3169
Horsehair	3.88	1.57	2.88	3.55	2.28	2.83
Bristles	2.36	2.44	2.64	2.75	2.60	2.55
Rawhides	28.2	22.9	28.0	50.8	41.7	12.7
Fur	10.5	12.0	12.1	15.5	13.4	12.7
Caviar	2.64	3.11	2.77	2.51	3.32	2.87
Timber	6945	6831	6829	7012	7597	7042
Sawn	3039	3207	3137	3466	4718	3513
Raw	2637	2407	2418	2418	2872	2550
Oil products	795.4	858.4	854.4	838.5	947.0	858.7
Benzine	51.9	67.8	67.7	116.1	152.1	91.1
Kerosene	491.2	512.9	448.7	396.2	439.7	457.7
Lubricants	204.2	226.6	253.0	269.9	238.5	238.4
Manganese ore	620.6	683.9	634.9	1007.8	1193.8	828.2
Iron ore	517.6	847.1	886.0	663.2	469.7	676.7
Sugar	204.9	148.9	453.6	376.5	145.3	259.8
Cotton cloth	9.75	10.16	12.70	14.92	17.2	12.94

Source: Notes to Table III. 4, Appendix B, p. 752.

of total value of Russian exports including platinum).<sup>18</sup>

The growth of grain exports was extremely erratic both in quantity and value and was responsible for the fluctuations in the growth of Russian foreign trade.<sup>19</sup> In Table III. 1 we see that grain product exports expanded to a peak in 1905, declined through 1908, doubled (in value) in 1909 and then declined during the next three years (Table III. 1).<sup>20</sup>

Non-grain agricultural exports expanded rapidly during 1900-1913. Significant exports specialization of production and marketing (the latter often controlled by German and English firms) was beginning to emerge for such products as butter, eggs, bacon, flax, oilseed and sugar, and exports accounted for significant portions of total output (as much as 31% of eggs, 55% of butter, 44% of oilseed, 81% of flax and 10% of sugar output were exported in the period 1909-1913).<sup>21</sup> Russian

<sup>18</sup>Platinum exports are not included in the trade data cited in text of this study and are discussed in Appendix D (Tables D. 4 and D. 5).

<sup>19</sup>See chart in Pasvolsky-24, p. 29. Timoshenko-32 (pp. 475-477) emphasized the large cyclical fluctuations of pre-1914 grain exports (particularly of wheat), with the correlation between the size of the wheat crop and wheat exports being quite high (+. 77 for period 1892-1913).

<sup>20</sup>According to the Pokrovskii data cited in Table III. 1, the quantity of grain exports peaked in 1909, but the Vissarionov data used for Table III. 4 showed the quantity of grain exports peaking in 1910. The difference is probably due to definitional differences in the term "grain export." See Appendix A, Technical Note 6.

<sup>21</sup>Table T-20, and EIKSSSR, p. 137, pp. 143-145, pp. 157-159, pp. 225 ff. Export-output ratio for butter for 1913 (Table T-20). Sugar exports (largely to the Asiatic countries) were encouraged by export premiums (Pokrovskii-47, pp. 354-355). See Liashchenko-49 (p. 592) for role of English capital in butter.

exports were sufficiently large to affect prices in export markets. Russian flax exports held a near-monopoly position after driving out most Western European production during the late 19th century through low prices.<sup>22</sup> Furs were exported largely in unworked form to Germany, and Russian furs equalled roughly half of the world production. Almost all furs produced in Russia were exported.<sup>23</sup>

Industrial exports. Timber exports rose more rapidly than exports in general during the 1900-1913 period and accounted for roughly 25% of the total industrial timber output (Table T-20). Petroleum product exports reached a high point in 1904 (about 30% of output).<sup>24</sup> After the burning of the oilfields in 1905, exports declined in 1906 to 36% of 1904 exports and both output and exports recovered extremely slowly so that oil exports in 1913 were still less than one-half 1904 exports. Kerosene exports predominated (about 50%).<sup>25</sup> Other mining products exports expanded proportionally to the rest of exports in 1909-1913, and equalled only about 1.6-2.0% of total exports.<sup>26</sup> Manganese ore,

<sup>22</sup>EIKSSSR, p. 225. Much flax was grown in the Baltic area, and the newly created Baltic states became strong competitors on the flax export market (Ibid., pp. 225-231).

<sup>23</sup>EIKSSSR, pp. 277-279. Only squirrels, wolverines and karakul were used extensively in the domestic consumption.

<sup>24</sup>EIKSSSR, p. 245. Petroleum product exports were 1.83 million m. t. in 1904 and 880,000 m. t. and 12% of total output in 1913.

<sup>25</sup>Pokrovskii-47, p. 358. In 1901 Russia held first place in world oil exports. The industry was largely owned by foreigners (Liashchenko-49, p. 682).

<sup>26</sup>Excluding platinum and oil products. Table III. 3.

platinum and asbestos were developed almost entirely for the export market and Russian exports of platinum and manganese supplied a major part of world exports. Russia was also the principal supplier of asbestos to Europe.<sup>27</sup> Cotton fabric exports (largely to Asia) increased rapidly during 1909-1913 and by 1913, almost 7.2% of total cotton cloth output was exported (Tables III.4 and T-20). During the 1909-1913 period as a whole, export of cotton fabric equalled about 4% of output, imports about 1.1% of output.<sup>28</sup>

The pre-1914 Russian economy could not be described as being "export-dependent" in the sense that a large share of domestic output was exported and that large quantities of the economy's fixed capital (or skilled labor) was invested in the export sector. In 1913 exports equalled about 8-10% of GNP and 11.6% of gross agriculture and industrial output.<sup>29</sup> In contrast Kuznets cited the following ratio of merchandise exports to national income for the pre-1914 years (in current prices):<sup>30</sup>

---

<sup>27</sup>Russia accounted for 52% of world manganese exports before the war and almost 98% of its output was exported (SUA, Vol. VIII, No. 14 (1929), p. 18 and Table T-20). Russia supplied 93% of the world's platinum before the war (Lumb-20, p. 34). See Appendix D for a discussion of Russian and Soviet platinum exports. Between 56% and 80% of Russian asbestos production was exported during the period 1909-1913, largely to Germany, Great Britain, Austria-Hungary and Holland; competition (from Rhodesia and South Africa) increased during the period (EIKSSSR, pp. 321-325).

<sup>28</sup>Pokrovskii-47, p. 356.

<sup>29</sup>Holzman-63, p. 327, and Mishustin-38b, p. 93.

<sup>30</sup>Kuznets-67, pp. 96-120. See Michaely-62, p. 110 for export-national income ratios during 1950-1956. It is interesting that Brazil's export-GNP ratio in the 1950's was only about 6%-7%.

		(approximate)
Great Britain (GDP)	1909-13	18.8%
France (NNP)	1911	11.3
Germany (NNP)	1910-13	17.8
Italy (GNP)	1911-13	11.4
Denmark	1910-14	29.0
U. S. A. (GNP)	1904-13	6.3
Australia (GNP)	1911-13	19.1

Because of the structure of exports (largely agricultural), the low export-output ratio of grain and the relatively low levels of per capita consumption of agricultural products, a much smaller portion of aggregate resources was employed in producing export products which could not be used elsewhere in the economy if exports ceased, or from which these resources could not be shifted.<sup>31</sup> Few industries - such as manganese ore, platinum, asbestos and, to a lesser extent, timber with a relatively small share of total industrial capital - were devoted entirely or largely to export, so that the "permanent" export specialization was even less than suggested by the ratio of exports to GNP. Despite the arguments by Liashchenko, Russian economy in the decades before World War I would not be accurately described by the concept of an "enclave export economy" exploited by the industrialized nations without transmitting growth to the exporting country.<sup>32</sup> Although foreign capital occasionally was important in the direct expansion of the few exclusively export industries, the largest portion of foreign capital was invested

---

<sup>31</sup>Crops such as flax and oilseed were competitive with grain, and grain and oilseed products could easily be used for feed for producing animal products, for which per capita consumption in the countryside was quite low.

<sup>32</sup>Liashchenko-49, pp. 737-739.

in industries serving primarily the domestic market (metallurgical industry), in social overhead capital or in government securities (some of which financed railway construction).<sup>33</sup> Furthermore, Russian economic growth from 1890 to 1913 was not "export-led." On the contrary, the stimulus to develop industry during the 1890's came from the government and resulted in considerable import substitution. Exports stagnated during the 1890's. The development of the export industries was too small to have any large impact on Russian industrial development. Although improved foreign market conditions helped accelerate agricultural growth (and especially animal husbandry) after 1900, the domestic market for these exportable agricultural goods as well as for import-substitutes (cotton in particular) seemed to be equally important in the growth of total demand for agricultural output during this period.<sup>34</sup> Little foreign or government capital was directly involved in the production of these agricultural exports, but foreign firms and banks did play an important role in collection, financing and the actual export operations for major agricultural export products (flax, butter, bacon, eggs, furs and even grain).<sup>35</sup>

---

<sup>33</sup>For distribution of total direct foreign investment among various industries in 1916-17, see Liashchenko-29, p. 715, which cited data compiled by P. V. Ol, Innostrannye kapitaly v rossii (Moscow?, 1922). Liashchenko-49 discussed the role of foreign capital several times in his book (see pp. 534-538, 686-687, 707-708, 712-717, 737-738). See Pasvolsky-24 (pp. 16-22) for growth and distribution of state debt held abroad.

<sup>34</sup>See Liashchenko-49, p. 736.

<sup>35</sup>Liashchenko-49, pp. 592, 738-39, Baykov-46, p. 5. German firms dominated exports of furs and flax (Poprovskii-47, p. 367). Foreign capital was not important in increasing the supply of agricultural commodities, but it did play a significant role in the marketing of these

Pre-1914 grain exports and Russian  
foreign trade<sup>36</sup>

The importance of the export of grain and related products in the total value of pre-1914 Russian exports can not be overestimated. Exports of grain and related products equalled almost 50% by value of total exports in 1913 and 1913 was not a particularly good year for grain exports.<sup>37</sup> Several basic trends and characteristics of pre-1914 grain production, consumption and exports should be noted in order to understand the grain export problem during the NEP (see Chapter XI).

First, a relatively small share (11.8%) of the gross harvest of the seven major grains was exported during 1909-13 (when crops were above average), but these grain exports were a fairly large share (about 42%) of domestic shipments).<sup>38</sup> Thus, small fluctuations in the grain harvest could be magnified into large swings in grain exports (because of relatively stable domestic demand for marketed grain).

Second, exports as a percentage of the gross harvest and of railway shipments tended to decline for wheat, rye and oats, and grain

---

goods, i. e. foreign capital was more important in widening the market and increasing demand.

<sup>36</sup>The reader is referred to two studies, Timoshenko-32 and ENSOVEX, (a collection of articles by Russian economists on exports and the grain trade) for a detailed analysis of pre-1914 grain production.

<sup>37</sup>During 1909-1913 - for the share and quantity of the export of grain and related products in total exports was considerably higher than in 1913 (Table III. 1 and Table III. 3).

<sup>38</sup>The concept of "shipments on domestic transportation" is roughly analogous to the concept "total marketing" (outside the village). See below, pp. 265, n. 50.



TABLE III. 5

GROSS HARVEST, EXPORT AND SHIPMENTS OF MAJOR GRAINS  
IN THE RUSSIAN EMPIRE 1909-1913

(annual average, 1000's metric tons)

	Average gross harvest based on TsSK data with 19% correct.		Shipment on domestic trans. (marketing)	Exports	Exports as % of gross harvest	Shipments as % of gross harvest	Exports as % of shipments
	Total	Per Capita (kilogram)					
Rye (grain + flour)	27,863	166	4,257	774	2.8	15.3	18.2
Wheat (grain + flour)	26,389	158	13,152	4,545	17.2	49.8	34.5
Millet	3,096	19	775	33	1.1	26.2	4.2
Buckwheat	1,425	9	523	52	3.6	36.6	9.8
Corn	2,604	16	831	763	29.3	31.9	91.8
Barley	13,072	78	3,276	3,718	28.4	25.0	113.5
Oats	18,805	112	3,206	1,088	5.8	17.0	33.9
Total of 7 grains	93,254	547	26,009	10,982	11.8	27.9	42.2

Source: Notes to Table III. 5, Appendix B, p. 752.

in general and rose quite distinctly only for barley during the period 1890-1913.<sup>39</sup> Wheat exports - the most important export grain by value - showed little upward trend during 1901-1913 even though wheat output and marketing showed a definite strong upward trend, for domestic per capita wheat consumption was rising due to urbanization and growth of population in the rural wheat-consuming regions.<sup>40</sup> Rye output rose slowly, rye exports fell and became relatively insignificant by 1913.<sup>41</sup> Barley output and exports, directed almost entirely to Germany, rose rapidly from 1901 to 1913, and by 1913 dominated grain exports (Table III. 6). Barley was basically a cash export crop rather than a domestic feed grain. Below we summarize characteristics of the four major export grains during 1909-1913:<sup>42</sup>

---

<sup>39</sup>Timoshenko-32, p. 475, and Table III. 6.

<sup>40</sup>Timoshenko-32, pp. 372-374, 378 and Table III. 6.

<sup>41</sup>Timoshenko-32, p. 378 and Table III. 6.

<sup>42</sup>The following table is from Table III. 5. Barley exported exceeded barley shipped on domestic transport because of direct carriage by cart to port by peasants. These figures differ slightly from those cited by Mikoian-28, presented in Table T-20 and also those calculated on the basis of Table III. 7. This is due to corrections made by Soviet statisticians in crop estimates by Tsarist ministries.

TABLE III. 6

## RUSSIAN GRAIN HARVEST AND EXPORT 1891 - 1913

(1000's metric tons)

	exports	% total grain exports	% harvest exported	harvest (72 gub)	total rail shipm'ts	% rail shipm't exported	total grain products
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
W H E A T							
1891-1895	2805	38.81	37.9				7,226
1896-1900	2734	37.57	28.7	11,360	2457	58.2	7,276
1901-1905	3782	37.06	26.6	16,110	3410	56.8	9,975
1906-1910	3736	29.18	25.6	17,060	4510	55.2	10,079
1911	3940	29.19	34.2	13,850	4361	44.2	13,499
1912	2638	29.19	16.2	19,600	4344	40.1	9,037
1913	3329	31.22	15.0	25,920	5327	46.8	10,662
R Y E							
1891-1895	931	12.88	5.7				see above
1896-1900	1224	16.82	6.8	20,380	1165	59.3	
1901-1905	1271	12.74	6.3	22,000	1389	57.6	
1906-1910	693	6.87	3.9	20,420	1309	33.3	
1911	882	6.53	5.4	19,350	1271	42.1	
1912	501	5.54	2.2	26,470	1089	32.6	
1913	647	6.06	2.9	25,420	1294	40.3	
B A R L E Y							
1891-1895	1516	20.97	34.6				see above
1896-1900	1329	18.26	26.9	5,500	606	75.4	
1901-1905	2023	20.28	31.1	7,090	994	77.4	
1906-1910	2970	29.46	37.4	8,670	1632	81.0	
1911	4302	31.86	52.5	9,020	2218	82.9	
1912	2764	30.58	29.8	10,190	1781	83.0	
1913	3927	36.83	34.2	12,460	2234	83.5	

TABLE III. 6 (continued)

	exports	% total grain exports	% harvest exported	harvest (72 gub.)	total rail shipmts	% rail shipm't exported	total grain products
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
O A T S							
1891-1895	932	8.02	10.7				
1896-1900	802	11.02	8.1	11,610	1,486	52.3	
1901-1905	1260	12.63	11.3	12,820	1,944	59.8	see
1906-1910	929	9.21	8.0	13,790	1,940	52.0	above
1911	1395	10.33	13.4	12,460	2,277	49.5	
1912	848	9.38	6.6	15,500	2,184	48.8	
1913	600	5.62	4.0	17,790	1,769	40.8	

Source: Notes to Table III. 6, Appendix B, p. 753.

	<u>% of total grain exports by weight<sup>a</sup></u>	<u>Exports as % of gross harvest</u>	<u>Gross marketing (shipments) as % of gross harvest</u>
Wheat (grain and flour)	41.4	17.2	49.8
Barley	33.9	28.4	25.0
Oats	9.9	5.8	17.0
Rye (grain and flour)	7.0	2.8	15.3
Seven major grains	100.0	11.8	27.9

<sup>a</sup>Of 7 major grains

The gross marketing coefficient during 1903-13 (total sale of grain gross of repurchases by rural population) for all grains was estimated as high as 35 to 40%, but the data on domestic grain shipment of seven major grains suggests that it was probably closer to 28%.<sup>43</sup>

Third, relatively little grain was used as feed for livestock or poultry in pre-1914 Russia, although oats were fed to workstock.<sup>44</sup>

Fourth, it is thought by many economic historians that the peasants marketed fairly substantial shares of their output because of the heavy fiscal, rent, and debt pressures on them.<sup>45</sup> This hypothesis is examined in Chapter XI.

---

<sup>43</sup>High estimate from Liashchenko-28, p. 203. Domestic shipment as fraction of gross harvest from Table III. 5. See Chapter XI.

<sup>44</sup>Timoshenko-32, p. 473, and Jasny-49, p. 188. Even by-products of grain milling and oilseed pressings were exported (*Ibid.*). All barley shipped by water or rail was exported during the period 1909-1913 (Table III. 6).

<sup>45</sup>Gerschenkron-65, pp. 125-131. Gerschenkron described government policy in the 1890's; "A central principle of governmental policy was to impound a larger share of the peasants' output rather than to take active steps to raise that output" (Gerschenkron-65, p. 126).

TABLE III. 7  
 RUSSIAN HARVEST AND EXPORT OF WHEAT,  
 RYE, BARLEY AND OATS 1895 - 1913

(1000's metric tons)

	Wheat		Rye		Barley		Oats	
	Harvest	Export	Harvest	Export	Harvest	Export	Harvest	Export
1892								
1893								
1894								
1895	11250	3885	20350	1496	5510	1774	11310	1093
1896	11210	3597	20060	1299	5520	1337	11610	1106
1897	9260	3494	16620	1204	5200	1464	9630	714
1898	12500	2908	18730	1096	6680	1741	9980	414
1899	12360	1754	23160	994	4940	1220	14450	467
1900	11510	1915	23370	1527	5160	880	12390	1310
1901	11640	2270	19180	1355	5220	1271	9060	1315
1902	16530	3047	23340	1609	7360	1707	13510	1037
1903	16910	4175	23160	1346	7780	2385	11610	975
1904	18150	4601	25620	984	7540	2487	16320	886
1905	17320	4813	18730	978	7560	2265	13600	2085
1906	13840	3604	16940	1071	6860	2437	10350	7138
1907	13900	2321	20530	740	7740	2174	13170	428
1908	15410	1471	19870	408	8280	2644	13660	482
1909	21120	5152	22760	582	10380	3591	16610	1224
1910	21070	6136	22030	663	10090	4008	15180	1374
1911	13850	3940	19350	883	9020	4302	12460	1394
1912	14600	2637	26470	501	10190	2763	15500	849
1913	25920	3330	25420	647	12460	3926	17790	600

Source: Notes to Table III. 7, Appendix B, p. 754.

Last, Russian grain exports were extremely dependent on the German market (due largely to tariff concessions), and Germany and Netherlands together took one-third of Russian wheat exports, two-thirds of its rye exports and three-fourths of its barley exports. The rest of the wheat was exported to Italy, Great Britain and Greece, while very little was exported to the Scandinavian countries whose grain trade was not protected by protective tariff barriers and where Russian wheat was not able to compete with North American and Argentinian wheat.<sup>46</sup> The major regions producing grain for export were those surrounding the Black Sea (Southern steppe of Ukraine and Don, Northern Caucasus and Trans-Dnieper). The Volga regions were important in supplying domestic markets but they were also increasing their grain exports as a fraction of total shipments. Little grain was exported from Siberia.<sup>47</sup>

#### The structure of Russian imports

The structure of Russian imports (Soviet definition) for 1909-13 is summarized below for comparison with Soviet trade in later periods (from Table III. 8 as % of the value of average annual imports).<sup>48</sup>

<u>Producers' goods</u>	56.7%	<u>Consumers' goods</u>	43.3%
Equipment	14.6	Foodstuffs	19.7
Raw materials	25.6	Manufacturing	21.8
Semi-processed	12.1	Other	
Fuels	4.4	(Unallocated)	1.8

<sup>46</sup>Timoshenko-32, p. 483.

<sup>47</sup>Timoshenko-32, p. 377.

<sup>48</sup>See Notes to Table III. 8 and Appendix A, Technical Note 4 for description of classification system.

TABLE III. 8

## STRUCTURE OF RUSSIAN IMPORTS 1909 - 1913 AND 1913

(millions of rubles, % of total imports)

	1909-1913		1913	
	value	% total	value	% total
Total Imports	1139.0	100.0	1374.0	100.0
Producers' goods	646.0	56.7	884.4	64.4
A. <u>Equipment</u>	166.7 <sup>c</sup>	14.6	-	-
Industrial				
Boilers - Machinery Apparatus	88.4 <sup>a</sup>	7.8	} 172.4	} 12.5
Electrical	14.9 <sup>a</sup>	1.3		
Objects of Precise Mechanics	6.7 <sup>a</sup>	0.6		
Transport				
Autos, Motorcycles	11.9 <sup>a</sup>	1.0	}	}
Ships	3.7 <sup>a</sup>	0.3		
Agricultural				
Tractors			} 49.0	} 3.6
Agric. Machinery	40.5 <sup>a</sup>	3.6		
B. <u>Raw Materials</u>	291.7 <sup>d</sup>	25.6	343.1	25.0
1. Cotton - raw	110.3	9.7	114.0	8.3
2. Wool - raw	51.5	4.5	60.1	4.4
3. Rawhides	20.7	1.8	25.1	1.8
4. Rubber	33.2	2.9	40.2	2.9
5. Non-Ferrous	30.4	2.7	56.1	4.1
6. Ferrous - rough	8.4	0.7	56.4	4.1
7. Jute	8.8	0.8	11.1	0.8
8. Silk	27.0	2.4	31.2	2.3
9. Rags	1.4 <sup>a</sup>	0.1	1.8	0.1
C. <u>Semi-Processed</u>	137.1 <sup>e</sup>	12.1	212.4	15.5
1. Leather - Tanned	19.8	1.7	21.2	1.6
2. Yarn - Wool	20.4	1.8	16.8	1.2
3. Yarn - Cotton	11.2	1.1	9.8	0.7
4. Paper	25.6	2.2	29.5	2.2
5. Chemicals	59.0	5.2	66.0	4.8
6. Ferrous Metals Rolled (Articles)	17.4 <sup>a</sup>	1.5	-	-



TABLE III. 8 (continued)

	1909 - 1913		1913	
	value	% total	value	% total
C. (continued)				
7. Dyes	33.2 <sup>b</sup>	2.9	15.0	1.1
8. Tanning Materials	6.7 <sup>b</sup>	0.6	7.7	0.6
D. <u>Fuels</u>	49.9	4.4	91.2	6.6
Consumers' goods	[493]	43.3	489.6	35.6
A. Foodstuffs	[244] <sup>f</sup>	19.7	261.3	19.0
Tea	59.9	5.3	62.2	4.5
Herring	22.4	2.0	24.3	1.8
B. Manufactured	248.8 <sup>b,g</sup>	21.8	130.7	9.5
Woolen Cloth	16.0 <sup>b</sup>	1.4	} 37.1	} 2.7
Cotton Cloth	14.8 <sup>b</sup>	1.3		
C. Other				
Living Animals	11.8 <sup>a</sup>	1.0	} 97.6	} 7.1
Unallocated	55.9 <sup>b</sup>	4.9		

Source: Notes to Table III. 8, Appendix B, p. 754.

Since large portions of the raw materials were used by the consumer goods industry, imports during 1909-1913 were much more oriented toward the personal consumption than implied by the Soviet definition.<sup>49</sup> Considering the end-use of raw and semi-processed materials, the share of imports "oriented" toward consumer demand was about 75% of total imports during 1909-1913.<sup>50</sup>

During the rapid industrial expansion (from 1886 to 1913) the share of consumers' goods (Soviet definition) in total exports remained relatively constant, fluctuating from 38.3% to 46.4% of total imports. The share of equipment imports tended to rise during this period even though the domestic machinery industry was expanding rapidly. The share of raw materials fell during the 1886-1913 period as import substitution was pressed under the protection of tariffs (Table III. 9). As a result of import substitution in raw and semi-processed materials the share of consumer-oriented imports had fallen to 60% in 1913 (Table T-18).

The most important imports (other than equipment) during 1909-13 were the following (% of value of average annual imports):<sup>51</sup>

---

<sup>49</sup>See Chapter V, pp. 200 ff, for a discussion of this alternative of classifying imports and Notes to Table T-18.

<sup>50</sup>From Table III. 8 Share of consumer imports (Soviet definition) plus the share of raw cotton, raw wool, raw hides, rubber, silk, leather, woolen and cotton yarn, paper, dyes and farming materials. This still could understate the "consumer-orientation" of Russian imports because some non-ferrous metals, copra, etc., were also used by light industry.

<sup>51</sup>Table III. 8.

TABLE III. 9

## THE DEVELOPMENT OF RUSSIAN IMPORTS 1886 - 1913

A. Value	1886-90	1891-95	1896-00	1901-05	1906-10	1911-13	1909-13	1913
Total Imports	435.4	456.0	596.0	639.6	910.3	1253.8	1139.0	1374.0
I. Producer's goods <sup>a</sup>	[248.9]	[272.9]	[368.0]	[359.6]	[487.9]	691.0	646.0	884.4
A. Equipment	43.4	50.9	92.4	67.2	100.1	175.5	166.7	-
Industrial	18.3	32.4	67.9	42.0	61.0	101.1	110.0	172.4
Transport	20.6	10.7	14.6	3.9	9.1	21.0	15.6	
Agricultural	4.5	7.8	9.9	21.3	30.0	54.4	40.5	49.0
B. Raw materials	135.4	143.6	164.3	168.3	228.5	276.8	291.7	343.1
C. Semi-processed	57.0	66.9	79.7	103.8	132.0	186.8	137.1	212.4
D. Fuels	13.1	11.5	31.6	20.3	27.3	51.9	49.9	91.2
II. Consumer goods	186.5	183.1	228.0	280.0	422.4	545.4	493	489.6
A. Foodstuffs	105.5	103.2	119.2	144.5	226.7	264.5	244	261.3
B. Manufactured	81.0	79.9	108.8	135.5	195.7	280.5	248.8	130.7
B. Percent								
Total Imports	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
I. Producer's goods <sup>a</sup>	[57.2]	[59.8]	[61.7]	[56.2]	[53.6]	55.9	56.7	64.4

TABLE III. 9 (continued)

B. Percent	1886-90	1891-95	1896-00	1901-05	1906-10	1911-13	1909-13	1913
A. Equipment	10.0	11.2	11.5	10.5	11.1	14.4	14.6	-
Industrial	4.2	7.1	11.4	6.6	6.7	8.2	-	12.5
Transport	4.7	2.3	2.4	0.6	1.0	1.7	-	-
Agricultural	1.0	1.7	1.7	3.3	3.3	4.4	3.6	3.6
B. Raw materials	31.1	31.5	27.6	26.3	25.1	22.4	25.6	25.0
C. Semi-processed	13.1	14.5	13.4	16.2	14.5	15.1	12.1	15.5
D. Fuels	3.0	2.5	5.3	3.2	3.0	4.2	4.4	6.6
II. Consumer goods	42.8	40.2	38.3	43.8	46.4	44.1	43.3	35.6
A. Foodstuffs	24.2	22.6	20.0	22.6	24.9	21.4	19.7	19.0
B. Manufactured	18.6	17.5	18.3	21.2	21.5	22.7	21.8	9.5

<sup>a</sup>Producers' goods estimated as residual of total imports minus consumers' goods imports.

Source: Notes to Table III. 9, Appendix B, p. 755.

cotton fiber and yarn.....	10.8%
wool fiber and yarn.....	6.3
tea.....	5.3
hides and leather.....	3.5
dyes and tanning material.....	3.5
silk (raw).....	2.4
herring.....	2.0
paper.....	2.2
rubber.....	2.9
coal.....	4.4
non-ferrous metals.....	2.7

Ferrous metals (2.2%), cotton and woolen cloth (1.4% and 1.3%), grain and sugar were relatively unimportant in the 1909-13 import structure; in fact, Russia was a major exporter of cotton cloth, sugar, and grain. All these goods, however, were to be imported by the Soviet government in substantial quantities during the period of the "import goods intervention" in 1924-26 (see Chapters VII and VIII).

Several classes of commodities were simultaneously imported and exported; coarse wool, light leather and cheap cotton cloth were exported and fine wool, heavy leathers and better-quality cotton goods were imported. The simultaneous export and import of grains, coal, and iron ore was explained as being the result of locational factors, with the Baltic port cities (including St. Petersburg) relying largely on imported raw materials and fuels.<sup>52</sup> Several manufactured or processed commodities were imported simultaneously with the export of the basic raw material for these goods: the major examples were ferro-manganese and manganese ore, zinc and lead metal and zinc ore and lead ore,

---

<sup>52</sup>Ronimois-46, pp. 24-25. Iron ore and coal imports far exceed exports of these goods; grain was imported from Manchuria into Asiatic Russia because of transportation costs. No attempt is made here to study this issue; even today it seems that this factor would still influence Soviet foreign trade.

paper and pulp wood, processed furs and raw furs, and flax fiber and linen. These somewhat limited examples were overemphasized by Soviet writers as an illustration of the backward and exploited condition of the pre-1914 Russian economy.<sup>53</sup> In quantitative importance, however, these examples of raw material exports in "exchange" for the more highly processed product were relatively insignificant in Russian foreign trade and must be considered along with the large Russian imports of cotton fiber and the large Russian exports of cotton fabrics (a characteristic also of industrial Great Britain). While Russian exports consisted overwhelmingly of raw materials (mostly of agricultural origin), the composition of Russian imports did not consist entirely of finished consumer goods and of machinery for the production of the raw materials. On the contrary, raw materials and semi-processed materials made up almost 38% of annual average imports during 1909-1913. The import pattern of pre-1914 Russia bespoke more of an economy in the process of industrialization rather than a stagnant exploited colony of the Western industrialized nations--the image conjured up by Soviet writers extolling the virtues of socialist construction.<sup>54</sup>

Import dependence and import substitution  
in pre-1914 Russia

The pre-1914 Russian economy was dependent on imports to supply all or a large portion of several important raw and semi-processed materials, selected types of machinery, and consumer goods.

---

<sup>53</sup>Liashchenko-49, pp. 642, 673, 737.

<sup>54</sup>Cf. Mishustin-38 and Liashchenko-49.

TABLE III. 10

## RUSSIA: THE DEPENDENCE OF THE ECONOMY ON IMPORTS 1909 - 1913

(percent of total supply)

	Basis of compar.	Russian Empire			Soviet Territory		Other Estimates	
		"pre-war"	1909-13	1913	pre-war	1913		
		(1)	(2)	(3)	(4)	(5)	(6)	
<u>Fibers</u>								
1.	cotton fiber	wt.	55.6	45.2	41.0	.	[25%]	.
2.	wool fiber	wt.	20%	26.1	16.8	.	.	26%
3.	silk (raw fiber)	wt.	88	.	.	.	.	66%
<u>Non-ferrous Metals</u>								
4.	copper	wt.	20	29.1	18.2	.	19.8	.
5.	zinc	wt.	67	.	59.3	92	90.5	.
6.	lead	wt.	47.7	98.8	97.4	.	97.4	.
7.	nickel	wt.	100	100	100	100	100	.
8.	tin	wt.	100	100	100	100	100	.
9.	aluminum	wt.	100	100	100	100	100	.
<u>Ferrous Metals</u>								
10.	pig iron	wt.	.	.	0.3	.	.	.
11.	rolled ferrous metals	wt.	.	.	2.4	.	.	.
12.	pipes and tub	wt.	.	.	8.6	.	.	.
<u>Paper</u>								
13.	paper and cardboard based on imports (including pulp)	wt.	.	.	40.8	.	59	.

TABLE III. 10 (continued)

	Basis	"pre-war"	1909-1913	1913	pre-war	1913	other
<u>Paper (continued)</u>							
14. paper	wt.	.	.	.	.	40	.
15. newsprint	wt.	.	.	.	.	55.1	.
16. wrapping	wtr.	.	.	.	.	26.8	.
17. cardboard	wt.	.	.	.	.	39	.
18. wood pulp	wt.	.	.	31.8	.	.	.
19. wood pulp and cellulose	wt.	22%	.	.	.	.	.
20. <u>Rubber</u>	wt.	100.0	100.0	100.0	100.0	100.0	.
21. <u>Leather</u>	wt.	"Extensive"					
<u>Chemicals</u>							
22. all chemicals	value	.	.	27.3	.	.	.
23. all chemicals	wt.	.	.	32.3	.	.	.
24. acids, alkaloids, salts	value	.	.	30.0	.	.	.
25. individual chemicals							
a. sulfuric acid	wt.	.	.	1.2	.	.	.
b. hydrochloric acid	wt.	.	.	.2	.	.	.
c. soda ash	wt.	.	.	.	.	1.0	.
d. copper sulphate	wt.	.	.	46.4	.	49.0	.
e. aluminum sulphate	wt.	.	.	3.0	.	5.8	.
f. borax	wt.	.	.	100.	.	.	.
g. superphosphate	wt.	.	.	70.0	.	81	.
h. Thomas slag, ground phosphate	wt.	.	.	85.	.	97	.
i. potash	wt.	.	.	100	.	100	.



TABLE III. 10 (continued)

	Basis	"pre-war"	1909-13	1913	pre-war	1913	other
26. Dyes				large			
27. Analine	wt.	.	.	20.5			
28. Analine salts	wt.	.	.	50. -			
29. Pigments and varnishes	wt.						
a. dying clay, ochre	wt.	.	.	60.4			
b. white lead	wt.			5.3			
c. white zinc	wt.			41.6			
d. oil varnish	wt.			1.6			
e. spirit varnishes	wt.			1.0			
30. Coal tar	wt.			50.8			
31. Rosin	wt.			77. -			
32. Pharmaceutical prod.	value			54.0			
a. inorganic	value			68.7			
b. organic	value			81.3			
c. phyto-chemical	value			100.0			
d. tabloids	value			0.0			
33. Soap				.5			
34. Glycerine				.0			
35. Tea				99.9			
36. Cotton yarn		10%					
37. Coffee				[100%]			
38. Cocoa				[100%]			
39. Jute				[100%]			
40. Copra and palm oil, coconut oil				[100%]			
41. Animal fats				(large)			
42. Coal		19.6		17.5			

Source: Notes to Table III. 10, Appendix B, p. 755.

This dependence of the pre-1914 Russian economy on imports was a frequent theme of Soviet leaders and economists during the inter-war period.<sup>55</sup> Furthermore this import dependence inherited by the Soviet NEP economy was to become a crucial factor in economic recovery and further industrialization. Thus, we consider here the extent and nature of this import dependence in pre-1914 Russia and analyse the pre-1914 trends in import substitution for comparison with similar trends in the inter-war Soviet economy.

The share of imports in the total domestic consumption of selected commodities (excluding machinery) in pre-1914 Russia is shown in Table III.10. These estimated ratios are approximations because for any given year these ratios are influenced by both the domestic capacity to produce these goods and the domestic demand. The period 1909-1913 was a period of strong economic expansion, so that the share of imports would tend to be larger than during a recession. The Russian economy, like most industrial Western European economies, was completely dependent on imports for its supply of rubber, tin, nickel, aluminum, many ferro-alloys, many minor metals, jute, tea, cocoa, coffee, potash, borax, and some low-volume chemicals and essential oils. The Russian economy was largely dependent on imports (50% or more of total supply) for silk, zinc, lead, paper (especially newsprint), superphosphate, and Thomas slag-phosphorite, aniline salts, dyeing clays and ochre, coal tar rosin, several pharmaceutical products, and, most likely, dyes,

---

<sup>55</sup>Mishustin-38a (entire book), Kasianenko-64 (entire book).

tanning materials, heavy raw hides (for large scale industry), citrus fruits, herring and olive oil.<sup>56</sup> The Russian economy relied on imports for a significant part (20-50%) of its total supply of cotton (45-50%), wool (26-45%), copper (18-30%), cardboard (39%), wood pulp (32%), acids, alkaloids, and salts (about 30%) including copper sulphate (46%), analine (20%), white zinc (42%) (all from Table III. 10).<sup>57</sup> Domestic production of several chemicals (and especially dyes) was based largely on imported raw materials. The paper industry also used large amounts of imported wood pulp (Table III. 10).

This "economic dependence" of Russia (and the USSR in the 1920's) on imports (especially from the more advanced industrial nations) was thought by Marxist and Soviet economists to be an instrument of "colonial exploitation" of Russia by the more advanced industrial nations foreign capital.<sup>58</sup> This "economic dependence," however, should be

---

<sup>56</sup>EIKSSSR, pp. 469-471, and ERSU, III, No. 10 (May 15, 1928), pp. 175-178. It has not been possible to determine the share of imported rawhide and leather in the total supply of leather in Russia before World War I. Russia exported small hides (skins) and imported heavy hides (required for shoe soles, boots and leather belting).

<sup>57</sup>The dependence of the Russian woolen textile industry on imported wool was much greater than indicated by a simple "import/national supply ratio." First, it required higher quality wool than produced by domestic flocks. Second, much domestically produced wool was not marketed but rather used on the farm or by local artisans. Comparing the output of woolen yarn in the Russian empire in 1913 and the imports of wool in 1913, we find that the weight of the imported wool equalled one-half the weight of the factory yarn, implying an "import-supply" ratio for large-scale industry for 1913 of around 50%. See Table III. 13.

<sup>58</sup>Dobb-48, p. 38, and Liashchenko-49, p. 674.

TABLE III. 11

## IMPORT SUBSTITUTION IN RUSSIA 1876 - 1892, 1913

(% of consumption)

	1876	1885	1892	1893	1894	1895	1913
Cotton thread	24.9	7.6	3.4	.	.	.	.
Cotton cloth	9.1	3.1	1.4	.	.	.	Net exports
Woolen yarn	77.3	46.0	12.7	.	.	.	.
Woolen articles	20.7	6.2	4.3	.	.	.	.
Linen thread	61.4	1.4	0.8	.	.	.	.
Linen cloth	20.0	28.8	6.7	.	.	.	Net exports
China and pottery	32.3	21.3	15.2	.	.	.	.
Pig iron (chugun)	12.5	30.9	7.4	14.5	29.2	32.7	0.3
Machinery	40.3	26.2	30.8	.	.	.	.
Sugar	4.0	0.0	0.0	.	.	.	Net exports
Wrought iron (zhelezo)	36.5	20.5	9.6	.	.	.	.
Oil	20.0	0.3	0.0	.	.	.	Net exports
Coal	44.1	30.0	29.4	18.5	18.5	17.5	23.6
Steel	90.4	3.3	3.3	3.1	9.7	5.7	[ 2.4 ]
Copper	64.7	46.3	65.3	.	.	.	9.8

Source: Notes to Table III. 11, Appendix B, p. 760.

TABLE III.12

RUSSIA: ESTIMATES OF COTTON PRODUCTION  
AND IMPORTS, 1900 - 1915

(metric tons)

	Domestic	Imported	Total Supply	Imports as % of Total
Prokrovskii Data (cotton fiber)				
1903	93,336	201,513	294,850	68.3
1911/12	219,830	211,370	421,190	47.8
1912/13	214,600	177,570	392,160	45.3
1913/14	232,670	221,550	454,220	48.8
SUA Data (cotton fiber)				
1900	73,712			
1906	141,511	154,648	296,159	52
1908	134,173	212,275	346,448	61
1910	184,117	177,663	362,828	49
1912	236,567	178,531	361,780	43
1913	209,867	.	.	.
1914	292,670	138,727	415,098	32
1915	302,925	.	.	.
Pasvolsky Data (cotton fiber)				
1895	54,056	134,320	188,376	71.3
1900	95,007	168,719	263,726	64.0
1905	101,559	170,357	271,916	62.7
1910	173,633	198,204	371,837	53.3
1911	221,137	201,480	422,617	47.7
1912	234,241	180,186	414,427	43.5

Source: Notes to Table III.12, Appendix B, p. 760.

TABLE III. 13

## RUSSIA: PRE-1914 WOOL IMPORTS AND YARN OUTPUT

	Wool fiber imports	Large Scale Industry		
		Woolen yarn output	Implied domestic supply to large scale industry	Imports as % of yarn output
	(1)	(2)	(3)	(4)
1909	43.1	[72.0]	29.0	60
1910	50.1	73.8	24.0	68
1911	47.3	75.4	28.0	63
1912	[45.1]	82.0	37.0	55
1913*	55.2	110.2	55.0	50

Source: Notes to Table III. 13, Appendix B, p. 760.

put into its proper perspective, for with respect to several major raw materials (cotton, lumber, most foodstuffs, silk, iron ore, coal, oil, flax, manganese) the Russian economy was much less dependent on imports than some Western European industrial economies.<sup>59</sup> Russia was unique among European economies in being able to meet a large fraction of its cotton fiber requirement from domestic production. The major difference was that the major producing areas were often economically and politically dominated by industrial nations which, according to the Marxist theory, would give the industrial nations cheaper access to these commodities.<sup>60</sup> Russia, on the other hand, often had to buy through foreign middlemen and imported large quantities of Australian wool, Argentinian leather, Bolivian and Malayan tin, Malayan rubber, American and Egyptian cotton, Indian tea from Germany and Great Britain, where these commodities had been shipped for distribution. Furthermore "capitalist" control of sources was naturally to be of more concern to a "socialist economy" in a hostile capitalist world economy than it was to Tsarist Russia.

The Russian economy of 1913 differed considerably from the present-day underdeveloped economies. Its fairly large machinery industry supplied a significant proportion of the agricultural, transport, and electrical equipment for an expanding economy (Table III. 14). The Russian iron and steel industry supplied almost the entire domestic

---

<sup>59</sup>Gerschenkron-47, p. 157.

<sup>60</sup>British control of India, Malaya, Egypt gave the British access to cotton, tea, tin, rubber, and jute.

TABLE III. 14

RELATIVE IMPORTANCE OF IMPORTED MACHINERY IN  
MACHINERY SUPPLY TO RUSSIA IN 1913

	Date	Type of Machine	% Supplied by		Method of Comparison
			Domestic Output	Imports	
A.	General				
A. 1	eve of war	machines ( <u>mashiny</u> )	< 50	> 50	ruble values
B.	Metal-working				
B. 1	eve of war	lathes ( <u>stanki</u> )	≈ 33	≈ 67	ruble value?
B. 2	eve of war	metal working	≈ 33	≈ 67	ruble value?
B. 3	1913	metal-working machine tools	≈ 33	≈ 67	ruble values
C.	Electrical				
C. 1	1913	all electrical articles	73	27	ruble value
C. 2	1913?	motors, transformers, parts	48	52	ruble value
C. 3	1913?	cable and wire	94	6	ruble value
C. 4	1913?	incandescent lamps	26	74	ruble value
C. 5	1913?	telegraphic and telephone apparatus	93	7	ruble value
C. 6	1913	electrical wiring material	21	79	ruble value
C. 7	1913	carbon articles for electrical technicians	74	26	ruble value
C. 8	1913	electrical meter apparatus	7	93	ruble value
C. 9	1913	sundry electric articles	60	40	ruble value
D.	Miscellaneous Machinery				
D. 1	1912	wood working	≈ 50	≈ 50	ruble value
D. 2	1913	textile	77	23	ruble value
	1908	textile	56	44	ruble value



TABLE III. 14 (continued)

	Date	Type of Machine	Percent supplied by		Method of Comparison
			Domestic Output	Imports	
D. 3	1913	paper-making	≈ 63	≈ 37	ruble value
D. 4	1913	printing	≈ 2	≈ 98	ruble value
D. 5	1910-12	optical, photographic, horological	12-20	80-88	ruble value
D. 6	1912-13	automobiles and trucks	0-3	97-100	ruble value
D. 7	1912-13	motorcycles	8	92	ruble value
D. 8	1912-13	bicycles	40	60	ruble value
D. 9	1913	tractors	0	100	no production
D. 10	1913	grain combines	0	100	no production
D. 11	pre-war	chemical equipment	10	90	ruble value
D. 12	pre-war	railroad equipment	90	10	
E.	Miscellaneous Metal Articles				
E. 1	1912-13	metal ropes and rigging	[87-92]	8-13	ruble value
E. 2	1912	card cloth	40	60	ruble value

Source: Notes to Table III. 14, Appendix B, p. 760.

demand for ferrous products (with the exception of some special steels, tinplate, and alloys). Russia occasionally exported pig iron when domestic demand expanded rapidly in 1911-13.<sup>61</sup> The coal industry, expanding rapidly in the 1905-1913 period, still could not meet entirely the growing demand for fuel (imports equalled about 23.6% of consumption in 1913). The copper, lead, and zinc industries were also expanding rapidly in this period; the copper industry covered about 80% of total consumption in 1913, the zinc industry about 40% (10% in USSR territory alone) and the lead industry only 2-3%.<sup>62</sup>

The Russian chemical industry met most domestic demand for basic industrial chemicals such as sulfuric acid, hydrochloric acid, soda ash. It relied heavily, however, on imports of dyes and intermediate dye products (as did most economies except Germany, which held a near-monopoly on dyes).<sup>63</sup> Imports also supplied a large share of (70-80%) but not all of fertilizer demand. The Russian textile industry more than covered domestic demand (except for several high-quality fabrics) and provided an export surplus; the Russian sugar industry also supplied a large export surplus. Similar examples have been found for other less important industries. This is not the picture of a modern stagnant export-dependent underdeveloped economy.

---

<sup>61</sup>Table III. 10, Pokrovskii-47, p. 357. Pasvolsky-24, p. 118.

<sup>62</sup>Table III. 10. The lead industry stagnated after 1870 and began to expand again just before World War I. The zinc industry boomed in the four years preceding World War I; the copper industry expanded rapidly from 1905 (Nutter-62, p. 411).

<sup>63</sup>Beer-59, p. 134.

The Russian economy was indeed dependent on imports for its supply of several important commodities (especially for industry, but this import dependence was in some ways similar to the import dependence of many industrial economies and was more the result of industrialization than economic backwardness. The major difference was that Russia was more dependent than some other industrialized nations in the more technologically sophisticated fields of metallurgy, (ferro-alloys, aluminum), newer fields of machine-building (automobiles, airplanes, electronics, complex metal-working, and metallurgical equipment, etc.) and in some fields of the chemical industry (especially dyes and fertilizers). Import-consumption ratios alone, however, understate the dependence of the Russian economy on access to foreign technical personnel, management, and design, which accompanied foreign capital investment, or was obtained directly by Russian industrialists and merchants.<sup>64</sup>

The most important point about Russian import-dependence is that it was concentrated basically in the supply of materials to the consumer goods industry, in the supply of two important consumer goods for mass consumption (herring and tea) and in the technologically newer or technologically more sophisticated fields of heavy industry.

Import substitution in pre-1914 Russia. Import substitution in pre-1913 Russia progressed rapidly in cotton, paper, copper, some basic chemicals, pipes and tubing, as well as in several fields of

---

<sup>64</sup>Beable-19 describes throughout his book the role of foreign traders, managers and capital in various segments of the economy.

machine-building (agricultural, railroad and electrical) (Tables III. 11, III. 12, and III. 13).<sup>65</sup> Thus the early and eventually complete substitution of domestic production for imports of cotton, paper, agricultural, railroad and electrical equipment and the later import substitution of zinc, copper and selected types of machinery in the Soviet economy might be interpreted as a continuation of a policy developed in pre-Soviet Russia (Table T-21).

Domestic cotton fiber output, in Central Asia expanded rapidly during the 1900-1913 period under a high protective tariff and the availability of cheap grain; considerable relative import substitution had occurred by 1913 (Table III. 12).<sup>66</sup> Cotton imports continued to grow during the 1900-1913 period but at a declining rate, so that the share of imported cotton fell from 68% in 1903 to 41% in 1913. The evidence for import substitution of domestic wool for imported wool in the Russian textile industry is much less conclusive (especially for establishing long-term trends). Comparing wool imports to the weight of factory spun woolen yarn, we found that the ratio of the weight of the wool imports to the weight of the yarn declines in the 1909-1913 period (Table III. 13). Against this evidence must be considered reports that

---

<sup>65</sup>See next section for discussion of machinery imports.

<sup>66</sup>Pokrovskii-47, p. 353 noted the following development of tariffs on imported cotton (per pood): 1878, 40 kopecks; 1887, one ruble to one ruble, 15 kopecks; 1892, one ruble, 40 kopecks to one ruble 65 kopecks; 1894, two rubles 10 kopecks; 1900, four rubles 15 kopecks (net weight); 1913, four rubles (gross weight). SUA (Vol. V, No. 20 1926 , p. 27) attributed the rapid increase in cotton output to the availability of cheap grain and high fiber prices.

the number of fine-haired sheep was declining before World War I because of the extension of grain growing in sheep-herding districts.<sup>67</sup>

Absolute import substitution occurred in copper despite rapidly increasing demand by the electrical industry.<sup>68</sup> The demand for zinc, however, outpaced the rapidly growing domestic zinc output (9,610 m. t. in 1909, 19,360 m. t. in 1913) and the share of imports in total zinc consumption rose from 54% in 1909 to 71% in 1913.<sup>69</sup> Pipe production started in the late 1890's and by 1913, only 14% of the total pipe supply was imported.<sup>70</sup>

Similar examples of absolute or relative import substitution could be cited for chemicals, paper output, and other fields.<sup>71</sup>

Import substitution in Russia, according to Pokrovskii, had been a continuing process from the 1870's on and he illustrated his hypothesis with the data in Table III. 11.<sup>72</sup> Pokrovskii wrote:

In the course of the XX century the process of further freeing the Russian market from imports of foreign industrial goods took place. Significant dependence remained only for machines,

<sup>67</sup>Beable-19, p. 199. He suggested that the Russian woolen textile industry was becoming more dependent on imported wool.

<sup>68</sup>Pokrovskii-47, p. 357. Nutter-62, p. 411. Imports fell from 20,300 m. t. in 1904 to 6,100 m. t. in 1913, while output rose from 9,840 m. t. in 1904 to 33,100 m. t. in 1913.

<sup>69</sup>Pokrovskii-47, p. 357, and Nutter-62, p. 411. A large part of this zinc production was in Polish Russia.

<sup>70</sup>Clark-56, p. 302. Excluding cast iron pipe.

<sup>71</sup>See EIKSSSR, pp. 487-489 for a discussion of pre-1914 chemical imports and import substitution. See Pasvolsky-24, p. 120 for coal.

<sup>72</sup>Pokrovskii-47, p. 353. We have added the data for 1913 based on Table III. 10.

several non-ferrous metals (lead, zinc) and chemical products.<sup>73</sup>

Machinery imports and output in  
pre-1914 Russia<sup>74</sup>

The dependence of the Russian economy on imported machinery and the technical backwardness of the Russian machinery industry was another theme of Soviet economists and leaders.<sup>75</sup> "Dependence" and "backwardness" are relative terms, however, for the Russian machinery industry and the Russian economy's dependence on imported machinery was compared to the machinery industries of Germany, Great Britain, and the U. S. A. rather than to Denmark, Austria, Australia, India, China, or Brazil. The Russian machinery industry was actually quite large relative to the demand for machinery and quite sizable when compared to the machinery industries even of the U. S. A., Great Britain, and Germany. The "backwardness" of the Russian machinery industry was chiefly a "technological lag" in production methods, product assortment and product design rather than in over-all capacity and growth rate, for under the spur of a general industrial boom (except 1900 - 1908) and a protective tariff of 1891 and 1903 the domestic machinery industry grew rapidly (often with the help of foreign capital,

---

<sup>73</sup>Pokrovskii-47, p. 353.

<sup>74</sup>The reader is referred to Rozenfeld-61, Chapters I-XI for a Soviet history of machine building in Russia.

<sup>75</sup>Rosenfeld-61; Mishustin-38a, pp. 135-141; Stalin-28a in Spulber-65, pp. 267-270; Pokrovskii-47, p. 358; Ioffe-38, p. 55; Badmas-32, pp. 6-13; Liashchenko-49, pp. 673-674.

management, and technology).<sup>76</sup>

Dependence on imported machinery. Estimation and interpretation of import-consumption ratio for machinery is at best an imprecise art because of problems of methodology, valuation, comparability, and fluctuating demand.<sup>77</sup> Thus, we find differing estimates of import-consumption ratios of machinery in pre-1914 Russia - nevertheless,

<sup>76</sup>Liashchenko-49, p. 667. For example, output of agricultural equipment rose from 12.1 million rubles in 1900 to 60.5 million rubles in 1913 (Bogdanov-28, pp. 16-20, cited in Elchibegoff-55a, p. 18) Cf. Dobb-48, pp. 36-38. See also Beable-19, pp. 161-264.

<sup>77</sup>The import-consumption ratios for any given year do not always accurately represent the "normal" dependence of an economy on imported machinery and raw materials because the demand can vary sharply in boom and crisis. Newly developed products abroad also have a similar effect.

The 1909-1913 period in Russia was a boom period with high levels of investment, and rapid expansion of the machine-building industry as well as rapid expansion of equipment imports, so that the high estimates for the import-consumption ration in 1913 must be judged against rapidly expanding domestic output. Steel output increased 66% in the 1909-1913 period, cement and copper output more than doubled (Nutter-62, pp. 411-413). The output of metal-working equipment increased by more than 60% in the 1910-1913 period, yet domestic production covered only one-third of domestic demand (Rozenfeld-61, p. 105).

The import-consumption ratio does measure the degree to which the carrying out of a particular level of investment depends on the ability to import machinery from abroad, for an attempt to invest even greater amounts requires even larger imports and a higher import-consumption ratio (at least in the short run). It was this limitation or dependence of the level of investment on imported machinery which worried the Soviet leadership.

The resolution of the 14th Party Congress in December 1925 emphasized that the Soviet Union become independent in the production of machinery, not in cotton, wool, non-ferrous metals, tea or the other items on which the Soviet economy of that time was also highly dependent on imports for supplies (Dobb-48, p. 192).

these estimates give us some impressions of the capability of the Russian machining industry to supply its domestic market. We summarize below the import-consumption ratios for the major branches of machine-building.<sup>78</sup>

	<u>% supplied by imports in 1913 or "before W. W. I"</u>
Machinery for industry	60%
Metalworking equipment	67%
Electrical "articles"	27%
Railroad equipment	20%
Agricultural equipment (excluding tractors)	45%
Textile	23%
Tractors, Automobiles, Airplanes	100%
Printing	98%
Chemical Equipment	90%

We find that the Russian machinery industries supplied a large share of machinery to basic economic sectors - agricultural, railroads, electrical, textile and metalworking - even during these boom years.<sup>79</sup>

On the other hand the Russian economy depended on imports to supply 90-100 per cent of its automobiles, tractors, airplanes, printing equipment, metallurgical equipment and chemical equipment and the more complex and newer types of agricultural, mining, metal-cutting, electrical and power, textile equipment, and precision apparatus (see

---

<sup>78</sup>From Tables III. 14, III. 15, III. 16.

<sup>79</sup>Rozenfeld-61 (pp. 135-143) stated that in 1917 Tsarist machine building was well developed for railroad equipment, simple agricultural equipment, diesel engines, low-pressure internal combustion engines, steam engines, food-processing equipment, pump, boilers, some electrical equipment, and simple machine-tools.



TABLE III.15

RUSSIA: IMPORTS AND SALES OF  
AGRICULTURAL MACHINERY  
1900-1913

Year	Imports (millions rubles)	Sales (millions rubles)	Import as Percent of Total Sales
1900	15.5	27.3	56.8
1905	18.0	36.0	50.0
1910	42.0	85.9	48.9
1911	57.5	107.7	53.4
1912	63.5	116.3	54.6
1913	48.5	108.7	44.6

Source: Notes to Table III.15, Appendix B, p. 762.

TABLE III. 16

## RUSSIA: PRODUCTION AND IMPORTS OF AGRICULTURAL MACHINERY IN 1913

Type of Machinery	Value 1000 rubles			Imports	Imports	Product'n	Item Total
	Imports	Product'n	Total Supply	as % Supply	as % total Imports	as % total Product'n	as % Grand Total Supply
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<u>Tilling Machinery, etc. Total</u>	5,747	12,665	18,412	32.21	11.24	20.31	16.22
inc., Plows - moldboard, 1 bottom		6,155				9.87	
Plows - moldboard, 2 bottom or mo	4,507	5,006	15,668	28.76	8.81	8.03	
Harrows	943	1,504	2,447	38.53	1.84	2.41	
Steam plows	297		297	100.00	0.58		
<u>Sewing Machines Total</u>	3,469	7,128	10,597	32.73	6.78	11.43	9.34
inc., Seeding and grass		385				0.61	
Drills	3,469	6,188	10,597	32.73	6.78	9.92	
Special machines		555				0.89	
<u>Harvesting Total</u>	14,823	12,291	27,114	54.66	29.00	19.71	23.90
inc., Scythes	1,414	341	1,755	80.56	2.76	0.54	
Hay mowing	2,293	1,010				1.62	
Horse-drawn rakes			3,354	68.36	4.48		
Hay - presses		51				0.08	
Sickles	44	545	589	7.47	0.08	0.87	
Harvesters - simple	5,099	8,524	13,623	37.42	9.97	13.68	
Hay binders	3,657	1,816	5,473	66.81	7.15	2.91	
Self-binders	2,316	4	2,320	99.82	4.53	0.00	

TABLE III. 16 (continued)

		(1)	(2)	(3)	(4)	(5)	(6)	(7)
<u>Threshers</u>	<u>Total</u>	6,516	14,297	20,813	31.30	12.74	22.93	18.34
inc., Hand		2,464	{ 173 }	16,459	14.97	4.82	{ 0.27 }	
Horse-drawn			{ 13,822 }				{ 22.17 }	
Steam		3,665	213	3,878	94.50	7.17	0.34	
Special		387	89	474	81.64	0.75	0.14	
<u>Cleaning and Sorting</u>	<u>Total</u>	927	2,491	3,418	27.12	1.81	3.99	3.01
inc., Winnowing and Sorting			2,388				{ 3.83 }	
Sorting		927	33	3,418	27.12	1.81	{ 0.05 }	
Other machines			70				{ 0.11 }	
<u>Feed Grinders, Cutters, and Crushers</u>	<u>Total</u>	534	1,352	1,886	28.31	1.04	2.16	1.66
<u>Other Implements</u>								
inc., Spare parts		11,829	8,768	20,597	57.43	23.14	14.06	18.15
<u>Moving Equipment</u>	<u>Total</u>							
inc., Steam locomobiles			{ 1,219 }	10,610	68.47	14.21	{ 1.95 }	9.35
Engines of internal combustion		7,265	{ 2,126 }				{ 3.41 }	
GRAND TOTAL		51,110	62,337	113,447	45.05			

Source: Notes to Table III. 16, Appendix B, p. 763.

TABLE III. 17

## MACHINERY NOT PRODUCED IN TSARIST RUSSIA

Source	Item	First Unit
(1)	Tractors	1922/23
(2)	Grain combines	1929/30
(3)	Water turbines and wheels	[1924/25]
(4)	Coal cutting machines	1928/29
(5)	Excavators	1931
(6)	Phonographs	1929/30
(7)	High power steam turbines 1,250 kwt	1922/23
(8)	High-pressure turbines (30 atm)	1926/27
(9)	Radial boring Milling Universal grinder	1920's
(10)	Parts to textile machines Automatic loom	1926
(11)	Turbo-generator 10,300 kwt 50,000 kwt Hydro-generator 8,750 Transformer 2,000 kwt	1924/25 1926 1926 1926?
(12)	Complex parts for telephones	before 1927
(13)	Radio (vacuum tubes)	
(14)	Ships (commercial) 5,500 carrying capacity	before 1927
(15)	Trucks 1 1/4 tons (flat) 3 tons Cars Tractors	1924 1925/26 1926/27 1924

TABLE III. 17 (continued)

Source	Item	First Unit
(16)	Machine tools new types Modern boring machine Universal turning lathe Universal horizontal Cincinnati type milling machine Semi-automatic turret Revolving semi-automatic turret 3-meter planers Radial borers Multi-tool lathe for mass production Thread milling machines Gear milling machines	1932
(17)	Turbo-blower	1930?
(18)	Stationary turbines 25,000 (High pressure) 50,000	1929/30 1931
(19)	Drills - modern Taps - new types Dies - new types Thread	1930's
(20)	Metallurgical equipment Blooming mill	1930 1931
(21)	Printing equipment	1932

Source: Notes to Table III. 17, Appendix B, p. 763.

Tables III. 14, III. 15, III. 16, and Table III. 17).<sup>80</sup> This latter group of machinery products seems to have several common characteristics. These products were "technologically new" in the sense of reaching commercial technological maturity during the two decades before World War I (and even later in Western Europe), so that to some extent the underdeveloped state of these fields in Russia might be the result of a lag in the transfer of technology.<sup>81</sup> Most of these products were produced on a commercial basis before World War I in Western Europe or the U. S. A.; the real growth, however, in industries such as automobiles, tractors, radio and airplanes was to occur after World War I.<sup>82</sup>

Alternative hypotheses to explain the composition of machinery output described in Tables III. 14 to III. 17 are readily available.

<sup>80</sup> Rozenfeld-61 (pp. 135-143) stated that fields such as automobiles, tractors, airplanes, newer more complex types of electrical, agricultural, textile, and metalworking equipment, radios, and closely allied field of ferro-alloys were very backward or non-existent in 1917. Joffe-38 (p. 58) added glass-making, road building and heavy machine-building to Rozenfeld's list.

<sup>81</sup> See Kindleberger-64 (pp. 124, ff.) for an analysis of comparative advantage based on technological leadership. See Oliver-56 (pp. 460, ff.) for a discussion of the major technological developments in America during the period 1900 to 1930. See Rolt-65 (pp. 192-243) for developments in metal-cutting from 1900-1950.

<sup>82</sup> For example, the automobiles, radio, tractor, airplane, production grinding machine, automobile milling machinery, refrigerators, automatic looms, electrification of railroad, rotary press (Oliver-56, pp. 460 ff. especially pp. 478-486, 548-549). Germany and Great Britain dominated Russian machinery imports, which might partially explain the lag in producing the more advanced models of machine tools and agricultural equipment developed in the U. S. A. during the 1870-1900 period (see Woodbury-60, pp. 44-91, Woodbury-59, pp. 51-133, pp. 134 ff.). See Heady-60 (p. 78) for the development of mechanized agriculture in the U. S. A.

The little produced machinery in pre-1914 Russia (Table III. 17) seemed to be 1) less affected by the tariff on weights rather than value, 2) technologically more complex, 3) less demanded in Russia relative to older and cheaper machinery and relative to other industrial countries. The import tariff on most imported machinery in Tsarist Russia was assessed according to the weight of the machines rather than the value; this type of tariff discriminated against the import of machines with high weight to value-added ratios and material-cost ratios such as railway and simple agricultural equipment and thus encouraged domestic production of this type of machinery.<sup>83</sup>

From the large number of foreign technical personnel in the machine-building plants of both foreign-owned firms and also Russian firms, and the widespread use of foreign designs, we might infer the technical personnel were relatively scarce to capital and labor (skilled and unskilled) so that the building of technically complicated and new types of machinery was more difficult and less profitable than concentrating resources on the simpler existing types of machinery which are

---

<sup>83</sup>See Table III. 16. Beable-19 (p. 239) also emphasized this factor in Russian machinery imports. Rozenfeld-61 (p. 105) noted that the tariff on general machinery imports in the 1890's was 28 rubles, 55 kopecks per 100 kg which protected only the very heavy uncomplicated types of machinery. Pokrovskii-47 (p. 358) noted that in 1915 the tariff assessed on machinery in general (except copper machinery and dynamo machinery) was twelve rubles, 90 kopecks to 25 rubles, 79 kopecks per 100 kg and the tariff on agricultural machinery was four rubles 60 kopecks per 100 kg. This tariff was less than assessed in Germany during the same period. See Liashchenko-49 (p. 558) for a discussion of the evolution of the tariffs in the 1880-1900 period. See Czechowicz-29 (pp. 2209-2215) for a comparison of the Russian tariff of 1903 and the Soviet tariff system. Table T-47 summarizes the 1903 and Soviet tariff structure for most major commodities; it was adapted from Czechowicz-29.

produced on a relatively large scale and which require relatively little technical personnel input.<sup>84</sup> This scarcity of technical personnel would have also impeded the transfer of new technologies and the new technologies were often introduced into Russia through branches of a leading foreign producer (who supplied their own technical staff; Singer, A.E.G. Westinghouse, International Harvester, AGEA, SKF, MAN).<sup>85</sup> Both the tariff and the shortage of skilled engineers and technicians favored the domestic assembly of imported parts so that import-total installation ratios understated the dependence of the Russian economy on foreign machinery imports. Imported parts were important in the production of sewing machines (Singer), complex agricultural machines (International Harvester), some types of electrical equipment (A.E.G., Siemens-Schuckert, Westinghouse, etc.), and some types of telephone and telegraph equipment.<sup>86</sup> Demand for newer products and more

---

<sup>84</sup>Rozenfeld-61, pp. 103-110. This suggests that the comparative advantage was not so much the result of a labor-capital ratio difference in factor endowment as it was the result of a technical personnel-labor ratio difference and economies of scale, Russian machine-building firms were, however, quite multi-purpose (Rozenfeld-61, p. 114). Gerschenkron-65 (pp. 126-129, 135) discussed the scarcity of entrepreneurs in pre-1914 Russia and suggested that "the lack of managerial and entrepreneurial personnel was compensated for by a scale of plant which made it possible to spread a thin layer of available talent over a large part of the industrial economy (Ibid., p. 129). Indirect evidence of the scarcity of technicians and engineers is implied in his statement that after 1905, the reduction in the share of foreign engineers and foremen in factories and mines tended to diminish friction in the labor force (Ibid., p. 137).

<sup>85</sup>Rozenfeld-61, pp. 103-110.

<sup>86</sup>Balzak-49, p. 113; Rozenfeld-61, pp. 105-112. Rozenfeld-61 specifically noted the importance of the tariff in the composition of output and imports of electrical items and domestic production was often based on imported parts (Rozenfeld-61, p. 107 and EIKSSSR, p. 17).



expensive products was slow to develop (especially for complex agricultural machinery).<sup>87</sup>

Thus, tariff structure, the scarcity of technical personnel and engineers, and the structure and level of demand would all favor the importing the newer machine, the more highly fabricated machine, and the low-volume machine, most of which characteristics fit the description of the machines listed in Table III.17. These factors also tended to encourage domestic production of the simpler types of machinery which had repeat orders, which were heavy relative to the degree of fabrication and value of materials, and which could be assembled from imported parts.

Foreign patent rights may have been a barrier to the development of new products, but as far as can be determined Tsarist Russia was not a member of "Union for the Protection of Industrial Property" which governed international patent rights from 1883 onward.<sup>88</sup> Thus, direct legal barriers did not seem to offer a barrier to the transfer of

---

The tariff was also cited as the reason for the rapid development of the production of large diesels (Rozenfeld-61, p. 104). See Elchibegoff-55 (p. 6) for International Harvester's operations in pre-1914 Russia.

<sup>87</sup>See Liashchenko-49, p. 676. This hypothesis of small demand is supported by the relative unimportance of these newer items in total agricultural machinery consumption and in imports (Table III. 16) even though tariffs actually favored the import of the more complicated and expensive machines as compared to the simple machines.

<sup>88</sup>Lada-30, pp. 52, 62. Russia had several treaties dealing with trademarks but not industrial patents or designs in the 1810-1880 period. Russia was at the founding meeting of the "Union" in 1880, but did not adhere to it (Ibid., pp. 79-93).

technology although indirect pressures and representations to the Tsarist government by foreign firms and governments may have been effective.

In summary, the dependence of the Russian economy on machinery imports was significant especially for the "technologically newer" types of machinery, but the Russian machinery industry was expanding rapidly and was the major supplier of some types of equipment. Import substitution had occurred in railroad, agricultural, electrical, and internal combustion machinery.<sup>89</sup>

#### Russian balance of payments and foreign debt<sup>90</sup>

Although Russia had a favorable balance of trade for all but one year during 1892-1913, Russia had a balance of payments deficit for most years since 1892, because of the large "invisible" expenditures on current account for servicing the large foreign debt, other services, and tourism.<sup>91</sup> According to Pasvolsky, "Russia was undoubtedly exporting before the war to her maximum capacity," so that this balance

---

<sup>89</sup>See Table III.15. Import substitution was also occurring in fields such as bicycles, motorcycles, sewing machines.

<sup>90</sup>The classic work on this subject is Pasvolsky-24. See also Liaschenko-49, pp. 718-719 and Engeev-28b.

<sup>91</sup>It might be argued that the balance of payment deficit reflected the "transfer of real resources" as a consequence of foreign borrowing by Russia. The fact was that the Russian government, against their wishes, was forced into the international capital market in order to cover their current payments. As Pasvolsky-24 (pp. 31-32) described the problem: "In fact, there was not a single year between 1892 and 1905 when the trade balance was sufficient to meet the service charges and the interest on the foreign indebtedness, and there were only three years, at the most, during the entire period to 1914 when resorting to new borrowing was not necessary." Liaschenko-49 (pp. 717-718) also noted the same problem of servicing the foreign debt and capital in the

of payments problem was not easy to solve.<sup>92</sup>

The following estimate of Russia's balance on current international accounts is striking because of the total absence of any Russian "invisible items exports" and the large Russian imports of invisible items.

RUSSIA: BALANCE ON CURRENT ACCOUNTS<sup>93</sup>  
(yearly average 1909-1913)  
(million rubles)

<u>Merchandise Trade</u>		
Exports	1500	
		Imports 1133
		<u>Trade Surplus</u> 367
<u>"Invisible Items"</u>		
Exports	negligible	
		Imports
		Charges for banking, etc. 25
		Tourist & Official Expenditures 70
		Interest on State Debt 180
		Interest on Municipal Debt 21
		Interest on Guaranteed Debt 39
		Interest and Dividends on Industrial Invest- ment 105
		Invisible Items Deficit <u>440</u>
		<u>Net Balance on Current Account</u> - 73 (deficit)

This virtual absence of any earnings from invisible items was to be a major factor in the Soviet balance of payment difficulties during NEP.

---

Tsarist balance of payments.

<sup>92</sup>Pasvolsky-24, p. 108.

<sup>93</sup>Pasvolsky-24, pp. 31-32.

The large foreign exchange requirements for servicing pre-1914 debt - to say nothing of the large war debt - undoubtedly was an important factor in the continual refusal of the Soviet government to reconsider its repudiation of foreign debt except under extremely favorable conditions.<sup>94</sup> According to the Engeev-28b data shown in Table III. 18, the Russian servicing of foreign debt and the interest and dividends on foreign capital was greater than the import of foreign capital into Russia during 1881-1897 and from 1898-1913 (Table III. 18). "Confiscation of foreign assets" almost became a necessity after the revolution. Furthermore Pasvolsky-24 predicted substantially reduced exports from output restored to pre-1914 levels, so that much smaller export surpluses would be inadequate to service existing debts.<sup>95</sup>

#### Concentration in direction of Russian foreign trade

Pre-1914 Russian export trade was strongly dominated by Germany and affected by its tariff policies.<sup>96</sup> Germany bought directly

---

<sup>94</sup>See Bronfenbrenner -55 for discussion of the advantages of confiscation of foreign capital under various conditions.

<sup>95</sup>Pasvolsky-24, p. 108. Pasvolsky-24 (p. 127) estimated exports from output at pre-war levels at 1150 million rubles and irreducible minimum requirements for imports at 1033 million rubles in pre-war prices. Pasvolsky in 1924 felt that Soviet Russia or even a capitalist Russia would simply not be able to service the Tsarist debt in the near future (Pasvolsky-24, pp. 137-141).

<sup>96</sup>See Pokrovskii-47, pp. 365-369 for an analysis of Germany's role in Russian foreign trade.

Pokrovskii-47, p. 368, and others noted that no other European country was so dependent on one country for the sale of its exports and the purchase of its imports as was Russia. He also noted that the German tariff discriminated in favor of unprocessed raw material, which Germany then processed and reexported to compete with similar processed products exported by Russia, and even in internal Russian

TABLE III. 18

RUSSIA: BALANCE OF PAYMENTS DURING 1881 - 1897  
AND 1898 - 1913

(millions of rubles)

Credit	1881 - 1897	1898 - 1913
Receipts from exports	10,775	17,435
Investment of foreign capital:		
a) In industrial enterprises	200	1,500
b) In private railroad construction	550	
c) In credit institutions		350
d) In municipal economy		375
Government loans		2,000
Other receipts	1,050	
Balance	125	240
	12,700	21,900

Debit	1881 - 1897	1898 - 1913
Payments for imports	8,140	13,313
Interests and dividends paid abroad	2,900	5,000
Redemption of securities:		
a) Banking	100	
b) Railway		400
Expenditures by Russians abroad	1,000	2,000
Other expenditures	287	415
Increase of gold reserve	273	772
Balance	12,700	21,900

Source: Notes to Table III. 18, Appendix B, p. 764.

29.8 per cent of Russian exports and supplied 47.5 per cent of Russian imports in 1913.<sup>97</sup> The actual share of Russian exports to Germany was larger than indicated of Russian statistics because of transit trade through the Netherlands to Germany. The share of Germany in Russian imports (and to a lesser extent, exports) expanded continuously in the pre-1914 period as can be seen below:

#### ROLE OF GERMANY IN RUSSIAN FOREIGN TRADE<sup>98</sup>

	<u>Share of Russian Imports From Germany</u>	<u>Share of Russian Exports to Germany (German Statistics)</u>
1895-1898	33%	n. a.
1899-1902	35	45%
1903-1906	36	43
1907-1910	40	48
1911-1910	45	46
1912	45.4	-
1913	47.4	-

The role of Germany as purchaser of important Russian export goods was substantial but always not dominant.

---

markets (fur, flax, platinum).

According to an index of concentration used by Hirschman (Hirschman-42, pp. 100-116) which is, in essence, the square root of the sum of the squares of the per cent of a country's exports (or imports) to each country, Russian foreign trade (combining the Netherlands with Germany because of its high transit trade) in 1913 was among the most highly concentrated in all of Europe and was equal to many of the colonial and Latin American countries; Russia's concentration index (for direction of exports) was about 47, Great Britain about 22; only Jugoslavia, Denmark and the Netherlands were more concentrated (Hirschman-42, pp. 102-103).

<sup>97</sup>VTSSSR-60.

<sup>98</sup>Pokrovskii-47, pp. 366-367. Exports based on German statistics because of transit trade through the Netherlands.

RUSSIAN EXPORTS TO GERMANY 1913<sup>99</sup>

	<u>Per Cent of Russian Exports to Germany in 1913</u>	<u>Per Cent of Russian Exports to Germany &amp; Netherlands in 1913</u>
Grain	31	52.2
Barley	61.5	80.0
Oil Cake & Oil Seed	40.3	49.1
Butter	35	36.6
Eggs	24	31.4
Flax	22.9	22.9
Timber	26	41.4
Oil	18.4	21
Furs	64.3	66.8
Hides	41.2	43.1

Germany was more important as a supplier of raw materials and machinery to the Russian economy in 1913:

IMPORTS FROM GERMANY AS PERCENTAGE OF ALL<sup>100</sup>  
RUSSIAN IMPORTS OF SELECTED COMMODITIES IN 1913

Machinery	65%	Ferrous metals	75%
Wool	40	Leather and Hides	84
Cotton	24	Dyes	58
Non-ferrous metals	81	Chemicals	70
Coal	47	Rubber	22

The dependence of Russian foreign trade on Germany and German firms was also strengthened by the role of German firms and middlemen in the development of Russian exports.<sup>101</sup>

---

<sup>99</sup>VTSSSR-60. By weight.

<sup>100</sup>VTSSSR-60. By value.

<sup>101</sup>Pokrovskii-47, p. 367. Beable-19 mentioned the role of German traders quite often in his study.

DIRECTION OF RUSSIAN FOREIGN TRADE 1913<sup>102</sup>

	<u>% total export</u>	<u>% total imports</u>
<u>Great Britain</u>	17.6	12.6
<u>Western Europe</u> (Austria, Belgium, Denmark, Italy, Finland, France)	26.1	13.2
<u>"East"</u> (India, China, Afghanistan, Iran, Turkey, Japan)	14	8.3
<u>U. S. A.</u>	less than 1%	5.8

World War I and Russian Foreign Trade

Russian foreign trade during World War I and its inadequacies in meeting national defense needs have been extensively discussed by Pokrovskii, Kutusov, Groman, Krasin, and others, so only those aspects relevant to our study are summarized here.<sup>103</sup>

Exports fell abruptly (Table III. 19) not only because the Great Powers took about 49 per cent of Russian exports but also because of the blockade of major Russian ports, the disruption of the export firms operated by Germans, and the disruption of foreign trade of the Allies (especially France, Belgium, Italy, and Great Britain).<sup>104</sup> Imports declined (Table III. 19) less because the drop in imports from the Great

<sup>102</sup>STAT-36, pp. 694-698.

<sup>103</sup>Pokrovskii-47, pp. 385-395; Kutusov-28, pp. 9-13; Groman-23, passim; Krasin-28; Ianson-34, pp. 43-45; Pasvolsky-24, pp. 41-46; Baykov-46, pp. 5-6; Leites-22, pp. 25-37.

<sup>104</sup>Kennan-61, pp. 66; Pokrovskii-47, pp. 386-389; and STAT-36, p. 586; Bakov-46, p. 5.



TABLE III.19  
FOREIGN TRADE OF RUSSIA AND THE USSR 1913 - 1924  
(millions of rubles)

	Paper Rubles			Gold Rubles	
	current prices			1913 prices	
	Export	Import	Balance	Export	Import
Av. 1909-1913	1521	1140	+381		
1913	1520	1374	+146	1520	1374
1914	956	1098	-142	885	1109
1915	402	1139	-402	274	870
1916	502	2488	-1986	237	862
1917	488	2449	-1961	137	802
1918				8	57
1919				0	1
1920				1	29
1921				20	210 <sup>a</sup>
1922				82	270 <sup>a</sup>
1923				206	144 <sup>a</sup>
1924				311	228

<sup>a</sup> Does not include imports for famine relief which equalled 22.4 million rubles in 1912, 184.5 million rubles in 1922 and 35.1 million rubles in 1923.

Source: Notes to Table III.19, Appendix B, p. 764.

Powers was replaced by imports of war materials and munitions from the Allies. The huge trade deficit during 1914-1917 was financed largely by war loans from the Allies and only to a small extent by bullion exports. Russian foreign indebtedness about doubled during the war.<sup>105</sup>

The dependence of the Russian economy on imported raw materials, equipment, and armaments became painfully obvious as the war proceeded, and the inadequate armaments (and transport systems) are often cited as an important factor in the poor military performance of the Russian army and of the Russian economy in general (especially in 1915).<sup>106</sup> Even these inadequate armaments depended significantly on imports and according to one estimate, imports provided 40.5% of the rifles, 60.6% of the machine guns, 22.8% of the field guns, 20.8% of the cartridges, and 22.6% of the artillery shells as well as trucks, planes, motors, and motorcycles.<sup>107</sup> In addition, large quantities of ferrous, non-ferrous metals, and machine tools were imported for the Russian armaments industry; coal and other raw materials were especially short in northwestern regions, which had relied on imported British coal (and coal from Russian Poland which was captured by the

---

<sup>105</sup> Pasvolsky-24, pp. 43-44.

<sup>106</sup> Large portions of imported war materials were stranded in Murmansk, Vladivostok, and Archangel because of inadequate transport (Pokrovskii-47, p. 388 and Kennan-61, p. 67).

<sup>107</sup> Pokrovskii-47, pp. 391-392 citing a study by A. Manikovskii, Voevoe snabzhenie russkoi armii 1914-1918 Vol. I-III, Moscow, 1920-1928.

Germans) and imported cotton.<sup>108</sup>

The disastrous experience of Tsarist Russia with its dependence on imports for even inadequate provision of the military forces, and for the retooling of industry was an example often cited by Soviet writers and was undoubtedly an important factor in their decision to industrialize and to emphasize heavy industry and machine-building and industrial raw materials.<sup>109</sup>

By 1928 economic factors, however, also made the development of these industries an urgent economic as well as strategic matter. But as we shall see, neither the military nor the economic perspective as seen in 1928 justified the degree of "economic autarky" which was to be attained by 1935.

Loss of Baltic Territories and  
Future Russian Foreign Trade

Territorial losses in formation of USSR. When the USSR was formed (Soviet territory as of 1925), certain territories of the former Russian empire - Estonia, Lithuania, Latvia, the "Polish Provinces," Bessarabia to Rumania - were not included. This change in territorial

---

<sup>108</sup>Liashchenko-49, pp. 762-764. The decline in cloth output, the loss of the textile mills in Poland, and the increased allocation of cloth to the military greatly reduced the supplies available for civilian sales (especially to the peasant). Similarly, the supply of agricultural machinery, metals, fuel, fertilizer, and other products to agriculture were curtailed sharply and according to Liashchenko-49 (p. 467), the peasant responded by cutting back production and marketing because of the lack of incentives, and thereby caused a food crisis. Loss of draft power, good seed, fertilizer, and eventually manpower also caused a decline in agriculture.

<sup>109</sup>Stalin-28a, pp. 252-262, and Pokrovskii-47, pp. 393-395.

coverage greatly complicates the interpretation of any comparison of pre-1914 Russian foreign trade statistics and Soviet foreign trade statistics for the inter-war period.<sup>110</sup> Below we summarize the effect of these territorial losses on output, supply of exports and the demand for imports in the new Soviet economy as compared to the Russian Empire. Then we examine briefly the Soviet adjustment for territorial losses in estimating foreign trade in 1913.

The reduction in area of the USSR of 1925 as compared to the Russian Empire (excluding Finland) in 1913 was about 482,400 square kilometers or about 2.3 per cent of the area for the Russian Empire excluding Finland (21,713,100 square kilometers).<sup>111</sup> The change in population of 1913 due to territorial loss is estimated at about 25.4 million people, or 15.3% of 165.7 million in the Russian Empire in 1913.<sup>112</sup>

The shares of various industrial products produced in 1913 in the Russian territories lost in the eventual formation of the USSR are presented in Tables III.20 and III.21. In the pre-1914 period the separated territories produced a major part (above 40%) of the output of

<sup>110</sup> Finland was also granted independence, but it was not considered here as part of Tsarist Russia. Pre-1914 Russian foreign trade statistics treated trade with Finland (part of the Russian Empire) as trade with another country, and hence are included in Russian trade statistics as a separate country rather than as part of the Russian Empire (VTSSSR-60, p. 8).

<sup>111</sup> SUYB-25, pp. 18-19, and SUYB-36, p. 2.

<sup>112</sup> Stat-60, p. 3. May possibly include Finland with a population of about 3 million in 1913 (SUYB-25, p. 19). Groman-28 (p. 224) stated that the population of the territory detached from Tsarist Russia excluding Bessarabia was 21.3 million people of a total population of Tsarist Russia of 167.6 million people.

TABLE III. 20

COMPARISON OF INDUSTRIAL OUTPUT OF SELECTED COMMODITIES IN TERRITORY OF  
RUSSIA AND TERRITORY OF THE USSR IN 1913

Series number	Item Name	Units	Output in		% loss to separated territories	Recovery to 1913 Output levels	
			USSR Territory	Russian Empire		USSR	Russ. Emp.
207.3	copper ore	1000 m. t.	880.6	1108	20.52	29/30	1931
204.1	blister copper	1000 m. t.	31.1	34.5	9.85	27/28	28/29
303.1	coal	1000 m. t.	29.1	36.0	19.16	26/27	27/28
403.5	hydrochloric acid	1000 m. t.	58.0	72.3	19.77	28/29	1931
408.6	superphosphate	1000 m. t.	63.0	115.0	45.21	24/25	27/28
415.1	synthetic dyes	m. t.	4286	8500	49.57	(25/26)	25/26
419.5	copper sulphate	m. t.	668	742	7.40	22/23	22/23
421.5	sodium bicarbonate	1000 m. t.	7.2	8.14	11.54	22/23	25/26
425.4	crude coat tar	1000 m. t.		39.5			(26/27)
427.5	aluminum sulphate	1000 m. t.	8.3	15.8	47.46	24/25	27/28
430.5	ferrous sulphate	1000 m. t.	1.01	1.70	40.58	1921	25/26
448.6	paper and paperboard	1000 m. t.	217	400	45.75	23/24	28/29
451.5	all wood pulp	1000 m. t.	96	232	58.62	24/25	28/29
702.1	plywood	1000 m <sup>3</sup>	130	180	27.77	26/27	27/28
706.5	bricks	millions	2144	3090	30.61	28/29	29/30
803.1	motor-vehicle tires	thousands	19.2	234.0	91.79	(27/28)	29/30
812.3	steam locomotives	units	609	609	00.00	29/30	29/30
904.5	horse-drawn plows	thousands	671.1	739.3	9.22	24/25	25/26
906.5	horse-powered threshers	thousands	35.1	45.3	22.51	24/25	25/26
908.5	horse-drawn harrows	thousands	97.4	127.4	23.54	23/24	23/24
910.5	horse-drawn drills	thousands	67.8	68.4	0.87	25/26	25/26

TABLE III. 20 (continued)

Series number	Item Name	Units	Output in		% loss to separated territories	Recovery to 1913 Output levels	
			USSR Territory	Russian Empire		USSR	Russ. Emp.
			915.5	horse-drawn winnowers		thousands	45.0
919.5	scythes	thousands	78.0	1134.5	93.12	1919	24/25
1001.3	steam boilers	1000 m <sup>2</sup>	19	54	64.81	(25/26)	26/27
1009.1	machine tools	units	1,490	2,280	34.64	26/27	27/28
1110.5	butter	1000 m. t.	104	134	22.38	1933	1934
1116.1	sugar, granulated	1000 m. t.	1,487	1,638	9.21	29/30	1935
1118.5	starch and syrup	1000 m. t.	115.0	125.0	8.00	1933	1933
1125.1	matches	crates	3,757	4,158	9.64	25/26	26/27
1202.6	boots and shoes	mil. pairs	8.35	9.17	8.94	24/25	25/26
1205.1	cotton fabrics	mil. meters	2,582	3,488	25.97	(26/27)	1937
1208.6	cotton yarn	1000 m. t.	271.0	365.8	25.91	26/27	28/29
1217.5	woolen yarn	1000 m. t.	46.5	110.2	57.80	26/27	not as of 1936

Source: Notes to Table III. 20, Appendix B, p. 764.

TABLE III. 21

RUSSIA: SHARE OF OUTPUT IN 1913 LOCATED IN  
SEPARATED TERRITORIES

Item Product	Loss of Capacity	Source
1. Iron	9% capacity	EIKSSSR, p. 363
2. Steel	14% capacity	EIKSSSR, p. 363
3. Rolling Mills	13% capacity	EIKSSSR, p. 363
4. Zinc	75% capacity	EIKSSSR, p. 369
5. Steel Wire & Rigging	37% to Poland	EIKSSSR, p. 381
6. Welded Pipe	35% to Poland	EIKSSSR, p. 385
7. Drawn Pipe	90% to Poland	EIKSSSR, p. 385
8. Precise Metal Wares	40% located in Poland	EIKSSSR, p. 397
9. Paper	35% of paper industry	EIKSSSR, p. 357
10. Glass	40 from 225 glass works	SUYB-26, p. 146
11. Electrical Equipm't	14% of value of output	EIKSSSR, p. 421
12. Woolen Spinning	64% of all spindles (mostly to Poland)	EIKSSSR, p. 447
13. Woolen Weaving	59% of all looms (mostly to Poland)	EIKSSSR, p. 447
14. Textile Machinery	38% of output value	EIKSSSR, p. 379
15. Precision instrument, Optical	40% of output value (largely to Poland)	EIKSSSR, p. 399
16. Automobile Assembly	100%	EIKSSSR, p. 321
17. Looms in Cotton Textiles	16.6% of number of looms	Becker-55, p. 43

Source: Notes to Table III. 21, Appendix B, p. 764.

woolen yarn, zinc, drawn pipe, precision metal wares, paper, wood pulp, superphosphate, dyes, several types of machinery (steam boilers, scythes, horse-drawn winnowers), and rubber tires, and between 20 and 40 per cent of the copper ore, plywood, threshers, harrowers, machine-tools, bricks, butter, cotton yarn, and cotton fabrics. On the other hand, more than 80 per cent of iron, petroleum, coal, several important chemicals, copper, locomotives, plows, and other important types of machinery, sugar, boots, electrical equipment, and so forth, were produced in the territory destined to become the USSR.

Losses in sown area for specific crops and in the output of selected agricultural goods are shown in Table III. 22. From the viewpoint of agricultural exports, the most serious losses to the separated territory were barley (13.5%), corn (35.4%), rye (8.5%), and flax (19.2%), eggs (14.4%), and butter (22%).<sup>113</sup> The impact of the territorial loss on agricultural exports is difficult to gauge, for although the percent loss in output is less than the decline in population, these areas were oriented toward export (particularly for flax, butter, eggs, barley, and corn).

Soviet estimates of pre-1914 foreign trade on Soviet territory.

Soviet statisticians recalculated pre-1914 Russian foreign trade for 1925 Soviet territory; these estimates are presented in Tables III. 23 and III. 24. Little is known about the methodology of these adjustments, but

---

<sup>113</sup>From Table III. 22, all refer to sown areas except eggs and butter. Actual comparisons are for 1913 output of the post-1945 territory of the USSR (which roughly approximates the 1913 Russian Empire) especially for agricultural products. See STAT-60, p. 3.



TABLE III. 22

RUSSIA: SHARE OF SOWN AREA AND AGRICULTURAL OUTPUT  
IN 1913 LOCATED IN THE SEPARATED TERRITORIES

S O W N A R E A			
	Russian Empire	Soviet Territory	% in separated territory
Grain - Total	104.6	94.4	9.2
Spring wheat	24.7	24.3	1.6
Winter wheat	8.3	7.8	6.0
Rye	28.2	25.8	8.5
Millet, buckwheat	7.3	7.2	1.4
Oats	19.1	16.9	11.5
Barley	13.3	11.5	13.5
Corn	2.2	1.4	36.4
Industrial Crops	4.9	4.5	7.3
Sunflower	0.98	0.97	1.0
Sugar beet	0.68	0.65	4.4
Cotton	0.69	0.69	0.0
Flax for fiber	1.25	1.02	19.2
Potatoes	4.2	3.06	27.1
Output and Livestock			
			% in separated territory
	Eggs (net output)		14.4
	Flax (net output)		9.5
	Wool (net output)		6.0
	Milk (gross output)		8.4
	Cows (1916)		13.5

<sup>a</sup> Comparison of 1951 boundaries to pre-1939 boundaries for output. Present boundaries are similar to boundaries of Russian Empire and lack part of western area of Western Polish Russia. Compare Fullard-61, p. 8.

Source: Notes to Table III. 22, Appendix B, p. 765.

apparently the Soviet statisticians corrected only for the trade of the separated territories with foreign countries and not for trade with the rest of Russia.<sup>114</sup>

This Soviet method of adjusting Russian foreign trade statistics for territorial loss - that is, excluding the trade of the separated territories with the rest of Russia - vitiates the usefulness of the Soviet corrections in estimating the net effect of the territorial loss in the USSR's capacity to export and the USSR's demand for imports during NEP as compared to pre-1914 Russia. This problem is examined below.

According to Soviet estimates, exports of the Russian Empire should be reduced by 11.1% for the 1909-1913 period and by 14.5% for 1913 to adjust for the loss of territory (Tables III. 23 and III. 24). Flax, timber, and grain exports were most affected by the territorial loss (especially of the Baltic states), and although no specific information has been located, butter, cloth, and crude alcohol exports must have also been affected (Tables III. 23 and III. 24).<sup>115</sup>

According to Soviet statistics, imports for 1909-13 should be reduced by 26.7% - much more than the adjustment for exports - to adjust for the territorial loss (Table III. 24). A large part of this reduction can be attributed to the imports of coal, cotton, wool, dyes,

---

<sup>114</sup>Birmingham-31a, p. 10.

<sup>115</sup>Tables III. 21 and III. 22. Table III. 24 indicated that a large portion of manufactured product such as cloth exports (Brussels classification) were from the lost territories. Similarly for foodstuffs (eggs, butter, and grain).

TABLE III. 23

EXPORTS OF SELECTED PRODUCTS IN 1913 FROM THE TERRITORY  
OF RUSSIA AND FROM THE FUTURE TERRITORY OF THE USSR

Value: millions rubles Weight: 1000's m. t.	Yearly Average 1909 - 1913				1913			
	Russian Empire		Soviet Territory		Russian Empire		Soviet Territory	
	Weight	Value	Weight	Value	Weight	Value	Weight	Value
<u>Total Exports</u>		1487		1321		1520.0 <sup>a</sup>		1300.0 <sup>a</sup>
<u>Agricultural Exports</u>		1127 <sup>d</sup>		1056 <sup>a</sup>				
Grain (1000 m. t.)	12,792 <sup>b</sup>	736.5 <sup>b</sup>	11,302 <sup>a</sup>	695 <sup>a</sup>				
Flax <sup>c</sup>	283 <sup>a</sup>	na	209 <sup>a</sup>	na				
Flax, Butter, Eggs, Furs		240 <sup>e</sup>		210 <sup>a</sup>				
Agricultural excluding Grain, Flax, Butter, Eggs, Furs		151 <sup>f</sup>		151 <sup>a</sup>				
<u>Industrial Exports</u>		360 <sup>h</sup>		265 <sup>g</sup>				
Timber	7,042	145	4,226	87	7,600	165	4,590	100

Sources and explanatory notes: Notes to Table III. 23, Appendix B, p. 763.

TABLE III. 24

OFFICIAL SOVIET ESTIMATES OF FOREIGN TRADE IN 1913  
FOR RUSSIA AND FUTURE TERRITORY OF USSR

(millions of rubles in current prices)

Trade Classified According to Brussels Convention	Tsarist Russia		USSR Territory
	All Frontiers	European Borders	(of 1925) All Frontiers
<u>Exports</u>			
Animals	34.3	33.0	30.0
Foodstuffs	869.6	807.2	741.2
Raw Materials and Semi-Mfg.	531.4	550.3	506.3
Manufactured Goods	89.8	30.5	27.4
<u>Total Exports</u>	1520.1	1420.9	1305.0
<u>Imports</u>			
Animals	17.6	3.1	2.0
Foodstuffs	237.9	163.0	134.9
Raw Materials and Semi-Mfg.	668.0	662.5	513.6
Manufactured Goods	450.5	431.9	356.5
<u>Total Imports</u>	1374.0	1220.5	1007.0
<u>Balance of Trade</u>	146.1	200.4	298.0

Source: Notes to Table III. 24, Appendix B, p. 763.

rubber, etc. into the Polish and other Baltic industrial centers (Table III. 24). The Soviet estimates also attributed a large portion of foodstuff (tea, herring?) imports and manufactured goods (luxury articles, machinery?) imports to the lost territories.<sup>116</sup>

Soviet estimates and the actual effect of territorial loss on capacity to export and demand for imports. For reasons discussed below, the Soviet method of adjusting pre-1914 Russian foreign trade data for territorial loss - and hence Soviet estimates - overstated the reduction in the Soviet capacity to export and in the Soviet demand for imports relative to pre-1914 Russia. As a result, the relevant estimates of pre-1914 exports and imports for use in evaluating the recovery of foreign trade on Soviet territory are open to considerable debate.

The basic problem is that the Soviet method of adjusting pre-1914 foreign trade for territorial loss did not take into account the very considerable interregional trade in pre-1914 Russia between the separated territories and the rest of Russia, and this "interregional trade" would become "international trade" after the separation of the territories.

As far as can be determined, the separated provinces imported grain, cotton, wool, petroleum products, sugar, several ores, and possibly other foodstuffs, iron, some types of machinery, and several chemicals from the rest of Russia - several of these products were

---

<sup>116</sup>Table III. 24. Foodstuff and manufactured goods classified according to Brussels Convention.

also important export products of pre-1914 Russia, while cotton was an important import product.<sup>117</sup> The most important fact about this interregional trade from the viewpoint of USSR's capacity to export grain is that the separated territories were net importers of grain (net imports of about 0.5 - 1.0 million m. t. ), i. e. , they imported more grain (wheat) from the rest of Russia than they exported to foreign countries.<sup>118</sup> Thus, the loss of territory probably affected the remaining territory's (USSR) capacity to export much less than suggested by the Soviet estimates. It would have changed the composition of exports towards grain, sugar, foodstuffs, etc. , and also changed the composition of imports (less cotton and wool).

The separated territories, also supplied products to the rest of Russia, which hypothetically would have to be replaced by imported goods; these included: paper, possibly sawn timber, dyes, zinc, rubber products, machine tools, pipe, some types of agricultural machinery, cotton fabric, woolen fabric, and yarn.<sup>119</sup> Thus, the net effect on import demand of the remaining territory due to the loss of Baltic territories is difficult to determine; industrial materials and

---

<sup>117</sup>Liashchenko-49, pp. 538, 541, 612.

<sup>118</sup>Groman-28, pp. 224-237, described extensively the grain trade of the detached provinces (except Bessarabia); the detached provinces were net importers of grain (especially wheat) from the rest of Russia (Ibid., p. 225).

<sup>119</sup>Based on Tables III. 20 and III. 22, which are estimates of the share of production in Tsarist Russia in 1913 located in territories not included in the formation of the USSR. Large portions of the chemical, textile, paper, and metallurgy and metal-working industries were located in the separated provinces.

fuel imports of the remaining territory would be reduced relative to pre-1914 Russia, but semi-processed and finished product imports would have to be increased to compensate for the loss of finished products from the Baltic territories.<sup>120</sup>

Thus, the actual pre-1914 "foreign trade" of the territories destined to become the USSR is not known. It was probably less than the foreign trade of the Russian Empire, but considerably greater than the Soviet economists' reduction in pre-1914 Russian foreign trade statistics for territorial loss would have us believe. In fact, we should not rule out the possibility that the separation of these provinces actually increased aggregate import demand and aggregate export capacity.

In summary, comparisons of the recovery of Soviet foreign trade with the recovery of other sectors in the economy should be made with the above caveat about the actual impact of the territorial loss on the measurement of the recovery of foreign trade during NEP.

Throughout this study, we generally compared Soviet foreign trade with Tsarist Russian foreign trade without territorial correction unless otherwise noted in the text or table.

---

<sup>120</sup>This interregional trade makes per capita comparisons of pre-1913 and NEP supply more difficult. For example, to estimate the per capita supply of cotton and woolen textile in the Soviet territory on the basis of imports (negligible or net exports) and output on Soviet territory alone understates the per capita supply in 1913.

CHAPTER IV  
COLLAPSE AND RECONSTRUCTION OF SOVIET FOREIGN  
TRADE IN THE EARLY YEARS 1917 - 1922/23

Nationalization, intervention, blockade, War Communism  
and the collapse of foreign trade

The revolution and subsequent nationalization of the economy and annulment of foreign debts brought about the collapse of foreign trade in 1918 and complete cessation of foreign trade in 1919, for neither the Allies nor the Germans desired to trade with the new Soviet regime.<sup>1</sup> The Brest-Litvosk Treaty ceded most major ports (except Leningrad) and the major export areas (Ukraine, Baltic states) to German or non-Soviet control and called for large shipments of Russian gold and commodities as part of the repatriation payments.<sup>2</sup> The Allied governments in response to the Brest-Litvosk Treaty ceased trade with the Soviet government and a de facto economic blockade came into effect partly as a deliberate policy of the Entente, partly as a result of the military situation and loss of major ports and export regions, and partly as a response by foreign commercial and financial firms, and foreign governments to the nationalization of foreign firms and the annulment of foreign debt by the Soviet government. The economic blockade was ended formally on

---

<sup>1</sup>Kennan-61, pp. 67-69. Kaufman-29d, pp. 6-7.

<sup>2</sup>Shapiro-50, pp. 4-31. Trade with the Central Powers was permitted (Ibid., p. 7).



January 16, 1920, but an almost total financial blockade against Russian gold and exchange, both official and unofficial, continued until March 1921 and still continued in various forms through 1929.<sup>3</sup>

Soviet foreign trade was put under strict licensing regulations in November 1917 and was completely nationalized on April 22, 1918.<sup>4</sup> The nationalization of the economy (including foreign trading firms) and the persecution of both domestic and foreign capitalists and management staff within Soviet Russia completed the destruction of the foreign trade network (and especially the export trade) and many experienced personnel in these areas left the country.<sup>5</sup> Foreign commercial contacts were broken and Soviet Russia had no credit standing whatsoever abroad. During the initial steps toward restoration of foreign trade during 1921-24, the Soviet trade mission had difficulty in placing any orders for imports and even then were often forced to deposit gold or foreign exchange in a foreign bank or to prepay. Thus, while the Soviet government freed itself of the heavy burden of interest payments and profit repatriation by annulling the foreign debt and nationalizing foreign

---

<sup>3</sup>SUYB-28, pp. 530-533. According to Krasin-28 (p. 399) Soviet gold could not be sold at any price in the early months; the initial discount was 30%; on order of England in October 1920 it was 16-20%, 15-20% in March 1921, 4% in following months and 0-2% by June, 1922. The USA actually blocked entry of Soviet gold as late as 1928. No formal declaration of a blockade against Soviet Russia has been located, although the Entente Powers declared a blockade against the Baltic states when they entered peace negotiations with the Soviet government in October, 1919 (SUYB-28, p. 529).

<sup>4</sup>Cherviakov-58, p. 5.

<sup>5</sup>Gerschenkron-47, p. 159.

firms and banks, it also closed - at least temporarily - the doors to future large-scale financial credits, loans and long-term capital inflow, and wrecked commercial relations with many important commercial and industrial firms (and nations) in the world.<sup>6</sup> The effect of these events is dramatically illustrated in Table III.19. Cessation of trade during 1918-20 contributed to the disorganization of the economy.

#### Rebuilding of soviet foreign trade relations 1920-1923

The development of Soviet foreign trade during the period 1920-1923 is discussed in detail by Kaufman, Kutusov, Groman, and others.<sup>7</sup> Only a brief summary is given here.

#### Organization and initial operational principles of foreign trade during NEP

A Commissariat of Foreign Trade (NKVT) was established in 1920 under the guidance of L. Krasin, who took personal charge of re-establishing the foreign commercial relationships of Soviet Russia within a new framework - namely, the Soviet government's monopoly of foreign trade.<sup>8</sup>

---

<sup>6</sup>The long-run economic cost of nationalization by the Soviet government is open to debate, for the servicing of the debt required most or more than the painfully achieved export surplus (Pasvolsky-24, p. 32). See Bronfenbrenner-55 for the benefits and costs of confiscation.

<sup>7</sup>Kaufman-23, pp. 258-271; Kaufman-25a; Kutusov-28, pp. 16-30; Groman-23; Kaufman-29d, pp. 6-8; Baykov-46, pp. 6-12, 41-45; EIKSSSR, passim; and Krasin-28.

<sup>8</sup>Leonid Krasin was generally considered the architect of the Soviet foreign trade apparatus and an important defender of the principle of the State monopoly of foreign trade. His major articles are collected in Krasin-28. See Stomoniakov-28 (pp. 1-14) for a short biography of Krasin.

Initially the foreign trade apparatus was highly centralized with all trade planning and commercial operations (purchase, shipment, sale) under the direct control of NKVT and its trade delegations abroad.<sup>9</sup> A lack of personnel skilled in management and foreign trade operations in specific areas in NKVT, bureaucracy and a conflict of interests between domestic producers and NKVT encumbered the recovery of foreign trade.<sup>10</sup> Because of this, the issue of free trade (especially importing) versus a state monopoly of foreign trade was heatedly debated within the Party from the very beginnings of NEP, but Lenin's support of the organizational form of a state monopoly kept the basic principle intact.<sup>11</sup> These operational problems, however,

---

<sup>9</sup>Kaufman-29d, pp. 25-27, Krasin-28, pp. 111-116, and Baykov-46, p. 9.

<sup>10</sup>Mishustin-38b, pp. 58-60. See Krasin-28 (pp. 103-121) for his analysis of the organization problems.

<sup>11</sup>Carr-58, p. 445. Lenin supported the organizational form of the State monopoly of foreign trade as compared to a protective tariff system for he believed a tariff system would be inadequate protection for Soviet industry against industrial imports from industrial nations, which would subsidize their exports in an attempt to destroy Soviet industry. He was not directly concerned about the relationship between tariffs, price levels, and balance of payments equilibrium.

In Stalinist history, Stalin was portrayed as a staunch defender of the principle of the foreign trade monopoly, but in recent Soviet history his reputation on this point has tarnished considerably. Compare Varga-32, pp. 5-24, and Kas'ianenko-64, pp. 42-43. Some Soviet economists such as Bukharin and Preobrazhenskii believed that the development of domestic industry would be impossible without the foreign state monopoly, but that the foreign trade monopoly would be unnecessary when Russian industry had been completely "modernized" (for Bukharin's view, see Knirsch-59, p. 213).

resulted in the entire foreign trade apparatus being decentralized the spring of 1922.<sup>12</sup> The principle of the foreign trade monopoly was maintained by a licensing system, tariff and custom control at the border, and its trade delegations abroad, but the actual conduct and the initiative of foreign trade operations was granted to many various agencies, who were supposed to be motivated by "self-interest" (i. e. , profitability).<sup>13</sup> State trade operations were to be carried out by Gostorg (State Import-Export Offices) under the general guidance of NKVT; the cooperative societies (Centrosoiuz) were also permitted (and expected) to engage in foreign trade operations. In order to mobilize existing skilled personnel at home and abroad, permission was also granted to other state agencies, to foreign firms, and mixed Soviet-foreign firms (in the form of concessions) and to private firms and traders - all with the expectation that self-interest would lead them to expand exports (as well as imports).<sup>14</sup> Foreign personnel were used extensively in trade delegations and Soviet commercial firms abroad due to the scarcity of Russian personnel.<sup>15</sup>

---

<sup>12</sup>Krasin-28, pp. 103-121, and Carr-58a, pp. 445-447.

<sup>13</sup>See Carr-52 (pp. 303-309) for the evolution during 1921-23 of "commercial principles" into "profits" and Khozraschet ("economic accounting") as a basis for commercial decisions of the Soviet firm or trusts during 1922-1927.

<sup>14</sup>Mishustin-38b, p. 59. The nature of the concession in foreign trade was export-oriented and imports were kept under tighter state control (Krasin-28, p. 112). See SUYB-25 (pp. 161-167, 267-278) for a discussion of the organization of foreign trade in 1923-25. See also Kaufman-23, p. 265; Kutusov-28, pp. 187-191; SUYB-25, pp. 275, 283-287; Baykov-46, pp. 9-15; and Kaufman-28d, pp. 28-34.

<sup>15</sup>They even gave special courses to train personnel (Krasin-28, p. 411). The leading trade delegations and firms were in Germany (trade delegation), Great Britain (Arcos, a Soviet firm), and the U. S. (Amtorg, a Soviet firm). Occasionally, Soviet foreign commercial

The important ramification of this decentralization of the initiative was that the profits of the import-export operation remained by and large with the trading organization for their use rather than accruing to the State. Thus, the government established a system of import and export duties, which were intended 1) to discourage imports of goods which could be produced within the USSR and 2) to prevent the entire profit from import operations (which were very profitable) from accruing entirely to the firm.<sup>16</sup>

The tasks of the foreign trade monopoly as exercised by NKVT consisted of implementing the planned character of export operations, to ensure the organized performance of all the export agencies on the foreign markets (i. e. , exercise of monopoly power) so as to prevent competition and the lack of co-ordination among them, and to attract foreign capital if possible.<sup>17</sup>

That is, the principle of the NEP - restoration of trade and the economy on the base of market relations and the self-interest of its participants - was also extended to foreign trade, but to a much more limited sphere of operation, and the policy of permitting other economic agencies to take the initiative in foreign trade was not

---

enterprises were built on the framework of institutions remaining from the Tsarist period, such as the Moscow Narodni Bank and Centrosoiuz in Great Britain (SUYB-26, p. 412).

<sup>16</sup>See Table T-47 for import tariffs. The 1922 export tariff was intended to encourage the processing of raw materials and to divert profit from flax, timber, fur, and similar high profit items into the State budget (Arvatov-28, p. 171).

<sup>17</sup>Krasin-28, p. 114.

regarded by Krasin as a breach in the foreign trade monopoly.<sup>18</sup>

### Recovery of foreign trade 1920 - 1922/23

Foreign trade was the most disrupted sector of the economy and it recovered more slowly than the rest of the economy, although this was to be expected because of the initial nature of Soviet export policy - namely, the export of "exportable surpluses" (Table IV.1).<sup>19</sup>

Expansion of exports was also retarded by the inexperience and scarcity of personnel within both the domestic and foreign branches of export network and the inaccessibility of foreign markets for commercial or diplomatic reasons.<sup>20</sup> Imports expanded much faster than exports because of a need for foodstuffs and clothing to combat the famine of 1921/22, raw materials for industry, and railroad equipment to restore the transport network. But imports were still insignificant with respect to the needs of the economy. Foreign contributions of food and clothing considerably supplemented government purchases (especially

---

<sup>18</sup>Ibid., p. 113.

<sup>19</sup>Krasin-28, p. 173. Its rate of recovery from the almost zero levels was fastest. But the absolute level of recovery lagged behind the rest of the economy. Many of the bourgeois traders fled during the Revolution, more or less completing the destruction of the foreign trade network which had begun with the confiscation or expulsion of the German traders in Russia during World War I (Beable-19, passim).

<sup>20</sup>Exports consisted chiefly of hides, furs, flax, timber, and to a certain degree were based on previously accumulated stocks (Kutsov-28, p. 16). The economic blockade was formally lifted on January 16, 1920 but little significant trade occurred until the signing of treaties first with the Baltic states in 1920 and then with Great Britain on March 16, 1921 and with Turkey, Italy, Germany and other countries. On April 18, 1920 the first imports crossed the Estonian border (Kaufman-28d, p. 25).

TABLE IV. 1

USSR: RECOVERY OF THE ECONOMY AND OF FOREIGN TRADE,  
1920 - 1924/25

(Percent of 1913)

	Index of Agricultural Production (at pre-war prices)	Index of Agricultural Market	Index of Industrial Production	Foreign Trade Indexes (1913 prices)	
				Exports (unadjusted for territorial losses)	Imports
	(1)	(2)	(3)	(4)	(5)
1913	100.0	100.0	100.0	100.0	100.0
1920	.	.	14.6	0.1	2.1
1921/22	50.6	42.1	21.6	4.1	19.7
1922/23	70.3	61.7	32.3	8.8	10.8
1923/24	73.8	65.6	44.6	24.5	17.0
1924/25	73.9	69.2	72.0	24.4	30.7

Source: Notes to Table IV. 1, Appendix B, p. 765.

in 1922).<sup>21</sup> These imports were paid for largely with exports of gold and precious metals and by the end of 1922, the Soviet Union faced its first foreign reserve crisis due to the impending exhaustion of gold reserves. The original stock of gold of 1292 million rubles inherited by the Soviet government in November 1917 had been depleted to less than 300 million rubles by January 1, 1923.<sup>22</sup> As a consequence, imports were sharply reduced in 1922/23 (Table IV. 1).<sup>23</sup>

Foreign trade planning. The foreign trade sector was among the first sectors of the Soviet economy to be subjected at operational levels to the principles of central economic planning at both the aggregate and firm levels. This early application of planning in the foreign trade sector was caused by 1) the early rapid depletion of Soviet foreign exchange reserves and slow recovery of export receipts as compared to the recognized needs of the economy, and 2) the relative ease of controlling the flow of commodities across Soviet borders. The basic problems of centralized foreign planning were 1) projecting an optimal level of exports for each commodity, 2) finding means of carrying out the

---

<sup>21</sup>Kutusov-28, pp. 13-30. See Carr-52 (pp. 284-285) for description of the great famine of 1921/22, when the crop failed (especially in the Volga basin). See League-28a (p. 694) for value of "famine relief imports in 1921-23.

<sup>22</sup>Table T-17 and Appendixes D and E.

<sup>23</sup>Other important factors in the reduction of imports in 1923 were the good harvests in 1922 and 1923 and the initial successes in expanding the output and sale of domestic industrial goods in the fall of 1922. Imports of raw materials increased sharply in 1923 (Kutusov-28, pp. 24-25). Domestic monetary considerations became an important factor towards the end of 1923 (Krasin-28, pp. 144-149).



projected exports, and 3) selecting among the many proposals for imports - all problems which would be solved otherwise by the market. Establishing the criteria and finding operable solutions to these questions were to be continually an overvalued exchange rate and an inflationary budget and monetary policy throughout most of NEP. Despite the fairly simple requirements to physically restrict the movements of commodities through the monopoly of foreign trade, the foreign trade sector was the sector least suitable for economic planning for the U. S. S. R. due to the uncertainties of world market conditions and the problems of projecting exports based largely on the output and marketing of a peasant-dominated, weather-sensitive agriculture. The marked economic responses of the peasants to relative prices and varying incomes complicated the task of planning. The Soviet experience with foreign trade planning during NEP was not wholly successful, especially with respect to restoring foreign trade to pre-war levels - but this lack of success was due to economic factors outside the control of the foreign trade personnel and foreign trade planners. Indeed, by 1926/27, the planners were relatively successful in drawing up and fulfilling foreign trade plans. Table T-1 summarizes this evolution of the annual foreign trade plan for each year and compares actual trade with planned trade for the period 1922/23-1927/28.

#### Foreign Trade Planning 1921-1923

The first foreign trade "plans" drawn up in late 1921 and 1922 were only of an "approximate indicative character" and were based on existing export stocks and the occasional collection of exports, while

the import plan was based on submitted lists without any "mutual agreement or connection with the rest of the economy."<sup>24</sup> These early "plans" lacked the essential aspects of planning - namely systematic estimates of future demands and supplies within the economy - and served chiefly as a guide for current operations. Only part of the regulatory system for enforcing the plan was existant in this period - the customs houses and licensing system inherited from the previous government - but a trade network to take the initiative and the responsibility for carrying out the plans was still in the process of being reconstructed.

#### Plan and foreign trade in 1922/23

The major factors affecting foreign trade in 1922/23 was the moderately good harvest, the continuing recovery of industry and transport, and the exhaustion of foreign reserves - the last was instrumental in the planned cutback in imports.

The export plan for 1922/23 was set at 228 million rubles in current prices, which was more than double the exports of 1921/22.<sup>25</sup>

---

<sup>24</sup>Sobolev-26a, p. 65 and Kaufman-29g, pp. 11 and 12. Kaufman-29g (p. 12, n. 1 and n. 2) noted that the "first import-export plan" (turnover? imports? exports?) was drawn up by the "Committee for Foreign Trade" for 809 million rubles in 1921; later on this plan was reduced and according to the final draft, purchases were limited to the level of 330 million rubles. "The export plan for 1920-21 was set at 110 million rubles. It had been decreed to release to NKVT export goods for this sum, but the plan turned out to be exaggerated, for the goods for export during the year turned out to be only 16 million rubles." Krasin-28 (p. 398) also discusses the early import plans.

<sup>25</sup>Krasin-28, pp. 141-142. Krasin-28 (p. 173) also referred to an export plan of 208 million rubles for 1922/23 and noted that it was exceeded by 1.1%.

The import plan was set at 162 million rubles in current prices so that a trade surplus of about 66 million rubles was planned.<sup>26</sup>

Actual exports (European borders only) were roughly 210 million rubles in current prices so that the export plan (for European borders) was roughly 92% fulfilled.<sup>27</sup> Exports of individual items deviated considerably from the plan; some grain exports were already made toward the end of 1922 in order to stem the fall in grain prices and to build up the foreign currency reserves of the State Bank.<sup>28</sup> In 1922/23 exports - especially flax - were extremely profitable from the viewpoint of the exporting firm when the export receipts in foreign exchange were converted into rubles at the current exchange rate.<sup>29</sup> That is, in 1922/23 exports were commercially profitable for the exporting agency - the importance of commercial profitability of export, as a criteria and motivating force for export operations is discussed below. Imports were almost cut in half but exceeded the import plan by 15% so that the trade surplus was only 23 million rubles instead of 66 million rubles.

As seen in Table IV. 1, foreign trade lagged far behind the rest of the economy in 1922/23.

---

<sup>26</sup>Engееv-27b, p. 119.

<sup>27</sup>See footnote above, however, for other evidence.

<sup>28</sup>Carr-54, p. 7.

<sup>29</sup>Aizenberg-62, pp. 241-42.

## CHAPTER V

## THE FIRST GOOD YEAR 1923/24: GRAIN EXPORTS

Factors influencing the 1923/24 foreign trade plan

The 1923/24 foreign trade plan was strongly influenced by a good 1923 harvest in Russia, the "scissors crisis," and the need for a trade surplus to accumulate foreign reserves for the monetary reform.<sup>1</sup>

The grain export plan and the "scissors crisis." The 1923 grain harvest exceeded the 1922 grain harvest by about 33%. The harvest was considered sufficiently large to resume large-scale grain exports, even though the 1923 harvest was still below 1913 levels (Table T-8). In fact, the favorable harvest had further accelerated the decline of domestic grain prices. The widening "scissors" between low agricultural prices and high industrial prices during the summer and autumn of 1923 was threatening the recovery of agriculture, for the peasants reduced grain marketings and restricted the expansion of sown area.<sup>2</sup>

---

<sup>1</sup>The Soviet term "scissors" is based on the graph of falling agricultural prices and the graph of rising individual prices relative to their 1913 relationship during 1922-1923 (see next note). The term "scissors" referred to the shift of terms of trade of agricultural products sold by the peasant for manufactured or industrial products from their relatively favorable relationship in 1922 to a very unfavorable relationship by September 1923. See text below. An "opening of the scissors" referred to a worsening of the terms of trade for agricultural products relative to manufactured products. See references in next footnote.

<sup>2</sup>Dobb-28, pp. 222-245, especially p. 233 and the chart on page 222 which is based on figures estimated by S. Strumilin, Na khoziaistvennom fronte, nd. Discussion here centers only on the relationship between the "scissors crisis" and foreign trade policy. The "scissors crisis" and its causes have been thoroughly discussed by Carr-54,

The resumption of grain exports was planned in part because it would help raise the grain prices (a policy advocated by Krasin and Kondratiev).<sup>3</sup> Furthermore, resuming grain exports would greatly expand total exports and would permit an otherwise impossible increase in imports of consumer goods which could be used to compete down the prices of domestically manufactured consumer goods (i. e., a policy of "imported goods intervention.") Grain exports would therefore be a means to close the "scissors" from both sides. The important aspect of the "scissors crisis of 1923," however, was that the high industrial prices were not caused by excess demand - in fact, inventories were growing - but rather by a cost-push on prices (from labor) and an increasing exercise of monopolistic power of the syndicates trying to maximize profits.<sup>4</sup> Thus, the additional demand from higher grain

---

pp. 3-118, Dobb-28, pp. 222-272, and Baykov-47, p. 56.

<sup>3</sup>The large margin between domestic and foreign grain prices in the fall of 1923 would permit an increase in domestic prices without impairing the commercial profitability of grain exports (Table T-43).

Krasin described the perspective grain exports for 1923/24 in a long article published in the August-October 1923, issue of Sotsialisticheskoe khoziaistvo reprinted in Krasin-28, pp. 184-196. He emphasized the importance of resuming grain exports as a means of increasing domestic grain prices, and strengthening the *smychka* (link) between the peasantry and workers (Krasin-28, p. 185). He also mentioned that the abnormally high overhead expenditures would have to be cut in order to permit an increase in domestic prices and that all grain should be sold through a grain monopoly (Eksporthleb) to prevent competition on foreign markets by the many grain collecting organizations in operation in 1923/24 (Krasin-28, p. 192). See Dobb-28, pp. 233 and 241 for Kondratiev reference.

<sup>4</sup>The causes of rising industrial prices were widely debated by Soviet economists (Dobb-28, pp. 221-225). A distinctive feature of the "scissors crisis" was a sales crisis in September of 1923 when domestic enterprises were unable to dispose of their stocks at the high prices and stocks began to accumulate (Dobb-28, pp. 234-239, p. 270). Thus,

prices would not result in further inflationary pressure. This "accumulation of inventories" distinguishes the "scissors crisis of 1923" from the reopening of the "scissors" during the "goods famines" which prevailed during 1925-28. For while the symptoms were similar, the causes were not.

The trade surplus and the monetary reform of 1922-24. The forcing of a trade surplus was an important constraint in drawing up the foreign trade plan in 1922/23 and 1923/24 because an accumulation of gold and other foreign reserves was presumed to be essential for the monetary reform of 1922-24, which was being directed by Sokolnikov, Commissar of Finance.<sup>5</sup> The main pillars of his monetary stabilization policy were balancing the budget, restrictive credit policy, and the accumulation of foreign reserves to serve as "firm cover" for the issue of

---

various economists, such as Ossinsky and Piatakov, advocated a policy of "limited goods intervention, " "partial importation from abroad of goods which we lack and of those of which the price has particularly increased" (Dobb-28, p. 255 reporting Ossinsky's position at the end of 1923). It was the threat of competition from imports as well as the presence of imports on domestic markets which would affect domestic prices. Rykov agreed that the goods unavailable domestically should be imported, but he disagreed with the policy of importing goods which were stocked in warehouses and instead he proposed other means for lowering industrial prices (Dobb-28, p. 270).

<sup>5</sup>EIKSSSR, pp. 43-45. Krasin-28 (p. 145) argued that the monetary reform required foreign reserves in the hands of the State Bank and that this was only possible through an active trade balance. See Krasin's article "The Monetary Reform and the Trade Balance" in Vneshniaia Torgovlia, No. 9-10 (March 19, 1924), reprinted in Krasin-28, pp. 144-155. See Arnold-36 (pp. 200-243) for a discussion of the monetary reform and Carr-52 (pp. 350-359) for discussion of this monetary reform based on traditional early twentieth century monetary theory.

chervonets currency.<sup>6</sup> A large trade surplus, it was thought, at the time, would stabilize the chervonets on the domestic foreign exchange markets and facilitate the hoped-for introduction of the chervonets on foreign money markets and the attraction of foreign loans and capital.<sup>7</sup>

Sokolnikov's proposals for monetary reform were attacked by the so-called "opposition," which included Trotsky, Piatakov, Ossinsky, and Preobrazhensky. The policy of a trade surplus was especially condemned by Ossinsky in December, 1923 who thought it was wrong for Russia to "allow herself the luxury of spending means for the transition from banknotes to metal currency." Such resources should be used for "productive purposes" and the abstract slogan of a "positive trade balance" should be replaced by a policy of "goods intervention."<sup>8</sup> It was

<sup>6</sup>See Appendix A, Technical Note 1, pp. 701 ff.

<sup>7</sup>Engueev-27b (pp. 119-120) referred to a directive to NKVT at the end of 1922 to achieve a favorable trade balance for the accumulation of foreign reserves for the monetary reform. The export receipts in excess of expenditure were to be used to import large quantities of silver and silver coinage from abroad.

The chervonets issued by the State Bank first in the fall of 1922 was to be backed by at least 25% "firm cover" of gold, silver, platinum, and stable foreign currency. Although it was initially accepted by the peasant and others, by the end of 1923 its purchasing power was beginning to decline; it was also quoted at a discount on the domestic "free exchange market." The proposals for stabilizing the chervonets were traditional monetary orthodoxy - balance the budget, restrict credits, and run a trade surplus to accumulate gold. The orthodoxy went so far as to consider the re-establishment of the ruble on foreign money markets as a desirable goal and actually took steps to introduce and support the chervonets on foreign money markets (Aizenberg-62, p. 31 and Krasin-28, p. 150). The final conversion from the rapidly depreciating Soviet currency (Sovznak) to the stabilized chervonets was effected in the spring of 1924 (Arnold-36, pp. 211-220).

<sup>8</sup>Adapted from Dobb-28, p. 256.

under similar circumstances in January, 1924 that Piatakov made his famous remark about the "active trade balance policy" of the Commissariat of Finance: "we need not gold but the quickening of our industry, and this we cannot do by piling up gold in the hands of comrades Sokolnikov and Sheinman."<sup>9</sup> Their argument against a trade surplus was valid, for increasing imports would exert a downward pressure on prices by increasing aggregate supply and competing in specific areas.<sup>10</sup> Neither Piatakov and Ossinsky, however, seemed to understand that a trade surplus was also inflationary from a monetary policy viewpoint, because under the traditional rules of banking adopted for the Soviet State Bank, expansion of the "firm cover" would allow an expansion of the note issue and of credit unless action was taken to affect the monetary impact of gold imports. In this particular period of Soviet monetary history, however, it can be strongly argued that the accumulation of foreign reserves as backing for the new note issue had a very important deflationary effect because of the psychological effect of a trade surplus, issue of silver coins, and increases in the gold stock on the willingness of the peasant and trader to hold and hoard larger amounts of paper currency. In addition, these traditional signs of fiscal responsibility (a trade surplus and a balanced budget) might encourage foreign capitalists to invest in Soviet concessions and to finance Soviet foreign trade operations. Both these factors would have

---

<sup>9</sup>Adapted from Dobb-28, p. 258.

<sup>10</sup>Recall that industrial firms and trusts were by and large cut off the government budget and were instructed to make a "profit" operating in a market place, so that these firms were relatively autonomous from government in production and price-setting.



had a deflationary influence.<sup>11</sup> Arnold's discussion of the monetary reform suggests that Soviet monetary authorities placed great importance on the symbolic value of the "firm cover" requirement in winning recognition of the chervonets as well as in its eventual role in preventing excessive expansion of the money supply to finance budget deficits.<sup>12</sup>

The gold parity of the chevronets.<sup>13</sup> The gold parity of the chevronets ruble was set equal to the gold parity of the Tsarist ruble and the parity exchange rates calculated accordingly.<sup>14</sup> On the basis of relative wholesale prices in 1923, the re-establishment of the ruble at pre-1914 parity probably did not initially overvalue the ruble, for Soviet wholesale prices (especially of agricultural goods) stood considerably lower than those of major industrial countries and exports of Soviet products were profitable in 1923/24.<sup>15</sup>

---

<sup>11</sup> According to Strumilin, the velocity of the circulation of the sovznaks (Soviet paper currency) was four times as high as the chervonets (Ekon. Zhizn., March 30, 1924 as cited in Arnold-36, p. 212). Krasin was a particularly staunch proponent of the concessions policy and in January, 1924 advocated liberalizing the concessions policy and sought to get a 300-500 million ruble foreign loan (Dobb-28, pp. 257-258). See also Krasin's 1925 brochure on the necessity of foreign loans reprinted in Krasin-28, pp. 354-373.

<sup>12</sup> Arnold-36, pp. 200-243.

<sup>13</sup> See Aizenberg-62, Chapter IV, for a discussion of the gold parity of the ruble.

<sup>14</sup> Appendix A, Technical Note 1.

<sup>15</sup> Compare Tables T-37, and T-43 through T-46. The tables in Aizenberg-62 (p. 236) illustrated this point. The term "overvalued" is used loosely in this context and I do not mean to imply that the exchange rate established in 1922 and 1923 was an "equilibrium exchange rate" which would have resulted in a balance of payments equilibrium under free trade. The ruble was not overvalued only in the sense that most if not all of the traditional Russian exports were profitable at the new exchange rate.

The 1923/24 foreign trade plan

The foreign trade plan drawn up by Gosplan and NKVT for 1923/24 was based directly on the projected exportable commodity surpluses and amount of trade surplus required for the monetary reform; the import plan, influenced strongly by raw material requirements of industry, was drawn up within these constraints. The original plan was approved on September 7, 1923 (i. e. , before the beginning of the economic year) and projected exports at greater than 500 million rubles, or about two and one-half times 1922/23 exports.

Imports were projected at between 300 and 350 million rubles which implied a trade surplus of 150-200 million rubles.<sup>16</sup> The foreign trade plan, however, was twice revised and reapproved (February 15, 1924 and June 2, 1924); the final revised export plan was set at 429 million rubles, more than double 1922/23 exports, but lower than the original projections for exports. Imports were set at 334 million rubles, about 80% above 1922/23 levels. The projected trade surplus was about 94 million rubles.

The structure of the 1923/24 export plan in current prices (shown in Table V.1) was remarkably similar to the pre-1914 exports. According to Sobolev, both the estimates of the supply, marketing and domestic demand for exportable products (i. e. the "exportable surpluses") and also the projected export structure relied heavily on pre-1914

---

<sup>16</sup>Kutusov-28 (p. 38) implied that the projected trade surplus of the first plan was 122 million rubles, while in the second plan, the plan surplus was reduced to 94 million rubles.

TABLE V. 1

USSR: EXPORT PLAN AND EXPORTS ACROSS  
ALL BORDERS, 1923/24

(thousands of rubles)

Name of Commodity Group	Plan	Fulfillment		Structure	
	Value	Value	Percent	% of total	
	1000 rubles current prices	1000 rubles current prices	fulfillment according to value	exports 1923/24	
				Plan	Actual
I. agricultural products (including grain, flax, hemp)	243,200	248,839	102.3	56.7	47.6
II. timber and wood distillation products	57,000	71,322	125.1	13.3	13.6
III. furs and fish products	37,000	53,867	145.6	8.6	10.3
IV. animal and poultry products	23,200	49,971	215.3	5.4	9.6
V. foodstuffs and confectionary	11,150	12,446	111.6	2.6	2.4
VI. mining products (including oil products, man- ganese ore)	37,074	54,212	143.3	8.6	10.4
VII. manufactured articles	9,890	9,538	96.3	2.3	1.8
VIII. other products	10,236	22,440	219.2	2.4	4.3
TOTAL EXPORTS	428,750	522,635	121.9	100.0	100.0

Source: Notes to Table V.1, Appendix B, p. 766.

experience.<sup>17</sup> More than 70% of total planned exports consisted of the so-called "agricultural exports" (including furs and fish) and over half were accounted for by the major export crops - grain, flax, hemp (compare Tables V. 1 and T-4).<sup>18</sup> The most noticeable changes were the larger share of fur exports (due to relatively higher prices) and oil exports. Krasin reported an interesting comparison of what appears to be the estimated "exportable surpluses," output, and the actual exports for 1923/24 (Table V. 2). The shares of "exportable surplus" (export resources) in 1923/24 output of major export goods as calculated by Soviet economists were below the pre-1914 shares (except for butter), but this is not surprising because output in 1923/24 was below pre-1914 levels for most major export goods (Column 6 of Table V. 2). As far as can be determined, the relationship between foreign and domestic prices had little influence on the 1923/24 export plan which was based largely on these estimates of the exportable surplus of the traditional Russian exports. It was implicitly assumed both that exports would be sufficiently profitable to encourage the fulfillment of the plan and that the export plan could be fulfilled without undesired inflationary impact on individual commodity markets. Judging from actual 1923/24 imports, the 1923/24 import plan resembled the pre-1914 structure much less than

---

<sup>17</sup>Sobolev-26a, p. 66. The Soviet concept of "exportable surplus" and its role in early export planning are discussed in Chapter VII, p. 228.

<sup>18</sup>See Appendix A, Technical Note 4 for Soviet definitions of agricultural products and industrial products during this period.

TABLE V. 2

USSR: ESTIMATED EXPORTABLE SURPLUSES AND  
ACTUAL EXPORTS IN 1923/24

Commodity	units	output	domestic demand	surplus (export resource)	actual export 1923/24	export as % resource	export as % output
		(1)	(2)	(3)	(4)	(5)	(6)
grain products	1000m.t.	45,898	42,638	3,260	3,096	95.0	6.7
flax	1000m. t.	139	100	39	34	87.5	24.4
fur	1000rbl.	983	98	885	819	92.6	83.3
timber (export)	1000m. t.	2,031		2,031	2,031	100.0	[100.0]
oil	1000m.t.	5,995	4,783	1,245	713	57.2	11.9
butter (export)	1000m.t.	32.76	13.10	19.66	19.62	99.8	59.9
eggs	millions	3,300	2,880	420	349	83.1	10.6
bristles	m. t.	118	12	106	77	72.3	65.3
horsehair	m. t.	139	8	131	139	106.3	106.1
average	%					88.2	
average (without oil)	%					92.1	

Source: Notes to Table V. 2, Appendix B, p. 766.

the export plan (Table T-7). Imports of raw materials for the consumers' goods industries - cotton, wool, leather, dyes, tanning materials - predominated. The share of consumer goods for mass consumption - despite the announced policy of "limited goods intervention" - were insignificant. Import of transport equipment for the restoration of the railroads continued (because of the lag between ordering and delivery) but imports of luxury goods (because of official policy) and industrial equipment (because of excess capacity) were relatively small.

Criteria for import planning. During NEP and the interwar period, the demand for imports continually exceeded the import capacity of the USSR (as determined by available export receipts and credits). After meeting several obvious early priorities for imports (restoration of the railway system and food imports during the 1921-22 famine), the economic criteria for choosing among the many competing demands for imports became less clear. With the exception of restricting the import of luxury goods for social purposes, no distinct sectoral priorities had emerged by mid-NEP on the political level and the economic advisers were expecting a full recovery of all sectors; thus, the "priority-sector" decision criteria for selecting imports had not yet evolved. One characteristic of Soviet import demand during NEP, however, became quite pronounced from the very beginning. Namely, Soviet firms and trading agencies tried to order many foreign products because of lower prices at the official exchange rate (even including tariffs) and because of quality differences, even though similar products could be produced with domestic raw materials in domestic factories with excess capacity.

Given the excess demand for imports, which indicated the exchange rate was overvalued from the viewpoints of establishing a balance of payments equilibrium, Krasin in the NKVT established a policy of discouraging imports of products which could be produced using domestic raw materials in (existing?) domestic factors, so as to permit larger imports of those products, especially raw materials, for which no alternative sources were immediately available.<sup>19</sup> This was not a rejection of the theory of comparative costs but a response to an overvalued exchange rate and to what was hopefully a short-run disequilibrium. Krasin implied that searching out domestic production possibilities for requested imports was a more rational way of restricting imports than an across-the-board cut in imports, and at the time (1924), this policy of NKVT was not directly aimed at influencing investment decisions.<sup>20</sup> This policy of

---

<sup>19</sup>Krasin-28, p. 214. The alternative policy of raising import tariffs across the board could have been used, and, indeed, tariffs were raised several times during the NEP, but the increase was never sufficient to completely choke off excess demand for imports. The disadvantages of across-the-board tariff increases from the Soviet viewpoint was that some Soviet industries required more tariff protection than others (heavy industry) which simple non-discriminating tariff increases would not provide. Furthermore, overt tariff increases caused difficulties in negotiating foreign commercial treaties. Selective issuance of import licenses quietly assured protection - but only at the cost of disrupting the information and rationing functions of the price system. On the other hand, my impression is that Soviet import demand, especially for so-called "producers' goods," was rather price inelastic even in the early NEP and became even less price-elastic as the NEP proceeded because of the perpetual shortage of finished goods and increasing emphasis on output rather than profit.

<sup>20</sup>Krasin-28, p. 214. Indirectly it influenced investment decision in the long run by reducing excess capacity in various industries and possibly influencing the return on capital (especially in heavy industry which had always relied on tariff protection in pre-1914 Russian). In 1924, excess capacity existed so that it was a matter of using the capital stock more intensely, that is, moving out toward the edge of the production possibility curves, rather than moving along it or shifting it outward.

"discovering domestic possibilities" within the existing productive capacity became an important criteria of import planning. The emphasis on developing new types or additional productive capacity to satisfy the demand for imported products began to emerge only in 1925.

Fulfillment of the 1923/24 foreign trade plan<sup>21</sup>

The 1923/24 export plan was fulfilled satisfactorily in most major aspects. The final revised (lower) export plan was exceeded by 22% and even the initial higher export plan was exceeded by a considerable margin. Despite efforts to hold down imports to the planned levels, the revised import plan was exceeded by 23%. Because of the overfulfillment of the export plan, however, a large trade surplus of 84 million rubles achieved, which permitted a large increase in foreign exchange holdings and substantial imports of gold and silver (Table T-16).

Actual exports are compared to planned exports in Table V. 1. The export plan was exceeded for non-crop products (furs, timber, oil products, butter, and eggs) whose actual exports (in value) exceeded planned exports by 25-155% because of higher than expected foreign prices (especially for furs, animal products, and oil products) and the rapid recovery of the output of butter and eggs. The relationship of actual exports to estimated export reserves is shown in Table V. 2. The outstanding aspect of this table is that actual exports - with the exception of oil products - were close to estimated export reserves.

---

<sup>21</sup>Plan fulfillment figures in this section are from Table T-1.



Kutusov described exports as returning to their "normal structure" in 1923/24 - that is, to the pre-1914 structures.<sup>22</sup> The success in expanding exports (much faster than the rest of the economy in 1923/24) and the realization of a large trade surplus almost according to plan raised expectations about quickly restoring foreign trade to pre-1914 levels and structure and strongly influenced the five-year plan for foreign trade (drawn up in early 1924) and subsequent annual plans.

The structure of Soviet exports. Soviet statisticians usually classified exports as originating either in agriculture or in industry, but their classification system was inadequate for some purposes. Agricultural products included fur and fish as well as most crop products. Sugar and other so-called processed food products, however, were considered to be industrial goods.<sup>23</sup> According to this Soviet definition, agricultural exports made 69.7 of total exports in 1923/24 as compared to 74.0% in 1913 (Table T-4). An alternative analytical classification is agricultural products (excluding fur and fish, but including sugar and vegetable oil), fur and fish industries, timber and minerals and "other" (manufacturing). In this adjusted classification scheme, agricultural exports strictly defined equalled 61.9%, as compared to 75% in 1913. This alternative classification of agricultural-dependent exports is presented

---

<sup>22</sup>Kutusov-28, pp. 30, 35.

<sup>23</sup>See Appendix A, Technical Note 4.

in Table T-19.<sup>24</sup>

Grain exports in 1923/24.<sup>25</sup> The most striking development in 1923/24 was the resumption of moderately large-scale grain exports on the basis of only a fair-to-good harvest of 1923 just two years after the famine of 1920-22.<sup>26</sup> Exports of grain products were 2.7 million m. t. in 1923/24 as compared to average annual exports of 12 million m. t. in 1909-1913 (Table T-9).<sup>27</sup> This resumption of grain exports accounted for a large part of the increase in total exports over 1922/23 levels and equalled about 37% of exports in 1923/24 (and about 39% in 1913).

The level of grain export is surprising, because the 1923 gross harvest and the per capita harvest was only 80% of the average harvest in 1909-13 (Table T-8).<sup>28</sup> In 1909-13 about 12% of the average annual

<sup>24</sup>Another classification of Soviet exports considered for this study was "exports produced or dependent on peasant labor. These would include all agricultural products or agricultural-based products, all fur (hunting or fur-breeding was done by peasants), much fish products (during the NEP at least) and some timber (timber was often hauled from the forests by the peasants). This classification would emphasize even more the dependence of Soviet export on peasant labor.

<sup>25</sup>See Appendix A, Technical Note 6 for a precise description of the terminology used in analyzing Soviet grain exports; the four major bread grains (wheat, oats, rye, barley); cereal grains; grain products (including cereal grain, flour, brans, lentils); and grain and related products (including oil seed, oil cake).

<sup>26</sup>Already in late 1922 grain exports were resumed on an experimental basis (see above).

<sup>27</sup>Unadjusted for territorial change, but recall from Chapter III that the separated territories were net importers of grain from the rest of Russia.

<sup>28</sup>The population in 1923/24 and 1909-13 was roughly the same, so that per capita output of grains in 1923 was also roughly 80% of 1909-13 per capita output of grains (Table T-48).

gross harvest was exported, so that according to an "exportable surplus" theory of export planning insignificant grain exports would be expected. Nevertheless, 4% of the crop and 27% of total marketed grain was exported in 1923/24.

Why were Soviet grain exports resumed in 1923/24? First, the resumption of grain exports was a deliberate effort to increase domestic grain prices in 1923/24, and about 50% of procurements by "planned agencies" were exported during the 1923/24 (AY) - in subsequent years, the official policy was aimed at restraining the increase in prices.<sup>29</sup> Second, grain deficit areas and towns were supplied with grain by both the state "planned" agencies, private traders, and others, so that the state was operationally responsible for grain supply only to the military. Third, the demand for livestock feed for livestock was less because of the loss of livestock (especially horses) (Table T-49). These factors were absent in subsequent years.

The recovery of grain exports with only a moderately good harvest caused great optimism about the recovery of grain exports in the near future. For example, Oganovskii, writing in early 1925 predicted that grain product exports would reach 3-4 million tons in 1925/26 and not less than 5 million tons in 1926/27 under favorable harvest and market conditions and 70% of pre-1914 levels within five years.<sup>30</sup>

---

<sup>29</sup>Kutusov-28, p. 31.

<sup>30</sup>Oganovskii-25, p. 77. Grain product exports were about 12 million m.t. in 1909-13. It is not clear from context if Oganovskii's prediction of "5 years for the restoration of grain export" was from 1923/24 or 1925.

But this level of 1923/24 grain product exports - either in volume or value - was not reached again during the NEP, even though both harvests and marketing exceeded 1923/24 levels (Tables T-8 and T-3). This failure of grain exports to recover to pre-1914 levels was to be a major problem in foreign trade during NEP (Chapter XI).

Price and profitability. The operation of foreign trade during the mid-twenties initially relied partially on the initiative of profit-seeking economic enterprises - from Gostorg and the co-operatives (Centrosoiuz, etc.) to the foreign concessions in timber, mining, and trade. These organizations were supposed to cover their costs and to make a profit rather than to rely on budget subsidies. That is - the system was not to rely directly or indirectly on export subsidies. Furthermore, because many of these enterprises had the right to sell on both domestic and foreign markets, the decision to export depended not only on the relationship between domestic costs and foreign prices, but also on the relationship between domestic and foreign sale prices because of the "opportunity costs" to the firm of shipping to the less profitable market.<sup>31</sup>

Exports remained profitable both with respect to cost and domestic price despite increases in domestic procurement prices of major export products during 1923/24 (Tables T-43 - T-46). In the case of flax and furs the profit margin was sufficient to require export

---

<sup>31</sup>See SUYB-25 (pp. 276-277) for a description of "organizations conducting foreign trade in the USSR." See EIKSSSR, pp. 631-659 for a description of the operation of foreign trade before November, 1925. See EIKSSSR, pp. 561-563 for a description of the profitability of foreign trading concessions in 1924-25.

tariffs and export quotas to prevent glutting foreign markets and to ensure an adequate supply to the domestic industry.<sup>32</sup> This traditional concept that exports should be commercially profitable (at least compared to cost) at the current exchange rates - even if at the moment they were not - persisted throughout the mid-1920's as part of the prevailing views about the desirability of price stability and procurement price policy decisions made on the basis of maintaining export profitability exerted additional downward pressure on agricultural prices and severely retarded the growth of exports of certain products.<sup>33</sup>

### Imports

The excessive fulfillment of the 1923/24 import plan by almost one-third was only the first of many "excessive fulfillments" of import plans during the 1920's. The reasons for exceeding the import plan in 1923/24 have not been determined. Above-plan issuances of licenses were probably permitted when the magnitude of the overfulfillment of the export plan became known. Increases in the price of major Soviet import items in 1923/24 - cotton, wool, leather - may have contributed. There is little evidence that the policy of large-scale goods intervention was responsible for the above-plan imports, for imports of consumers' and agricultural producers' goods were still relatively insignificant in 1923/24 (Table T-7).

---

<sup>32</sup>Arvatov-28, p. 171 and EIKSSSR, pp. 235 and 352/70-81.

<sup>33</sup>See below, Chapter VIII, p. 297 ff.

Structure of Soviet imports. According to the then conventional Soviet classification, 83% of total imports were "producers' goods" and only 14% were consumers' goods (Table T-7).<sup>34</sup> Similar figures for 1913 were 64% for producers' goods, and 28% for consumers' goods (7% unallocated), so that the 1923/24 import structure emphasized producers' goods more heavily than before 1914. This heavy emphasis on producers' goods was regarded by Soviet economists as a more rational and socially-desirable use of export receipts for it indicated (to them) that more of the processing was done within Russia and that little roskosh (luxury items) were imported (which indicated to them that the benefits of imports were accruing to all of society rather than to the wealthy classes).<sup>35</sup> The reduced importance of machinery imports in 1923/24 was recognized as being the result of much excess capacity existing in this period. Soviet imports in 1923/24 were simply dominated by raw material imports (70%) required to restore import-dependent industries (textile, leather, non-ferrous).

The concept of "consumption-oriented imports. An alternative method of classifying imports would be according to their final use as determined through an input-output table. This would enable us to determine to what extent imports were used directly or indirectly to satisfy

---

<sup>34</sup>Appendix A, Technical Note 4 describes the conventional classification of imports and exports used for planning in the 1920's.

<sup>35</sup>In 1913 a large amount (both in value and share) of common goods consisted of items purchased by and large by the wealthier urban classes and landlords and included items such as fur pieces, silks and fine cloth, wines, mineral water, jewelry, etc.

the needs of the consumer, or investment, or government. A simplified version of this classification method has been attempted here - a distribution of imports simply between "consumer-oriented uses" and "other uses" (including investment) on the basis of rough estimates of the final use of the product produced by the industries receiving the imported raw material or semi-processed good. Basically, cotton and wool fibers, leather, hides, dyes, tanning agents, manufactured consumer goods and foodstuffs were classified as consumers' goods. All machinery, most ferrous products, and fuels were classified as "other" goods. Rubber and some non-ferrous metals could be classified partly as consumers' goods and partly as "other" goods. The reclassification of Soviet imports according to "final use" is presented in Table T-18. The most interesting result of this reclassification is that most imports during NEP were destined either directly or indirectly for the use of the consumer. In 1923/24, 67% of imports were indirectly or directly destined for the consumer as compared to 60% in 1913. In fact, imports of raw materials and semi-processed materials for light industry dominated imports during NEP. In contrast, the Soviet method of classifying imports into producer's goods (goods used for further processing or investment) and consumers' goods (foodstuffs and manufactured consumers' goods) does not reveal this rather remarkable orientation of Soviet imports to consumer demand during most of NEP, when imports of consumers' goods per se (foodstuffs and manufactured consumer goods) were rather small (especially in 1923/24 and 1926/27).

Terms of trade

Soviet trade statistics were entered only in 1913 prices in 1923/24 so price indexes (based on unit values) could not be extended back to 1923/24.<sup>36</sup> All indications are that the terms of trade for the basket of goods bought in 1923/24 were less favorable than before 1914.<sup>37</sup>

Balance of payments favorable in 1923/24. No estimates are available for the Soviet balance of payments for 1923/24. It was probable, however, that invisible trade imports (interest, technical aid, repatriation of concessionary profits) were quite insignificant, so that the trade surplus of 94 million rubles also resulted in a balance of payment surplus - the only balance of payment surplus during 1923/24-1930/31.<sup>38</sup> Foreign reserve holdings (as of January 1, 1925) rose to 445-540 million rubles - the highest point during the NEP - and much gold and silver was imported in 1924 (Tables T-14, T-16, and T-17).

Foreign commercial trade credits were also becoming available on a modest scale so that 78 million rubles of very short-term debt had been accumulated by October 1, 1924 (Table T-15).

---

<sup>36</sup>Appendix A, Technical Note 2 and Appendix F.

<sup>37</sup>Based on comparisons of the ratio of the value of exports in current and 1913 prices to the ratio of the value of imports in current and 1913 prices as presented in Table T-13.

<sup>38</sup>Table T-14.



## CHAPTER VI

## FIRST PERSPECTIVE PLAN FOR FOREIGN TRADE

1923/24 - 1927/28

Perspective Plan for recovery of Soviet  
foreign trade 1923/24 - 1927/28

In early 1924 Gosplan under the guidance of Groman drew up the first perspective five-year plan for foreign trade during 1923/24-1927/28.<sup>1</sup> This perspective plan showed that Gosplan in 1924 expected to reconstruct Soviet foreign trade (particularly exports) along pre-1914 patterns. The vast difference between planned and actual developments in foreign trade during NEP suggests that the actual developments in foreign trade during the "restoration period 1923/24 - 1927/28" influenced the design of the 1st FYP (1928/29-1932/33) and was partly responsible for the 1st FYP's emphasis on planned import substitution, on industrialization, and on planned export expansion in non-agricultural sectors.

The export plan for 1923/24-1927/28 was based on the principle of restoring exports along the pattern of pre-1914 Russian exports and in the maximum variant, Soviet exports were to attain pre-1914 levels of 1928.<sup>2</sup>

---

<sup>1</sup>Varga-32, p. 99. The following discussion is largely based on Baksht-28.

<sup>2</sup>Baksht-28 didn't mention if the projection was in "constant" pre-1914 prices or in current prices.

As for the 1923/24 plan, estimates of exports for the perspective plan (and especially for agricultural exports) relied heavily on pre-1914 economic relationships (especially marketing ratios and domestic demand).<sup>3</sup> As a result, the planned export structure for the entire five-year period was similar to the structure of exports for Tsarist Russia during 1909-1913 (Table VI.1). In particular, the planned share of total exports attributed to grain products in the period 1923/24-1927/28 was almost identical (49%) to the share of grain products in pre-1914 exports. Some important changes in export structure were projected - a decrease in the proposed share of lumber, sugar, and "other" (butter, eggs, bacon, etc.), and an increase in the share of oil products, flax, and furs relative to 1909-13. This export structure and its modifications merely reflected the export structures evolving in 1923 and early 1924 in which furs and oil exports already exceeded pre-1914 levels in value, while forest products and sugar exports lagged far behind the general recovery.<sup>4</sup>

---

In line with the ideological climate of 1932, R. Anders (in Varga-32, p. 94) denounced this plan of "mechanically restoring exports according to the structure of the foreign trade in Tsarist Russia" as a "counter-revolutionary" attempt by Groman which utterly failed.

The plan was drawn up in a maximum and minimum variant. Little is known about the details of the yearly plans making up this perspective plan.

<sup>3</sup>Sobolev-26a, p. 66. Baksht-28, p. 31 criticized these authors for failing to take into account the basic socio-economic changes produced by the revolution when estimating peasant and urban consumption.

<sup>4</sup>Anders (in Varga-32, p. 99) in 1932 unjustly accused Gosplan of projecting "unbelievable levels" of timber, butter, and flax exports, and of underestimating the importance of fur, oil, and "secondary exports."

TABLE VI. 1

USSR: GOSPLAN'S FIVE YEAR PLAN FOR EXPORTS 1923/24 - 1927/28

(minimum variant)

	Annual Averages		Five Year Totals 1923/24 - 1927/28				Percent Plan
	Actual		Plan		Actual		
	Yearly Av. 1909-1913	% Total Exports	1923/24 to 1927/28	% Total Exports	1923/24 to 1927/28	% Total Exports	
Total Exports (millions rubles)	1,501.4	100.0	3,165.4	100.0	3,293.9	100.0	104.1
Grain products (millions rubles)	751.2	50.0	1,553.0	49.0	811.7	24.5	52.4
grain products (1000 tons)	11,900.0		24,816.0		10,031.0		40.4
Forest products (millions rubles)	289.5	19.3	456.5	14.4	369.3	11.2	80.9
forest products (1000 tons)	7,042.0		14,283.0		9,592.0		67.2
Flax and Hemp (millions rubles)	101.3	6.7	240.0	7.5	157.4	4.7	65.6
flax and hemp (1000 tons)	360.0		393.0		233.0		59.2
Furs (millions of rubles)	16.6	1.1	175.0	5.5	354.8	10.7	202.7
Oil products (millions rubles)	36.7	2.4	290.0	9.1	373.2	11.3	128.7
oil products (1000 tons)	947.0				6,740.0		
Sugar (million rubles)	57.4	3.9	58.0	1.8	108.3	3.2	186.7
sugar (1000 tons)	139.0		131.0		349.0		266.3
Iron ore (millions rubles)	4.2	0.3	3.3	0.1	11.7	0.3	335.5
iron ore (1000 tons)	470.0		540.0		1,135.0		210.0
Other (millions rubles)	est. 244.5	16.2	389.6	12.3	1,108.1	33.6	284.4

Source: Notes to Table VI. 1, Appendix B, p. 766.

A trade surplus was indicated for every year of the perspective five-year plan for foreign trade and would approach a total of 1400 million rubles over the five years - roughly 40% of export receipts. This proposed trade surplus seemed high but there was considerable pressure for large trade surpluses because foreign exchange was needed to pay for invisible items on current account, to supply the additional legal reserves (firm cover) required by Gosbank to permit expansion of the money supply, and to rebuild Soviet foreign reserves which had declined from 1,200 million rubles in 1917 to 360-415 million rubles at the end of 1923 (Table T-17). Furthermore, a stable currency and growing foreign reserves (through the accumulation of gold) were thought to be an important prerequisite to attracting foreign loans and direct foreign investment - a policy similar to the accumulation of gold by Russia during the 1890's prior to Russia's accession to the gold standard.<sup>5</sup>

Because of this pressure for a trade surplus, imports were to be restricted to levels significantly below average 1909-13 levels by restricting consumers' imports (Table VI. 2). The planned import structure was similar to the actual import structure of 1923/24 and the perspective plan stressed producers' imports (Soviet definition) much more heavily than 1909-1913 imports (85% versus 55%). Raw materials and semi-processed goods dominated the perspective import plan. Relatively large imports of industrial machinery were also planned. In contrast, planned imports of agricultural machinery and fertilizers were negligible (Table VI. 2). Instead agriculture was to be supplied with

---

<sup>5</sup>Carr-54, pp. 134-35 and Arnold-36, p. 13.

TABLE VI. 2

USSR: GOSPLAN'S FIVE YEAR PLAN FOR IMPORTS 1923/24 - 1927/28

(millions of rubles at current prices)

	Annual Average		Five - Year Totals 1923/24 - 1927/28				
	Actual		Plan		Actual		Actual as % plan
	1911-1913 Yrly av.	% total imports	1923/24 -1927/28	% total imports	1923/24- 1927/28	% total imports	
<u>Total Imports</u> (millions rubles)	1235.8	100.0	1769.0	100.0	3578.2		202.2
Total Imports (excluding special imports of grain and consumer goods)					3246.4	100.0	183.5
<u>Producer's Imports</u>	690.8	55.8	1470.9	83.1	2762.3	85.0	187.3
Equipment for industry and transport	122.1	9.8	342.5	19.3	553.5	17.0	161.7
Raw materials and semi-processed	515.3	41.6	1080.7	61.0	1984.2	61.1	183.6
Agricultural machinery and fertilizer, etc.	54.4	4.4	47.7	2.6	190.5	5.8	399.4
Other					34.1	1.0	
<u>Consumer's Import</u>	545.4	44.1	298.1	16.8	484.1	14.9	162.4
Goods for mass consumption (excluding grains and manufacturing)			175.0	9.8	430.3	13.2	245.9
Medical and health			105.9	5.9	44.5	1.3	42.0
Other					9.3	0.2	

Source: Notes to Table VI. 2, Appendix B, p. 766.

domestically produced machinery (including tractors).<sup>6</sup>

### Actual foreign trade versus Perspective Plan

The minimum export plan was fulfilled according to value but significantly underfulfilled on the basis of volume, for export prices rose during this period.<sup>7</sup> The maximum variant was badly underfulfilled in both respects. Exports in 1927/28 fell far short of 1909-13 levels even if valued in the higher prices of the 1920's and using Soviet adjustments for territorial loss. The most important error in Gosplan's perspective export plan was their estimate of expected grain

---

<sup>6</sup>Baksht-28, p. 22. In 1909-13 imports supplied 45% by value of total agricultural machinery (Table III. 16). There was considerable excess capacity in agricultural machine building in 1924 and sales suffered because of high prices and the shortage of long-term credits (SUYB-25, pp. 99-100 and Elchibegoff-55a, pp. 29-30). Considerable import substitution was achieved during NEP in producing new types of equipment as well as in overall volume (Elchibegoff-55a, pp. 43-46).

Again it is interesting to note that Anders (in Varga-32, p. 99) criticized Gosplan for not going far enough in estimating the demand for imported machinery and also for underestimating agricultural machinery imports by a factor of four. The plan, in Ander's opinion, was a deliberate attempt to slow down industrialization and the reconstruction of agriculture.

<sup>7</sup>Rough estimates of expected and actual prices can be derived using planned value and planned quantity for selected goods in Table VI.1.

<u>Rubles Price per Metric Ton</u>	<u>Expected</u>	<u>Actual</u>
Grain	630	810
Forest products	320	390
Flax and Hemp	610	680
Sugar	440	310
Iron ore	6	10

exports. The grain export plan in the minimum variant of the export plan was only 40% fulfilled in terms of weight (and this included the large grain exports in 1923/24). But after the success in resuming grain exports in 1923/24, nobody in early 1924 foresaw the deterioration on the "grain export front" which was to occur during 1924-1929.<sup>8</sup>

Flax and forest product exports - two important exports in 1909-13 and in the perspective plan - also failed to achieve levels projected in the minimum variant. The failure of these four exports - grain, timber, flax, and hemp, which made up 76% of 1909-1913 exports - had a catastrophic effect on the recovery of imports during NEP and total exports for the five years 1923/24 - 1927/28 barely equalled (in terms of total value) average annual exports during 1909-13 (Table V.1). The reasons for the failure of grain, flax, and timber exports and the impact of this failure on industrialization policy and foreign trade are examined in the rest of the study.<sup>9</sup>

Some isolated successes did occur. The plan for fur exports, projected at more than double the 1909-1913 levels, was exceeded in value largely because of higher prices (Table T-29). Oil exports exceeded the plan in value (and in quantity) on the basis of added output from additional investment and in the face of falling foreign prices.<sup>10</sup> The plan for sugar exports was excessively pessimistic and was also

---

<sup>8</sup>See Oganovskii-25 and Chapter XI.

<sup>9</sup>Chapter XI is devoted entirely to the "grain export problem."

<sup>10</sup>See Chapter X, p. 208.

far exceeded in quantity and also in value, even though foreign sugar prices fell. And the plan for "other products" - consisting largely of eggs, butter, rawhide, and cloth in 1909-13 - was also exceeded significantly in value.<sup>11</sup> But these isolated successes for several export goods could not compensate for the Soviet government's inability to restore grain, timber, flax and hemp exports to pre-1914 levels, and the continued success in expanding even the more successful exports was constrained by domestic agricultural problems, by conflicts with domestic users, by limited productive capacity and by limited foreign markets.<sup>12</sup>

#### Bad miscalculations about imports

Gosplan failed completely in their attempt to project imports - actual imports were twice planned imports (Table VI. 2).<sup>13</sup> Imports exceeded plan by large margins (60-385%) for all categories (except the relatively small category, "cultural and medical goods"). Agricultural producers' goods and consumers' goods imports were most underestimated by Gosplan. With respect to agricultural producers' goods, Gosplan's assumptions about the expansion of domestic output was correct, but it considerably underestimated the demand for modern agricultural

---

<sup>11</sup>Anders (in Varga-32, p. 99) implied that the butter export plan was underfulfilled.

<sup>12</sup>See Chapter X, p. 481.

<sup>13</sup>Baksht-28 excluded the so-called "above-plan" and "special" imports of consumers' goods in 1924/25 and 1925/26 in his discussion of the perspective plan. With these exclusions, imports exceeded plan by 83%.



machinery and tractors. Consumers' goods imports (Soviet definition) including "above-plan and special imports" exceed the plan by 290%.<sup>14</sup> If we exclude "special imports" of grain, sugar, cloth, etc. consumers' goods imports, nevertheless, exceeded the plan by 145%.<sup>15</sup> It should be pointed out that projections of consumers' goods imports were inherently less accurate because a large share of Soviet consumers' goods imports came across Asiatic borders where trade was less strictly planned and controlled during the NEP.<sup>16</sup> Furthermore, if we exclude the special export of consumer goods, then the relative contribution of above-plan consumers' goods imports to the total overfulfillment of the import plan (row 2 of Table VI. 2) was small because consumers' imports were a relatively small share of total imports.

More than half the excess of imports can be attributed to imports of raw and semi-processed materials (actual imports of these items were 184% of plan and 61% of total imports during 1923/24-1927/28). The apparent underestimation of the demand for industrial materials might have been caused by an unforeseen upward drift in import prices. It seems more likely however, that Gosplan simply underestimated the demand for imported materials. Unless considerable growth of output of import

---

<sup>14</sup>Notes to Table VI. 2, Appendix B, p. 766.

<sup>15</sup>Table VI. 2. The USSR imported grain in 1924/25 and again in 1928. See below Chapter VII and Chapter X. See Chapters VII and VIII for description of "above plan and special imports."

<sup>16</sup>Tea imports, being such an important foodstuffs item, were carefully planned (and limited), probably because it required cash payment in sterling.

substitutes was planned to proceed side-by-side with restoration of industrial output, the recovery of industry implied much larger imports of materials than projected in the perspective import plan. In the perspective plan, the value of annual average planned imports of raw and semi-processed materials (in 1924 prices) were set at only 21% of the value of annual import of similar goods (in pre-1914 prices) during 1909-13. The 1909-13 prices were significantly lower than 1924 prices. Thus, the plan was unrealistic because of the inherited dependence of Russian light industries on imported materials.<sup>17</sup> The magnitude of Gosplan's error is evident in the continued scarcity of imported raw materials during NEP even though raw materials were imported in greater quantities than planned.

The development of imports during the NEP is discussed in following chapters.

#### Trade Balance during 1923/24 - 1927/28

Instead of the anticipated 1,406 million ruble trade surplus, imports exceeded exports by 284 million rubles. Furthermore "invisible trade items imports" on current account continued to grow (see Table T-14), so that the balance of payments deficit was much worse than indicated by the balance of trade. The Soviet government was forced to

---

<sup>17</sup> Anders' (in Varga-32, p. 99) criticism of Gosplan's efforts seemed to have missed this point. Adjustment of import demand for industrial materials for loss of territory could account for only a relatively small part of this low projection.

draw down their foreign reserves by roughly 50-100 million rubles and to accumulate 370 million rubles in short-term foreign debts.<sup>18</sup>

This unfavorable experience with the perspective plan for 1923/24-1927/28 was destined to be repeated in similar ways with the foreign trade plan for the 1st FYP.<sup>19</sup>

---

<sup>18</sup>Drawing-down of reserves from January 1, 1924 to January 1, 1929 from Table T-17. The decline in reserves from January 1, 1925 to January 1, 1929 was 130-210 million rubes (Table T-17). Outstanding foreign debt on October 1, 1928. from Table T-15.

<sup>19</sup>Chapter XIII and XIV.

## CHAPTER VII

## THE FIRST SETBACK IN 1924/25: AND UNPLANNED GRAIN IMPORTS

Economic factors in the 1924/25 foreign trade plan

The partial failure of the 1924 grain harvest and the accompanying failure of grain marketing in 1924/25 were perhaps the most pressing problem affecting economic policy and foreign trade policy in 1924/25 (Tables T-8 and T-3). The output of flax, hemp, sugar beets, and most other crops had increased and could partially compensate for the inevitable cutback in grain exports. Furthermore, prospects for oil exports in 1924/25 seemed limited only by the foreign demand, for 1923/24 was a year of "over-production" relative to sales in the domestic market.

The recovery of light industry and metal-working continued to increase the demand for imported industrial materials, but this growth in import demand was partially offset by the rapid recovery of domestic cotton output.<sup>1</sup>

Goal of price stability. When the parity of the chervonets rubles had been fixed in the autumn of 1922 the USSR held an advantage in relative price levels.<sup>2</sup> But the overall price level as measured by Gosplan's wholesale price index (1913 = 100) had risen from 96 in January 1923 to 193 in March 1924 and by the autumn of 1924, the USSR's

---

<sup>1</sup>Diamond-55, p. 73.

<sup>2</sup>Aizenberg-62, p. 244.

wholesale price index stood significantly higher than those of major industrial countries (Tables T-31 and T-37). This erosion of the purchasing power of the chervonets ruble worried the Soviet government for several reasons. First, the rise in prices threatened the acceptability of the new currency by the peasants and the private sector. Second, rising prices, and rising agricultural prices in particular threatened the profitability of some exports and as a consequence exports would be voluntarily reduced or would require export subsidies or the "forcing of exports." Third, rising prices (relative to other countries) encouraged the expansion of imports (legal, licensed, smuggled, or parcels). In particular, it increased the volume of requests for import licenses and made the task of deciding among these requests more difficult. (The Soviet government responded initially to the change in Soviet and foreign price levels by increasing import tariffs in 1924).<sup>3</sup> Fourth, it encouraged the export of chervonets currency to sell on both legal and black markets abroad thus depressing the chervonets on these markets and requiring direct intervention by the Commissariat of Finance to support the rate of the ruble.

Government policies to stabilize prices were to affect the development of foreign trade during 1924/25 in several important ways.

#### 1924/25 foreign trade plan

The 1924/25 foreign trade plan was confirmed first on September 29, 1924 and was based on the knowledge of the grain crop failure

---

<sup>3</sup>Table T-47.

TABLE VII. 1

## USSR: EXPORT PLAN AND EXPORTS 1924/25

(millions of rubles, current prices)

Commodity	Planned Exports (European Borders)			Actual Exports (all borders)			
	Plan 1924/25	Plan % Actual 23/24 (all borders)	Structure of Plan % Total	Exports	1924/25 Exports as % of 1923/24 Exports	Structure of Exports 1924/25 % of Total Exports	Percent Fulfillment of Plan
Total Exports	503.90	96.4	100.0	558.63	106.9	100.0	110.9
Agricultural	292.40	80.2	58.0	342.43	94.0	61.3	117.1
Grain, related products (1000 m. t.)	72.18 (819)	32.3 (26.8)	14.3 .	102.87 (1122)	46.0 (36.7)	18.4 .	142.5 (136.9)
including Grain products	26.48	13.8	5.3	52.46	27.3	9.4	198.1
Oil cake	19.50	93.7	3.9	26.45	127.0	4.7	135.6
Oil seed	26.20	244.1	5.2	23.96	223.2	4.2	91.4
Butter (1000 m. t.)	35.00 (28.7)	132.1 (127.7)	6.9 .	27.58 (24.5)	104.1 (109.0)	4.9 .	78.8 (85.4)
Eggs (1000 wagons)	22.00 (3.70)	164.1 (152.6)	4.4 .	25.66 (4.90)	191.4 (202.0)	4.6 .	116.6 (132.4)
Flax (1000 m. t.)	51.00 (54.1)	219.1 (154.4)	10.1 .	52.45 (55.6)	225.3 (158.7)	9.3 .	102.8 (102.8)
Hemp	4.00	197.5	.8	3.87	191.2	.7	96.8

TABLE VII.1 (continued)

Commodity	Planned Exports (European Borders)			Actual Exports (all borders)			
	Plan 1924/25	Plan % Actual 1923/24 (all borders)	Structure of Plan % Total	Exports	1924/25 Exports as % of 1923/24 Exports	Structure of Exports 1924/25 % of Total Exports	Percent Fulfillment of Plan
Bristles	13.50	350.0	2.7	15.28	396.1	2.7	113.2
Furs	55.00	110.6	10.9	67.83	136.4	12.1	123.3
Secondary Agricultural	57.30	.	11.4	47.55	216.1	8.5	83.0
Industrial	211.50	133.4	42.0	216.31	136.9	38.7	102.3
Timber	75.00	106.5	14.9	72.70	97.1	13.0	97.1
Oil products	64.00	171.4	12.7	66.61	178.4	11.9	104.1
Manganese ores	20.88	145.3	4.1	17.89	124.5	3.2	85.7
Other Industrial	51.60	142.9	12.0	59.01	163.5	10.6	114.4

Source: Notes to Table VII.1, Appendix B, p. 767.

in 1924.<sup>4</sup> The plan was unusual in several ways.

First, no expansion of exports over 1923/24 levels was planned for 1924/25 because of the projected reduction in grain exports. The success of grain exports from the 1923 harvest and the increase in sown area in 1924 had led to initial optimistic predictions in early 1924 of exporting from 4.1 to 6.6 million m. t. of grain from the 1924 harvest.<sup>5</sup> The drought during the summer of 1924, however, caused a partial crop failure and quickly shattered any hopes of grain exports from the 1924 harvest. In late August, 1924, all grain exports were suspended.<sup>6</sup> As a consequence of the suspension of grain exports, total exports for 1924/25 were projected at slightly less than 1923/24 levels (Table T-1).

Second, imports were to be increased from 439 million rubles in 1923/24 to 577 million rubles in the 1924/25 import plan despite the slight reduction projected for exports.<sup>7</sup>

Third, the 1924/25 foreign trade plan specifically projected a large trade deficit of 70 million rubles.<sup>8</sup> The trade plan was revised

<sup>4</sup>Sobolev-26a, p. 67.

<sup>5</sup>Cited by Carr-58a, p. 189, from "Sotsialisticheskoe Khozia-istvo, No. 3, 1924, pp. 34-37 and L. Kamenev, Stat'i i Rechi, Vol. X (1927), p. 274. "

<sup>6</sup>Cited by Carr-58a, p. 190 from A. I. Rykov, Sochineniia, Vol. III (1929), pp. 185-187.

<sup>7</sup>Since we have not for certain identified the original foreign trade plan for 1924/25, we do not know what other revisions were made. The NKVT plan A for 1924/25 may be either the original plan or the revised plan confirmed in March; the source, EIKSSSR (p. 45) does not specify.

<sup>8</sup>Most likely this trade deficit was expected to be partially financed through foreign credits, for credit conditions continued to improve through 1924 as many European countries recognized the USSR



twice during the year, once in March 1925, and again for the "final" time in June 1925.<sup>9</sup> The import target was revised upward to 659 million rubles during the year while the export plan was lowered somewhat, and these revisions of the plan resulted in even larger planned balance of trade deficits. After the "final" revision in June, still another "above quota" plan for consumers' goods imports was adopted in August, 1925 for the purpose of "immediate satisfaction of peasant demand so as to insure the correct commodity turnover in the countryside" at the time of the harvest.<sup>10</sup> According to Krasin, these above-plan imports were to be financed almost entirely through foreign credits, part of which were granted by a German banking group in the form of a 50 million mark (about 24 million rubles) short-term credit to Gosbank, ostensibly to finance grain exports.<sup>11</sup>

---

de jure. See SUYB-28.

<sup>9</sup>It was confirmed for the final time on June 17, 1925. (Sobolev-26a, p. 67.) The March revision was probably made when it was decided to import grain in the spring of 1925. The June revision was probably made to adjust for the planned increase of manufactured consumers' goods imports to mitigate the growing goods famine.

<sup>10</sup>Sobolev-26a, p. 73.

<sup>11</sup>SUA, Vol. V, No. 13, p. 6, and Krasin-28, p. 222. These special import plans were not only for manufactured consumers' goods, but also for raw materials - cotton, wool, leather. NKVT could only pay for 10-15% of these special imports with cash (Krasin-28, p. 222). See Shenkman-31 (pp. 127-128) about German credits. The credits were for 4 to 5 months with deferred repayment dates in January and February. Sobolev-26b (p. 35) stated that these special plans increased the annual import plan by 200 million rubles and was the chief reason for the large trade deficit. Apparently, these special plans were partially incorporated into the revised import plan (with the exception of the August special plan). We know the import plan was revised upward at least once by 80 million rubles, and that this upward revision was exceeded by 70 million rubles. That actual imports were not even higher

Several improvements in the foreign trade planning methods were introduced during 1925. The practice of drafting quarterly plans was begun; these quarterly plans "took into account all the current world and domestic conditions, making proper corrections in the quarterly shares of the quotas which might be necessary due to market conditions."<sup>12</sup> A balance of payments plan (valuta plan) was also drawn up for 1924/25 in order to accurately estimate the pattern of receipts and expenditures of foreign exchange. The problems and methods of drawing a valuta plan were discussed in Shanin-26a, Engeev-27a, -27b, and -28a.

The export plan 1924/25. The projected 1924/25 export targets for selected commodities are supplied in Table VII.1. The value of grain product export (excluding oil seed, etc.) for 1924/25 were projected to be only about 14% of 1923/24 grain product exports (Table VII.1). Recall that grain product exports in 1923/24 accounted for 37% of total exports. If other exports could not be expanded to compensate for the cutback in grain, 1924/25 exports would have had to be projected at only 357 instead of 504 million rubles - and 357 million rubles of raw

---

was probably due to the problems in getting prompt delivery of goods for the August special plan (Krasin-28, p. 222). The 1925/26 plan was presented in July and confirmed on July 31, 1925, while still another "special plan" for imports for 1924/25 was adopted in August, 1925 after the adoption of the 1925/26 plan. These decisions were influenced by the very favorable projections for 1925/26 grain exports, the overfulfillment of the export plan in August and a worsening goods famine in the countryside which was hampering the grain procurement campaign (SUA, Vol. V, Nos. 1-2, pp. 77-83).

<sup>12</sup>Sobolev-26a, p. 67.

materials and semi-processed goods alone were imported in 1924/25. According to the export plan, however, the planned reduction in grain exports was to be offset by large increases in the export of flax, oil seed, eggs, butter, oil products, and most other important exports except timber and oil cake exports.

Import structure. No information has been located on the proposed structure of imports, although in light of the rapid increase in domestic cotton procurements it is likely that little or no increase in cotton imports was originally planned.<sup>13</sup> Most important, in light of subsequent events, was that no large-scale grain imports were projected in the original 1924/25 import plan.

#### Fulfillment of the 1924/25 foreign trade plan

The 1924/25 export plan was moderately overfulfilled in value (by 10%), and even exceeded 1923/24 levels despite the sharp drop in grain exports. The import plan for 1924/25 as originally drawn-up was excessively fulfilled by a large margin (25%) chiefly because of the large unforeseen imports of grain and flour in the spring of 1925.<sup>14</sup> Even the (larger) final revised import plan was exceeded by about 10%. As a result the actual trade deficit was 164.6 million rubles or about twice

---

<sup>13</sup>Kutusov-28, p. 44.

<sup>14</sup>Because of the foreign exchange shortage, we describe actual exports about planned exports as overfulfillment, and actual imports above planned imports as excessive fulfillment, because export targets under most circumstances were minimums and imports targets were maximums. Import targets could be modified by unexpected changes in the availability of credits.

the original planned deficit and 8% more than the revised planned deficit. This very large deficit was financed by a reduction in Soviet balances held in foreign banks (about 62 million rubles), the shipment of about 50 million rubles in gold and platinum, and an increase in foreign short-term credit of about 70 million rubles.<sup>15</sup> The balance of invisibles items on current account was also deficit (Table T-14).

Evaluating success in plan fulfillment quite clearly depends on which plan is being considered, and also the interrelationship between the increase in credits and the upward revision of the import plan. For example, Krasin, Commissar of Foreign Trade, felt that the 1924/25 foreign trade plan was successfully fulfilled, primarily because of NKVT's success in expanding total exports after a complete reversal in the grain export prospects.<sup>16</sup>

#### Exports and imports of grain in 1924/25

As expected, grain exports collapsed to negligible amounts from October to June 1924/25.<sup>17</sup> The value of grain product exports

---

<sup>15</sup>Table T-15. The credits received from Great Britain and Germany were interpreted by the Soviet government as an important break in the capitalist financial blockade and as a sign of increasing confidence of foreign capital in the USSR (Kutusov-28, pp. 53-54). The increased availability of credit caused considerable discussion within Soviet circles about the proper amount of credit to be used by the Soviet Union at any given moment. See Sobolev-26a, Sobolev-26b, Shanin-26a, and Krasin-28.

<sup>16</sup>Krasin-28, p. 160.

<sup>17</sup>The eventual overfulfillment of the low 1924/25 targets for grain product exports was achieved almost entirely with grain exported in July-September, 1925 from procurement made from the favorable 1925 harvest (Table T-10). Comparison of grain exports for the agricultural year (July 1-June 30) better illustrates the virtual

in 1924/25 (EY) was about 140 million rubles less than in 1923/24 (EY). The impact of the grain crop failure on the balance of trade, however, was much greater than indicated merely by the decline in the export earnings from grain. In early 1925, large-scale grain and flour imports (about 1/2 million m. t. ) were authorized in order to halt the rapid inflation of breadstuff prices in cities and grain deficit areas.<sup>18</sup> The wholesale price of wheat and rye had doubled between November 1924 and April 1925 so that by May 1925 the total wholesale price index peaked again at almost double the 1913 levels.<sup>19</sup> The expenditure of 112 million rubles - 15.5% of total imports - on grain imports at a time when famine was not a threat was indicative of the Soviet government's great concern over rising grain prices. Thus, the crop failure, ceteris paribus, reduced foreign exchange available for purchase of other imports by 233 million rubles as compared to 1923/24 or about 45% of total imports in 1923/24. The cutback in grain exports and these large grain imports in the spring were sufficient (about 2.7 million tons) to offset the decline in purchases by planned agencies (from 6.5 to 4.6 million metric tons), so that the supply by the planned agencies to the cities possibly

---

cessation of grain exports during 1924/25 (EY) as compared to 1923/24 (EY) and 1925/26 (EY) (Table T-8). The preliminary plan for exports of grain and related products was set at 72.2 million rubles, more than 60% of which was to consist of oil seeds and oil cake (Table VII. 1).

<sup>18</sup>Darr-58a, p. 193, from Plan. Khoz., No. 1, 1925, p. 47.

<sup>19</sup>Tables T-38, T-39, and T-31. Kutusov-28 (p. 40) asserted that the upward price movement was caused by the private traders.

increased (Table T-8).<sup>20</sup> Grain prices started to decline after May, 1925, but this decline could have been caused by either the favorable reports about the 1925 crop or by the increased supply made possible by grain imports (Tables T-38 - T-40).<sup>21</sup>

Compensating expansion of non-grain exports. The planned expansion of non-grain exports, intended to offset the decline in grain exports, was remarkably well achieved not only as to the aggregate levels of exports, but also for the individual items (Table VII. 1). The export of oil seed, flax, bristles, hemp, eggs, and "secondary exports" almost doubled.

Oil exports - destined to become a major item in Soviet exports as compared to pre-1914 Russian exports - doubled because of increased output and large stocks remaining from overproduction of "exportable

---

<sup>20</sup>The value of grain imports exceeded the value of grain exports and the quantity of grain product imports almost equalled the quantity of exports in 1924/25 (EY). Some grain was imported in late 1927/28 for similar reasons, but exports early in that year offset those imports. Excluding the war years, net imports of grain products by the USSR were not to occur again until the early 1960's despite more severe shortages and widespread famine.

<sup>21</sup>Kutusov-28, p. 40. The official price ceiling for State purchases of grain and agricultural raw materials was unenforceable as long as private traders competed freely with State procurement agencies and the market clearing price was above the price ceiling (as it was and still is today); thus the authorities by late 1925 began increasingly to restrict the freedom of the private trader and coordinated the State and "planned" procurement agencies to prevent competition (often by giving them a local monopsony). See Baykov-47, pp. 60-63. See Balaban-28 (pp. 210-214) for a description of grain procurements, exports, imports, and the price policy of "limiting prices" (price ceilings) in 1924/25. See Carr-58a (p. 192) for discussion of problems in enforcing this price ceiling for grain purchases.

petroleum products" in the previous year.<sup>22</sup> Oil exports already by 1924/25 exceeded 1913 oil exports.<sup>23</sup>

Ever since nationalization in 1920, despite apparent excess capacity at times, considerable resources were devoted to restoring and expanding the oil industry largely for the purpose of export.<sup>24</sup> The development of oil exports had several advantages over the development of agricultural and other industrial exports. These advantages included growing world demand, low wage expenditures relative to export value (thereby reducing the expansionary effect of exports on consumers' demand) and close State control of production and allocation of output between domestic and foreign markets. Oil product exports were initially very profitable at the beginning of NEP and insofar as the exchange rate was overvalued in 1925, the profitability of expanding the Soviet oil industry was understated. Investment in the oil industry during NEP, however, was largely undertaken because of its inherent ease of rapidly expanding exports from domestic production - (once a distribution network was established) - rather than "profitability" per se.

---

<sup>22</sup>SUA, Vol. V, No. 1-2, pp. 6-7 and No. 4, pp. 22-23.

<sup>23</sup>The oil blockade by major international oil companies was gradually being ended during 1925 as major oil companies began to buy cheap Soviet oil products for sale through the companies' distribution network. This made the expansion of Soviet oil product exports dependent on the demand of these major companies, so that Soviet exports of oil products were less than the NKVT wanted in 1923-25. Fischer-26, pp. 109-113 and Krasin-29, p. 174.

<sup>24</sup>SUYB-25, pp. 107-110. See Chapter XII, pp. 495 ff.

Only timber and butter failed to show large gains and the export plans for these latter two were underfulled by 3% and 15%. The increase in the value of 1924/25 exports including grain exports was 7.9%; the increase excluding grain product exports was 53% (Table T-2).

Price policy, world prices, and "exportable surplus"

The domestic demand for the traditional export goods increased sharply in 1924/25 because of growing urban demand for better food-stuffs (butter, eggs) and growing demand for industrial materials (flax, hemp, leather, wool).<sup>25</sup> The combination of increased demand and higher grain prices caused a rise in prices for several major agricultural products - especially flax, eggs, and butter and also furs - and there arose a conflict between NKVT and other purchasers over the policy of "limiting prices" or "procurement price ceilings" which were to be observed by state purchasing agencies.<sup>26</sup> For example, there was disagreement between the domestic linen industry and the NKVT about the price of flax because of the large margin between domestic prices and foreign prices; they also fought over the export of the "flax surplus" and the export quota was eventually lowered in order to divert flax fiber to domestic users.<sup>27</sup> On the other hand, even though the increased

---

<sup>25</sup>Kutusov-28, p. 41.

<sup>26</sup>Balaban-28, p. 212. Exports of oil seed and secondary grains in 1924/25 which were very profitable at the current foreign and domestic prices. Exports of the major grains, however, were extremely unprofitable in the spring of 1925 (Tables T-38 and T-39) if marketing costs are considered (Table T-43).

<sup>27</sup>Krasin-28, p. 174.



prices of butter and eggs rendered exports "commercially unprofitable," Kutusov-28 stated that the exports of eggs and butter would have been increased if more could have been procured by state trading agencies.<sup>28</sup>

Such commercial losses for some exports concerned some persons in NKVT, but the importance of "export profitability" in the adoption of a policy of "price limits" for state procurement agencies in 1924/25 has not been determined.<sup>29</sup> The need to earn foreign exchange, however, already began to lead to the policy of "forcing exports" despite commercial losses which occurred at the stabilized (parity) exchange rates.<sup>30</sup> These losses were often "paper losses" which disappeared when considered within the context of a combined purchase-export-import-sale operation, such as occurred in the trading agencies, Gostorg and Centrosoiuz.<sup>31</sup>

---

<sup>28</sup>According to Kutusov-28 (p. 42), low prices retarded the output of eggs by the peasants. On the other hand, the egg export plan was exceeded (Table VII.1). The price of eggs rose 50% at the beginning of the season and egg exports were unprofitable. This "unfavorable price relationship" retarded exports (Kaufman-26c, p. 13).

Krasin-28 (p. 174) noted that the competition between exports and rising urban demand caused the prices to rise sufficiently to make butter exports unprofitable. NKVT's adherence to price limits prevented them from successfully bidding against private traders who supplied the city (Kutusov-28, p. 42).

<sup>29</sup>Kutusov-28 (p. 42) wrote, "With the purpose of maintaining the stability of valuta [emphasis added]. . . the policy of limits was established."

<sup>30</sup>Bakov-47, p. 75.

<sup>31</sup>That is, the "commercial losses" incurred in exporting at the current overvalued exchange rate were often made up by the high profit margin (including tariff) on the role of imported goods at market-clearing prices.

Soviet concept of exportable surplus. The concept of a "surplus available for export" is frequently encountered in the literature on Soviet foreign trade during the NEP and the estimation of such surpluses often formed the basis for planning exports (as was discussed Chapter V).<sup>32</sup> For example, Kutusov asserted that only "surpluses" were exported in 1924/25 and were not exported at the expense of domestic consumption, (which rose for butter and eggs).<sup>33</sup> "Surplus," however, is an undefined term in this context, for, as a Soviet economist stated in 1927, "We export for the most part goods which also serve our own use. For this reason we have at our disposal in most cases only relative and not absolute surpluses."<sup>34</sup>

The Soviet process for planning the coming year's exports remained at a fairly rudimentary level - although modern developing economies still use basically the same method, albeit with some more sophisticated estimating procedures. Estimating the quantity of "exportable surplus" of a particular good for the coming year involves

---

<sup>32</sup>Supra, pp. 140 ff. . . Krasin-28 (p. 175) wrote that this estimate of export surpluses represented the maximum exports, and that the export plan was drawn up with considerations of the foreign market conditions, available capital, etc. EIKSSSR (p. 42) also stated ". . . the planning system adopted by the Soviet Union permits merely exports of surplus goods, i. e., of what remains after the fundamental need of the home trade has been met. Krasin-28 (p. 178) commented on the unsatisfied demand for butter on the domestic market in 1924/25.

<sup>33</sup>Kutusov-28, p. 40.

<sup>34</sup>Warshaver-27, p. 59.

basically projecting output, marketing (if agricultural good), and domestic demand. But lurking behind each of these projections for each good are important assumptions which, if not realistic, vitiate the entire projection. For example, estimating the "exportable surplus" of grain depends on numerous factors over which the planner for foreign trade (and even the planners for the entire economy) have either imperfect knowledge (ignorance) or are confronted with uncertainties. In projecting output of grain, the sown area could be estimated fairly well even in Russia and the yields, given various types of weather and current techniques are fairly predictable, but the great uncertainty is the actual weather pattern right up to the moment of the harvest. Predicting marketing from a given size crop becomes much more complicated and is discussed in Chapter XI. The foreign trade planner trying to estimate marketing of grain for a crop must know the distribution of the crop among various classes of peasants (which also affects rural demand and hence, net marketing), the response of the peasants to various sets of prices of grain relative to other agricultural products and manufactured goods, the real and money income, taxes, debts, rents, etc., of the peasants, the peasants' demand for feed, and reserves, and the actual prices of commodities beyond the control of the planner. Presuming the planner gauged "marketing" correctly, he must then project domestic demand for marketed grain, which involved estimating the demand (at various prices) for grain in grain-deficient areas, flax-growing areas, cotton-growing areas, urban areas, for industrial purposes, and for reserve stocks. This demand for marketed grain in turn

depended on the real disposable income of grain purchasers (which in turn depended on wages, size and price of non-grain crop, etc.) and the price of substitute foodstuffs and other goods, and size of population. The point is that the planner - especially in the Commissariat of Foreign Trade - estimating the exportable surplus of grain must make assumptions about important variables and behavioral patterns, about which he had little knowledge or control over.

Assuming he has been successful in projecting the "exportable surplus" (at a given set of prices, etc.), the planner then considered the "capacity of the world market" to absorb this surplus (at commercially profitable prices?). And if the world market demand was less than perfectly elastic, then the foreign trade monopoly might find it better to export only part of the surplus (see Chapter II) and to divert the rest to additional domestic uses (through lower domestic grain purchase and sale prices). If he thought, even with imperfect competition, that additional grain exports would be useful - either "commercially profitable" or necessary to finance additional imports - he had very few instruments by which to increase grain exports. The major method available at times to the NKVT was simply to buy more grain on the open market - but this usually bid up prices and conflicted with the official price ceilings. No other major policy instruments were made available to NKVT to increase exportable surpluses. Furthermore, persistent excess aggregate demand - as emerged during mid-NEP - tended to eliminate "exportable surpluses" in any operational sense when decisions had to be made to export or to divert "exportable surplus" to

domestic markets to stem rising prices and to mop up some excess demand (See Chapter II for discussion of exports and "goods famine"). In a free market "exportable surpluses" can be estimated only within the framework of assumed or desired prices.

The estimated "exportable surplus" was divided into quotas and assigned to individual firms, trade agencies, etc. (by the end of 1924/25). The fulfillment of this export quota was eventually made compulsory and underfulfillment resulted in a monetary fine.<sup>35</sup>

Starting as early as 1924/25, declining "commercial profitability" of export operations caused by rising domestic prices or falling foreign prices led Soviet firms to avoid export operations - especially if domestic sales were more profitable. For example, unfavorable foreign prices for Soviet timber was cited as the major factor retarding the expansion of Soviet timber exports in 1924/25.<sup>36</sup> Indeed, the foreign timber concession working for exports - Russnovegoles, Russhollanders, Russangloles, etc. - were granted special privileges for 1924/25 in order to permit them to continue exports at a profit.<sup>37</sup>

---

<sup>35</sup>EIKSSSR, p. 651, SUYB-25, p. 281.

<sup>36</sup>Kutusov-28, p. 43.

<sup>37</sup>EIKSSSR, p. 579. These privileges probably were a tax holiday on stumpage fees. Foreign timber concessions supplied about 25% of timber exports from the Northern ports.

The concessions policy was oriented primarily at developing exports, and the basis for attracting concessions was the possibility of profit which was to be earned through the sale of goods abroad at foreign prices converted at the (parity) exchange rate into rubles to cover their expenses in rubles. EIKSSSR (pp. 559-569) discusses the terms of concessions in 1925. See also Dohan-65 for a study of the role of concessions in the Soviet economy during NEP.

In summary, in 1924/25, some major exports at the parity exchange rate were becoming "commercially unprofitable" because of rising domestic prices or falling world prices and a conflict about the allocation to exports of procurements and output and also about price policy arose. This conflict between domestic interests and NKVT was a contributing factor in combining the Commissariat of Foreign Trade with the Commissariat of Domestic Trade in November 1925.<sup>38</sup>

#### Imports 1924/25

The value of imports increased more rapidly (65%) than the domestic economy because of 1) the continuing expansion of consumers' good output, 2) increased investment, (especially in agriculture), and 3) the government's policy decision to intervene on the domestic markets with the import of breadstuffs and other consumers' goods.

Producers' goods imports rose only 10.5% in value because fiber imports - the major component of this group - could be restricted to levels slightly above 1923/24 levels due to the expansion of domestic

---

<sup>38</sup>Kaufman-28d, pp. 30-31 and Krasin-28, pp. 121-137. Carr-58a (p. 451) explained: "On November 18, 1925, a decree was issued amalgamating the two trade commissariats into a single People's Commissariat of Foreign and Internal Trade (Narkomtorg). The official explanation of the change dwelt on the growing importance of foreign trade in the economy and on the need to coordinate the requirements of foreign with those of internal trade. Lezhava, a former People's Commissar for Internal Trade, added that it was a safeguard against "export deviation" -- a determination to export at all costs regardless of the needs of the community." (Lezhava's statement appeared in Ekon. Zhizn, November 21, 23, 1925).

raw fiber output in 1924.<sup>39</sup> Other imports for light industry - dyes, hides, paper, rubber, etc. - rose much more. Imports of agricultural producers' goods expanded faster than all other imports and supplied about one-third of the total agricultural machinery and 90% of the tractors sold in 1924/25 (Table T-22). Industrial equipment imports were still relatively unimportant in total imports and imports of transport equipment were cut sharply.

"Imported goods intervention" in 1924/25. Consumers goods imports (Soviet definition) more than tripled in 1924/25 and dominated import policy discussions: the share of consumers goods imports (Soviet definition) equalled one-third of total imports - an all time high during 1923/24-1938. This increase was largely the result of the massive increase in the import of foodstuffs (particularly grain, sugar, and herring) for purposes of price stabilization of the foodstuffs market in the spring of 1925.<sup>40</sup> Bukharin was to advocate a similar policy in 1928 - but in 1928 such a suggestion would be held up to ridicule by Stalin.<sup>41</sup>

Imports of manufactured consumers' goods - especially cloth, tin wares, and instruments - also increased significantly (70%), but the full impact of the August, 1925, decision to implement large-scale

---

<sup>39</sup>The value of fiber imports fell slightly (Table T-5 and T-6). By the late summer, however, textile output was being retarded by the lack of raw materials and cotton imports were part of the "special plan" imports undertaken in the summer of 1925 (Krasin-28, p. 222). Imports of cotton and wool were 43% of total imports in 1923/24 and 25% in 1924/25.

<sup>40</sup>See above, pp. 221 ff.

<sup>41</sup>See Chapter X, p. 404.

consumers' goods imports was to be felt only in the September-October quarter of the 1925/26 economic year. This "special plan" called for imports of cloth, leather, cotton, and wool fiber, domestic household goods, tableware, and instruments to be used by NKVT for the "planned transfer of scarce industrial goods" to agricultural areas during the 1925 harvest and procurement campaigns, because the worsening "goods famine" (tovarnye golod) threatened to disrupt the procurement campaign and export program.<sup>42</sup> The policy of "goods intervention" both in the urban grain markets in the spring, and in rural retail markets for manufactured goods in the autumn was costly in terms of foreign reserves and committed near-term exports to pay off expensive short-term foreign debts.

Unless the policy of "goods intervention" led to an expansion of exports requiring a smaller increment in total purchasing power than the increment in the sales value of the imported goods made possible by these added exports - and we explained why this might not be the result in Chapter II - expanded imports of foodstuffs and manufactured consumer goods as a major solution to the "goods famine" was not feasible in the

---

<sup>42</sup>Krasin-28, p. 222; Kutusov-28, p. 44; Baykov-47, p. 63; EIKSSSR-26, p. 49. In 1925 these imports made only an insignificant contribution to the total supply of cotton cloth (about 1% Table T-21 ).



long-run.<sup>43</sup> Without additional exports the USSR could not continue this policy without cutting back some other types of imports, or increasing its foreign debt. Imports, however, destined directly or indirectly for the consumer and agricultural producer's goods equalled 81% of total imports in 1924/25, so that there was only a small margin for the reduction of non-consumers' goods oriented imports, namely machinery and selected raw materials for heavy industry which could be reduced

Economic policy, price stability and  
foreign trade in 1924/25

Orthodox economics dominated foreign trade policy in 1924/25 as Soviet authorities tried to preserve price stability.<sup>45</sup> The task of price stability was complicated by a bad harvest in 1924, and a growing "goods famine" in the country.<sup>46</sup> Normally a bad grain harvest would result in higher grain prices (barring any offsetting grain imports) and could possibly raise the peasants' total money income (assuming inelastic demand curve for grain and an upward shift in the supply curve) which could further aggravate the "goods famine."<sup>47</sup> Higher grain prices

---

<sup>43</sup>See above, pp. 64. The cost and stability of the credit flow to the USSR were too uncertain to rely on, and foreign reserves were too small to permit continual depletion.

<sup>44</sup>Tables T-7 and T-18. Agricultural producers' goods import also helped to absorb purchasing power in the countryside and helped convert savings, which might otherwise be held as grain, into investment goods.

<sup>45</sup>Carr-58a, p. 456 ff.

<sup>46</sup>Arnold-36, p. 242.

<sup>47</sup>If the workers' money incomes remain constant, and they have an absolutely inelastic demand for grain products, then expenditures

would raise the cost of living in the city and increase the cost of agricultural materials to industry.<sup>48</sup> Higher living costs would cause demands for higher money wages by the workers, for wages were tied to the purchasing power of the ruble. As Rykov reported to the Sixth Trade Union Congress in November 1924:

An unlimited increase in grain prices would mean the collapse of our budget, since it would entail an increase in wages and an increase in the prices of manufactured goods and the breakdown of our whole price policy and of the struggle with the "scissors."<sup>49</sup>

Higher wages meant higher costs and this would reduce profits (and funds for investment and taxes) or result in higher prices for industrial goods. But this in turn reopened the "scissors" against the peasant and might result in reduced offering of grain (assuming an elastic demand curve for manufactured goods by the grain

---

on grain products rise, increasing the peasants money income; whether or not the prices of the manufactured goods fall - is not certain. If the peasant saves part of his money income, and the worker reduces his expenditures on consumer goods by the amount he increases his expenditures on grain products, total demand for manufactured consumers' goods falls and their prices will probably fall. Rising grain prices and falling manufactured goods prices would be precisely the configuration of price changes which would increase the confidence of the peasant in the new currency.

<sup>48</sup>The inflationary impact of rising grain prices in Russia during the NEP was widespread, for rising living costs were quickly reflected in increased wages, and increased prices of inputs for light industry - such as cotton, flax, oil seed, etc., which were sensitive to the price of grain relative to the price of industrial crops. See Carr-58a, pp. 191-195.

<sup>49</sup>Cited by Carr-58a, p. 193, from Shestoi Sezd Professional'nykh Soiuzov SSSR (1925), p. 246.

<sup>50</sup>The cycle is perpetuated largely because of market imperfections in the wage-setting mechanism and other parts of the economy

Foreign trade policy in 1924/25 was deliberately aimed at stabilizing prices by ceasing grain exports and importing grain to attempt to keep grain price increases within reasonable limits in the early part of 1925. The decision to have special imports of consumers goods was to restrain price increases of manufactured goods in the countryside. The combined effect of flour, grain, and industrial goods imports was to help close the scissors at a lower general price level rather than at a higher price level. Soviet foreign trade policy in 1924/25 reflected the now conventional deflationary policy of running a large trade deficit which would reduce aggregate demand relative to aggregate supply. On the face of it, the foreign trade policy for 1924/25 - the "goods intervention" - seemed to be a victory for Ossinsky and Piatakov, but large imports of foodstuffs and consumers goods were not precisely what the Left had in mind. They were referring rather to the import of machinery and raw materials.

Foreign reserves and domestic monetary policy.<sup>51</sup> In the face of these inflationary pressures, the State Bank did attempt to restrict the expansion of credit and the chervonets ruble issue in circulation were reduced in February to June, but after June 1925 the currency supply expanded rapidly - even though Soviet holdings of

---

(especially budgetary and monetary policy).

<sup>51</sup>See Arnold-36, pp. 226 ff., and Carr-58, pp. 456-489 for discussion of financial and monetary policy during this period.

foreign reserves were declining after 1925.<sup>52</sup>

In general, currency issue expanded rapidly during 1924/25 despite the outflow of foreign reserve holdings during 1925 which seemed contrary to the "gold-exchange standard" monetary system the Commissariat of Finance and State Bank were trying to develop - i. e., 25% "firm cover of foreign reserves" for the State Bank note issue, and official support of ruble in terms of gold on domestic and foreign exchanges.<sup>53</sup> This expansion of currency issue in the face of declining foreign reserve was possible because the total foreign reserves - which could serve as firm cover (held by both the State Bank and the Commissariat of Finance) were far in excess of the legal requirements for the outstanding currency of the State Bank's Issue Department in the beginning of 1924/25.<sup>54</sup>

#### Foreign exchange rates and foreign reserves

The official exchange rate of the chervonets more or less matched the fluctuations on the free Moscow market during the initial months of the monetary reform, but by April 1924, the chervonets exchanges were quoted to (licensed) buyers and sellers at strictly parity

---

<sup>52</sup>EIKSSSR, p. 49; Arnold-36, p. 226; and Carr-58a, pp. 472-478. The traditional pattern of note issue in pre-1914 Russia was a contraction after the harvest in the winter month and an expansion during the late summer and autumn (Carr-58, p. 476).

<sup>53</sup>Carr-58a, pp. 476 and 479.

<sup>54</sup>On the 1st of October, 1924 foreign reserves assigned to the Issue Department of the State Bank were equal to 46% of outstanding chervonets currency (Kaufman-25a, p. 187).

rates (Table VIII. 3). The State Bank intervened through purchase and sale of gold and foreign currency on the free exchange market to peg those rates at the parity rate too. They succeeded in holding these free market rates at close to parity from April 1924 until January 1926 despite the large trade deficit during 1924/25.<sup>55</sup> Ten-ruble gold pieces were also quoted on the free market at par value in terms of chervonets rubles.<sup>56</sup>

During 1924/25 the chervonets began to be quoted on foreign exchanges, especially in the Far East where trade was more or less unlicensed (Harbin, Teheran, Constantinople) and in the Baltic States (Riga, Reval, Kovno Kaunas and Rome Table VIII. 4. The quoted rates fluctuated closely around parity, but this is not surprising, for the free import and export of chervonets notes was permitted until July 9, 1926, and thus arbitrage was possible between Moscow markets and the above foreign markets.<sup>57</sup>

<sup>55</sup>Table VIII. 3. See Carr-58a, pp. 479-482.

<sup>56</sup>Domestic demand for foreign currency was primarily for purposes of hoarding or smuggling over the Asian border - foreign trade operations were strictly licensed over the European border and licensed operations could purchase foreign currency at the quoted rates (and had to sell at quoted rates) (Carr-58a, p. 479).

<sup>57</sup>Aizenburg-62, p. 235. The rates cited by the League of Nations for chervonets in New York were most likely the official rates cited by correspondent banks (Chase Manhattan) of the State Bank which were the so-called "official rate" of the Funds Department of the Moscow Commodity Exchange. See Chapter VIII for abandonment of the Soviet attempt to establish a gold-based currency.

The shipment of precious metals presented an interesting picture during 1924/25. Gold was returned to the USSR during the first two quarters of 1924/25 as a result of the 1923/24 trade surplus and monetary reform, but even larger quantities were shipped out in the second half of the year 1924/25 as the trade deficit rose sharply in the April-June quarter of 1925 because of grain purchases.<sup>58</sup>

Net gold exports were roughly 42 million rubles in 1924/25 (Table T-16). Gold reserves fell only slightly during 1925 as domestic gold production furnished increasing amounts of gold to the State Bank (Table T-17).<sup>59</sup> In addition, large quantities of silver (30 million rubles) were imported both in bullion for use in minting the new silver coins and in the form of minted Soviet coinage from British firms (Table T-16).<sup>60</sup> Platinum exports rose (19 million rubles). The net export of all precious metals were only 24 million rubles despite the huge trade deficit of 164 million rubles - the balance was covered by credits and the use of cash reserves abroad (Table T-14). Total foreign reserves, however, probably declined about 100 million rubles or about 20% of total foreign reserves held at the end of 1923/24 (Tables T-16 and T-14).

---

<sup>58</sup>Appendix A, Technical Note 1, Table A.1b.

<sup>59</sup>See Appendix E, Table E.1 for estimate of gold output in 1925.

<sup>60</sup>Spasskii-62, p. 212.

Dependence of Soviet economy on foreign trade  
during NEP

Import-supply ratios and export-output ratios are a rough indication of the dependence of various sectors and industries of the economy on foreign trade.<sup>61</sup>

Rough estimates for the ratios of net exports to output (based on physical quantities) for selected major exports and export-oriented commodities during the NEP are presented in Table T-20. In 1924/25 we see that exports accounted for a significant portion of the output (or marketing) of oil seed and products, timber, eggs, flax, oil products, manganese ore, and asbestos, furs, and several other products - but in almost all cases, these export-output ratios were below pre-1914 levels. Several major pre-1914 Russian exports - sugar, cloth, and major grains - were conspicuously absent from the export list and, in fact, imports of sugar, cloth and wheat were greater than exports and made a significant contribution to the total domestic supply of these products in 1925/25 (20% for sugar).

The ratios of net imports to the total supply (output or procurements plus net imports) for selected commodities during NEP are presented in Table T-21. The dependence of light industry for imported materials in 1924/25 is the important conclusion here: cotton (57%), wool (53.1%), leather, tanning materials (70%), all non-ferrous metals (90-100%) except copper (10%), paper products (60%), rubber (100%).

---

<sup>61</sup>See above, Chapter III, pp. 137, n. 77.

Heavy industry was relatively independent from imported ferrous metals (with the exception of ferroalloys). This pattern is not surprising for it is very similar to the pre-1914 pattern (Table III.10). One major change by 1924/25 was that the USSR became a net exporter of coal (2.1% of total output) as compared to a large net importer before 1913 (18% of total supply).<sup>62</sup>

#### Soviet marketing policy abroad and terms of trade

Russia was a major supplier of several raw materials to Western Europe and the world - manganese ore, platinum, furs, timbers, oil, flax, eggs, butter, and grains. Foreign prices for most major Russian exports had risen substantially during and after World War I and in some cases, new producers had entered the industry or the world market was controlled by an international cartel. Soviet tactics in their attempt to re-enter foreign markets during the NEP varied from product to product. With respect to goods sold on organized commodity markets - eggs, butter, grains - the NKVT simply offered its "exportable surplus" or export quota for sale at the best possible price. Platinum, however, was marketed through a foreign syndicate.<sup>63</sup> Oil was sold initially to foreign oil companies (both independent and the major syndicates (Shell and Standard) and to foreign navies (French, British, Italian, and Greek). The Soviet Oil Syndicate willingly cut prices to expand sales to such buyers. By the end of 1924, the Soviet Oil Syndicate began to set

---

<sup>62</sup>Table T-20.

<sup>63</sup>ERSU, Vol. II, #13 (July 1, 1927) and SUA, Vol. VII, No. 4 (1928) p. 32.



up retail outlets in England (Russian Oil Products or R. O. P. ) and proceeded to sell oil products at substantial price cuts below the major oil companies in an aggressive effort to expand their market share held by their own distributors, and thereby freeing Soviet oil exports from the limited market offered by the major international oil companies.<sup>64</sup>

The Soviet policy with respect to flax prices was also interesting. Initially prices were cut sharply in order to enter the markets and to drive out the new entrants. Krasin in 1925 felt that foreign flax prices were still too high with respect to the purpose of stimulating sales, and that Soviet prices might profitably be cut. On the other hand, measures were taken in 1925 to enforce a "unified sales policy for Soviet flax abroad," i. e. , to exercise Soviet monopoly power by setting up a Central Flax Bureau in the NKVT which had to confirm the conditions of flax sale contracts made by various organizations having the right to sell flax abroad.<sup>65</sup>

Terms of trade. Since Soviet foreign trade data in current prices is available only from 1924/25, it has not been possible to calculate unit-value price indexes for imports and exports. However, comparing the terms of trade in 1913 and 1924/25 we found that the commodity terms of trade in 1924/25 were, if anything, slightly better than in 1913 (Table T-28).

---

<sup>64</sup>Fischer-26, p. 119. SUYB-25, p. 259.

<sup>65</sup>EIKSSSR, pp. 352/79-352/81. Flax exports were among the most profitable export products in 1923-25. Five agencies apparently competed with one another in 1925 to the detriment of realized prices (Krasin-28, p. 180). He asserted that the USSR by 1925 was in a position to lead their own price policy, i. e. to exercise monopoly power.

## CHAPTER VIII

THE YEAR OF MISCALCULATION 1925/26<sup>1</sup>

## CRISIS IN A GOOD YEAR

The year 1925/26 turned out to be the pivotal year in the Soviet attempt to restore foreign trade on the basis of NEP agriculture. Soviet foreign trade simply failed to develop at all as planned. This failure forced the Soviet leadership to reconsider the relationship between Soviet economic growth and the world economy, and to reconsider the entire process of the recovery of foreign trade and its method of operation within the NEP economy.

Factors influencing the foreign trade plan of 1925/26

Several factors strongly influenced the 1925/26 foreign trade plan including 1) Gosplan's optimism stemming from the successful stabilization of the currency, and the expansion of exports in 1924/25 despite a bad crop, 2) the expectation of an extremely favorable 1925 harvest, 3) a worsening "goods famine" (tovarnye golod) during 1925, and 4) rapidly increasing demand for materials and equipment for industry.<sup>2</sup>

---

<sup>1</sup>So described by N. Chernobaev in ENSOVIM (p. 20).

<sup>2</sup>Krasin-28, p. 159 and Carr-58, pp. 444-445.

The Commissariat of Finance also pressed energetically for a large increase of exports and for the "activization of the payments balance,"<sup>3</sup> because the previous year's deficit and the expansion of the chervonetz currency issue had sharply reduced "free reserves" available for further expansion of the money supply.<sup>4</sup>

Domestic price policy and world price levels. Domestic price policy and price levels projected by Gosplan were strongly influenced by the relationship between world prices and domestic prices and their influence on the expansion of exports (and the demand for imports). Because of the subsequent price policy measures during 1925/26 and their impact on agriculture, we quote at length from the "Control Figures for the Economy for 1925/26" about the influence of world prices on the economy.

The level of world prices may be considered another "limit" having independent and general significance. As long as our economy, by virtue of the circumstances which arose in the early years of the revolution, represented the purest example of "autarky," the system of dynamic equilibrium of our internal economic

---

<sup>3</sup>Sokolnikov, of the Commissariat of Finance, for example, continued to press for an active trade balance to replenish the depleted gold reserves even after it was clear that the whole 1925/26 export plan was overly ambitious (Carr-58, p. 445 citing G. Sokolnikov, Finansovaia Politika Revoliutsii, iii (1928), pp. 19, 41-42).

Sobolev-26 (pp. 67, 69-71) was emphatic about the necessity of creating a gold reserve, but largely by achieving an active trade balance rather than through foreign borrowing. Dzerzhinskii-26a (p. 14) argued that ". . . the prerequisite of a healthy development of the economy is the stability of our currency and - since the export of gold is a bad basis for this stability - as much as possible, an active trade balance. See Krasin-28, pp. 156-161.

<sup>4</sup>Gosplan-25 in Spulber-64, p. 396.

relationships was not appreciably influenced by the world market. At present, with export-import operations intensively expanding and amounting to a respectable figure of the order of two billion rubles on the prospective balance sheet for the coming year, the world market is far from being a matter of indifference to us and in our domestic price policy levels.

This consideration, in conjunction with domestic market sales conditions deriving from specific characteristics of the year ahead (large harvest, abatement of the goods famine given attainment of the expected rate of development for industry), has impelled the Commission to adopt a rather significantly lowered general index of commodity prices in its tentative formulations.<sup>5</sup>

Most Soviet economists still considered the relationship between domestic and foreign prices (at the current exchange rate) to be a criteria for export and import operations under normal circumstances and for most industries (except heavy industry). For example, Preobrazhensky, in his discussion of the "law of value" in price formation in the USSR during the mid-1920's also wrote:

The maximum barrier [for domestic prices] where export crops like flax and hemp, and import crops like cotton, soft wool . . . are involved, is the average price on the world market. There is no point in the state's buying, for example, cotton within the country at a price higher than the world market price, unless it is compelled to do so by the lack of import potential as a result of insufficiency of foreign exchange. In exactly the same way the state will avoid buying flax . . . for export at prices which, together with expenditure on transport and other overhead, will exceed the selling price on the European market.

. . . the limits of the domain of the state planning principle in price policy are set by the world market prices on the one hand, and on the other by the prices which bring one to the verge of cessation in the growing of a given crop.<sup>6</sup>

---

<sup>5</sup>Gosplan-25 in Spulber-64, pp. 397-398.

<sup>6</sup>Preobrazhensky-26, pp. 171-172.

The 1925/26 Foreign Trade Plans

The 1925/26 Export-Import Plan: 1st Variants<sup>7</sup>

The original foreign trade plan for 1925/26 was drawn up as part of Gosplan's "Control Figures for the National Economy for 1925/26" and suffered from (and contributed to) the great optimism pervading Gosplan in the summer of 1925. Gosplan's original control figures predicted exports of 1200 million rubles, or more than double 1924/25 exports. Imports were to be increased to 1010 million rubles, or almost 40% greater than 1924/25. A trade surplus of 190 million rubles was projected to replenish foreign reserves depleted by the 165 million ruble balance of trade deficit in 1924/25.

In July 1925 NKVT was only slightly less optimistic than Gosplan and submitted an export plan of 1105.2 million rubles, an import plan of 1009.7 million rubles and a projected trade surplus of only 95 million rubles. This preliminary variant of the foreign trade plan was confirmed by STO and Gosplan on July 31, 1926.<sup>8</sup> Output, investment and internal trade plans were drawn up on the basis of import quotas established within the limits of this confirmed import plan and NKVT immediately began to issue import licenses to the authorized economic agencies and firms, who then proceeded to produce on the basis of these original import

---

<sup>7</sup>All plan figures from Table T-1. Several articles were written about the 1925/26 foreign trade plan: Sobolev-26a, Sobolev-26b, Kaktyn-26a, EIKSSSR, p. 55ff, Ekon. Zhisn, September 1, 1926, Eventov-26a.

<sup>8</sup>EIKSSSR, p. 57, and Sobolev-26a, p. 72. Expected trends in domestic and world prices were not explicitly mentioned.

quotas. A foreign exchange plan (valuta plan) and quarterly foreign trade plans were also drawn up to guide Gosbank and the Commissariat of Finance in the receipt and disbursement of foreign exchange.<sup>9</sup>

Structure of the 1925/26 Foreign Trade Plan (1st variant). The success of the 1925/26 foreign trade plan depended largely on the government's success in procuring and exporting grain. Exports of grain and related products were projected at 500 million rubles and were to account for 400 of the 546 million ruble increase projected for exports (Table VIII. 1). Grain and related products would make up 45% of total exports planned for 1925/26 (Table VIII. 1).

The structure of the export plan in its 1st variant was again similar to the pre-1914 structure (Table T-4) -- a fact not missed by the critics of NKVT and Gosplan in later years. Since negligible grain imports were probably planned for 1925/26, the improved grain harvest would make an additional 500 million rubles of foreign exchange available for non-foodstuffs imports. Thus, the improvement in import capacity was even more favorable than suggested by the planned increase in imports of 250 million rubles, for the planned reduction in consumers' goods resulted from the elimination of grain imports (made possible by the good harvest) and concealed a planned increase in the imports of tea and manufactured consumer goods.

Increased exports of non-grain agricultural products accounted for about 70 million of the remaining 146 million ruble projected increase in exports. Increased industrial exports accounted for about

---

<sup>9</sup>Sobolev-26a, p. 76.

TABLE VIII. 1

USSR: FOREIGN TRADE AND FOREIGN TRADE PLAN 1925/26  
(ORIENTATION FIGURES, JULY 31, 1925)

(millions rubles at current prices)

Exports					
	Actual 1924/25	Plan 1925/26	Actual 1925/26	Percent Fulfillment	% change from 1924/25
Grain and related products	103	≈ 500	198	39.6	+92.2
Animal and poultry	94	> 150	97	64.6	+ 3.2
Fur and fish	81	> 70	82	117.1	+ 1.2
Other agricultural products	64	≈ 90	52	57.8	-18.8
Timber products	73	> 100	58	58.0	-20.5
Other (industrial) products	144	< 195	189	96.9	+31.3
Total Exports	559	1105	677	61.2	+21.1
Imports					
	Actual 1924/25	Plan 1925/26	Actual 1925/26	Percent Fulfillment	% change from 1924/25
Raw materials	244	363	273	75.2	+11.8
Semi-processed materials	113	173	146	84.3	+29.2
Industrial equipm't	50	116	84	65.6	+68.0
Electrical equipm't	—	12	—		
Transport equipm't	21	14	23	164.2	+ 9.5
Producer's goods for agriculture	42	103	59	57.2	+40.4
Consumer's goods	240	≈ 192	154	80.2	-35.9
Other imports and reserves	13	≈ 36	17	47.2	+30.7
Total Imports	724	1010	756	74.8	+ 4.4

Source: Notes to Table VIII.1, Appendix B, p. 767.

only 75 million rubles so that almost the entire burden of expanding exports rested with agriculture (Table VIII. 1).<sup>10</sup> The share of exports in agricultural marketing would increase from 7.1% in the poor harvest year 1924/25 (9.7% in 1923/24) to 15.3% in 1925/26<sup>11</sup> and about 40-45% of the increase in marketing was to be exported.<sup>12</sup>

The ambitious targets for exports were undoubtedly a response to the heavy demands for imports by industry and domestic trade and the "Control Figures for 1925/26" revealed the growing dependence of further growth of the economy on the successful expansion of foreign trade. In 1925/26 industrial output was expected to reach 93.5% of 1913 levels, while foreign trade turnover - even with this ambitious 1925/26 foreign

<sup>10</sup>According to Krasin-28 (pp. 156-159), the agricultural export plan was based on the assumption of a 25% increase in agricultural output (1913 prices) and a 28% increase in agricultural marketing (1913 prices), and 137% increase in agricultural exports (1925 prices).

<sup>11</sup>Krasin-28, p. 158.

<sup>12</sup>Based on coefficient of marketing of agricultural products, the share of agricultural goods exported, and gross agricultural output. Cited in Krasin-28, p. 156.

	Value of agric. output 1913 pr.	% of agric. output marketed	Marketing % of 1913 marketing	Agric. exports % average marketing	Agric. exports % 1913 agric. exports
1913	12.8	33.6	100.0	27.6	100.0
1922/23	8.2	30.1	57.4	4.2	8.7
1923/24	8.8	30.4	62.2	9.7	21.9
1924/25	9.1	31.2	66.0	7.1	17.0
Plan '25/26	11.4	31.8	84.3	15.3	46.7



trade plan - was expected to attain only 44% of pre-1914 exports.<sup>13</sup> In some industries such as the rubber, leather, and textile industries, shortages of imported raw materials (hides, tanning materials, rubber, wool) were the barriers to increased output.<sup>14</sup> Strong efforts were being made to increase cotton output - the largest item in Soviet imports - and no significant increase in cotton or wool imports was planned for 1925/26 because of the excellent cotton harvest projected for 1925.<sup>15</sup> Nevertheless, imports of raw and semi-processed materials were to be increased 50% and the production plans of the import-dependent industries were closely tied to the confirmed import plans. In turn, the domestic trade plan for the supply of manufactured goods to the countryside (especially to the grain surplus areas) to alleviate the deepening goods famine relied on both the timely fulfillment of domestic production plans and the implementation of the special import plans for manufactured consumer goods (cloth, tea, herring, spices and artisans instruments). Spending scarce foreign exchange on finished consumer goods when domestic industrial output was restricted by the lack of imported materials and equipment caused considerable debate among Soviet economists.<sup>16</sup>

---

<sup>13</sup>Krasin-28, p. 156. Not certain about territorial basis of comparison.

<sup>14</sup>Lack of capital equipment was cited as a limiting factor only for paper, starch, and molasses, and agricultural machinery industries. Market capacity was thought to be the limiting factor in the output of metal and tobacco industries. (Gosplan-25 in Spulber-64, p. 346).

<sup>15</sup>Krasin-28, p. 208.

<sup>16</sup>In general, those associated with the Right supported the policy of "goods intervention," but the Left was split. Preobrazhenskii-27a (in Spulber-64, pp. 156-157) opposed advancing funds for consumer goods imports from the general import fund. Smigla, however, supported the policy (Dobb-48, pp. 200-201).

Because of excess industrial capacity in early NEP, little industrial investment had been undertaken (Table T-50). But by the beginning of 1925/26, pressure for investment in industry grew as the inherited capital stock depreciated without replacement and output was approaching plant capacity in several industries. Investment projected for state industry was more than twice 1924/25 levels.<sup>17</sup> This increased investment program depended to some extent on the planned expansion of industrial machinery imports.<sup>18</sup>

In summary, the achievement of the plan targets established in the first set of Control Figures for 1925/26, the increases in output, the realization of investment plans, and the restoration of equilibrium in the rural markets for manufactured consumers' goods were thought to be dependent on the implementation of the original import plan adopted for 1925/26. The implementation of this import plan in turn depended on the realization of the export plan, which in turn depended largely on grain exports.

---

<sup>17</sup>See "Notes to Table T-50" for a discussion of sectoral division of the economy in Soviet statistics. Based on Rykov-26a (p. 11) which cited one billion rubles investment in state industry as the original investment target in 1925/26, and T-50 for actual investment in current prices of 481 million rubles in 1924/25.

<sup>18</sup>Projected industrial machinery imports were 156% greater than 1924/25 machinery imports (Table VIII. 2). Recall from Chapter III that the Russian economy relied more on imports to supply machinery to some industrial sectors (such as paper-making, chemical, metallurgical, and textile machinery) than others (simple metal-working machinery, electrical equipment).

Downward revision of the 1925/26  
foreign trade plan

The state procurement agencies encountered severe difficulties in purchasing the planned quantities of grain in August and September of 1925, and large foreign contracts made in anticipation of the large wheat exports were filled only at the cost of driving up domestic wheat prices in September (T-38).<sup>19</sup> Furthermore, foreign grain prices (and export prices in general) dipped sharply in late summer of 1925 (Tables T-38, T-39, T-40). By October, 1925, it was clear that the original export plan was utterly unrealistic and impossible to fulfill. Export receipts fell far short of the original quarterly export plan (and probably also of the lower revised export plan) for October-December, 1925.<sup>20</sup> As a consequence, a large balance of trade deficit was incurred in the first quarter of 1925/26 instead of the expected "normal" trade surplus that was to come from the surge of grain exports.<sup>21</sup> It was imperative that both the export plan and the import plan be revised downward to realistic levels if a catastrophic trade deficit was to be avoided.<sup>22</sup>

---

<sup>19</sup>The grain export plan for July-September, 1925 was poorly fulfilled. See below, p. 263, for discussion of this plan and poor plan fulfillment.

<sup>20</sup>Ekon. Zhisn February 24, 1927, noted that actual exports (181.6 million rubles) fell short of planned exports (207 million rubles) by 25.4 million rubles, for the September-December 1925/26. This quarterly plan referred most likely to a revised plan rather than the original plan, for exports were normally largest in the autumn quarter, so that the quarterly plan for the original plan was probably set at 250-300 million rubles.

<sup>21</sup>See Tables A.1b and A.1c. Deliveries of consumer goods ordered in August of 1925 swelled imports during this quarter.

<sup>22</sup>The difference between the value of actual exports and the

Revision of 1925/26 foreign trade plan. Reducing the overall import target required a reduction of the original import quotas, and since the original targets of import-dependent industries and the investment plan were based on these import quotas, reducing these quotas would also require reducing the original output, investment, and domestic trade plans. This complex task was begun in October 1925 by the "highest organs of the national economy" (presumably STO or VSNKh) and the "final" revision was completed only at the end of January 26 - after the 14th Party Congress in December.<sup>23</sup>

In the final revised plan for 1925/26, the export target was reduced 35% to 720 million rubles, and the import targets were reduced 32% to 685 million rubles; the trade surplus was set at a mere 35 million rubles (compared to the 190 million rubles surplus originally projected by Gosplan).<sup>24</sup> Cash payments for imports were projected at 550 million and the rest to be financed through short-term foreign credits. The difference between cash receipts and cash payments for imports was to pay for invisible trade items and to augment foreign reserves.<sup>25</sup>

---

original import plan in 1925/26 was 333 million rubles. To have incurred such a deficit would have endangered their ability to get credits abroad and to maintain the "legal" firm cover for the chervonetz issue. Soviet foreign reserves on January 1, 1926, were about 400 million rubles (Table T-17).

<sup>23</sup>Sobolev-26a, p. 73. An interim revision of the export plan to 800 million rubles had already been made by the end of November. See Carr-58a, p. 445, n. 4.

<sup>24</sup>Table T-1, Plan A 1925/26 and Plan C 1925/26.

<sup>25</sup>Sobolev-26a, p. 73. It should be noted that several temporary revisions were apparently made between October, 1925 and January, 1926, and possibly again after January. Sobolev-26b (p. 30) wrote in

By the beginning of the summer 1926, however, the supply of several industrial materials provided largely by imports were running low and by September 2, 1926 three "above-quota plans" had been adopted at the urging of VSNKh (54 million rubles, 73.5 million rubles, and 170 million rubles).<sup>26</sup> The above-quota plan for 170 million rubles was probably for the equipment imports to be financed by the medium-term 300 million mark credit (135 million rubles) which was guaranteed by the German government. This credit was negotiated during the spring and summer of 1926, and the equipment imports would extend over several years.<sup>27</sup>

VSNKh argued that these "above-quota" plans were necessary to take advantage of seasonal fluctuation in world prices for raw

November 1926 that the export plan for 1925/26 was 753 million rubles and the import plan was 685, which suggests that the export plan may have been revised upward in the July-September quarter as the new grain crop came in.

<sup>26</sup>Ekon. Zhizh September 1, 1926. Sobolev-26b (p. 35) stated that "above-estimate" plans for 1925/26 added "more than 130 million rubles" to the basic plan of 1925/26 which is much less than the 300 million rubles mentioned in the text. The first two plans alone came to about 130 million rubles. This difference probably arose because these above-estimate plans were to be carried out during both the end of the 1925/26 and during the 1926/27 economic years. Payment for these above-quota plans were to fall due largely in the early part of 1926/27 and a smaller part in 1927/28 and 1928/29.

<sup>27</sup>Some references to the "300 million mark" German credit are the following: Julius Lengyel, "Die Kreditaktion," SUA, Vol. V, No. 13 (1926), pp. 5-9; "Zur Abwicklung des Deutschen Garantiekredits," SUA, Vol. VII, No. 8/9 (1928), pp. 18-20; "Die Ausnutzung des Garantiekredits," SUA, Vol. V, No. 18 (1926), pp. 10-13.

materials ("plan for seasonal purchases"), and to import materials, whose supply had been exhausted; some industries would have been forced to shut down for part of the summer if additional imports were not made available.<sup>28</sup>

#### Fulfillment of the 1925/26 foreign trade plan

Despite favorable crops and continuing economic recovery the year 1925/26 was a crisis year for the Soviet economy in general and for foreign trade in particular. The sluggish growth of foreign trade and its adverse effect on the national economy bode ill for the restoration of foreign trade to a leading sector in economic growth of the USSR - and for the industrialization strategy of the Right.<sup>29</sup> Foreign trade grew much less than the original foreign trade plan (and the plans for other

---

<sup>28</sup>In addition to these "above-quota" plans, some small non-planned imports of buses, railway cars, rubber, and agricultural machinery were permitted.

Sobolev-26b, p. 35. Sobolev disapproved strongly of the "plan for seasonal" purchases on the ground that it was merely an excuse to raise the "import quotas of these industries and a break in the planning front." He interpreted the plan for emergency imports only slightly more favorably and suggested that the enterprise adjust production to the planned supply of imported raw materials, confirmed at the beginning of the year, rather than expending them rapidly at the beginning of the plan period and then requesting extra imports (Sobolev-26b, pp. 35-37). Sobolev ignored the fact that imports of raw materials were destined largely for the consumer goods sector during this period, and it would almost undoubtedly conserve foreign exchange to import raw materials rather than the finished product as was one in the fall of 1925. A large supply of consumer goods was most important just before and during the harvest season; cutting back output to levels of available (imported) raw materials could aggravate the goods famine and possibly reduce marketing and exports.

<sup>29</sup>Chapter II, pp. 74 ff.

sectors) had anticipated and a large unexpected trade deficit forced the Soviet government to continue exporting precious metals for the second year in a row and to accumulate more expensive short-term debt.

Exports in 1925/26 fell short of both the original export plan (61.2% fulfillment) and the lower revised export plan adopted in January, 1926 (94% fulfillment). Exports in current prices increased only 21% instead of the originally planned 100% increase but since export prices fell in 1925/26, fulfillment of the export plan in constant prices was somewhat better (Tables T-26 and T-29).

The failure of the exports forced NKT to restrict imports, so that actual imports in 1925/26 were only 75% of the original import plan. Imports exceeded the lower revised plan by 10.3%. The underfulfillment of the export plans and the excess fulfillment of the lower revised import plan resulted in a trade deficit of 80 million rubles instead of the original planned trade surplus of 195 million rubles, and a revised planned trade surplus of 35 million rubles.

Exports. Gross underfulfillment of the grain export plan dealt a devastating blow to the original export plan (exports of grain and related products were only 198 million rubles instead of the planned 500 million rubles). The poor performance in most other major export classes also aggravated the export crisis. Agricultural exports excluding grain and related products actually declined in value slightly instead of increasing by the planned 30%, while timber exports fell 20% in value instead of increasing the planned 37%. Only "other industrial exports" (which

included oil products, sugar, manganese ore) grew according to plan.<sup>30</sup>

Imports. Imports of all commodity groups (except foodstuffs) increased over 1924/25 levels (Tables VIII. 1 and T-5).<sup>31</sup> Actual imports in 1925/26 were nevertheless below the original planned import targets for most goods including raw materials (75% of plan), industrial equipment (65% of plan) and producer's goods for agriculture (57% of plan), semi-processed materials (84.3% of plan), and consumers' goods (80.2% of plan (Table VIII. 1). The excessive fulfillment of the lower revised import plan, however, suggests that the cutbacks in import targets made after October 1925 were even lower than those actually achieved. Implementing the decision to keep import at levels far below the original plan target was hindered by poor timing and control over the distribution of import licenses. For example, by the end of the second quarter, licenses had already been issued for 109% of the yearly import quota for agricultural producers' goods (presumably of the revised import plan), 94.1% for consumers' goods, 116.5% for motorcycles, 79.8% for equipment and 91% for raw materials.<sup>32</sup> Apparently import licenses for 1925/26 were

---

<sup>30</sup>Table VIII. 1. Exports of furs exceeded the plan in value because of a sharp price rise; quantity actually fell (Tables T-26 and T-29).

<sup>31</sup>Most raw materials were imported in larger quantities than in 1924/25 although the value of some imports fell because of price declines (Table T-27). Declines in cotton and wool prices were particularly large and had a significant affect on the import price index in 1925/26 because of the importance of cotton and wool in Soviet imports in this period (14.5% and 6.6% of 1924/25 and 15.6% and 5.5% of 1925/26 imports). The increase in raw material imports evaluated in 1925/26 prices was about 30%.

<sup>32</sup>Ekon. Zhizn, September 1, 1926.



already being issued during August-October 1925 on the basis of the original much higher orientation figures,<sup>33</sup> so that cutting back imports became quite difficult (especially if it required cancelling foreign orders or revising the production targets of import-dependent industries). The imports of consumer goods in excess of plan (113% for cloth, 109% for tea,<sup>34</sup> 136% for herring and 148% for shoe leather) also suggests inadequate control over the issuing of licenses.<sup>35</sup> Cutting imports back to the revised plan was hindered further by the adoption of above-quota plans for raw material imports, but this was a willful breach in the import plan made by VSNKh, which was unwilling to permit interruption of production for the lack of raw materials.<sup>36</sup>

---

<sup>33</sup>A. Potiaev in Vneshnaia Torgovlia, (January, 1926) cited in Kon-26, p. 128.

<sup>34</sup>The import quota for tea was cut from 24 million rubles to 19 million rubles. Actual imports were 22.1 million rubles in 1925/26 (ST, Vol. I, No. 11, p. 47).

<sup>35</sup>Ekon. Zhizn, September 1, 1926.

<sup>36</sup>Apparently, the "above quota plans" were not completely carried out during the economic year 1925/26, for imports exceeded the revised plan by 71 million rubles rather than the 130 (or 300) million rubles stipulated in the "above-quota plans." The lag in effecting delivery is the basic reason for this "underfulfillment" of these plans. Presumably the undelivered portion of these above-quota plans were incorporated in the 1926/27 plan.

Critical report of the worker-peasant inspectorate (NKRKI)<sup>37</sup>

According to a highly critical report by the NKRKI, the under-fulfillment of the (revised) foreign trade plan was due to faulty planning and poor administration by NKT (Commissariat of Trade).<sup>38</sup> NKT's alleged shortcomings included deficiencies in allocation of quotas among export organizations, the absence of a firm procurement plan, poor control of plan fulfillment by the separate organizations, and inadequate use of the world price cycle in the export of several grains. The losses and low profitability was ascribed to high marketing costs, high-cost foreign export credits, "uncoordinated" activities of export organizations on foreign markets, unskillful market maneuvering, and last, "unfavorable" relationships between domestic and foreign prices.<sup>39</sup>

NKRKI's report seemed to avoid the more salient causes of the export problems during 1925/26, namely the procurement and export problems caused by the goods famine, the official (low) procurement price policy, and the commercial losses resulting largely from a decline in world prices.<sup>40</sup> Furthermore, NKRKI's recommendations

<sup>37</sup>Ekon. Zhizn, September 1, 1926.

<sup>38</sup>Recall that the Commissariat of Foreign Trade (NKVT) and the Commissariat of Internal Trade were merged into the Commissariat of Trade (NKT) in November, 1925.

<sup>39</sup>Ekon. Zhizn, September 1, 1926. "Uncoordinated activities of export organizations" referred to competitive selling on the same market by different Soviet export agencies, for NKRKI recommended "measures to reduce unhealthy competition on foreign markets between separate organizations." That is, they recommended the use of whatever monopoly power they had in a given market.

<sup>40</sup>See below "Profitability of Exports."

(stricter control of plan fulfillment of export quotas by domestic agencies and measures to lower procurement prices and overhead costs) completely avoided the basic problems of the peasant's unwillingness to market at the prices desired by the government and an overvalued exchange rate.<sup>41</sup>

With respect to import operations, NKRKI criticized both the actual allocation of import quotas and the entire system for granting import licenses.<sup>42</sup> NKRKI recommended 1) to not permit overfulfillment of the import plan for consumers' goods at the expense of producer's goods (raw materials, and machinery), and 2) to "give to VSNKh the deciding right in questions of allocation of import quotas for producer's goods as regards the approval of the specific issue of licenses

---

<sup>41</sup>Ekon. Zhizn, September 1, 1926. The basic recommendations for improving exports were 1) to establish strict controls on the fulfillment of the plan by organizations, 2) to allocate specific areas the procurement of export goods among procurement agencies, 3) to review the procurement price policy to assure the profitability of exports, 4) to allocate specific quotas of the export plan to exporters, 5) to take measures to reduce unhealthy competition on foreign markets between various organizations, 6) to allocate areas of activities between trade representatives of different countries, 7) to refrain from the system of conferring monopoly rights to foreign firms for the sale of own export goods, and 8) to export basic goods only on the basis of firm contracts. NKRKI recommended the exploitation of the monopoly position of the state on both sides of the market - as a monopolist in the sale of exports abroad, and as a monopsonist in the purchases of goods from the peasants.

<sup>42</sup>"The allocation of quotas by organizations as well as the system for giving out licenses was unsatisfactory. A dispersion of licenses and a lack of coordination led to unhealthy competition, high overhead expenses for imported goods, inadequate efficiency in the purchase of small batches." (Ekon. Zhizn, September 1, 1926).

and to the allocation of quotas among economic organizations, " i. e. , to transfer the right to issue licenses from NKT to a higher economic body so that differences among various ministries and syndicates would be resolved at the highest level. <sup>43</sup>

Breakdown of the 1925/26 export campaign: its causes

Exports failed to grow as expected because of four interrelated factors: 1) fundamentally inaccurate projections about the output of export goods (especially for grain), 2) a decline in world prices for major export goods, 3) difficulties in procuring agricultural products caused by the government's purchasing and pricing policies (particularly for major export goods whose prices were lowered to maintain their export profitability), and by the "goods famine" in rural areas, and 4) increases in domestic demand and prices which diverted export goods to domestic markets under the NEP system of markets, private traders, and free contract by State enterprises.

This government's inability to fulfill its procurement and export plans under the NEP market system led to major changes in both export policy and the government's attitude toward the organization and operation of the markets for various goods (especially with respect

---

<sup>43</sup> NKRRKI failed to point out that the "above-quota plans" adopted on the initiative of VSNKh at the end of the third quarter aggravated the import deficit.

Other criticisms and recommendations by the NKRRKI included "schematic" foreign exchange plans and inadequate control of the deposit and accounting of foreign exchange, inefficiency in administration of the tariff system and the need to carefully calculate the cost of credits so as to avoid using very high cost credits -- credit costs were apparently as high as "40, 50, 100% per year" (Ekon. Zhizn., September 1, 1926).

to the role of the private trader). For this reason we discuss in considerable detail the development of exports in 1925/26.

Grain exports in 1925/26: plan and failure<sup>44</sup>

Plan and inaccurate assumptions. The original plan for exports of grain and related products in the 1925/26 (EY) was based on the export of roughly 6.0 - 6.4 million m. t. of grain and related products (about 500 million rubles).<sup>45</sup>

The ambitiousness of the projected recovery of grain exports for 1925/26 is best seen by comparing the 1925/26 grain export plan to grain exports before 1914 and during 1923/24 and 1924/25 (Table T-11).

<sup>44</sup>Chapter XI analyzes the causes of the grain marketing problem during the NEP.

<sup>45</sup>Sobolev-26a, p. 72. See Technical Note 6 in Appendix A for a definition of grain and related products. My estimate for the planned quantity of grain exports based on the planned export of grain products for the agricultural year of 1925/26 from Balaban-28 (p. 216). Rykov-26 (p. 8) also cited an export plan figure for the agricultural year of 6.2 million tons. The agricultural year ran from July 1 to June 30 and the economic year ran from October 1 to September 30. Thus, the use of the agricultural year export plan as a basis for estimating the economic year export plan assumed that the July-September quarterly export plan for 1925 for the agricultural year was identical to the July-September quarterly export plan for 1926 for the economic year. This assumption seems to be conservative. Oilseed and oil-cake export plan was assumed to be identical to actual 1925/26 (EY) exports, thereby giving us a rough estimate of the planned volume of grain exports.

Carr-58 (p. 291) cited an "early grain export plan" of 5.7 - 6.0 million m.t. from several sources including: Na Agrarnom Fronte, No. 7-8 (1925), p. 52; Plan. Khoz. No. 9 (1925), pp. 5-9, and No. 10 (1925), pp. 47-48 and was repeated in a speech by Kameney as late as September 4, 1925 (Pravda, September 17, 18, 1925). Carr does not specify if the export plan was for grain products alone or for grain and related products, and for the economic year or agricultural year.

The planned quantity was about one-half of the average annual grain exports from Russia during 1909-1913 and more than double the exports of grain and related products in the best NEP years 1923/24. Net grain exports were negligible during 1924/25.<sup>46</sup> This optimistic grain export plan assumed the following. The harvest of grain products was forecast at 75.5 million m. t., only 4.5 - 6.0 million m. t. below the average harvest in the same territory during 1909-1913, and 47% larger than the 1924 harvest of 51.4 million tons.<sup>47</sup> Expected per capita output would be only 92% of 1913 per capita output.<sup>48</sup> The procurement for planned agencies for 1925/26 (AY) was projected at 12.8 million m. t. of grain products of which 6.2 million m. t. were to be exported.<sup>49</sup> In comparison, purchases by planned agencies in 1924/25 (AY) were only 4.6 million m. t. (Table T-8). According to the export plan, grain product

---

<sup>46</sup>Exports of grain and related products in 1924/25 consisted about one-half oilseed and oilcake. Almost all the export of grain products in the economic year 1924/25 actually came from the initial procurements of the 1925 harvest during the July-September quarter (Table T-10).

<sup>47</sup>The actual harvest of grain products was estimated by Gosplan at 72.5 tons (Balaban-28, p. 214 and Table T-8). SUA, (Vol. V, No. 5, p. 10) noted that the harvest for 1925 was somewhat less than the estimates made in June and July. The amount of the overestimate of the 1925 harvest was on the order of 3.2 million tons.

Carr-58a (p. 291) cited an early estimate of the 1925 harvest of 65.5 - 68.8 million m. t. See sources in footnote 45 on page 263 above.

<sup>48</sup>Expected harvest of 75.5 million m. t. divided by population of 143.7 million on January 1, 1926 and compared with per capita output in 1913 (Table T-12).

<sup>49</sup>Rykov-26a, p. 8. "Planned agencies" refer to those agencies, which receive definite procurement targets from the central government. They were granted credits from the State Bank, were allocated definite areas of operation, and were assigned certain grain

exports would be 8.2% of the gross harvest in 1925/26 as compared to 11.8% of the gross harvests during 1909-13 (Table III. 5).

The "total marketing of grain products" to all buyers (state, cooperative and private) was probably projected at about 15-17 million m. t. in the original grain plan for 1925/26 (AY).<sup>50</sup> "Earlier estimates" of total (gross?) grain marketing in 1925/26 (EY or AY not defined) ran as high as 19.6 m. t.<sup>51</sup> In contrast, total marketing was 8.6 million

supply tasks. Furthermore, their purchase prices were more strictly controlled by the central government.

<sup>50</sup>The definition of "grain marketing" as used in Soviet literature of the period is imprecise (Karcz-67, p. 409 ff) for a number of reasons including 1) definition of "grain," 2) imprecise specification of agricultural year or economic year and 3) the problem of sale and repurchase by the rural population.

Three definitions of grain marketing are used in this study, gross grain marketing, total grain marketing and net grain marketing. Gross grain marketing refers to total sales by the rural population without any deduction for repurchases by the rural population. Net grain marketing refers to total sales by the rural population minus the purchases of grain by the rural population. The term "total grain marketing" is used in this study to refer to the term "marketing" as used by Balaban-28, and elsewhere in Soviet literature of the period; the term has no precise definition, but by comparing the figures for "total grain marketing" cited in Balaban-28 (p. 214) for 1925/26, and the figures for gross and net marketing cited by Karcz-67 (p. 408) for 1925/26, we see that the term "total marketing" must refer to some definition between gross and net marketing (unless the difference is explained entirely by the first two factors mentioned at the beginning of this note). Possibly "total grain marketing" does not include resale to the rural population in the immediate vicinity of the original purchase of the grain.

<sup>51</sup>Carr-58a (p. 291) cited an early estimate of total (gross?) grain marketing of 19.6 million m. t., of which Sokolnikov estimated that 13.1 - 14.7 million m. t. would be collected by the state. See sources in footnote 45 on page 263. Sokolnikov's estimate is from Sotsialisticheskoe Khoziaistvo, No. 4, 1925, p. 5.

Our figure for the preliminary estimate of total marketing is based on the assumption that the share of the private trader in grain purchases would decline in 1925/26 (AY), but that the quantity of grain products purchased by the private trader (and non-planned agencies)

m. t. in 1924/25 (AY) and 10 million m. t. (including tax-in-kind) in 1923/24 (AY) (Table T-8).

The projected "total marketing coefficient" (tovarnost' or total grain marketing as percentage of gross harvest) implied in the above data was about 20-22.5% of the gross grain product harvest; this was significantly higher than the "total marketing coefficient" in 1923/24 (15.2%) when marketing was stimulated by a tax-in-kind, and in 1924/25 (16.7%) when the crop failed.<sup>52</sup> The marketing plan for 1925/26 (AY) assumed high marginal-propensity-to-market grain (about 40% based on actual total marketing in 1923/24 and total marketing predicted for

would be the same as in 1924/25, i. e., about 3 to 4 million m. t. (Table T-8). The evidence that private traders would be allowed to continue to function in the grain markets in 1925/26 (AY) as they functioned in 1924/25 (AY) is that the effective measures to restrict the private trader's activity were taken hastily at the end of the first half of 1925/26 (AY) procurement campaign (See below, p. 268, n. 58).

<sup>52</sup>The projected "total marketing coefficient" for 1925/26 (AY) was, however, still considerably below the "average ratio of shipments of grain products to gross harvest of grain products" (27.9%) during 1909-13 (Table III. 5). This latter ratio is a rough approximation to the "total marketing coefficient."

Figures for 1923/24 and 1924/25 based on data in Table T-8. Balaban-28 (p. 214) presented total marketing coefficients differing from those cited in the text.

	<u>1923/24</u>	<u>1924/25</u>	<u>1925/26</u> (actual)
Harvest (millions m. t.)	58.2	53.0	72.4
Marketed Grain (millions m. t.)	10.0	8.7	12.2
Marketed Grain as (% of Harvest)	17.1%	16.4%	16.9%

The difference between Balaban's estimates and my estimates resulted from different figures for the harvests.



1925/26 (Table T-8). The marketing experience, however, during 1923/24 and 1924/25 did not support the planner's assumption of high marginal propensities to market--especially when considering the depletion of peasant's grain stocks from the poor 1924 harvest.

Failure of the grain export campaign 1925/26. Early August rains cut the crop estimates by about 3.7 million m.t. and according to Carr, this led to a hasty reduction in grain export targets from 5.7-6.0 to 3.8-4.3 million m.t.--still a respectable grain export program.<sup>53</sup>

The increasing difficulties in fulfilling procurement and export plans at the official procurement prices (which were at the time influenced by foreign prices) in the July-September quarter of 1925 led to a downward revision in the grain plan.<sup>54</sup> According to Rykov,

<sup>53</sup>Carr-58a, p. 291, citing Plan. Khoz. No. 10, 1925, p. 54, and No. 1, 1926, pp. 41-42.

<sup>54</sup>Sobolev-26a, p. 73. Dzershenzkii-26, p. 14. Rykov-26a, p. 8.

The grain procurement and export plans for July-September 1925 was underfulfilled. According to SUA (Vol. V, No. 12 [1926] pp. 77-88), the procurement plan for July-September 1925 was set at 2.7 million tons of all grains (983 thousand tons for exports, 1,785 thousand tons for domestic use). Wheat was to be about 42% of July-September exports, and rye only about 5%.

Only 720,000 tons were procured for export (73.3% of plan) but 1,884,000 tons were procured for domestic consumption (105% of plan). The overall procurement plan was 94% fulfilled. Four unfavorable trends appear during the July-September quarter. First, plans for domestic consumption were overfulfilled at the cost of the export plans; i.e., domestic demands were satisfied first, and in essence, exports were a residual. Second, the export procurement plan for wheat, the most profitable and highest priced export grain, lagged below plan, while barley, the cheapest grain on foreign markets, was procured in above plan quantities. This change in the composition of grain exports further depressed export earnings from grain. Third, domestic agricultural prices did not fall as much as expected, and began to rise sharply in the September-February period. Fourth, foreign market prices dipped sharply in the summer of 1925.

the procurement plan for planned agencies was reduced from 12.8 to 9.8 million m. t. and led to a reduction in grain export plan.<sup>55</sup>

Grain procurements and grain exports fell far short of all the plans described above. Exports of grain and related products were only 2.6 million m. t. in 1925/26 (EY) instead of the originally projected 6.0 - 6.5 million m. t. (and revised export program of 3.8 - 4.3 million m. t.) while the value of exports of grain and related products reached only 198 million rubles or 39.6% of the original plan for grain exports.<sup>56</sup> The ratio of exports to gross harvest for grain products fell to about 2.7% (instead of rising to planned 8.2%).<sup>57</sup>

Actual procurements by planned agencies during 1925/26 (AY) were 8.44 million m. t. or 86% of the lower revised plan (and 65% of the original plan). Even this smaller quantity of grain was obtained only by restricting the grain purchases of the private traders through prohibitive railroad rates and other restrictive measures adopted during the winter and spring of 1925/26.<sup>58</sup>

---

<sup>55</sup>Rykov-26a, p. 18. See Sobolev-26a, p. 73, and Dzerzhenski-26, p. 14.

<sup>56</sup>Table T-11. The grain export plan for the agricultural year 1925/26 (6.2 million m. t.) was only 32.7% fulfilled (2.03 million m. t.). If oilseed and oilcake are included, it was 42.7% fulfilled (Balaban-28, p. 216).

<sup>57</sup>Balaban-28, p. 216. In 1923/24 this ratio was about 4%.

<sup>58</sup>The Soviet government adopted strong restrictive measures against the private grain trader toward the end of the October-December quarter because competition from private traders was forcing prices above the official procurement price thereby capturing a larger part of the grain sales at the expense of plan realization of planned agencies. The differential between private grain purchase prices and official procurement purchases is shown in Table T-36; private purchase prices

The reduced purchases by the private traders were not offset by increased purchases by planned agencies.<sup>59</sup> Total marketing of grain increased only 3.6 million m. t. (to 12.2 million m. t. in 1925/26 (AY), instead of to the planned 15 - 17 million m. t.) Since the 1925 harvest was 21 million m. t. higher than 1924, the incremental marketing coefficient was only about 17% rather than the predicted 40%.

---

averaged between 14% to 25% higher than official procurement price in 1925/26.

The measures to restrict the private grain trade included the prohibition of state agencies from procuring through private traders, limitation on the milling of private grain in state and cooperative mills, increasing railway tariffs for private grain, effectively barring rain from city markets, etc., so that in the second half of the grain campaign, private shipments fell off to 20% of previous levels (Balaban-28, p. 214).

For further discussion of the measures against private grain traders, see Haensel-30 (pp. 68-69). See Timoshenko-32 (pp. 441-452) for a discussion of the gradual evolution of the grain monopoly during 1925-1928. The effect of these restrictions on the share of the private trader in the grain market is seen in the figures below.

Percentage of Total Shipments  
at Railroad Control Points

	<u>Non-planned State &amp; Co-op Agencies</u>	<u>Private Traders</u>	<u>Planned Agencies</u>
September 1925	18.4	22.7	58.9
October 1925	20.1	21.4	58.4
September 1926	12.3	6.5	81.2
October 1926	10.8	2.8	86.4

Source: SUA, Vol. V, No. 22 (1926), p. 18

<sup>59</sup>The reduction in private grain shipments (according to Balaban-28, p. 214) led to inadequate supplies in grain-deficit regions and a reduction of stocks. Balaban attributed this to inadequate supplies in grain-deficit regions and a reduction of stocks. Balaban attributed this to inadequate organization of the procurement agencies. He noted that demand was not "exhaustively satisfied" in 1925/26 because of the "general growth of city demand, unequal regional distribution of grain

The superficial reasons for the poor fulfillment of the grain export plan were clear. First, the domestic planned procurement agencies were simply unable to procure enough grain to supply both the urban and grain deficit areas, to meet their export commitments to Eksportkhlēb (who sold their grain on commission abroad) and, at the same time, observe the official grain price policy and maintain price stability in urban and grain deficit areas. Furthermore, although the spread between domestic and foreign grain prices increased after June 1925 (compared to the negligible spread during the spring of 1925) grain exports remained commercially unprofitable during most of 1925/26 and the domestic grain procurement agencies tended to ship to profitable domestic markets rather than to fulfill their export quotas.<sup>60</sup> Second, contrary to plan, the composition of the exported grain was weighted more with barley (a cheap grain) rather than wheat (the more

---

harvest, unfavorable weather in the autumn of 1925 [rain] which affected the timing of the harvest, and the preliminary planning assumptions estimating a record harvest, which resulted in an exaggerated demand by the procurement agencies -- all the above circumstances created conditions disrupting the normal relationship between supply and demand, creating a strained condition on the grain market. "

<sup>60</sup> Tables T-38 - T-40 and Table T-43 compare domestic and foreign grain prices. Average marketing costs per 100 kilogram of grain sold abroad in 1925/26 (AY) was 3.84 rubles (Table 1-43). The evidence of the unwillingness of domestic agencies is indirect -- namely, the criticism of the NKRRKI about poor control of fulfillment of export obligations plus the overfulfillment of the urban supply plan in the July-September quarter of 1925 (see text above and footnote 54 on

All grain exports were under the control of the grain export monopoly, Eksportkhlēb, which did not purchase directly from the peasant, but acted as a commission agent in the sale of grain shipped by the domestic planned agencies on the basis of their export quotas allocated to each agency (EIKSSSR, p. 135).

expensive grain) so that the export receipts were even less than expected. Third, world prices unexpectedly fell sharply during the late summer of 1925 just as Soviet grain exports were peaking.<sup>61</sup>

Breakdown of the grain procurement plan: its causes

The failure of grain marketing to recover to pre-1914 levels during the NEP is analyzed in Chapter XI. Here we focus only on the problems particular to the 1925/26 grain procurement campaign.

The explanations for the failure of the 1925/26 grain procurement campaign center on four reinforcing factors -- a smaller-than-predicted harvest, basic conceptual errors in estimating the peasants' on-farm demand for grain and the marketing coefficients, inept formulation and operation of the grain procurement plan and other economic policy variables influencing grain marketing, and last, the goods famine and unfavorable market prices for grain relative to other products.

The 1925 crop was roughly 4% less than predicted and furthermore it was delayed three weeks by bad weather, but this overestimation of the crop explained only a small part of the underfulfillment of the procurement and export plans (unless a marketing coefficient of 100% was assumed for increments in the crop).<sup>62</sup>

Sobolev, Dzerzhinski and others argued that basic conceptual errors were made in estimating the peasants' on-farm demand for grain

<sup>61</sup>Tables T-38 - T-40. Foreign prices of barley and rye fell quite markedly in the early summer of 1925 and failed to recover during 1925/26 (AY).

<sup>62</sup>Table T-8 and SUA, Vol. V, No. 5, p. 10. The actual crop was 72.5 million m. t. instead of 75.5 million m. t.

and in estimating their propensity to market grain because the planners relied excessively on pre-1914 norms.<sup>63</sup> Why were pre-1914 norms no longer applicable to the peasant during NEP? Some economists argued that the observed decline in the average propensity to market was caused by the high income-elasticity of demand for grain and other agricultural products by the poorer peasants who benefited from the redistribution of the landlords' estates and rich peasants' holdings -- an argument later used by Stalin to defend his program for collectivization.<sup>64</sup> Others pointed out that the Soviet peasant of 1925 had fewer monetary obligations than his pre-1914 counterpart -- and it was argued that these monetary obligations forced the Russian peasant to market his grain each fall regardless of price.<sup>65</sup> As Preobrazhenskii noted in his book in 1926:

. . . we must also take into account the very important fact that our peasants, as a result of the sharp reduction in their tax burden, as compared with before the war, and also as a result of the abolition of the payment of rent for landlords' land, are faced to a much smaller extent with the need to make forced sales than was the case before the war.<sup>66</sup>

Several other non-price factors probably affected the marketing behavior of the Russian peasant -- lower per capita output in both all of

<sup>63</sup>Sobolev-26b, p. 28; Dzerzhinskii-26a, p. 14, Balaban-28a, p. 218.

<sup>64</sup>Sobolev-26b, p. 28. This argument is carefully analyzed in Chapter XI.

<sup>65</sup>Dzerzhinskii-26a (p. 12) and Kaktyn-26a (p. 8) cited this as an important factor for the marketing problems in 1925/26. In fact, the lower the price of grain, the greater the quantity the peasant had to market to meet his obligations.

<sup>66</sup>Preobrazhensky-26, p. 180. His footnote to this passage refers to his article on the goods famine in Pravda, 15 December, 1925.

Russia and in the grain surplus region alone, the demand for live-stock feed, and existing stocks of grain. In 1925/26 all these factors tended to reduce marketings and are analyzed in Chapter XI.

#### The "Scissors" and "Goods Famine"

The most widely discussed explanation for the grain procurement problems in the fall and winter of 1925/26 was the "deepening goods famine" and the resulting deterioration of grain procurement prices paid to the peasants by planned agencies relative to the prices paid by the peasant for manufactured goods ("opening of the scissors").<sup>67</sup>

The terms of trade of agricultural goods for manufactured consumer goods are presented in Table T-35. The terms of trade for agriculture were computed using retail price indexes of manufactured goods sold by private traders and using several price indices for agricultural goods (retail, wholesale, agricultural procurement prices, and grain procurement prices). The relevant measurement (from the peasants' viewpoint) of the change in terms of trade for peasant agriculture during NEP would be based on the relationship between the retail price index of manufactures (both consumer and investment goods) sold in the village to the index of the prices received by the peasant for his produce. Available data, however, forced us to use the retail price index of manufactured consumers' goods (sold in cities?) and the agricultural procurement price index using fixed weights for 1924-1926 and changing

---

<sup>67</sup>The "goods famine" in the countryside was pinpointed at being a major factor in the procurement difficulties. Cf, Rykov-26a, pp. 9-10; Balaban-28, p. 215; Dzerzhinskii-26a, p. 14; Kutusov-28, p. 53; Geller-26a, pp. 33, 37; Kaktyn-26a, p. 8, etc.

weights for the years 1926-1928 (Table T-35).

Table T-35 indeed reveals that 1) the terms-of-trade for grain were declining rapidly during the summer and early fall of 1925 and were considerably below 1913 parity levels. This decline was caused by both falling grain prices and a rapid increase in the prices of manufactured goods.

#### Grain prices and government policy

The policy of fixed grain prices (price ceilings) attempted in 1924 was abandoned for a policy of "directive prices," which were initially thought to be needed as price supports to prevent an excessive decline in grain prices. As late as September, 1925, Kamenev was still able to state:

The task of price regulation in 1925. . . has consisted in not allowing the price of grain to fall below a given level. In connection with this, the policy of so-called directive prices has been adopted in 1925, i. e., a system of mass state purchasing, which should guarantee the peasantry a definite equitable price consistent with its interests and with the interests of the consumer of grain -- of the worker and of the peasant who buys grain. If we see that prices are beginning to fall, we must increase the demand on the spot and thus raise prices. If prices soar too high, we must call off purchasers.<sup>68</sup>

Domestic grain prices were expected to drop sharply as the good crop was harvested and brought to market. The authorities were worried that the terms of trade of grain relative to other goods might deteriorate so fast and so much as to result in a grain marketing crisis and a

---

<sup>68</sup>Kamenev's speech of September 4 was published in Pravda, September 17, 18, 1925, and was cited in Carr-58, p. 292. Carr-58 (p. 293) discussed the setting of directive prices for grain.



reduction in winter sowing.<sup>69</sup> Thus, plans were made and credits were granted for the planned agencies to enter the grain market immediately at the beginning of the harvest (July and August) to prevent an excessive decline in grain prices and to maintain order in the grain market. The quotas and timing of the purchase were based on the higher preliminary crop estimates made before the rains. Some decline in grain prices, of course, was necessary in order for grain exports to be "commercially profitable" but this decline in grain prices was to be offset by the projected decline in the prices of manufactured goods, and in an "abatement of the 'goods famine' through increased domestic output of consumer goods."<sup>70</sup> Memories of the "scissors crisis of 1923" dominated the Party leadership's thoughts because it seemed to demonstrate the high elasticity of the Russian peasant's willingness to produce and market grain as a function of the price of grain relative to manufactured consumers' goods -- thus, they became almost preoccupied with the policy goal of reducing retail prices of manufactured consumer goods in 1925/26.<sup>71</sup>

Grain prices did begin to fall rapidly in the mid-summer of 1925 as the peasants and private traders became aware of the good size

---

<sup>69</sup>Balaban-28, pp. 214-215. See Carr-58 (p. 292) for discussion of the Party leadership's fear of an excessive fall in grain prices.

<sup>70</sup>Gosplan-25 in Spulber-64, p. 378. Recall from above that Gosplan was attempting to lower the general price level of the economy, but it had to be done without an excessive "opening of the scissors."

<sup>71</sup>See above, pp. 245-246.

of the crop, so that grain procurement prices at the beginning of the harvest (July and August) were 25 to 50% below their April-May highs. A similar decline in the purchasing power of grain occurred for the retail prices of manufactured goods changed very little from April-May to July and August (Tables T-35, T-38, T-39, T-40). The liberally financed planned agencies (and private traders) accelerated grain purchases in July and August. This purchasing policy combined with inept fiscal policy in the fall of 1925 turned out to be one of the major economic policy mistakes during NEP.

The rush to purchase grain by the planned agencies so early in the harvest slowed and then reversed the fall in domestic grain prices (especially of wheat) at levels significantly above the prices in the autumn of 1924 (when the crop was much worse). Wheat prices started rising in September and rye started to rise in the wholesale market in October, so that by the end of September, it was clear that the planned agencies' procurement plans were not being fulfilled at the official directive prices -- even when "directive prices" were raised.<sup>72</sup> The problem of the planned agencies and the government in 1925/26 turned out to be a problem of reducing grain prices rather than supporting grain prices.

---

<sup>72</sup>Tables T-38 - T-40, and Carr-58a, p. 293 ff.

Grain purchases, aggregate demand, and the goods famine

Not only did the large early purchases of grain reverse the decline in grain prices, but they also immediately aggravated the "goods famine."

The peasants' sale of larger quantities of grain and other agricultural products early in the harvest season at prices significantly above the previous autumn's prices (combined with a reduction in the agricultural tax) increased the purchasing power in the hands of the peasantry much more rapidly than the flow of manufactured goods to rural markets. This was cited as the major cause of the goods famine in the second half of 1925.<sup>73</sup>

The purchasing power of grain and other agricultural produce (in terms of manufactured goods) was still higher in the late-summer and autumn of 1925 than in 1924 so that the peasants both paid their (lower) tax bills and bought more manufactured consumer products at a lower price in terms of grain than in either 1923/24 or in 1924/25 (Table T-35). Urban income was also being increased by the large wage increases granted during July-September 1925 and by the increase

---

<sup>73</sup>Dzerzhinskii-26a (p. 12) noted that according to the control figures by Gosplan, the peasants sold 200 million rubles in grain, 36 million rubles in cotton, and 45 million rubles in flax in the July 1 - January 1 period of 1924/25 and paid 238 million rubles in tax during the same period leaving 43 million rubles free for purchasing. In 1925/26, however, the peasant sold during July 1 - January 1 period 415 million rubles of grain, 83 million rubles of cotton, and 130 million rubles of flax, and paid a lower tax of 118 million rubles, leaving the peasant with 510 million rubles. This was a major cause of the goods famine, according to Dzerzhinski-26a (p. 12).

of employment.<sup>74</sup> The retail prices of manufactured goods began to move upward - 1% in July, 2.7% in August, 5.4% in September, 2.5% in October, 2.4% in November - instead of declining as predicted by Gosplan (Table T-32).<sup>75</sup> Contrary to Gosplan's predictions, by September both the aggregate retail and the aggregate wholesale price index began a steady rise (due primarily to an increase in the prices of manufactured goods) which halted only in the late spring of 1926. A simple demand pull-inflation.<sup>76</sup> The inflation -- revealed or repressed -- was worse in the rural areas than in urban centers because urban centers tended to be favored in the distribution of manufactured consumer goods (and also in exportable foodstuffs).<sup>77</sup> To some extent,

---

<sup>74</sup>See Baykov-48 (pp. 147-148) for the number of workers and wage increases. Baykov cited wage increases in excess of labor productivity increases between the period 1924/25 to 1926/27 as one of the causes of the goods famine. Rykov-26a, (p. 10) cited large wage increases in July-September 1925, as an important cause of the extraordinary demand in the city and he noted that much of the increase in the wage bill was for heavy industry which did not result in a corresponding increase in the supply of consumer goods.

<sup>75</sup>These retail price indexes were still calculated in 1925/26 on the basis of prices in the private trade and reflected in general the cost of manufactured goods to the peasant. Thus, the "goods famine" was reflected in higher prices unlike in the coming years when the price indexes included state and cooperative stores whose prices were more closely controlled by the state. See Chapter II, pp. 84 and Chapters IX, and X, and Notes to Table T-32 and T-33.

<sup>76</sup>See above, p. 245 for Gosplan's projections. See Chapter XI, p. 442, for agricultural tax collection. See Tables T-31 and T-32 for retail and wholesale prices.

<sup>77</sup>Rykov-26a, p. 10, noted this preference for the city. According to Kaktyn-26a, pp. 9-10, the goods in greatest excess demand during the summer 1925 were manufactured consumers' goods, metals, leather, sugar, and makhorka. By autumn sugar and makhorka were adequately supplied, but construction material, wood, and agricultural machines became "scarce."

the goods famine and accelerated inflation in the fall of 1925 was caused by a policy error -- namely the heavy initial demand for grain by the planned agencies in the July-October period and a reduction of taxes on the peasant increased aggregate demand much more rapidly than aggregate supply.<sup>78</sup> More evenly distributed demand in the latter half of 1925 (coupled with higher taxes and stricter crediting of private traders) would have resulted in a better balance of demand and supply for manufactured consumer goods and would have reduced the strong inflationary pressures in the fall of 1925. A better balance might have resulted in greater grain sales because of lower grain prices and higher real tax liability and because of greater stability of peasants' price expectations for both grain prices and consumers' goods prices.<sup>79</sup> Unfortunately, it was difficult to even out the temporal distribution of grain purchases because the NKT had already become committed to early purchases for export to repay the short-term credit granted by German banks to the

---

<sup>78</sup>Balaban-28, p. 214. See discussion in Carr-58a (pp. 249-265) about the arguments for reducing the agricultural tax from an assessed 570 million rubles (including local taxes) to 300 million (p. 253). The main problems were the incidence of the tax and the disincentive effect of the tax on the accumulation of capital livestock and land, because the tax was nominally an income tax, where the estimate of "income" depended on the amount of sown land and livestock (weighted average) (p. 250). During the discussion about agrarian tax reform, proposals were made to tax the peasants' true income and to tax the rental value of the land -- both were rejected primarily because of the difficulties in estimating income of peasants and the absences of a cadastral survey (pp. 252-254).

<sup>79</sup>Dzerzhenskii-26a, p. 14. This policy would have required shifting of grain exports to later months so as to maintain a supply of grain to urban areas and grain deficit areas sufficient to stabilize the wholesale grain prices and to prevent the private traders from thwarting the price policy.

State Bank in August 1925, which was used in theory to finance grain exports but actually paid for the emergency imports of consumer goods and materials for light industry; this loan had to be repaid in January or February 1926.<sup>80</sup>

Grain marketing and the changing nature of the goods famine

The expression "goods famine" or tovarnye golod was loosely used by Soviet economists during the mid- and late-1920's to describe the presence of excess demand. Most often it referred to excess demand for numerous processed consumer goods in the countryside; one might describe it as "excess aggregate demand for manufactured goods by the rural population," and it could result in either rising prices for this class of goods in general if the market forces were permitted to operate or it could result in the absence of these goods from the market at the fixed prices and in the queues of buyers or other means of rationing. Both phenomenon were observed during NEP. In 1925/26, however, the goods famine was still reflected largely in rising prices of manufactured goods sold by the private traders (whose prices were still not restricted by resale price limits by the state) and to a lesser extent by the absence of some of these goods sold at the lower less flexible prices in the cooperative and state stores.<sup>81</sup>

---

<sup>80</sup>SUA, Vol. V, No. 13 (1926), p. 6.

<sup>81</sup>See Carr-58, pp. 420-441 for discussion of domestic trade and particularly the relative role of private traders and state and cooperative trade outlets in the retail trade, the distribution of manufactured goods between urban and rural areas, and the government's efforts to control prices (particularly in 1925/26). See below, p. 289.

Carr assigned little role to the "goods famine" as a cause of the grain marketing difficulties in the fall of 1925 -- although the goods famine did undoubtedly affect grain marketing in areas where goods were not available at any price.<sup>82</sup> The important question was whether or not the private traders' prices were "market clearing prices," for if they were, then presumably goods would be available at these higher prices. Then, the problem for the planners would be the elasticity of the peasants' demand for these manufactured goods in terms of grain in 1925/26 rather than the effect of the total absence of goods from the market place. Most Soviet economists and leaders believed -- and made major policy decisions on the assumption -- that higher grain prices relative to manufactured goods would stimulate grain output and marketing in the long-run -- and most modern studies about the supply response of peasant agriculture tends to support this hypothesis.<sup>83</sup>

But the immediate policy problem in 1925/26 was short-run price policy (with respect to grain prices and prices of manufactured goods) and the proper level of government demand for grain during 1925/26 before the next growing season.

With respect to government demand for grain, the initial result (planned or unplanned) was that planned agencies purchased less in the October-December quarter than in the July-September quarter

---

<sup>82</sup>Carr-58a, pp. 293 and 317. The output of consumer goods had increased greatly in 1925 as compared to 1924 (see Nutter-62, pp. 454-470). In addition, consumer goods were imported to supply the countryside and supplied about 3% of the total cotton textile goods (See Table T-20).

<sup>83</sup>See Chapter XI, .

of 1925 (usually grain marketing was greatest in the October-December quarter) (Table T-10). Furthermore, wheat export sales were temporarily halted in September because of the rising wheat prices and in December the Politburo decided to suspend all grain exports.<sup>84</sup> As Carrso adeptly described the event:

The vision of industrial expansion on a broad front financed on the proceeds of ample grain surpluses faded away.

But the slight cutback in government demand did not prevent wholesale prices of grain in surplus regions from rising continually from October to March (Table T-38 - T-40).

The policy of directive prices for planned agencies was ineffective in the fall of 1925 because the private grain merchants increasingly outbid the planned agencies and increased their share in total grain purchases in the fall as compared to late summer. Private grain purchase prices were above the prices offered by planned agencies, whose price policy was less flexible (for reasons discussed below).<sup>85</sup>

<sup>84</sup>SUA, Vol. V, No. 12 (1926), pp. 71-88. Carr-58 (p. 295) cited the Politburo decision.

<sup>85</sup>Table T-36 and Carr-58a, pp. 293-294. Many sources discuss competition between the private grain traders and the planned procurement agencies and among the planned procurement agencies themselves. Private traders shipped grain to the city and grain deficit areas, and compensated for and took advantage of the inefficiencies in the planned procurement agencies. Rykov-26a (p. 8) noted that the prices for grain varied widely from region to region and that the Soviet state still did not know how to buy grain and how to sell grain. This would be the expected result if various regions were allocated to separate monopsonistic procurement agencies, with different quotas to procure relative to supply, and different availabilities of manufactured goods. Private traders could no longer arbitrage after spring 1926. This arbitrage was regarded as adding to the accumulation of the private capitalist, who could get grain at slightly above official procurement prices, and sell for much higher prices. See Rykov-26a, p. 9, and



Why didn't the government simply increase their procurement prices sufficiently to induce the peasant to 1) market more grain, and 2) market more grain to the planned agencies rather than to the private trader who benefited by outbidding the planned agency's relatively low prices and then selling at the market clearing prices. By raising prices and possibly increasing the total grain marketing, the government would squeeze the profit margins of the private trader and possibly lower the market clearing price of grain (because of the increased supply).

Initially, the government during the October-December quarter of 1925 and in January and February, 1926 permitted (unavoidable) increases in the procurement prices of grains. When the government increased its monopsony power by restricting the operations of the private trader, however, this policy was reversed after February 1926 and procurement prices were forced down during a period when grain prices would normally be rising (Tables T-38 - T-40 and Figures VIII. 1 - VIII. 3).

Which policy was correct -- rising prices for grain products or reduced prices for grain products -- and why did the government

---

Zalkind 26a, p. 5.

The existence of the private traders also thwarts any attempt to estimate the short-run price-elasticity of total grain marketing during the fall of 1925 because of the inavailability of monthly data on total grain marketing during 1925/26. Otherwise, the relationship between increased procurement prices and procurements (shown in Figures VIII. 1 and VIII. 2) would suggest that there was some short-run elasticity of supply. But this apparent short-run price elasticity was most likely the result in the shifts in the sales from planned agencies to private traders and back.

FIGURE VIII.1

USSR: FOREIGN PRICES, PROCUREMENT PRICES AND  
PROCUREMENTS OF WHEAT BY MONTH 1925 - 1929

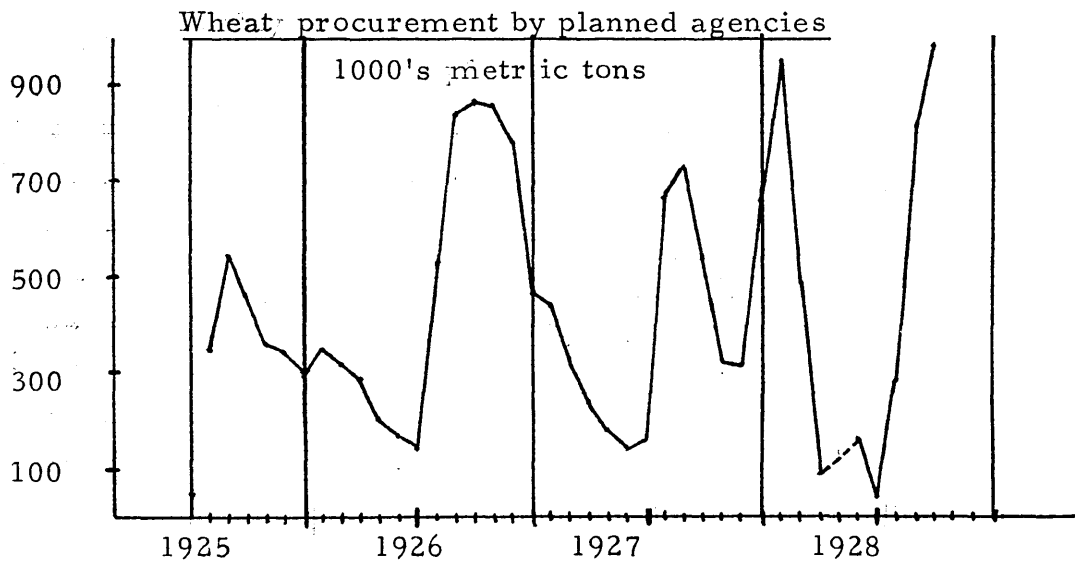
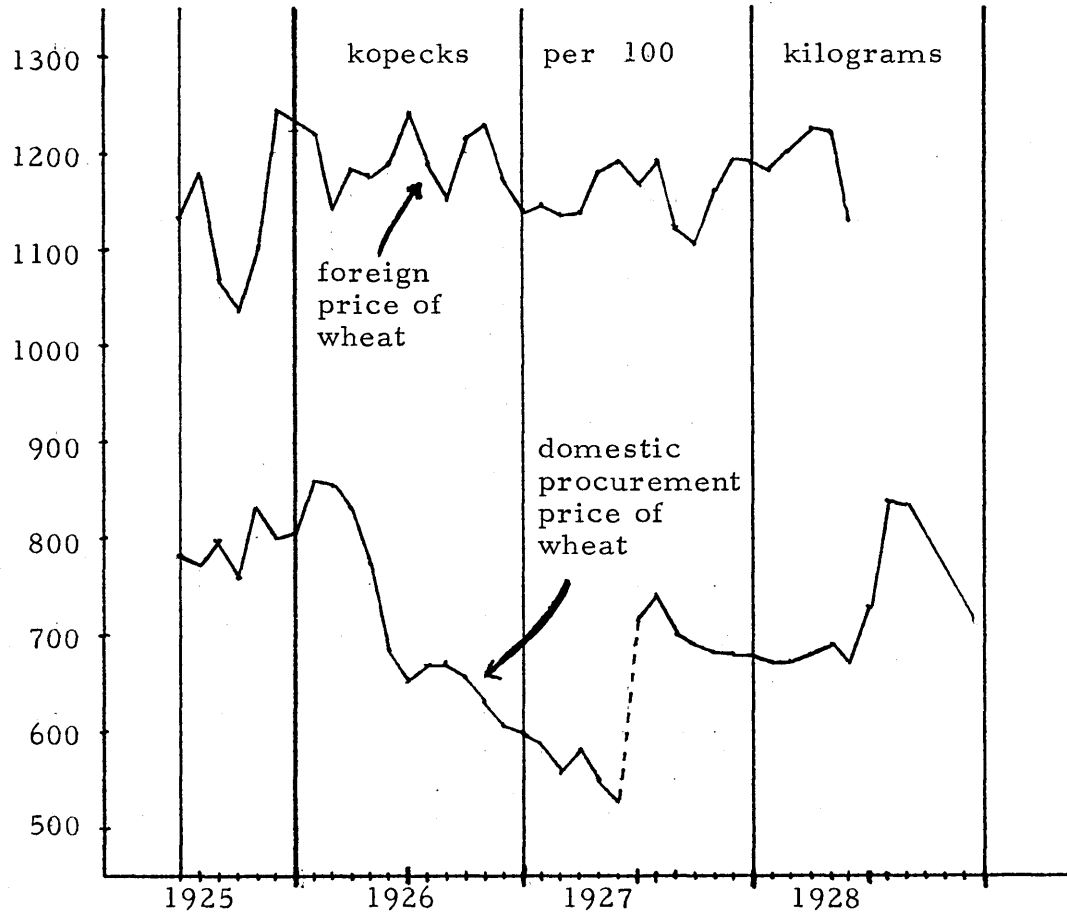


FIGURE VII.2

USSR: FOREIGN PRICES, PROCUREMENT PRICES, AND  
PROCUREMENT OF RYE BY MONTH 1925-29

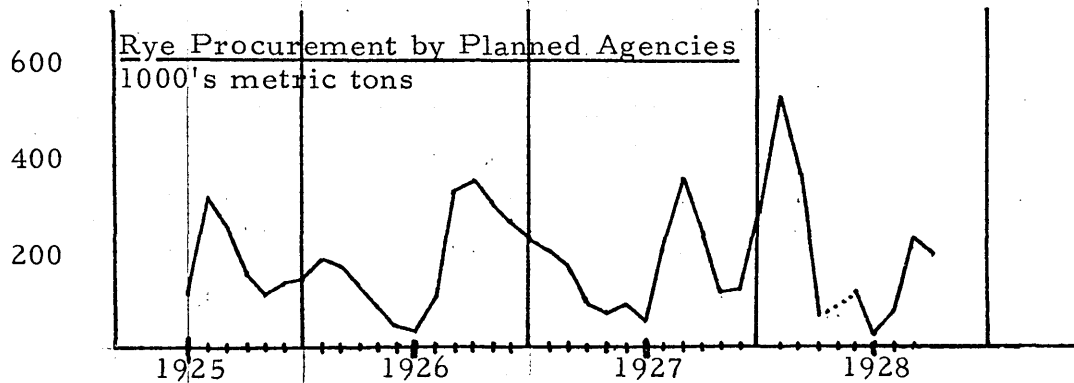
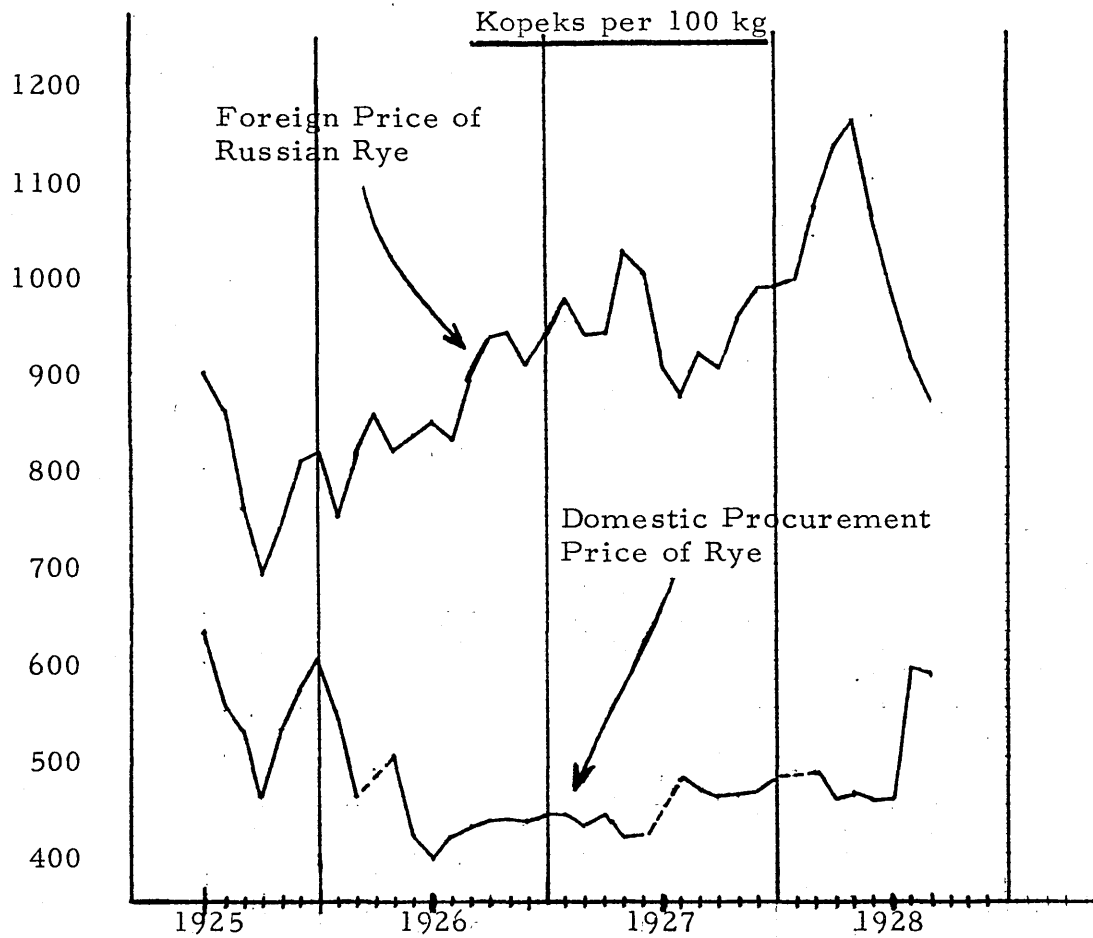
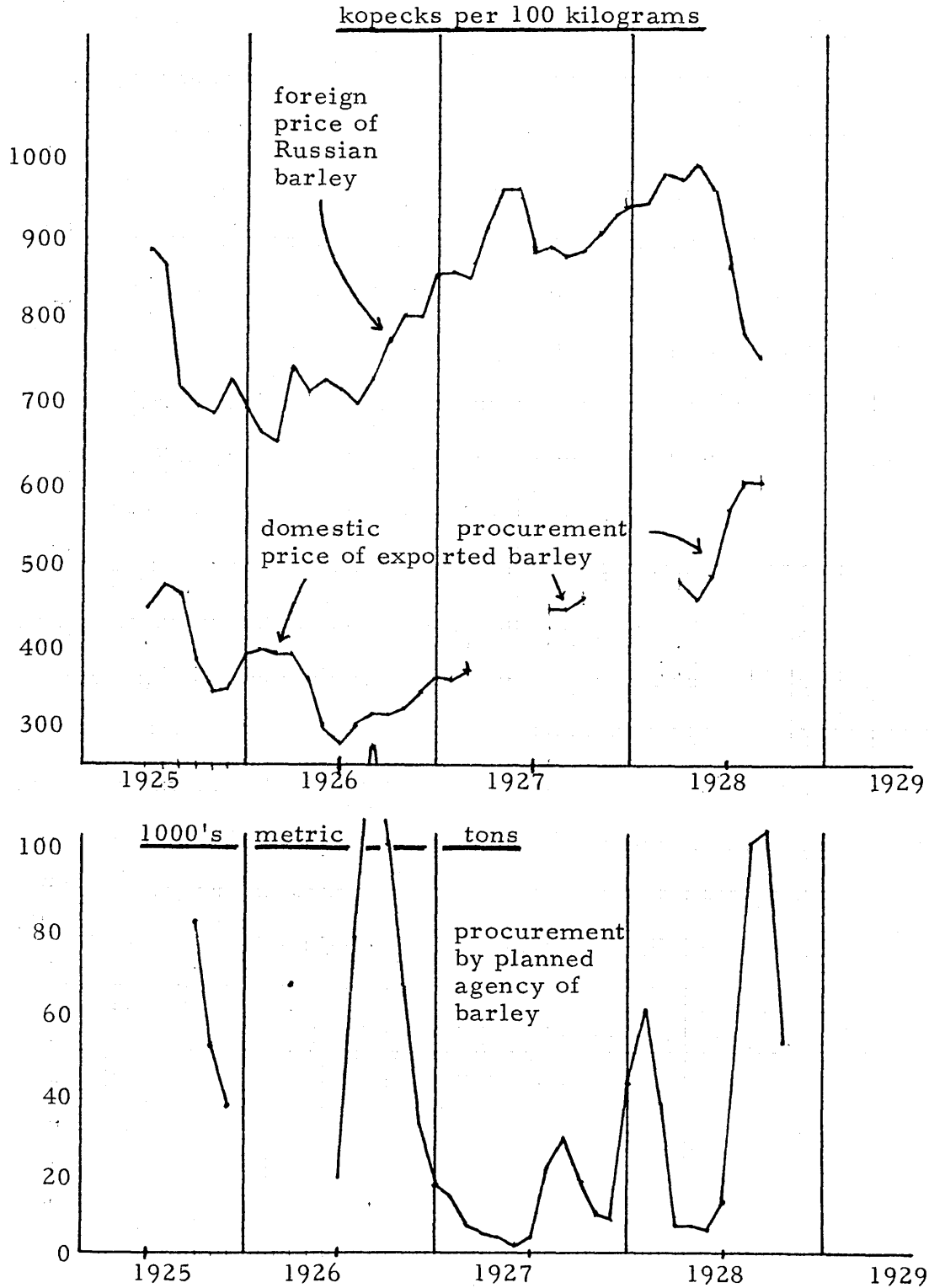


FIGURE VIII.3

USSR: FOREIGN PRICES, PROCUREMENT PRICES AND PROCUREMENTS OF BARLEY BY MONTH, 1925 - 1929



decide to reduce grain prices? Three important factors restricted the monetary price paid to the peasant for his grain: 1) the effect of grain prices on the cost of living for the urban population, and for grain-purchasing peasants; 2) the commercial profitability of grain exports; and 3) the impact of grain prices on aggregate demand for manufactured goods available for sale in the countryside.

Rising retail prices for grain affected three groups -- the urban population, the peasant, who produced insufficient grain because he grew technical crops or raised livestock, and the poor peasant, who was unable to produce sufficient grain to meet his needs and hired himself out.<sup>86</sup> The government preferred to sell grain to these groups at lower rather than higher prices for several reasons. Rising grain prices increased the cost of living of the urban worker, and in the past such increases resulted in increased monetary wages. For example, after the rapid increase in grain prices in the spring of 1925, the labor unrest over the low real wages led to unexpected wage increases during March-September 1925.<sup>87</sup> High grain prices also tended to affect prices, output, and marketing of non-grain agricultural products (especially of crops competing with grain in the use of resources such as flax, cotton, oil seed), and, in general, pushed up the prices of these products.<sup>88</sup>

---

<sup>86</sup>In 1924/25 "inter-peasant purchases of grain amounted to 8.6 million m. t. or 63.6% of all marketed grain, according to figures cited by Preobrazhenskii-26 (p. 182). He asserted that it was mostly poor peasants who purchased grain.

<sup>87</sup>See Carr-58a, pp. 390-395.

<sup>88</sup>See below, p. 492.

The government's desire to lower grain prices for the poor peasant was political and ideologically motivated.

Raising grain prices by 10-50% during the period October 1925 to February 1926 increased monetary aggregate demand for manufactured consumer goods and was partially responsible for rising retail prices of manufactured consumer goods during this period. The demand-pull nature of this inflation was reflected by the fact that for retail prices rose much more than wholesale prices (increasing retail mark-ups).<sup>89</sup> The specter of rising grain prices and runaway inflation of an undesired redistribution of income to the rich kulak and private trader from the rest of the Soviet population, and of increasing commercial losses incurred in grain exports finally convinced the government that they must control the prices in the grain market by eliminating the competition of the private trader and among various state agencies.

The government therefore restricted the private trader and reduced grain procurement prices during a period when these prices normally would be rising. Grain procurements also declined, but this decline cannot be definitely attributed to the reduction in procurement prices because procurements normally declined during this

---

<sup>89</sup>The purchasing power of wheat, rye and barley in terms of manufactured goods rose from October 1925 to February 1926, according to Table T-35. The volume of sales (both private and planned agencies) and the supply of manufactured consumer goods must also be considered -- the above is offered as a hypothesis. See ST, Vol. I, No. 11, (1926), p. 63 and ST, Vol. II, No. 43 (1927), p. 69.

period.<sup>90</sup>

Price policy for manufactured goods. Here the Soviet government probably made its second major policy mistake during 1925/26. The Party leadership worried about the effects of the "reopening of the scissors" on grain marketing and future grain production which would result from falling (relative) grain prices. Thus, in the midst of the "goods famine," the government tried to reduce the retail prices of manufactured consumer goods through three policies: 1) reduction in the wholesale prices of manufactured consumer goods; 2) initiation of a policy to limit the resale price of goods sold by state industry to private trade; and 3) a directive to state and cooperative retail stores to attempt to lower list prices. The current state and cooperative retail prices, which were lower than the private traders' prices, did not clear the market and there was excess demand at these lower prices.<sup>91</sup> As shown in Chapter II, this policy was clearly erroneous at the time and if anything, aggravated the goods famine and resulted in higher prices in the private trade.<sup>92</sup> Yet, the government persisted in pursuing this policy of "decreed price reduction of manufactured goods" throughout the next three years even though the goods famine continued in various degrees of severity. This policy revealed the basic lack of

---

<sup>90</sup>See above, p. 268, for restrictivemeasures and Table T-38 - T-40 and Figure VIII.1 - VIII.3.

<sup>91</sup>See Zalkind-26a, pp. 4-6 for a discussion of the problems encountered in reducing retail prices in 1925/26.

<sup>92</sup>Pages 84 ff.

understanding of a market price system by its advocates among the Party leadership.

Preobrazhenskii's criticism of the official price policy in 1925/26 showed perhaps the greatest understanding of the perverse economic effect of such a policy under conditions existing in 1925/26. Preobrazhenskii's theory of price policy was much misunderstood by his critics, who interpreted this policy of "primitive socialist accumulation" and the transfer of "surplus value" through his (non-equivalent exchange) price policy to the socialist sector as a threat to the smychka (political and economic link) between the workers and the peasantry.<sup>93</sup>

But his policy recommendations for manufactures' prices and his criticisms of the official policy of price reductions in the face of the goods famine were probably the correct policy from the viewpoint of restoring equilibrium in the market place and from the viewpoint of "accumulation in the socialist sector." Preobrazhenskii correctly perceived that much of the reduction in prices would accrue to the private trader rather than the peasant, and would simply transfer "millions of rubles" unnecessarily from the socialist sector to the private sector. We quote at length:

But let us suppose that . . . the state does not expand production in accordance with the growth of effective demand. What shall we have then? We shall then have, on the one hand, an acute increase in retail prices in the branches where the goods famine is being strongly felt, along the whole line of private trade, that is, an actual increase of 40 per cent in the total retail turnover, if we take the example of 1925. On the other hand, the co-operatives, under the pressure of market forces, will

---

<sup>93</sup> See Preobrazhensky-26 (pp. 224-305) for his reply to his critics. Preobrazhenskii's political association with Trotsky also caused much maligning of his theories.



inevitably retreat along the line of least resistance, that is, will go beyond the authorized retail additions to the state's wholesale prices. Thus, the law of value will modify the state's policy of firm, planned prices at this point, too. Reduction of the trusts' selling prices in the branches where an acute goods famine exists, since it would not achieve a reduction in retail prices, would be quite meaningless from the practical standpoint, as well as illiterate from that of economic theory. . . ,

At this point Preobrazhenskii added the following footnote:

I remind the reader what hail of objections, misunderstanding and distortion had to be endured by the author of lines in this sense, written in the chapter of this book dealing with socialist accumulation. Now, of course, there will be no objections, after the state has had to pay tens of millions, if not more, for an experience of the opposite policy. But there will be no public admission of their mistakes by those who objected.

Preobrazhenskii continued in the text:

By and large, we should have, as we had in fact in 1925, an operation of the law of value not carried through to completion. . . because the law would be capable of bringing about an increase of retail prices, but incapable of causing, through this instrument of increased prices, a redistribution of the country's productive forces in the direction of more rapid industrialization as it would have in a competitive system. . . Private trading capital would rake in hundreds of millions, but this would have almost no influence on production.<sup>94</sup>

His major point in 1925 was that reduction of wholesale prices was economic nonsense during the "goods famine" -- he was not advocating a return to the 1923 scissors policy of monopolistic pricing.

The second error in the policy of attempting to reduce retail prices of manufactured goods was the failure to consider the income and wealth effects which would be created by reducing prices of manufactured goods immediately after the peasant marketed large quantities

---

<sup>94</sup>Preobrazhensky-26, pp. 175-178. See also pp. 250-253 and especially the footnote on p. 252.

of grain at relatively high prices. The subsequent reductions in consumers' goods prices would increase the peasant's real income and wealth and enabled them to satisfy more of his immediate demands for these goods from his cash on hand (or from smaller grain sales) thereby weakening his (immediate) desire to market grain in exchange for industrial goods, even though he might sow and market more grain in the coming season.<sup>95</sup> The official price policy implicitly assumed that the substitution effects of improved terms-of-trade for agriculture were greater in the short-run than the income effects and the wealth effects.

Furthermore, this price policy, successful in the crisis of 1923, seemed to disregard that the cause of the scissors in 1925/26, was different than the cause of the scissor crisis of 1923. In 1925/26 it was caused by a shortage of goods (and an unwillingness to greatly increase direct taxes) rather than the monopolistic pricing policy of the state industries (as it was in 1923), so that artificial "decreed" reduction in prices had different effects. Measures were also taken to ship additional goods to grain surplus areas to be sold through cooperatives at low prices and there was occasional mention by the Right of continuing imports of consumer goods (goods intervention) which had been

---

<sup>95</sup>The important point here is that after the harvest is in, the peasants maximize their utility by adjusting the composition of his consumption on the basis of current (and expected) price and his given stock of grain (and other assets). In the short run, the peasant has little opportunity to vary labor input (and grain output). Thus, the substitutability between grain and other products might be very low in the short-run. The substitutability of leisure and real income, where the price of leisure is the marginal revenue product of producing more grain divided by the price index for consumer goods, might be much larger in the long-run.

resumed in the fall of 1925.<sup>96</sup> In addition, tax collections were accelerated (and raised) and a restrictive monetary policy was followed -- but these measures were too late and too little to reduce aggregate demand and industrial retail prices.<sup>97</sup>

Commercially unprofitable grain exports. The third constraint on domestic grain prices was thought to be foreign grain prices.<sup>98</sup> The crop failure of 1924 drove up domestic grain prices and made grain exports (especially wheat) commercially unprofitable during the first half of 1925. Domestic grain prices were expected to fall enough in the summer of 1925 to make exports again commercially profitable. But a sudden drop in world grain prices, unexpectedly high domestic grain prices, and continued high marketing costs made grain exports commercially unprofitable for most of 1925/26.<sup>99</sup> Commercial losses in grain exports in 1925/26 amounted to about 14 million rubles.<sup>100</sup>

The commercial losses on grain exports had two effects on the domestic economy. First, losses from grain exports initially depressed official procurement prices and prevented planned procurement agencies from competing with the private grain trader who supplied

---

<sup>97</sup>Rykov-26a, p. 9.

<sup>98</sup>See Preobrazhensky-26, pp. 180-181, 270.

<sup>99</sup>Marketing costs incurred from time of purchase from the peasant to delivery to sale abroad in 1926 (1925/26) were (for 100 kilograms) 4.09 rubles for wheat, 3.91 rubles for rye and 3.54 rubles for barley (Kaufman-26e, pp. 1-2). Comparison of the difference between domestic procurement prices for these grains and the quoted price for Russian grain abroad (Tables T-38 to T-40) with these marketing costs revealed that those grains were exported at a commercial loss for most of 1925/26 (AY).

only the domestic market (at much higher internal wholesale prices relative to overhead costs).<sup>101</sup>

Second, state and cooperative trading agencies were operated according to the profit maximization principle (or at least "cost-covering principle"), and as noted above evidence suggests that these agencies diverted grain to profitable domestic markets rather than fulfilling their export quotas at a commercial loss.<sup>102</sup>

The basic recommendation to increase the profitability of grain exports emphasized the reduction of marketing costs which were much higher than before 1914,<sup>103</sup> for reducing these expenditures increased the profitability of grain exports without reducing domestic procurement prices.<sup>104</sup> But the higher costs during NEP resulted largely from statutory increases in the costs of inputs (railway rates, insurance costs,

<sup>101</sup>Wholesale prices of some grains in the grain surplus regions approached and occasionally exceeded the average sale price of Russian grain abroad. See Tables T-38 - T-40.

<sup>102</sup>See above, p. is implied by NKRKI's recommendation that export quotas be allocated to agencies and that the fulfillment of these export quotas be strictly controlled (Ekon. Zhisn, September 1, 1926). The underfulfillment of the grain export plan, however, was officially explained as being the intentional result of "the government regulation of grain exports on the principle of preferential satisfaction of the demand on internal markets" (Balaban-28, p. 217).

<sup>103</sup>Ekon. Zhisn, September 1, 1926; Geller-26a, p. 38. It was pointed out that the peasant in 1913 received a larger portion of the foreign sale price of grain because of these smaller margins (Feifets-28a, pp. 334-340 and Feifets-28b, pp. 149-162).

<sup>104</sup>Kaufman-26e, p. 1.

shipping costs, port charges, and wages) so that there was little opportunity for the trading agencies to reduce marketing costs through cost reduction within the agencies.<sup>105</sup>

The path to increased profitability of grain exports clearly was the reduction of procurement prices. Facilitated by increased monopoly power of the state grain purchasing agencies and accelerated by the prospects of another harvest, procurement prices were reduced in early 1926. Grain exports were again commercially profitable at official procurement prices by mid-1926, but not at private grain trade prices.<sup>106</sup>

#### Poor growth of non-grain exports

The export catastrophe was further aggravated by extremely poor growth of other major export products (animal and poultry products, flax, and timber). Whereas the export plan projected a 98 million ruble increase, exports of animal and poultry products, other agricultural products and timber actually declined 54 million rubles in 1925/26 (Table VIII. 1).<sup>107</sup> Only the petroleum and mining products, sugar,

---

<sup>105</sup>Kaufman-26e, p. 1. See Table T-43.

<sup>106</sup>See Tables T-38 to T-40 and footnote 99 of this chapter, p. 293 ST, Vol. I, No. 2 (1926), p. 17. The planned agencies almost stopped the new grain campaign.

<sup>107</sup>Soviet exports excluding grain products actually declined in value. Other industrial exports included oil products, manganese ore, sugar, cotton cloth, and coal, all of which were exported in larger quantities (and value) in 1925/26 than in 1924/25, even though cotton cloth and coal were in short supply on domestic markets at current prices in 1925/26.

cloth and fur exports increased significantly in 1925/26.<sup>108</sup>

The causes for the unexpected decline in non-grain exports were similar to the causes for the underfulfillment of the grain export plan. In the case of these products, however, the interdependence of the factors leading to poor export performance -- namely, lower world prices, increased domestic demand, reduced commercial profitability of exports, and a decline in procurement prices and procurements -- is more clearly evident. Furthermore, examination of the export problems of non-grain agricultural products in 1925/26 already reveals the high elasticity of state procurements to procurement prices. While the factors resulting in high procurement price elasticity varied from product to product, they could be divided into three basic types: 1) high price elasticity of on-farm consumption because of the luxury nature of the product or the substitutability of these products for purchased products, 2) inability of the government to establish an effective monopsony through economic regulation (other than an outright ban on private traders) and 3) high mobility of inputs among various products (either directly through shifting of land, labor, and capital or indirectly through shifting the use of grain among many uses.<sup>109</sup> The continuing problems

---

<sup>108</sup>The control of the output of petroleum, minerals, sugar (in one trust) was more centralized than the collection and distribution of agricultural produce, and of the output of timber. See SUYB-26, pp. 152-153. Sugar, oil, and textiles trusts were united into syndicates, while timber trusts were still not in 1925/26. Some timber firms were foreign concessions. This may have been a significant factor in the success of increasing the exports of oil, sugar, and textiles as compared to agricultural products and timber.

<sup>109</sup>These arguments are developed more fully in Chapter XII, pp. 492.

of the USSR today in supplying animal products and vegetables (even within the system of collectivized agriculture) can probably be traced to similar causes.

The problems in fulfilling the 1925/26 export plan based on Soviet estimates of exportable surpluses and at commercial profitable prices (not only absolutely but relatively) forced the Soviet government to reevaluate the usefulness of "commercial profitability" as an incentive to Soviet firms to expand exports and to reevaluate the relevance of "commercial profitability" as a guide to export planning and in operational decisions of determining the procurement price, the level of purchases and the disposition of procured products between domestic and foreign markets. Needless to say, the events of 1925/26 were a major factor in further isolation of the Soviet price system and Soviet price levels from world market prices.

What were these events in 1925/26? A combination of falling foreign prices and rising domestic (at the retail and wholesale levels) eventually made sales to foreign markets either unprofitable or at least less profitable than shipping to domestic markets (for numerous export products including flax, butter, eggs, bristles and hemp, and timber and manganese ore). The unprofitability of export sales led the government to reduce procurement prices of several agricultural export products during the winter and spring of 1925/26.<sup>110</sup> The planned agencies

---

<sup>110</sup>Geller-26a, p. 34. The domestic wholesale agricultural price index (1913 = 100) rose from 161 in July-September 1925 to 181 in October-December, 1925 and was at 182 in January-March 1926. In April-June 1926 it dropped to 160 as the government applied restrictions against the private trader and lowered procurement prices. See Tables T-31 and T-34.

had difficulty in fulfilling their procurement plans (especially for exports) particularly after procurement prices were reduced and exports of these products fell compared to the same period in 1924/25. Lower procurement prices for these animal products and technical crops (which probably were superior goods at the peasants' standard of living) further encouraged on-farm consumption and in 1925/26, peasants consumed an absolutely larger amount of flax, hemp and eggs.<sup>111</sup> Furthermore, off-farm domestic demand for these export products rose rapidly along with rising urban incomes and increasing industrial output, so that domestic consumption of these products also rose either as a result of deliberate government policy (flax) or as a result of unplanned diversion of exportable goods to urban and investment uses through the operation of market forces (eggs, butter, meat, and timber).<sup>112</sup> We summarized briefly the development of four major export products - flax, eggs, butter, and timber - for they provide us with four case studies of the relationship between export policy and domestic economic policy during mid-NEP.

Flax. By 1925 the output and exports of flax had made a good recovery under the stimulus of very favorable prices (relative to other crops) and special tax exemptions.<sup>113</sup> Domestic flax prices had been

---

<sup>111</sup>Geller-26a, p. 33.

<sup>112</sup>Geller-26a, pp. 33-37. Geller emphasizes the importance of increased urban and industrial consumption of flax, eggs, and butter.

<sup>113</sup>By 1925 flax acreage exceeded the flax acreage in the same territory in 1913 (Diamond-55, p. 83). Index of flax prices and prices of other agricultural products in Table T-34.



permitted to increase relative to other crop prices (compared to 1913) largely because the tripling of foreign flax prices had made Soviet flax exports extremely profitable -- so profitable that flax was one of few Soviet export commodities subject to an export tariff.<sup>114</sup> After an initial rise, domestic flax prices were closely controlled by the government through a purchasing monopsony and were held stable (at relative high levels) from the beginning of 1924 to the end of 1925.<sup>115</sup>

The projected increase in flax exports in 1925/26 was 23% (presumably for value as well as weight) and in terms of weight, the flax export plan was slightly overfulfilled.<sup>116</sup> Foreign flax prices started falling in late 1925 and the value of flax exports actually fell.<sup>117</sup>

<sup>114</sup>Data on foreign prices from STATJAHR-26, pp. 108-110. See Table T-41. SUYB-27, pp. 290-291, "Tariff Code of 1924." Other Soviet products subjected to export duty were furs, caviar, horsehair, and similar animal products.

<sup>115</sup>Table T-41 and ST Vol. I, No. 11, p. 37. See above, p. See EIKSSSR, pp. 352/72-352/89 for an extensive discussion of the organization of the Soviet flax trade and its pricing policies.

<sup>116</sup>ST, Vol. I, No. 11, p. 37.

<sup>117</sup>The value of flax exports fell 8.7% in 1925/26. Foreign prices fell for several reasons. First, Soviet flax exports supplied a significant portion of the European flax industry, and in addition, competed with increasing exports from the Baltic States (EIKSSSR, p. 352/81). Foreign prices had been receding through most of 1925. Second, the European flax industry and fibers markets in general were temporarily depressed (because of a record U. S. cotton harvest). Latvia started cutting prices in November and by January, foreign flax prices had fallen enough to make Soviet exports unprofitable at the previous procurement prices.

The procurement price between January and October 1925 varied from 53.7 to 58.0 rubles per 100 kg. (Table T-41) and the average marketing cost for exported flax in 1925 was 24 rubles per 100 kg. Thus, the cost, delivered to foreign buyer, was 77.7-82.0 rubles per 100 kg. while the foreign price of Russian flax (per 100 kg.) fell from 88 rubles in October 1925 to 75 rubles in January, 1926 (Table T-41). See ST, Vol. I, No. 11, p. 37.

Flax exports were becoming commercially unprofitable and the procurement price of flax were reduced in December, January, and February with the explicit purpose of maintaining the commercial profitability of flax exports.<sup>118</sup> The reduction of procurement prices caused an immediate decline in procurements (if only for several months), and a slight reduction in the area sown to flax (which contrasts strongly with the large increases in the previous years).<sup>119</sup> To the peasant, flax had lost its former advantage relative to other crops and flax acreage and exports were to stagnate for the coming two years.<sup>120</sup>

Butter and eggs. The 1925/26 export plan projected a 60% increase in the value of animal and poultry product exports, but the export value of these products rose only a few per cent. (Table VIII.1). Of the major products, the value of butter exports rose only 12%, and the value of egg exports and bristle exports fell 12% and 33%. Relatively poor and declining commercial profitability was a major cause of poor

<sup>118</sup>ST, Vol. I, No. 11, p. 37.

<sup>119</sup>Ibid. See STAT-34 (p. 177) for sowings. Jasny-49 (p. 215) and Gurevich (ST, Vol. I, No. 6, p. 7) also emphasized the direct impact of lower procurement prices on sown acreage. Geller-26a (pp. 33-37) noted that Soviet textile industry used 114,000 m. t. on flax in 1925/26 as compared to 95,000 m. t. in the same territory before the war, and, according to EIKSSSR (p. 352/79) domestic industrial needs had priority over exports in the allocation of procured flax between domestic and foreign markets. This may have been true in 1925/26, but eventually the pressure to expand exports reversed this priority (see below, p. 330 and p. 410).

<sup>120</sup>ST, Vol. I, No. 11, p. 37 and Gurevich (ST, Vol. I, No. 6, p. 7). The immediate fall in procurements could be explained either by price expectations of the peasant or the immediate substitution of flax for other products in on-farm consumption.

plan fulfillment.<sup>121</sup>

Why did butter exports not rise more?<sup>122</sup> Butter procurements and exports increased in the October-December quarter of 1925/26, but domestic prices rose sharply, making butter exports marginally unprofitable.<sup>123</sup> Foreign prices fell in December making butter exports even more unprofitable and as a consequence the procurement price of butter was deliberately reduced about 25% so that butter exports were again "profitable."<sup>124</sup>

The butter procurements for exports declined markedly as peasants consumed more on the farm and converted "export butter" into boiled butter for selling in urban areas at higher prices.<sup>125</sup> Private traders outbid the planned agencies for export butter and also diverted it to the cities, where prices and demand were much higher than the previous year.<sup>126</sup> The reduction in butter procurement prices resulted in poor fulfillment of the butter export plan (67% by weight) and the domestic supply plan by procurement (74%)

<sup>121</sup> Difficulties in selling bristle at a profit on foreign markets was the basic reason for the reduction of procurement prices and procurements of bristles. (ST, Vol. I, No. 11, p. 41).

<sup>122</sup> Total procurements of butter rose 15% while butter exports in quantity rose only 11%. (ST, Vol. I, No. 11, p. 34).

<sup>123</sup> Feifets-28a, p. 158. Based on average selling costs of 34.8 rubles per 100 kg, average foreign prices of 151.1 and an average domestic procurement price of 128.8 per 100 kg (Table T-42).

<sup>124</sup> ST, Vol. I, No. 11, p. 34.

<sup>125</sup> Ibid.

<sup>126</sup> Ibid.

in 1925/26.<sup>127</sup> By July 1926, the government became fully aware of the impact of the lower procurement prices on exports and the procurement prices were increased slightly in subsequent months, even though foreign prices continued to decline (Table T-42).<sup>128</sup> Butter exports were again unprofitable at the end of 1925/26.<sup>129</sup> Sovietskaia Torgovlia concluded that there would have to be government support of butter exports, i. e., export subsidies.<sup>130</sup>

A similar history can be written for Soviet egg exports in 1925/26. Soviet egg exports were always at best only marginally profitable.<sup>131</sup> After record prices on both domestic and foreign markets in October 1925 foreign prices plunged in the winter of 1925/26 causing large commercial losses in the January-March period.<sup>132</sup> The government in an attempt to cut export "losses" slashed egg procurement prices by 22 rubles during the April-June quarter (from 51 to 29.0 rubles per box):

<sup>127</sup> ST, Vol. II, No. 11, p. 6. The procurement plan for 1925/26 was set at 72,000 m. t.; actual procurements were 51,000 m. t. (72% of plan).

<sup>128</sup> Sobolev-26b, p. 28.

<sup>129</sup> Marketing costs for butter in 1926 from purchase from the peasant to delivery to foreign buyer were 34.19 rubles per 100 kg. (Kaufman-26e, pp. 1-2). The difference between domestic and foreign price was often less than this during 1925/26 (EY) (Table T-42, cols. 1 and 2).

<sup>130</sup> ST, Vol. I, No. 11, p. 35.

<sup>131</sup> Feifets-28a, p. 160. See next footnote.

<sup>132</sup> Feifets-28a, p. 160; ST, Vol. I, No. 11, p. 36. Marketing costs averaged 30.7 rubles per box of 1440 eggs, while the differential between foreign and domestic prices was less than eight rubles per box. See Tables T-42 and T.46.

this price cut caused an egg procurement crisis during the summer of 1926 and reduced egg exports during April-September 1926 to less than half of those for the same period in 1925.<sup>133</sup> The low procurement prices also "cultivated" the growing taste for eggs, encouraged on-farm consumption, and permitted the private trade to divert eggs to urban areas.<sup>134</sup> The state was clearly not a monopsonist in the egg (or the butter) trade and in late August the procurement price policy was abruptly reversed by raising egg procurement prices to a new high.<sup>135</sup>

Strong urban demand was considered by Geller to be another major cause of underfulfillment of the butter and egg export plan. Not only did private traders outbid the official procurement prices (which were lowered because of commercial losses in exports) and shipped these products to the city where prices were higher, but also state trading agencies and the cooperatives diverted eggs and butter to the urban areas (sometimes directly from stocks prepared for export), in an attempt to lower urban prices and possibly to avoid the losses associated with export operations.<sup>136</sup> Apparently this was even more

---

<sup>133</sup>Geller-26a, p. 34, Sobolev-26b, p. 28, Feifets-28a, pp. 159-161. Ekon. Zhisn (#242, 1926) emphasized the importance of export losses in motivating the government to lower procurement prices.

<sup>134</sup>Cited by Kon-26a, pp. 141-142.

<sup>135</sup>ST, Vol. I, No. 11, p. 36. Preobrazhensky-26 (p. 143) also points out the difficulty of monopsonizing the trade in these products.

<sup>136</sup>Ibid. Geller-26a, pp. 34-35, 36. Also Ekon. Zhisn, No. 242, 1926; Geller-26a (p. 36) noted that export butter was sold at lower prices relative to other types of butter than before 1914, thereby encouraging it by raising it relative to other types of butter.

true of fish and meats. As Kutusov summarized the problem:

For several goods, internal demand grew strongly, and as a result of this, the level of procurement prices was disrupted, the direction of goods flow went in the direction of the domestic trade. The disruption of the procurement for several commodities resulted in a high level of overhead expenditures, and the profitability for several goods fell sharply. As a result of this, exports could not develop at the anticipated tempo.<sup>137</sup>

Timber. Timber exports also suffered because of heavy domestic demand arising from the construction projected in the Control Figures for 1925/26. Prices rose sharply on the domestic market, while prices on German and English markets declined in the spring of 1925/26.<sup>138</sup> Timber exports had already been marginally unprofitable in the previous year and now the domestic market conditions of 1925/26 made selling in the domestic markets much more profitable than export. Thus, timber trusts tried to reduce their export obligations in order to supply the domestic market at a much higher profit.<sup>139</sup> As a consequence, the volume of timber exports fell slightly in 1925/26 instead of rising by the projected one-third.<sup>140</sup>

---

<sup>137</sup>Kutusov-28, pp. 53-54.

<sup>138</sup>Gosplan-29a, p. 503. Average annual domestic prices for construction timber were 60-70% higher in 1925/26 than in 1924/25. The index of construction timber price in Germany (1913 = 100) declined from 151.7 in October to 130.9 in April 1926, and recovered only to 141.2 by October 1926 (STATJAHR-26, p. 265).

<sup>139</sup>Sobolev-26b, p. 29.

<sup>140</sup>VTSSSR-60. Kutusov-28 (p. 50) attributed the decline in timber exports to the depression in foreign markets and the strike in England. In view of the domestic demand for timber and the high domestic prices, Sobolev's explanation seems more reasonable.

Summary. Thus Soviet authorities were compelled increasingly to "force" exports which were commercially unprofitable (or less profitable) for the exporting organization. Nevertheless, Soviet leaders and economists in 1926 were still concerned about the commercial losses from exports, and they thought that exports should be commercially profitable in the long-run and that steps -- price reductions and reduced overhead -- should be taken to improve the commercial profitability of Soviet exports.<sup>141</sup>

#### Effect of Import Restrictions on the Economy

The year 1925/26 was the first year that the inherited dependence of the Soviet economy on imported machinery and materials clearly restricted industrial growth. The reduction of imports by more than 25% below the original plan compelled the reduction of output and investment plans in state industry.

---

<sup>141</sup>See Report on Foreign Trade in 1925/26 by NKRRKI in Ekon. Zhisn., September 1, 1926. Dzerzhenski-26a (p. 15) stated:

The complete fulfillment, and when possible the renewed expansion of the now current [revised] export plans remains perhaps still our most important economic policy problem, all the more because the purchasing power of the chervonetz-ruble for industrial goods in foreign countries is larger than in the Soviet Union. The financing of exports must be done largely on the basis of domestic means, where, in addition to budgetary allotment and income of industry itself, the lowering of internal prices is above all an important aid. . . . The lowering of prices of industrial goods would also be accompanied by a reduction in agricultural prices. This gives the foundation for an expansion of exports and its profitability, and these exports again permit us to purchase abroad for our industry.

Dzerzhinski, speaking to the Trade Union Congress in February 1926 about the economic problem arising during the fall of 1925 explained:

. . . These difficulties are exhibited above all in the area of exports and imports. It appears that at the current progress of our export trade, it will be impossible to import producer's goods in the volume that was assumed at the time of the drawing up of the production plans. Because of this, the import plans as well as the production plans had to be revised already in November, and had to be reduced to a certain degree. . .

Because of these difficulties, we have reduced the production program for all industry a total of 450 million chervonetz-rubles, that is about 7 per cent. Instead of originally predicted increase of output of 49 per cent. . . we will have an increase of 40 per cent. Because the reduction of the program is chiefly concerned with raw materials (cotton, wool, leather, non-ferrous metals) it was necessary to reduce light industry more than heavy industry. . . the former by 8.8 per cent and the latter only 4.5 per cent. . .

The plans for general repairs, new equipment and new plans also had to be reduced.<sup>142</sup>

The investment plans for state industry were also reduced from one billion rubles to 800 million rubles; this figure included the long-term 50 million ruble credit newly granted by Germany, and other payments for imported industrial equipment.<sup>143</sup> Industrial equipment

<sup>142</sup> Dzerzhinski-26a, p. 14.

<sup>143</sup> Rykov-26, (p. 10) noted:

. . . in the previous fall of 1925, several state agencies hoped to invest close to one billion rubles in industry. These plans also had to be forced downward along with all the other economic plans, so that currently along with the use of long-term foreign credits (50 million rubles) about 800 million rubles can be allocated to industry. Maturing payments for industrial equipment imported from abroad must also be paid for from this sum.



imports, however, were to be expanded in the revised plan, perhaps because of the inability of domestic industry to supply the planned quantities.<sup>144</sup>

The dependence of Soviet industry on imported raw materials in 1925/26 was not much different than that of pre-1914 Russian industry.<sup>145</sup> How was the Soviet government dealing with the emerging constraints on the output, which were caused by the failure of foreign trade to recover with the rest of the economy?

Cotton fiber imports were the largest single item in imports during NEP (18.5 and 15.6% of total imports in 1924/25 and 1925/26 [Table T-4]).

Although cotton fiber imports supplied 45% of the cotton fiber consumed in Russia in 1913/14, a large part of imported cotton fiber was probably consumed in the separated territories, so that only about 26% of the cotton consumed in 1913/24 within the Soviet borders of 1925 had to be supplied by imports.<sup>146</sup> If both cotton textile output within

<sup>144</sup>The metal-working plan for 1925/26 was fulfilled by only 90% and this was partly due to difficulties in carrying out the import plan (ST, Vol. I, No. 11, p. 53). According to Rykov-26a (p. 9), import plans for industrial equipment rose from 94,000,000 rubles in the original plan to 110,000,000 rubles in the revised plan adopted in January. This figure for planned imports conflicts with the figures cited for the confirmed foreign trade plan in Table VIII. 1.

<sup>145</sup>Territorial changes did affect the supply and demand for some raw materials such as zinc, pipe, woolen yarns. See p.157 ff.

<sup>146</sup>The figure of "45%" in Russia in 1913/14 is from ST, Vol. I, No. 11, p. 39. See also pp. 134 - 136 and Table III. 12 for discussion of cotton imports in consumption in pre-1914 Russia. If we assume cotton consumption proportional to the output of cotton yarn or cotton fiber, and assume that the cotton output in the separated territories could be

the Soviet borders and domestic cotton fiber output were restored to 1913 levels, the implied demand for cotton fiber would be 322,000 m. t. of which about 80,000-90,000 m. t. would be imported.<sup>147</sup> But cotton fiber output in 1925 was only about 73% of 1913 levels, and cotton imports in 1925 already exceeded 100,000 m. t. ; cotton fiber supplied to Soviet cotton textile industry was about 83% of 1913 levels, so that further recovery of cotton textile output to 1913 levels implied either additional cotton fiber imports of increased domestic output of about 57,000 m. t.<sup>148</sup> Thus, cotton fiber output was an important area for import substitution and the Soviet government took numerous steps to expand cotton fiber output by using a favorable price policy, tax concessions, and supplying cheap grain so that the 1925 acreage approached 1913 levels.<sup>149</sup>

---

entirely produced from imported cotton, so that the entire domestic plus the necessary imports supplied domestic industry, then the fraction of imported cotton in the supply of domestic cotton textile industry in 1913/14 within the Soviet borders would be about 26%, because 74% of cotton textile output and 55% of cotton fiber supplies were produced within the Soviet borders in 1913.

<sup>147</sup> Implied supply to Soviet territory in 1913 was 322.00 m. t. (74% of 436,000 m. t. supplied to Russia in 1913 [Tables III. 20 and XIV.11] supply to the USSR in 1925/26 was 265,000 m. t. (Table XIV.11). Forty-two per cent of imported cotton fiber would have been required for the output in Soviet territories and 197,000 m. t. were imported in 1913 (Table T-6). Restoring cotton textile output within the Soviet territory to 1913 levels still would not restore per-capita supply to 1913 levels because the Soviet territory was probably a net importer of textiles from the separated territories.

<sup>148</sup> Diamond-55, p. 73. Table T-G and Table XIV.

<sup>149</sup> Diamond-55, p. 70. The government, even in 1925/26 predicted that "the development of our cotton growing in Turkestan and in the Caucasus will in the course of two or three years permit of fully covering our needs of the cotton industry of the Union by our own raw material," continuing the pre-war trend (EIKSSSR., pp. 438-439).

The 1925 cotton harvest was 54% higher than in 1924 so that little increase in cotton imports was planned for 1925/26.<sup>150</sup> Cotton procurements had proceeded well the first half of 1925/26, but then rising grain and cloth prices diverted cotton into the cottage industry for processing and retarded the expansion of area sown to cotton in 1926 (in some areas grains even began to replace cotton).<sup>151</sup> The procurement plan was underfulfilled in the second half of 1925/26 and it was necessary to increase the import plan for cotton (above quota plans). Despite these emergency imports, shortages of raw fiber were cited as the most important cause for the decline of cotton textile output in the second half of 1925/26.<sup>152</sup>

Shortage of (imported) raw materials also restricted the growth of woolen textile, leather goods and other industries.<sup>153</sup> In addition, the foreign exchange crisis during the winter of 1925/26 caused a sharp cut in chemical imports, and the resulting shortage of imported chemicals -- including dyes and tanning materials -- threatened to halt production in industries using these chemicals, so that additional licenses

---

<sup>150</sup>Krasin-28, ST, (Vol. I, No. 11, p. 39) implied that cotton imports were actually to be reduced in 1925/26. This cutback was probably made during the revision of the plan.

<sup>151</sup>ST, Vol. I, No. 11, p. 39.

<sup>152</sup>Ibid., p. 40.

<sup>153</sup>Ibid., pp. 40 and 43. Procurement problems aggravated the shortage. See SUYB-30 (p. 163) for description of shortage of hides despite large imports in 1925/26.

had to be issued in May 1926.<sup>154</sup>

The important point is that the output of these consumer goods was restricted not by capital capacity or demand but rather by the shortage of raw materials, which were largely (or could be) supplied by imports both in 1913 and in 1924/25 and 1925/26.

The import-dependence constraint on future industrial expansion after 1925/26 is evident in the fact that imports of raw materials and semi-processed materials equalled about 50% of total imports in 1924/25 and 56.7% of total imports in 1925/26, yet the volume of these imports in 1924/25 compared to 1913 was only about 34% for raw materials and 38% for semi-processed materials (42% and 60% in 1925/26).<sup>155</sup> Thus, total imports would have to be increased about 50% above 1925/26 levels for industrial materials alone if Soviet industry was to continue to rely on imported materials at 1913 levels of output as much as Russian industry did before 1914.<sup>156</sup> (Adjustments for territorial change would reduce import demand for industrial materials and would increase import demand for processed goods.)<sup>157</sup> To this potential import demand must be added machinery imports which were roughly one-half 1913 levels in 1925/26.<sup>158</sup> Thus, to restore machinery and

<sup>154</sup> ST., Vol. I, No. 11, p. 57.

<sup>155</sup> Tables T-7 and T-27 (unadjusted for territorial change).

<sup>156</sup> Tables T-5 and T-27 (unadjusted for territorial change).

<sup>157</sup> See Chapter III, p. 157.

<sup>158</sup> Tables T-5 and T-27.

materials imports to 1913 levels (leaving other imports at 1925/26 levels) would require a 60-70% increase in imports over 1925/26 levels. Yet as major exports fields began to approach their 1913 levels, Soviet exports lagged far behind, so that the imports of even the limited amounts of materials and machinery in 1925/26 caused severe balance of payments problems. This lack of import-capacity was to become acute by 1927/28.

In summary, in 1925/26, the limited import capacity retarded the growth of output and placed an additional constraint on the level of investment (in addition to the constraint of saving and its distribution among sectors of the economy both in supply of investment goods and in the supply of materials for the additional capacity.<sup>159</sup> This restraint imposed by imports was considered to be a critical economic problem in the mid and late 1920's. As summarized by Kutusov-28:

in 1925/26. . . the demand for imports could not be significantly curtailed, for the basic consumer of imports was industry, whose strong development is necessary for the equilibrium of the economy.<sup>160</sup>

---

<sup>159</sup>Savings--personal, government, business--was directly related to the problem of expanding exports because increasing agricultural taxes ("government savings") forced the peasant to market, while taxing the worker or imposing wage constraints reduced demand for exportable products, such as butter and eggs.

<sup>160</sup>Kutusov-28, p. 54. Cutting cotton, wool, and other raw material imports would reduce the output of just those goods in strongest demand during the goods famine.

Terms of trade and prices

The price index of exports (1926/27 weights) fell 6.5% in 1925/26 and the price index of imports fell 4.5% so that the commodity terms of trade shifted slightly (2%) against the USSR (Table T-28). The prices of most major Soviet export products fell with the exception of furs and butter.<sup>161</sup> The import price index declined almost entirely because of lower world prices of cotton, wool, and hides and it concealed higher prices of other important commodities.<sup>162</sup>

While the underfulfillment of the export plan in value terms can be accounted for to a limited extent by the decline in export prices, the excess fulfillment of the import plan is even worse when corrected for price changes. The minor shift in the terms of trade was only a minor factor in the large trade deficit.

Balance of payments, gold shipments, credits, and reserves 1925/26

The USSR experienced continual payments difficulties during 1925/26 and had particularly severe payments problems in the fall of 1925 because of the unexpected large balance of trade deficit in the October-December quarter of 1925/26.<sup>163</sup> This bulge in imports in this quarter resulted from the delivery of goods ordered in earlier quarters

---

<sup>161</sup>The basic export price index which excluded furs and machinery declined 12% with 1925/26 price weights but only 7.7% with 1926/27 weights (because of the reduced relative importance of flax and bristles). See Tables T-29, T-38 - T-42 and Appendix F, Tables F. 3, and F. 13.

<sup>162</sup>Rubber, paper, some non-ferrous alloys.

<sup>163</sup>ST., Vol. I, No. 11, p. 25.

(especially with the "above-quota" import plans adopted in August 1925) and from the rush of orders under the new import licenses issued in August and September 1925 according to the original import plan. A strict cutback in imports was ordered in early 1926, but imports continued to exceed exports nearly every month.<sup>164</sup> The directive to 'accumulate foreign exchange' was completely ineffectual and instead, the 80 million ruble balance of trade deficit and net imports of invisible trade items (estimated at about 60 million rubles) forced the USSR to ship 72 million rubles of precious metals, to reduce their foreign currency holding by 15 million rubles, and to increase their outstanding foreign short-term debt by 62 million rubles.<sup>165</sup> The reduction in total foreign reserves holdings was much less than 87 million rubles because of increasing platinum and gold production (estimated at roughly 50 million rubles).

Demise of the goal of a convertible ruble. For the first time in November 1925, the State Bank had to spend significant amounts of gold and foreign exchange to stabilize the exchange rate of the chervonetz ruble on both domestic and foreign exchange markets and there was considerable debate both within the Commissariat of Finance and within the Party about the correctness of this policy and also about the restriction

---

<sup>164</sup>Ibid., and Table A, 1c in Appendix A.

<sup>165</sup>ST Vol. I, No. 11, p. 25. See Table T-14 for estimates of Soviet balance of payments in 1925/26 and T-15 for estimates of Soviet foreign debt.

of credit to industry.<sup>166</sup> Preobrazhenskii sharply criticized the Commissariat of Finance's use of gold reserves to "engage in unnecessary 'gold interventions' at the loss to the state, permitting nepmen to exchange their paper chervontzy into gold" and he emphasized "we need gold only for balancing our accounts with foreign countries. . . and not for obtaining from the 'black bourse' evidence of the trustworthiness of the chervonets."<sup>167</sup> Although the exchange rates were kept at about parity from October until April, the demand for gold remained persistent and the "transactions in the 'American market' more than doubled in volume between October and December, 1926."<sup>168</sup> There was considerable discussion about the pros and cons of devaluation and finally a decision was apparently made to abandon the official policy of supporting the gold exchange rate of the chervonetz on the free markets; in March 1926, the government ceased to offer gold and foreign currency at gold parity for the chervonetz, and the exchange rate of the chervonetz on the "free Moscow market (black market)" fell.<sup>169</sup> The official de jure gold parity of the chervonetz was not abandoned, however, and licensed buyers and sellers of foreign currency (for foreign trade

---

<sup>166</sup> Carr-58, p. 481 citing G. Sokolnikov, Finansovaya Politika Revolyutsii, iii (1928), p. 235 and Plan. Khoz. No. 5, 1926, pp. 98-99.

<sup>167</sup> Preobrazhansky-26, pp. 216-217. The first passage was taken from a paper read to the Communist Academy in January 1926 (Carr-58, p. 484, n. 3).

<sup>168</sup> Rykov-26a, p. 9; Table VIII. 2 and Carr-58, p. 481 citing Vestnik Finansov, No. 11-12, November-December 1925, pp. 175-178 and Ekon. Oboz., January 1925, p. 5.

<sup>169</sup> Table VIII. 2 and Carr-58, pp. 486-487, which cited several Soviet articles discussing devaluation of the ruble.



TABLE VIII. 2

USSR: OFFICIAL EXCHANGE RATE OF FOREIGN CURRENCY  
AND EXCHANGE RATE OF FOREIGN CURRENCY ON THE  
PRIVATE EXCHANGE MARKET 1923 - 1926

(in rubles)

	Official Exchange Rate of the Fund's Department of the Moscow Commodity Exchange		Exchange Rate on Private Exchange Market (Moscow?)		
	English Pound Sterling	American Dollar	English Pound Sterling	American Dollar	Ten Ruble Gold Piece
gold parity	9.46	1,945	9.46	1.945	10.00
1923					
February	9.38	2.08	10.62	2.39	12.73
March	8.85	1.92	8.88	1.93	11.63
April	8.56	1.92	8.50	1.92	13.24
May	9.67	2.23	10.15	2.40	15.90
June	11.38	2.59	11.53	2.77	17.37
July	9.80	2.14	9.97	2.22	15.23
August	9.65	2.11	9.87	2.12	13.48
September	9.54	2.07	9.59	2.07	12.14
October	9.39	2.05	9.39	2.05	12.44
November	9.15	2.06	9.49	2.20	13.75
December	9.47	2.18	9.45	2.20	13.50
1924					
January	9.40	2.20	9.42	2.24	15.40
April	8.36	1.945	8.10	1.91	11.0
July	8.41	1.945	8.41	1.93	9.60
October	8.67	1.945	8.65	1.945	9.72
1925					
January	9.20	1.945	9.07	1.9375	10.10
April	9.295	1.945	9.30	1.94	9.70
July	9.455	1.945	9.465	1.9425	9.98
October	9.42	1.945	9.41	1.9425	10.0

TABLE VIII. 2 (continued)

	Official Exchange Rate of the Fund's Department of the Moscow Commodity Exchange		Exchange Rate on Private Exchange Market (Moscow?)		
	English Pound Sterling	American Dollar	English Pound Sterling	American Dollar	Ten Ruble Gold Piece
gold parity	9.46	1.945	9.46	1.945	10.00
1926					
January	9.435	1.945	9.435	1.9430	10.12
April	9.445	1.945	11.0	2.60	13.50
July	9.445	1.945		2.10	12.0
October	9.445	1.945		1.97	13.50
December	9.445	1.945			13.00

Source: Notes to Table VIII. 2, Appendix B,

TABLE VIII. 3

## EXCHANGE RATE OF CHERVONETS ON FOREIGN EXCHANGES

(Quoted in gold rubles, calculated against dollars. Parity exchange rate: one chervonets = ten gold rubles.)

	Riga	Reval <sup>a</sup>	Kovno <sup>b</sup>	Harbin <sup>c</sup>	Teheran	Rome	Constantinople
1924							
Oct.	↑	↑		↑		↑	
Nov.	998.2	995.2	1003.4	1011.3	983.3	1001.1	997.4
Dec.							
1925							
Jan.	Low	Low		Low		Low	
Feb.							
Mar.	10.02	10.05		9.351		9.705	
Apr.							
May	High	High		High		High	
June							
July	10.10	10.11		10.21		9.985	
Aug.	↓	↓		↓		↓	
Sept.							
Oct.							
Nov.							
Dec.							
1926							
Jan.	998.2	995.2	1003.4	1011.3	983.3	1001.1	997.4
Feb.	1001.7	995.2	1003.4	995.9	991.5	1097.6	997.6
Mar.	1001.5	995.2	1003.4	1002.9	992.7	999.5	1001.5
Apr.	995.8	1002.8	982.8	1000.4	995.7	999.5	1009.7
May	981.1	1002.8	.	994.5	1000.5	999.4	1005.3
June	1002.2	997.6	990.4	1001.5	997.6	1001.3	.
July	1000.2	997.5	.	1001.6	997.2	999.8	.
Aug.	1001.7	.	.	994.3	996.9	1004.2	.
Sept.	1001.7	1007.0	.	998.8	995.7	1001.4	.
Oct.	1001.3	.	.	997.3	993.1	.	.
Nov.	999.4	.	.	984.3	1003.9	.	.
Dec.	1001.2	.	.	983.3	1000.0	1002.5	.

TABLE VIII. 3 (continued)

	Riga	Reval <sup>a</sup>	Kovno <sup>b</sup>	Harbin <sup>c</sup>	Teheran	Rome	Constantinople
1927							
Jan.	998.4			1031.6		1012.9	
Feb.	999.4			1013.0		1010.1	
Mar.	No	more	cited	in	sources.		

<sup>a</sup>Also known as Tallin.

<sup>b</sup>Also known as Kaunas.

<sup>c</sup>Also known as Kharbin.

transactions) bought and sold at the official parity exchange rates.

The chervonetz exchange rate on foreign exchanges, however, did not seem to reflect these difficulties--perhaps because the State Bank continued to temporarily support the exchange rate abroad or because these rates were largely nominal rates.<sup>170</sup> Apparently chervonetz were being exported in large quantities for sale abroad (to finance illegal imports among other things), and on July 9, 1926 the Soviet government prohibited their unauthorized export and accepted no further obligations to redeem them.<sup>171</sup> This prohibition of chervonetz currency exports formally signified the end of the USSR's attempt to reestablish the ruble on foreign markets, a ruble which had become increasingly overvalued during 1925/26.

A large part of imports was financed through various types of credits which amounted to about 209 million rubles on October 1, 1926.<sup>172</sup> These were for the most part short-term credits with an average maturity of 4 1/2 months in 1924/25 and about 9 months in 1925/26.<sup>173</sup> The short maturity of these credits and the continual uncertainty of the availability of credits for the USSR greatly increased the risk of payments difficulties. In Spring 1926, however, a major improvement in

---

<sup>170</sup>Table VIII. 3. See Carr-58, p. 488.

<sup>171</sup>SUYB-28, p. 419, and Carr-58, p. 488.

<sup>172</sup>Table T-15.

<sup>173</sup>ST., Vol. I, No. 11, p. 26. The average outstanding debt according to this source was 109 million rubles in 1924/25 and 150 million rubles for the first three quarters of 1925/26.

the credit conditions for the USSR was achieved when the German government agreed to guarantee credits on additional imports of machinery, etc., by the USSR up to 300 million marks (142 million rubles) with a maturity of two and four years.<sup>174</sup> This credit set the stage for a rapid increase in machinery imports.

Summary and significance of 1925/26  
in Soviet foreign trade

The original foreign trade plan badly overestimated export possibilities and attempts to fulfill this export plan by state procurement agencies in the fall of 1925/26 contributed to the existing excess demand for agricultural products. The resultant price rise threatened renewed inflationary spirals, and, combined with lower foreign prices, made many exports commercially unprofitable. Commercial losses in export operations led to the government's decision to reduce the procurement prices of grain, eggs, butter, flax, meat, etc., which, in turn, caused a decline in procurements and exports. Higher industrial demand for flax, and timber, higher urban demand for eggs, butter, meat and bread-stuffs, and lower foreign prices also affected the fulfillment of the export plan. The underfulfillment of the export plan forced a large cutback in planned imports, which in turn restricted the growth of investment and industrial output.<sup>175</sup> The rising domestic prices and large unexpected

---

<sup>174</sup> See p. 255 and footnote 27 on p. 255. See also Kuczynski - 47, pp. 55-56.

<sup>175</sup> See Preobrazhensky-26 (pp. 13-14) for his example of "the peasants plan" to market 200 million poods less of grain, and its effect on exports, imports and industrial output--he was obviously referring to the events of 1925/26. He also cited "insufficient import potential"

balance of payments deficit resulted in increased demand for gold on the domestic money market and forced the Commissariat of Finance to abandon their attempt to make the chervonetz a convertible currency in domestic and foreign money markets.

The long-run impact of 1925/26 on  
Soviet growth strategy

The debate over the proper domestic economic policy for industrialization was in full swing in the middle of 1925, when the Control Figures for 1925/26 and the foreign trade plan were submitted for approval.<sup>176</sup> The plans for 1925/26 reflected the views (and hopes) of what was to come to be the "Right" faction of the Party. But the difficulties in grain collections, difficulties in expanding non-grain agricultural exports, and a decline in world market prices in the fall of 1925, dealt a devastating blow to the export plan, and thus to the import plan, and as a consequence, to the industrial output plans and foreign reserves. Thus, it was not surprising to see the shift in emphasis toward the development of domestic industry (and especially the critical raw materials and machinery industries) and relatively less reliance on imports--a policy strongly reminiscent of the economic policy of Witte and his successors.

---

as an important obstacle to the growth of industrial output (Preobrazhensky-26, p. 41).

<sup>176</sup>See Dobb-28, p. 319. See Chapter II, pp. 74 ff.

## CHAPTER IX

## A MIDDLING GOOD YEAR: 1926/27 PAYMENTS SURPLUS

After the debacle of 1925/26, the foreign trade plan for 1926/27 was drawn up with greater caution. The dominating constraint was to assure a large trade surplus to avoid the payments difficulties experienced in 1925/26. VSNKh and STO issued a plan directive to plan foreign trade to achieve a balance of payments surplus of more than 100 million rubles.<sup>1</sup>

The prospects for expanding exports were favorable because of the second good harvest in a row, larger grain surpluses in the hands of the peasants and the government, a significant lessening of the "goods famine," and significant reduction in inflationary pressure through government regulation and economic measures.<sup>2</sup> The dark spots in the export picture for 1926/27 were the cutbacks or stagnation in the sowing of technical crops, sugar beets, corn, and rye; the reduced marketing of butter, eggs, etc. caused by the reduction of procurement prices,

---

<sup>1</sup>Kaufman-26a. Rykov-26b (p. 9) wrote that "the foreign trade plan for 1926/27 counts on an accumulation of 75 million rubles of foreign reserves so that the surplus in the balance of payments must exceed 100 million rubles." Sobolev-26b (p. 33) implied that the directive was to achieve a trade surplus of 100 million rubles.

<sup>2</sup>ST, Vol. 2, No. 43, p. 34; SUA, Vol. V, No. 6 (1927), p. 4.



and the low marketing coefficients for grain and other products.<sup>3</sup>

The major problem for the 1926/27 import plan was to assure an adequate supply of imported raw materials for the expansion of industry and to supply machinery for the enlarged investment program.<sup>4</sup> The 300 million mark credit from Germany was to finance a large part of the increase in machinery imports.<sup>5</sup> The raw materials problem was particularly critical for 1926/27 because of a large drop in cotton yields in Central Asia and continuing procurement problems for hides and wool. These were all inputs into the major consumers' goods industries which were important for further reduction of the "goods famine" which persisted in a more moderate form.<sup>6</sup> Raw material imports were to be

---

<sup>3</sup>Diamond-55.

<sup>4</sup>Rykov-26, p. 9. The 1926/27 industrial investment plan (870 million rubles) was 12% greater than the 1925/26 plan and was intended to provide sufficient capacity to expand industrial output about 10-12% in 1927/28. The major fields of investment were metal industry (228 million rubles), coal industry (116 million rubles), the textile industry (106 million rubles), and the oil industry (132 million rubles). Investment in the oil industry was for the purpose of expanding oil exports. Investment in the timber industry, the other major export field was much smaller (24 million) and was even less than investment in the paper industry (import substitution) (SUA, Vol. V, No. 27, pp. 30-31). The industrialization resolution of the 14th Party Congress was not mentioned as a guideline to economic policy on foreign trade planning at this point.

<sup>5</sup>Kaufman-26a. He pointed out that the availability of long-term credits meant that any planned active payments balance could be achieved with a smaller trade surplus and would permit greater imports for any given level of exports.

<sup>6</sup>SUA (Vol. VI, No. 6 (1927), p. 46) compared production and shipment of manufactured goods to surplus regions. Rykov-26b (p. 10) stated that during the autumn of 1926 demand exceeded supply for only cotton cloth, wool cloth, leather goods, and staple metals (roofing iron, nails).

expanded by eliminating most imports of manufactured consumers' goods. Some planners doubted the effectiveness of the large expenditures of scarce foreign exchange for manufactured consumers' goods as a method of supplying these goods in short supply as compared to the same expenditure on industrial materials for producing these consumer goods domestically.<sup>7</sup> For the availability of imported materials was considered by Gosplan to be the major barrier to expanded industrial output and investment.<sup>8</sup>

#### The 1926/27 foreign trade plan

Foreign trade plans were drawn up by both NKT and Gosplan. A slightly revised variant of NKT's original plan was confirmed by the government and for the first time the confirmed plan remained the operative plan without revision throughout the entire year.<sup>9</sup>

Gosplan's foreign trade plan and output targets.<sup>10</sup> The orientation figures first presented by Gosplan projected 1926/27 exports at

<sup>7</sup>Kaufman-26d, p. 9; Kaufman-26a; Ekon. Zhisn, February 24, 1927; and Rykov-26b, p. 9; Kaufman-27c, p. 1.

<sup>8</sup>For example, in the introduction to the Control Figures for 1926/27, Gosplan noted: "despite ideally precise calculation of the share of national accumulation which must be mobilized by the state in order to expand industry, the production plan will flounder if the export-import part of the general balance is out of line with what is actually feasible." Gosplan-26, in Spulber-64, p. 402.

<sup>9</sup>MB-27, p. 10.

<sup>10</sup>Plan figures from Table T-1.

820 million rubles. This was 22% greater than actual exports in 1925/26, but far below Gosplan's initial orientation 1925/26 export plan. Gosplan projected that imports would be at 745 million rubles (2.4% less than actual 1925/26 imports). This was 9% above the drastically reduced revised import plan adopted in January 1926 (but again far below Gosplan's initial import plan for 1925/26). Gosplan's orientation foreign trade plan projected a trade surplus of 75 million rubles.<sup>11</sup> The structure of the export plan did not change much and again relied heavily on grain products and other agricultural products.<sup>12</sup> Planned imports of manufactured consumers' goods were almost entirely eliminated.<sup>13</sup> Machinery imports were to be increased by 50%, and raw material imports--especially cotton--were to be raised to permit an expansion of consumers' goods output.<sup>14</sup>

Sobolev criticized Gosplan's export orientation figures as being again excessively optimistic with respect to major agricultural exports.

<sup>11</sup>Sobolev-26b, p. 27, and Table T-1.

<sup>12</sup>Grain exports, due to the larger harvest, were to be larger than in 1925/26 (Rykov-26b, p. 10). See below "Grain Export and Plan in 1926/27."

<sup>13</sup>Rykov-26b, p. 9. Kaufman-28c (p. 110) stated that, "the import plan should primarily satisfy the current needs of industry and capital construction." He noted that "imports of consumer goods should be permitted only in minimal quantities in an effort to economize on valuta" (*Ibid.*, p. 113).

<sup>14</sup>Rykov-26b, p. 10. The reduced cotton harvest required planning for an increase in cotton imports (Kaufman-28c, p. 113; Sobolev-26b, pp. 27-28). Since machinery imports were to be on long-term credit, and since finished consumers' goods were sold on short-term bills of exchange, the change in the composition of trade aided the balance of payments. See Sobolev-26b, pp. 33-35, for a discussion of the use of credits to expand imports.

On the basis of the grain procurement campaign in progress, he predicted that grain exports would be 30-40 million rubles lower than the plan figures.<sup>15</sup> Furthermore, procurement problems in butter, eggs, flax, and other important agricultural export products occurring during the summer and early fall 1926 beclouded the export outlook for these products, while continuing low world prices continued to make exports unprofitable for major agricultural products and for timber.<sup>16</sup> As a consequence of the probable underfulfillment of Gosplan's export plan, Sobolev predicted that there was little chance of the trade surplus plan being fulfilled. Gosplan came to the same conclusion.

Gosplan used the 1926/27 control figures of SCNE [VSNKh] . . . The critical verification of that projection consisted mainly of assessing the tangibility of the resources required for the rate of industrial expansion which SCNE had assumed. For the current period the point of greatest danger in this respect is the export-import plan. After the unfavorable trade balance last year and over a number of months this year, it has become imperative that a favorable balance of trade be planned for and achieved next year, in particular, a favorable balance of payments, which would permit replenishment of the foreign exchange reserves in the treasury. Having subjected SCNE's export-import assumptions to detailed analysis from this standpoint, the Gosplan came to the conclusion that they did not guarantee the achievement of as large a favorable balance as is required for the stability of the economy's equilibrium in the coming year. As a result, the contemplated volume of imports was reduced somewhat, which in turn necessitated cutting down the rate of economic construction to a corresponding degree and tracing the effects of that reduction through the entire system of economic interrelationships expressed by the Control Figures. . . . When the import quotas were cut, every effort was made to see to it that the textile industry, and other branches of light industry in which the

---

<sup>15</sup>Sobolev-28b, pp. 27 and 33. The grain procurement campaign for agricultural year 1926/27 lagged behind the previous year's campaign because of a late harvest and a cautious attitude in procurements. See Oehring-26a.

<sup>16</sup>Ekon. Zhisn, February 24, 1927.

rate of output growth could not be reduced without aggravating the goods famine, were supplied with adequate quantities of raw materials. . . . The Commission on Control Figures tried as far as possible not to cut back those capital construction projects whose completion in the coming year is essential for production to proceed normally in the next few years.<sup>17</sup>

Gosplan issued revised figures of 800 million rubles for export, 704 million rubles for imports with a planned trade surplus of 96 million rubles.<sup>18</sup> The 41 million ruble reduction in planned imports required a reduction in the output targets of import-dependent industries for the second year in a row. The preliminary growth targets were revised downward from 7.5% to 5.5% in the cotton textile industry, from 21% to 17% in the leather working industry, from 14% to 13% in the metalworking industry, and from 8.5% to 5.5% in the woolen textile industry.<sup>19</sup> Foreign trade--import-dependence--was again found to be a barrier to economic recovery and further growth.

NKT's foreign trade plan. NKT presented a more conservative foreign trade plan, and projected 1926/27 exports at 780 million rubles, 15.2% above actual 1925/26 exports; imports were projected at 680 million rubles, 10.0% below 1925/26 levels.<sup>20</sup>

NKT's original foreign trade plan for 1926/27 was revised at least once after the fall of 1926. The export plan was reduced slightly

---

<sup>17</sup> Gosplan-26, as cited in Spulber-64, pp. 405-406.

<sup>18</sup> Sobolev-26b, p. 32.

<sup>19</sup> Ibid., Kaufman-28c, p. 110.

<sup>20</sup> Kaufman-26b.

to 762.9 million rubles, and the import plan was raised from 680 million rubles to 699 million rubles which was not much below Gosplan's revised import plan.<sup>21</sup> NKT's revised plan gave a trade surplus of only 63.9 million rubles, as compared to the directive to achieve an active payments balance of 100 million rubles. Middle-term credits for imports, however, may have accounted for part of the active payments balance.<sup>22</sup>

There was considerable discussion in 1926/27 over the proper size of the trade balance and proper role and amounts of foreign credits to expand imports. Kaufman, the chief economic planner for NKT, stated:

The policy of the trade balance in the current year should be to achieve a balance between the interests of industry (for with the policy of industrialization of the country, the main consumer of imported goods is industry) and the interest of the payments balance.<sup>23</sup>

He went on to note that an excessive accumulation of foreign exchange slows the industrialization of the country; and only through the use of long-term credits can foreign exchange be accumulated along with a simultaneous passive trade balance. Kaufman concluded that for the USSR, however, it is necessary to attempt to run a small trade surplus along with the expansion of long-term credits.<sup>24</sup> Sobolev on the other

---

<sup>21</sup>Kaufman-28a, p. 7.

<sup>22</sup>Kaufman-26a discussed the role of long-term credits in the payment balance.

<sup>23</sup>Ibid.

<sup>24</sup>Kaufman-26a. The USSR's deficit on the invisibles trade items had become fairly large by 1926.

hand warned about excessive accumulation of credits (especially short-term) which might require a possible reduction of imports in the near future if the credit situation changed drastically.<sup>25</sup>

The export plan.<sup>26</sup> The final revised plan for 1926/27 projected a 12.7% increase in agricultural exports over 1925/26. Grain exports were still the pillar of the export plan (40%) and were to be increased 50% in value and 39% in quantity.<sup>27</sup> Butter and eggs were to be increased 5.5% and 39% in quantity above 1925/26. Flax exports on the other hand, were to decline 18.9% in quantity (because of the reduced harvest) and 37% in value (because of lower world prices). Industrial exports were projected to increase only 8.5% in value over 1925/26 levels and were not to be an important source of export growth in 1926/27.<sup>28</sup>

---

<sup>25</sup>The valuta plan for 1926/27 for example was burdened by large repayments of short-term credit (and eased by long-term credits particularly from Germany). The credit repayment burden was particularly heavy in the first quarter (October-December 1926), and required imports to be cut even below one-fourth of the yearly plan (Sobolev-26b, p. 35). The yearly plan called for 699 million rubles of imports; one-fourth of which is 174 million rubles. The export plan, according to Ekon. Zhisn, February 24, 1926, projected exports at 188 million rubles, while planned imports were less than 150 million rubles, lower than imports for the previous seven quarters. According to Sobolev-26b (p. 32), a decision was made to limit imports in the first quarter to the foreign exchange receipts from exports.

<sup>26</sup>From Table IX.1.

<sup>27</sup>Oehring-26a, p. 14, and footnote 48 on p. 336.

<sup>28</sup>The relationship of quantity and value for flax exports implied lower expected prices for 1926/27 for flax. The small increase in projected industrial exports may reflect lower expected prices for oil products, or the judgment of M. Kaufman, chief planner for foreign trade in NKT, or simply a projection of the availability of Soviet industrial exports in 1926/27.

TABLE IX. 1

## USSR: 1926/27 EXPORT PLAN

(value in millions rubles, quantity in 1000's m. t.)

Part A	Actual 1925/26		Plan 1926/27			
	1925/26 Actual		Planned Export		1926/27 Plan as % 1925/26 Actual	
	Quantity	Value	Quantity	Value	Quantity	Value
Total Exports		677		763		112.7
Agricultural Exports		429		494		115.2
Grain and related products	2630	198.1	3500	300	116.2	118.7
Butter (gross)	27.2	30.9	28.7		105.5	
Eggs (wagons)	4.1	23.6	5.7		139	
Flax	70.9	45.5	57.5	28.7	81.1	63.0
Other						
Industrial Export		248		269		8.5
	Actual 1926/27					
Part B	Actual Export		1926/27 % 1925/26		Fulfillment % Target	
	Quantity	Value	Quantity	Value	Quantity	Value
Total Exports		771		113.9		101.0
Agricultural Exports		471.7		110.0		95.5
Grain and related products	2638	234.0	100.4	118.1	75	75
Butter (gross)	30.3	34.2	111.4	110.7	105.5	
Eggs (wagons)	5.9	29.0	143.9	122.9	102.9	
Flax	43.0	20.1	60.6	44.2	74.8	70.0
Other						
Industrial Export		299		120.6		111.2

Source: Notes to Table IX.1, Appendix B, p. 769.



The agricultural part of NKT's export plan was drawn up on the basis of growth rates projected by Gosplan for various agricultural products. These projections are compared with the actual growth rates below:<sup>29</sup>

	Projected Increase in 1926/27	Actual Increase in 1926/27
Agricultural Output	+ 7.2%	+ 4.9%
Grains-Output	+ 9.1%	+ 4.9%
Technical Crops- Output	- 6.0%	- 8.4%
Livestock-Output	+ 4.9%	+ 3.0%

The marketing coefficients were also expected to increase.<sup>30</sup> Similar figures are not available for industrial products.

In summary, the export plan, still based largely (65%) on agriculture, projected a "conservative" 12.7% increase in exports. Constrained by the slow growth of exports and the need to achieve a large trade surplus, the import plan projected a reduction in total imports (in current prices) and was oriented almost entirely toward the supply of materials to industry and machinery for investment.

#### Good fulfillment of the 1926/27 foreign trade plan

The development of Soviet foreign trade during 1926/27 was considered to be quite satisfactory. For Soviet foreign trade in current prices developed roughly according to NKT's plan, partly because increases in foreign prices offset unexpected shortfalls in agricultural production and marketing and despite a strong increase in the urban,

---

<sup>29</sup>Kaufman-28c, p. 106.

<sup>30</sup>Ibid.

peasant, and industrial demand for major export commodities.<sup>31</sup> In current prices exports rose 92 million rubles (15%) during 1926/27, imports were reduced 44 million rubles (-5.8%) and the trade surplus was 66 million rubles as compared to the 80 million rubles trade deficit in 1925/26. The value of exports (778 million rubles) was almost identical to NKT's original export plan and exceeded the revised export plan by 2.1%.<sup>32</sup> The outlook for future expansion of exports, however, was much less favorable than indicated by the developments of exports during 1926/27.

The import plan required a 7.6% reduction in imports. Imports valued at current prices were indeed reduced to 713 million rubles and exceeded the revised import plan by only 2.5%. Many Soviet economists had continually urged stricter adherence to the import plan which had been exceeded by significant margins during the previous three years,<sup>33</sup>

---

<sup>31</sup>Kaufman-28b, pp. 7-9, Kaufman-28c, MB-27a, pp. 10-12.

<sup>32</sup>The revised export plan (if drawn up on the basis of constant prices) projected a 12.7% increase in exports--1926/27 exports valued in 1926/27 prices actually increased 17.7% so that the export plan was overfulfilled even more than indicated in current prices (Table T-24).

<sup>33</sup>The slight overfulfillment of the import plan was attributed to deliveries made of goods purchased in the previous year and preliminary estimates placed purchases (as opposed to deliveries) at 694.4 million rubles--i. e. less than the final revised import plan; sales of export goods equalled 743.6 million rubles as compared to shipments of 779 million rubles, which implied either the accumulation of export goods warehoused abroad, overvaluation of goods shipped before sale, or delivery of goods purchased before the beginning of the economic year (Kaufman-28c, p. 115).

so that the success in fulfilling the foreign trade plan was considered an important step in increasing the planned nature (planomost) in foreign trade.<sup>34</sup> The reduction in the value of imports, however, came from two sources, a planned cut of imports of manufactured consumers' goods, agricultural machinery, and some semi-processed goods (paper, dyes, worked leather), and an unexpected decline in the prices of major imported commodities such as cotton, rubber, non-ferrous metals, pulp, and wool which permitted the import of the stipulated quantity for less expenditure of foreign exchange.<sup>35</sup> If imports are valued in constant (1926/27) prices, imports did not decline at all but actually rose 4.1% so that in constant prices, the revised 1926/27 import plan was overfulfilled by 12.6%.<sup>36</sup> The unexpected decline in import prices permitted above-plan imports of raw materials so that imported raw materials were not as scarce during 1926/27 as first projected by Gosplan.<sup>37</sup> But prices

<sup>34</sup>See Kutusov-28, p. 59. This planomost was partly the result (and purpose) of the new import firms, which monopolized the import of important raw materials and which were under the direct control of the trade delegation. Formerly, domestic syndicates and trusts received either specific import licenses or a general import license which permitted them to purchase directly on foreign markets. See A. Kaulin, "Die Neuen Export-und Import Gesellschaften," SUA, Vol. V, No. 19 (1926), pp. 5-9.

<sup>35</sup>Some evidence suggests that the value of imports for a particular commodity was planned, and if the world price of that commodity declined, a larger quantity could (and would) be imported (Cf. Rykov-26b, p. 10). Rykov implied that the value of cotton imports is determined by the plan, for if foreign cotton prices fell, additional cotton would be imported. See Kaufman-28c, also.

<sup>36</sup>Table T-25. The trade surplus would have been reduced to about 10 million rubles if prices had not changed in 1926/27.

<sup>37</sup>MB-27a, p. 10.

which fall can also rise!

Both imports and exports still lagged far behind the rest of the economy. By 1926/27, gross industrial output in 1913 prices had reached 104% of 1913 levels, gross agricultural output in 1913 prices reached 102.4% of 1913 levels (Soviet data)--but imports and exports in 1913 prices had recovered to only 44% of their 1913 levels.<sup>38</sup> Why?

Grain exports and plan in 1926/27 (AY)<sup>39</sup>

The grain export plan for 1926/27 (EY) was only 75% fulfilled both in quantity and value.<sup>40</sup>

The grain export plans. The export plan for grain and related products for 1926/27 (AY) was set at 3.55 million tons, (a 34% increase over 1925/26 (AY) levels).<sup>41</sup> This "conservative" 1926/27 grain export plan reflected the greater caution (and bitter experience) of the planning authorities as compared to 1925/26 (AY) when the grain export plan was set at 6.2 million m. t.<sup>42</sup> The grain export plan for 1926/27 (EY) was

<sup>38</sup> Adjusted for territorial change. Trade data from Kaufman-28c, pp. 107 and 115. Data on gross output in 1913 prices from SUYB-30, p. 94.

<sup>39</sup> Analysis of grain exports and plan fulfillment is complicated by the existence of two grain export plans, one for the grain export campaign during the agricultural year (July 1-June 30) and a grain export plan for the foreign trade plan for the economic year (October 1 - September 30). In some sources, the use of the term "grain export plan" was ambiguous and therefore these plan figures should be used with caution.

<sup>40</sup> MB-27a, p. 11. The grain export plan for 1926/27 (AY) was fulfilled in terms of value but the plan was only 86% fulfilled in terms of quantity (ST, Vol. 2, No. 28, p. 7 and Kaufman-28c).

<sup>41</sup> Balaban-38, p. 219. Also Kaufman-28c, p. 104.

<sup>42</sup> Balaban-28, p. 219.

roughly identical to the plan for 1926/27 (AY).<sup>43</sup>

The planned value of grain exports in 1926/27 (EY) was projected at about 300 million rubles, which was an increase of 50% (100 million rubles) over 1925/26 (EY) levels.<sup>44</sup> This increase accounted for more than the entire planned increase in agricultural exports, which in turn accounted for 75% of the planned increase in total exports for 1926/27 (EY).<sup>45</sup>

Assumptions behind the 1926/27 grain export plan. The projected increase in grain exports was based on the projections of a larger grain harvest in 1926 and on an increase in both procurements and the marketing coefficient of grain from the peasant.

The 1926 harvest of grain products was projected at 79.6 million m. t. or about 7.2 million m. t. (10%) higher than the 1925 harvest.<sup>46</sup> The projected shift in planned exports toward wheat and away from

<sup>43</sup> MB-27a (p. 11) stated that the grain export plan for 1926/27 (EY) was three-quarters fulfilled. Exports of grain and related products in 1926/27 (EY) were 2.64 million m. t. which implied a grain export plan of 3.52 million m. t.

<sup>44</sup> Oehring-26a, p. 14. This is indirectly confirmed by MB-27a (p. 11) which stated that actual grain exports (valued at 235 million rubles in 1926/27 (EY) were only three fourths of the yearly plan; the implied export plan was 313 million rubles.

<sup>45</sup> Flax exports were to decline somewhat in 1926/27 (EY), so that part of the 100 million ruble increase in grain exports was offset by this projected decline in flax exports (Table IX. 1).

<sup>46</sup> Dubenezki-27a, p. 22. The 1925 harvest was 72.4 million m. t., the projected 1926 harvest was 79.6 million m. t. Rykov-26b, explicitly noted that the harvest would be 10% higher than last year and that this increase was taken account of in the export plan.

barley, oilseeds, and oil cake reflected the favorable outlook for the wheat crop and the sharply reduced crop of oilseeds and barley.<sup>47</sup>

Thus, the value of grain exports would rise more rapidly than the quantity because of the larger share of the higher priced grains (wheat and rye) the expected improvement in the quality of the exported grain and higher world prices.<sup>48</sup>

Total marketing of grain and related products was projected to increase about 23% to 16.4 million m. t. (as compared to about 13.4 million m. t. in 1925/26 (AY). The predicted marketing coefficient (tovarnost') was to increase about 25% of the gross harvest as compared to 16-17% in 1925/26.<sup>49</sup> Planned agencies were expected to purchase about 11.55 million m. t. of grain and related products placed on the market so that the predicted share of private trade and non-planned agencies was estimated at about 5 million m. t. (30%) of total marketing.<sup>50</sup>

Fulfillment of the grain procurement plan was based largely on the increase in the marketing coefficient (tovarnost') of the grain producer. Why did the planners predict this large increase in grain marketing and in the grain marketing coefficient?

<sup>47</sup>Oehring-26b, p. 12.

<sup>48</sup>Oehring-26b, p. 12 and Oehring-26a, p. 14.

<sup>49</sup>Oehring-26b (p. 14) for plan figures which include oilseed. Actual marketing figures for 1925/26 (EY) are estimated on the basis of actual (estimated) marketing of grain products to all purchasers and the actual procurements of oilseeds (1.15 million m. t.) in 1925/26 (Table T-8).

<sup>50</sup>Ibid., Balaban-28, p. 214. The procurement plan of grain products for planned agencies alone was set at 11.06 million m. t. for 1926/27 (AY) as compared to actual procurements of 8.44 million m. t. in 1925/26 (AY) (Vinogradskii-27a, p. 11 and ST, Vol. 43, p. 40).

Many factors favored successful fulfillment of the 1926/27 grain campaign in addition to more careful formulation of the procurement plan and a record harvest. It was the second good harvest in a row and both peasants and the state held reasonably large stocks of grain from the previous year. Second, the "goods famine" had been alleviated in the countryside and there was a concerted campaign to lower the prices of industrial goods and to increase the flow of goods to grain surplus regions on a planned basis.<sup>51</sup> Third, the planned procurement agencies and the procurement program was better organized from the viewpoint of exercising monopsonistic power in the purchase of grain. A "compact" or "convention" among the main planned agencies regulated the upper procurement prices and delineated areas of operation.<sup>52</sup> In addition, better credit control was to be exercised over the procurement agencies to improve the central control and to prevent the accumulation of excessive purchasing power in the countryside (as occurred in the 1925/26 grain campaign).<sup>53</sup> The states' monopsonistic power had been further strengthened by additional restrictive measures on the private trader which, in practice, were effective

---

<sup>51</sup>Oehring-26b, pp. 11-16. Cf. Balaban-28, pp. 217-218. The price cuts were to be made in state and cooperative stores at the retail level, and by the industrial trusts at the wholesale level (ST, Vol. II, No. 43, pp. 36-39). Private retail prices were to be reduced through resale-price-agreements.

<sup>52</sup>Oehring-26a, p. 14. As the 1926/27 year progressed, the apparatus was further centralized when Gostorg's grain collection system was eliminated (merged into the newly formed Khleboprodukt while the cooperative purchasing network was centralized into Khlebot-sentr (Balaban-28, p. 218).

<sup>53</sup>In addition, credit was in general restricted (Oehring-26b, p. 15).

enough to reduce the share of private trader to about 3% of total marketing in 1926/27 as compared to 13% in the previous year.<sup>54</sup>

Another factor considered favorable for the success of the 1926/27 grain campaign was the much lower initial procurement prices in June and July 1926 as compared to the same period in 1925; grain prices were 30 - 40% lower than in the previous year.<sup>55</sup> This drastic cut in prices plus better foreign prices made grain exports again "commercially profitable" - a goal which still was imagined to be important in setting domestic procurement prices. In fact, among the several principles guiding the 1926/27 grain procurement campaign were two of direct interest to grain exports: "the establishment of a level of procurement prices which would assure the profitability of exports and low prices for bread in the consuming regions," and the "provision of exports with the maximum quantity of grain products."<sup>56</sup> Low grain prices and maximum grain exports turned out to be contradictory goals!

Underfulfillment of the grain export plan. In terms of value, the grain export plan for the agricultural year was almost 100% fulfilled, but this concealed the important fact that in terms of quantity this export plan was only 86% fulfilled.<sup>57</sup> While this was much above 1925/26 (AY)

<sup>54</sup> SUA, Vol. VI, No. 20, (1927). "Extra-plan" agencies procurements of a local nature also declined from 16.1% in 1925/26 to 9.1% in 1926/27 (Ibid.).

<sup>55</sup> Oehring-26b, p. 16 and Tables T-38 - T-40.

<sup>56</sup> Balaban-28, p. 217. Also see Oehring-28b, pp. 14 and 16.

<sup>57</sup> Kaufman-28c, p. 104 and ST, Vol. II, No. 28, p. 7. Only 3.06 million m. t. of grain and related products were exported in 1926/27 (AY) instead of the projected 3.55 million m. t.



grain exports, it barely exceeded the exports of grain and related products from a much smaller crop during 1923/24 (AY).<sup>58</sup> The value (and volume weighted in constant prices) rose considerably more than 16.4% because of higher world prices and large increases in the export of higher priced grains (wheat and rye). Barley and oil seed exports fell.<sup>59</sup>

Grain exports for 1926/26 (EY) (i. e. , for the 1926/27 foreign trade plan) fell much further below the plan targets and the grain export plan was only 75% fulfilled (with respect to both quantity and value).<sup>60</sup> Furthermore, grain exports were far below the plan figures in the April-June quarter and almost ceased in the July-September quarter of 1926/27 (EY).

This underfulfillment of the 1926/27 grain export plan in quantitative terms was symptomatic of more fundamental forces affecting the future of grain exports.<sup>61</sup>

Procurements, exports, and problems. The gross 1926 grain harvest was somewhat less (6.6%) than predicted by the planners,

<sup>58</sup>Table T-8, and SUA, Vol. VI, No. 14 (1927), p. 19.

<sup>59</sup>ST, Vol. II, No. 43, p. 40, and ST, Vol. II, No. 28, p. 28. This change in the structure of exports more or less reflected the change in procurements by planned agencies, which in turn reflected the change in crops and relative prices. See above cited sources and footnote 62 of this chapter.

<sup>60</sup>MB-27.

<sup>61</sup>The overfulfillment of the grain export plan even in the largest quarter (October-December 1927) was due largely to higher prices for bread grains and a change in the composition of grain exports; the quantity of grain exports foreseen by the plan for the first quarter was not exported (Loevetskii-27a).

nevertheless, it was the best grain harvest since 1917.<sup>62</sup>

The grain procurement campaign for 1926/27 (AY) proceeded satisfactorily (especially during the first half of the year); the procurement plan was 94.8% fulfilled and grain procurement prices for the most part remained very stable through the entire campaign.<sup>63</sup> Only during the April-June quarter did the procurement plan run into severe difficulties. These aggregate figures, however, did not reveal several factors adversely affecting exports. First and most important was the failure of total grain marketing to expand as predicted at the beginning of the campaign. In 1926/27 (AY) total marketing rose to 14.0-14.5 million m. t. instead of the predicted 16.4 million m. t.<sup>64</sup> The success of planned procurements was largely at the cost of private grain traders. The marketing coefficient of grain products rose insignificantly from

---

<sup>62</sup>Table T-8. The actual 1926 harvest exceeded the 1925 harvest by 6.6% (4.75 million m. t.); the 1926/27 crop was distributed among regions in an unfavorable manner with respect to exports with poor harvest in the main export regions (the Ukraine and North Caucasus) and good harvests in the more distant regions (Dubenezki-27, pp. 22-23). The rye, wheat, and oats crops were 10, 13, and 28.4% higher than in 1925/26, and the barley, buckwheat, corn, and millet crops were 3.6, 3.4, 26.2, and 30.9% lower; of the four latter grains, only barley was of direct major export significance. (*Ibid.*, pp. 25-26.) The crop of oil seeds (flax, cotton, sunflower) were all lower than the previous year. The changes in output were due largely to changes in sown area rather than to yield (except for barley) and that changes in the sown areas corresponded to the changes in the relative prices of the grains (wheat and oats were favored).

<sup>63</sup>ST, Vol. II, No. 43, pp. 40-41.

<sup>64</sup>Table T-8. Total marketing of grain products plus procurements of oil seed of 1.15 and .66 million m. t. in 1925/26 (AY) and 1926/27 (AY).

16-17% to 17.4-18% instead of the predicted 25%.<sup>65</sup> The failure of the peasants to market a larger fraction of their grain was, perhaps, the most important factor to be considered in the plans for the future of Soviet foreign trade.<sup>66</sup>

The second factor was that domestic requirements for marketed grain were rising rapidly because of the increasing urban population and because of the necessity to supply increasing quantities of grain (at low prices) to the producers of technical crops (such as cotton, oil seed, flax).<sup>67</sup> The success of these crops were an important element in the supply of exports (oil seed and flax) and the demand for imports (cotton).<sup>68</sup> Thus, to deprive these areas of grain for the purpose of increasing grain exports might not improve the foreign trade situation at all, but this was a problem hardly considered by planners and Party leaders, who were intent in increasing the output and export of all products (without considering the trade-offs).

Third, the peasant was sensitive to relative prices between various agricultural goods, so that low prices of one crop such as

<sup>65</sup>Table T-8. According to Kaufman-26c, (p. 99) stated that the marketing coefficient of grain products rose from 16.3% in 1925/26 to only 16.6% in 1926/27. The marketing coefficient of oil seed fell from 63.8% in 1925/26 to 61.4%.

<sup>66</sup>See Kaufman-28c, p. 100.

<sup>67</sup>Urban population grew 5.6% from January 1, 1926 to January 1927. (according to Gosplan-29a, p. 398) and 7.8% according to Table T-48 (also Soviet data).

<sup>68</sup>Preobrazhensky-26 (p. 173) was very aware of the effect of relative prices (for example) of cotton to grain in encouraging the development of technical crops.

barley, flax or oil seed relative to the price of another crop such as wheat influenced the peasants' marketing decisions in the short-run and his production decisions in the long-run. In 1926/27, in particular, the very low procurement prices for barley and oil seed relative to almost all other prices sharply reduced marketing of barley and oil seeds so that the procurements of these two important export products was about half of 1925/26 levels and the procurement plans were roughly 20% underfulfilled,<sup>69</sup> causing an unexpected curtailment of exports and underfulfillment of the export plan. Furthermore, the sown acreage of barley fell in 1927.<sup>70</sup>

Grain exports peaked in the October-December quarter of 1926, and then fell off from 1176.3 thousand m. t. in October-December 1926 to 869 thousand m. t. in January-March 1927, and even further to 385 thousand m. t. in April-June 1927. Grain exports in July-September 1927 were negligible, in contrast to the same period for 1925 and 1926 (Table T-10).<sup>71</sup> The collapse of grain exports in the last quarter (July-September) of the economic year 1926/27 illustrated how the cycle of

---

<sup>69</sup>Table T-34 for procurement prices.

<sup>70</sup>ST, Vol. II, No. 43, p. 40. The procurement prices of these products were raised several times during the year, while the procurement prices of wheat, rye, and other cereals remained more or less stable (Cf., Tables T-40 and T-38, T-39).

SUA, Vol. VI, No. 12 (1927), p. 39, and Vinogradskii-27, p. 10, and SUA, Vol. VI, No. 9 (1927), p. 33. Oil seeds include flax seed, hemp seed, and sunflower seed; only the last type is raised for seed, alone. According to Vinogradskii-27a (p. 10), such absolute stability between fall and spring prices is not normal, for before the war there normally occurred about a 10 kopeck/pood rise in grain prices because of drying out (weight loss), interest charges, storage charges, etc.

<sup>71</sup>Procurements for July-September 1927 ran ahead of the previous year. SUA, Vol. VI, No. 20 (1927), pp. 34-36. The reduction

the economic year complicates the problem of planning exports, for exports must be projected not only from the current harvest, but also from the first three months (July-September) of the next harvest.

These exports of the July-September quarter usually accounted for about 20-25% of total grain exports for the economic year so that an unfavorable crop arriving at the end of the economic year can result in significant underfulfillment of that year's foreign trade plan as it did in 1926/27. When procurements fell sharply (to an abnormal degree) in the spring of 1927, grain exports also fell off. The decline in procurements during the spring was attributed to 1) a war scare (the British raid on the Soviet trade delegation's premises (Arcos) on May 12, and other international events) which increased both peasant and urban demand for grain, and 2) the more favorable prices for animal products which led peasants to sell animal products instead of grain products to get money.<sup>72</sup> The abnormally large decline in procurements can not be traced to any overt decline in grain prices or to a change in the purchasing power of grains (Table T-25). Of rather

---

of exports in the July-September quarter is explained by the rebuilding of state grain reserves which were depleted in the preceding quarter (ST, Vol. II, No. 43, p. 40). Grain exports were partially restored in the October-December quarter of 1927.

<sup>72</sup>Vinogradskii-27, p. 11. Events included Chinese police raids on Soviet trade delegations on March 11 and April 14; raid on Arcos in England on May 12, and breaking relations between Great Britain and the USSR; assassination of Soviet representative in Poland (SUYB-29, p. 534). Relative price movements of grains and animal products are in Table T-34. SUA (Vol. VI, No. 12 (1927), p. 38) specifically noted that a particularly sharp drop in May's procurements occurred despite the favorable conditions of the spring sowing. It also pointed out that the 1926/27 seasonal pattern of procurements was more or less similar to pre-1914 marketing patterns.

ominous significance was the fact that the purchasing power of grain actually rose. Grain prices exhibited slight seasonal upward trends, and industrial retail prices dropped from 189 in October-December 1926 to 158 in July-September 1927 (-16%).<sup>73</sup> This is not conclusive evidence that the peasant was relatively insensitive to the terms of trade of agriculture. It is likely that the offer curves shifted too. In addition, although the official price index for manufactured goods fell, the "goods famine" actually worsened during the spring and summer of 1927. Low prices manufactured consumers' goods prices, but empty shelves.<sup>74</sup>

A desirable development, according to the Soviet press, was the increasing commercial profitability of Soviet grain exports during 1926/27, when exports were profitable for all grains except corn throughout the year.<sup>75</sup> This increase in profitability is largely the result of the reduction in the procurement costs (Table T-43); overhead costs fell slightly and foreign prices for Soviet grain were only slightly higher (only rye prices moved significantly higher).<sup>76</sup> The

<sup>73</sup>1913 = 100. Kaufman-28c, p. 100. See also Table T-35.

<sup>74</sup>ST, Vol. II, No. 43, pp. 34-37.

<sup>75</sup>Cf. Vinogradskii-27a, p. 12; Balaban-28, p. 219; Feifets-28, pp. 153-154; Kowner-27, p. 28. See Oehring-26b, (p. 16) for importance of procurement price in the export campaign. Kaufman-28c, p. 104.

<sup>76</sup>See Tables T-38 - T-40 for foreign grain prices. The reduction of only 1.6 to 2.6 kopecks per pud from overhead costs of 62 or more kopecks per pud was considered unsatisfactory by some Soviet writers (SUA, Vol. IV, No. 14 (1927), p. 19).

1925/26 commercial loss of 11% of costs of delivered grain was changed to a 7% profit on costs of delivered grain (Table T-43). But foreign grain prices were falling in the summer and fall of 1927.

In summary, the increase in the value of grain exports accounted for 50% of the increase in total exports during 1926/27 (EY). Exports of grain and related products were stable in quantity and the grain export plan for 1926/27 (EY) was only 75% fulfilled. Urban demand was rising, procurement problems were increasing, (during the spring and summer of 1927), and the "goods famine" was worsening. World grain prices were falling during the same period. The harvest forecast for 1927 was less favorable than the previous year. The prospect for expanded grain exports in 1927/28 was poor.

#### Decline in other agricultural exports

The value of other agricultural exports<sup>77</sup> declined (2.2%) for the second year in a row. But in constant 1926/27 prices, however, the volume of these products actually rose about 9%;<sup>78</sup> foreign prices of flax, wool, and eggs fell substantially in 1926/27 while the prices of the other commodities remained roughly unchanged.<sup>79</sup> Thus, the

---

<sup>77</sup>Excluding grain and related products, furs and fish, and sugar.

<sup>78</sup>Table T-26. "Other Agricultural Exports" adjusted for the increase of sugar exports.

<sup>79</sup>The volume index weighted in 1927/28 prices and excluding sugar rose 16.5% and the price index for these goods fell 17.6%. Table T-26 and T-29.

combination of lower world prices and lower flax and wool exports (by quantity) more than offset the increase in butter, eggs, bacon, and tobacco exports in 1926/27. The relative trends of the exports of these products in 1926/27 reflected additional important factors affecting the future developments of Soviet exports -- sensitivity to procurement prices and the size of the harvest, low marketing coefficients and limited size of foreign markets. We again present case studies of four agricultural exports because they illustrate the importance of these factors for the development of Soviet exports and represent a sequel to the case studies started in 1925/26.

Butter. Butter exports rose about 11% and actually exceeded the butter export plan by 5.5% (Table IX, 1). In contrast, the procurement of butter increased 54% so that the share of exports in butter procurements declined substantially (from 56% in 1925/26 to 41% in 1926/27).<sup>80</sup>

Consumption in urban areas grew rapidly and shipments to the city in 1926/27 increased 45% over 1925/26 levels.<sup>81</sup> This increasing domestic demand was viewed as an unfavorable factor for the future expansion of butter exports, because it reduced the "eksportnost" of butter, i. e., it reduced the exported fraction of marketed butter.<sup>82</sup>

---

<sup>80</sup> Actual procurements of 75,140 m. t. exceeded the butter procurement plan of 72,600 m. t. The increase in the procurement price of butter was deliberately planned for 1926/27 to encourage butter production (SUA, Vol. V, No. 23/24, p. 51, and Table III. 32).

<sup>81</sup> Table T-20. ST, Vol. II, No. 43, p. 44.

<sup>82</sup> Kaufman-28c, p. 101.



Procurements of butter were very sensitive to the procurement price.<sup>83</sup> In October-December 1926, both procurements and exports lagged behind the previous year's level and the 1926/27 plan because of the continuing low procurement prices (which had been reduced in early 1926 because of the decline in foreign butter prices).<sup>84</sup> In mid-winter the government deliberately raised the price of all types of butter in order to increase the marketing of milk and to increase the factory production of butter.<sup>85</sup> Prices were raised to record levels during the January-March quarter; but only in May did procurements really accelerate (because of the seasonal behavior of milk output), and procurements in the April-June and July-September quarter of 1927 far exceeded the procurements during the same period in 1926. Exports followed.<sup>86</sup> The price of butter and all animal products relative to other agricultural prices (and especially grain prices) became much more favorable during 1926/27 (Table T-34) and toward the end of the July-September quarter, peasants tended

<sup>83</sup>Loevetskii-27; ST, Vol. II, No. 43, pp. 43-44.

<sup>84</sup>Loevetskii-27 (ST, Vol. II, No. 43, p. 43). Low prices induced the peasant to convert his milk into butter on the farm or in the village, rather than to sell his milk to factories (from which most butter was procured by state agencies). This cottage industry butter was then purchased by private traders.

<sup>85</sup>Ibid.

<sup>86</sup>Table IX.1 and ST, Vol. II, No. 43, p. 45. The marketing response to price increases suggested that the peasants' offer curve of butter was price-elastic, for the RSFSR procurement prices were raised 26% and planned procurements increased 32% (Ibid.). But this may have been a shift of peasant sales from the private trader to the state agencies.

to feed low-priced barley and corn to their cattle rather than to market these grains.<sup>87</sup>

Butter prices had been raised in 1926/27 even though higher domestic prices made butter exports very unprofitable from a commercial viewpoint.<sup>88</sup> This definite change in domestic price policy vis-a-vis foreign prices was another step toward the complete separation of Soviet and foreign price levels and it was brought about by the pressing need to increase exports (and domestic supply).<sup>89</sup>

Eggs. A similar sequence of events occurred with eggs. A large increase in egg exports was planned -- egg exports increased 49% and exceeded the egg export plan by 2.9% in quantity.<sup>90</sup> Procurements of eggs were very responsive to procurement prices and prompted the government to raise prices several times during the summer and fall of 1926 with the express purpose of increasing procurements and exports (as well as increasing the supply to the

<sup>87</sup>Ibid. This was partly the result of an inadequate harvest of fodder grass and other fodder crops.

<sup>88</sup>Table T-45. Average overhead costs for exported butter cited by Kaufman-26e (pp. 1-21) in August 1926 were 34.19 rubles per 100 kilograms. Table T-42 shows that the difference between the procurement price of exported butter and the quoted price for Siberian butter at London varied between 9 and 24 rubles per 100 kg. (According to Kutusov-28 (p. 209) the average overhead expenditure for exported butter was 23.58 rubles per 100 kg.). See Feifets-28b, p. 158 and Table T-45.

<sup>89</sup>See Holzman-68.

<sup>90</sup>Table IX.1 and Table T-4. According to ST, Vol. II, No. 43 (p. 45), egg exports estimated according to the number of wagons increased 42.4%.

urban areas).<sup>91</sup> Procurements by planned agencies almost doubled in 1926/27 suggesting that the supply of eggs to planned procurement agencies -- and hence for export -- was price-elastic. Since domestic urban demand rose even faster, the "eksportnost" of eggs declined from 58% of procurements in 1925/26 to 44% of procurements in 1926/27.<sup>92</sup>

The marketing coefficient of eggs increased only slightly in 1926/27 (from 34.8% in 1925/26 to 37.4% in 1926/27).<sup>93</sup> Furthermore, the large increase in egg exports during the April-June and July-September had a marked depressing effect on egg prices of the cheaper sort in the Soviets' major egg export markets, so that the average foreign sales price of Soviet eggs in 1926/27 was

<sup>91</sup> Procurements of eggs fell catastrophically below expected levels in the spring and early summer of 1926 as a consequence of a reduction in procurement prices which had been made to reduce the commercial losses on egg exports. ST, Vol. I, No. 11, p. 36. See above, p. 300.

ST, Vol. II, No. 43, p. 45. The price was raised from 29 rubles per box in April-June 1926 to 56.98 rubles per box in October-December 1926 to 40.61 in April-June, 1927.

<sup>92</sup> ST, Vol. II, No. 43, p. 45. Kaufman-28c (p. 101) attributes the increased domestic demand to a 5.7% increase in urban population and a large increase in the per-capita consumption of both the peasant and especially the urban population above 1913 levels. Since output had not recovered to 1913 levels, this increase in per-capita consumption was reflected by lower exports of eggs and butter and flax (Ibid., pp. 101-102).

<sup>93</sup> Kaufman-28c, p. 99.

about 18% lower than in 1925/26.<sup>94</sup> The oversupply of Soviet eggs on foreign markets caused Kaufman to suggest that the export of eggs be cut back so as to be able to sell eggs at a higher price -- a clear indication of the Soviet planners' consciousness of the limited capacity of foreign markets.<sup>95</sup>

Flax. The value of flax exports in 1926/27 fell to less than one-half of 1925/26 flax exports. A decline in the value and quantity of flax exports was planned for 1926/27 because it was known that 1) world prices in 1926/27 would be about 15-20% lower than 1925/26, 2) domestic demand would be larger, and 3) the area sown with flax in the important marketing areas had been reduced as a result of the very unfavorable procurement prices during early and mid-1926.<sup>96</sup> Recall that prices had been lowered in order to maintain the commercial profitability of flax exports.<sup>97</sup> Events turned out to be worse than planned. The flax crop in 1926 was 12% lower than 1925, procurements in 1926/27 were 31% lower than 1925/26, and exports were 36% lower than 1925/26.<sup>98</sup> The flax

---

<sup>94</sup>Based on unit values from VTSSSR -60; ST, Vol. II, No. 43, p. 43; SUA, Vol. VI, No. 23, p. 41.

<sup>95</sup>Kaufman-28c, p. 105.

<sup>96</sup>The quantity of flax exports was projected to fall from 70.9 million m.t. in 1925/26 to 57.5 million m.t. in 1926/27. Value was to decline from 45.5 million rubles to 28.9 million rubles. Table IX.1.

<sup>97</sup>ST, Vol. I, No. 11, pp. 37-38. See above, p. 299.

<sup>98</sup>ST, Vol. II, No. 43, p. 46. SUA, Vol. V, No. 23/24, p. 45. The domestic flax-spinning industry was short on raw flax

export plan was only 70% fulfilled and even this poor showing was achieved only at the cost of the domestic flax industry which received 22% less fiber than the previous year and 30% less than planned.<sup>99</sup> Expansion of a domestic industry conflicted directly with the expansion of an important export product.<sup>100</sup>

The procurement price policy was changed as the impact of the low price on sowing and marketing became clear. (The marketing coefficient fell from 61.5% to 53.7% of gross harvest in 1926/27.)<sup>101</sup> The VSNKh ordered an increase in the prices of flax and flax seed and a reduction in the prices of competing grains, oil cake, and vegetable oils in the flax growing regions.<sup>102</sup> The purchasing power of flax in the spring of 1927, however, was still about 25% below the favorable prices which had encouraged the expansion of flax sowing up through 1925 -- and flax sowings continued to

---

(SUA, Vol. VI, No. 11, p. 28). The procurement plan was revised downward several times from 180.2 thousand m. t. to 139.3 thousand m. t. Even this reduced target was not met (ST, Vol. II, No. 43, p. 46).

<sup>99</sup>ST, Vol. II, No. 43, p. 46.

<sup>100</sup>The domestic flax industry used 114,700 m. t. in 1926/27 as compared to 81,900 m. t. in 1913 (Kaufman -28c, p. 102).

<sup>101</sup>Ibid., p. 99.

<sup>102</sup>ST, Vol. II, No. 43, pp. 46-47. Raising the procurement price slightly (5%) had absolutely no effect on marketing in the fall of 1926. Thus, more "energetic measures" were taken on March 8, 1927 (right before the sowing season), which included a 10% increase in prices, reduced grain prices, advanced contracting, increased supply of fertilizer at low prices.

decline in 1927 in favor of grain.<sup>103</sup>

Low foreign flax prices persisted through January 1927, but an increase in foreign demand and the unexpected cutback in Soviet exports (and sowing) resulted in rapid increase in foreign prices during 1927. Thus, flax exports were profitable through most of 1926/27 despite the increase in the procurement price. The influence of Soviet flax exports on foreign flax prices was quite noticeable -- indeed, the Soviet authorities had ended sales competition on foreign markets among the five authorized exporters of flax in the previous fall so that they had more control over the world price.<sup>104</sup>

Oil seed products. The products of oil seed crop -- oil seed, oil cake vegetable oil -- were relatively important in Soviet exports in 1925/26 and equalled 6.8% of total exports.<sup>105</sup> Oil seed product exports declined sharply in 1926/27 (32% in weight and 39% in value) as a consequence of poor yields in the major oil seed producing crops and a cutback in the sown area.<sup>106</sup> Marketing fell

<sup>103</sup> Ibid., p. 47.

<sup>104</sup> The above discussion was based on ST, Vol. II, No. 43, pp. 43, 46-48, and 72, and ST, Vol. I, No. 11, p. 38.

<sup>105</sup> See Appendix A, Technical Note 6 for a definition of "oil seed." Oil seeds refer basically to sunflower seed, flax seed, and cotton seed. Oil seed products include oil cake, oil seed, and the oils of oil seed. Data from VTSSSR-60.

<sup>106</sup> According to Kaufman-28c (p. 99), the yield of oil seed crops fell almost 26%, the sown area was 7.4% less and the gross harvest was 30.8% less than in the previous year. The sunflower seed crop -- the major oil seed -- fell from 2.18 million m. t. in 1925 to 1.49 million m. t. in 1926 (Johnson-60, p. 235).

more than the crop declined (the marketing coefficient fell from 63.8% to 61.4%) -- but this would be expected if output declined.<sup>107</sup> In order to encourage marketing (which was 20% below plan) and to encourage the expansion of oil seed, the procurement prices were deliberately raised during 1926/27.<sup>108</sup>

These four products -- butter, eggs, flax, and oil seed products -- made up a relatively important share of total exports, 21.6% in 1925/26 and 13.9% in 1926/27. The volume of these exports lagged far behind 1913 levels -- yet further expansion of exports in 1927/28 and future years for the products depended on the successful solution to numerous problems -- output, marketing coefficients, proper price policy, "eksportnost," competing domestic demands, and the capacity of foreign markets.

Secondary agricultural exports. As the export of major agricultural products failed to increase as rapidly as hoped, NKT increasingly emphasized development of the so-called "secondary agricultural exports" -- hemp, horsehair, bristles, guts, tobacco, herbs, hides, bacon, fruits, etc.<sup>109</sup> The major problems in expanding secondary agricultural exports were marketing difficulties

---

<sup>107</sup> Kaufman-28c, p. 99. The "eksportnost" of oil seed products actually increased. In 1925/26, 570,000 m.t. of oil seed products were exported and 1,338,000 m.t. were procured, so that the "eksportnost" of procured oil seed was 55%. Similar figures for 1926/27 are 387,000 m.t., 663,000 m.t., 58% (ST, Vol. II, No. 43, p. 40). Export data from VTSSSR-60.

<sup>108</sup> Table T-34 and SUA, Vol. V, No. 23/24, p. 46.

<sup>109</sup> See Gurevich-27a, p. 4; Kaufman-28c, p. 105; Kovarskii-27a, p. 5.  
Agricultural secondary exports (excluding grains, oil seed,

abroad.

Fur. Fur exports had become a most important export item for the USSR and equalled 11% of total exports in 1926/27 (as contrasted to 0.4% in 1913). The value of fur exports in 1926/27 was five times larger than the official value of fur exports in 1913, but because the price level of furs had roughly tripled since 1913, the volume did not quite reach 2 1/2 times 1913 levels.<sup>110</sup>

A reduction in fur exports had been planned for 1926/27 (as it had been planned for 1925/26) as a fur conservation measure.<sup>111</sup> The value of fur export rose 19.6% in 1926/27 but this

oil cake, butter, eggs, flax, furs, fish) rose 34% (47.2 million rubles and 6.9% total exports in 1925/26 to 63.3 million rubles and 8.1% total exports in 1926/27 [calculated as a residual]). Kaufman-28c (p. 105) cited a 22.7% gain in secondary agricultural exports (excluding fish and furs).

<sup>110</sup> Table T-29. Fur prices were used to deflate the value of 1926/27 fur exports for comparison with the 1913 level. The actual volume of fur exports in 1913 was much greater than recorded in the official export statistics (see Appendix F). The volume indexes were constructed on the basis of semi-official estimates of the actual volume of fur exports in 1913. In constant prices, fur exports in 1926/27 were about equal to 1913 exports.

<sup>111</sup> ST, Vol. II, No. 42, p. 14. "K voprosu o sokhranении pushnog o zveria v SSSR". Cf. SUA, Vol. VI, No. 10 (1927), p. 47, and SUA, Vol. V, No. 23/24 (1926), p. 46. Soviet fur exports were a major factor in world fur supply, so that a cutback in exports might affect world fur prices, but this was not discussed.

The fur procurement plan for 1926/27 also stipulated a reduction in the volume of fur procurements; the value of procurements for 1926/27 was projected at 32.5 million rubles as compared to actual procurements of 36 million rubles in 1925/26 and higher prices were to be paid to curtail purchases by private traders. (SUA, Vol. V, No. 20 (1926), p. 46). Measures were also to be taken to 1) set up a fur export syndicate (monopoly) and a trade organization to supply (regulate) the internal demand for fur, and 2) to prevent exhaustion of fur resources.



was due partly to increases in export prices. A volume index of fur exports weighted in 1926/27 prices rose only about 8%. (Table T-26). The important point here is that the Soviet authorities feared exhausting the wild animal stands as had occurred before 1914 for certain furs. Thus, the prospects for further expansion of Soviet fur exports were poor and limited by the necessity to conserve this natural resource.

Industrial exports<sup>112</sup> exceeded plan

Industrial exports increased 20.7% in value in 1926/27 and 33% in volume,<sup>113</sup> and offset the underfulfillment of the agricultural export plan (Table IX. 1). This increase was based almost entirely on five product groups -- oil products, sugar, timber products, manganese ore, and cotton cloth -- which made up 82% of industrial exports (31.4% of all exports) in 1926/27. These five industrial exports were one of the three major sources of growth in the value of exports in 1926/27. The other two sources were grain and fur exports, but the increase in the value of grain and fur exports resulted largely from a change in the composition or because of

---

But the actual value of fur procurements for 1926/27 was as high as 71.4 million rubles or almost double the original plan (possibly because of higher prices). See Feifets-28b (pp. 156-157) for a discussion of overhead costs and profitability of fur exports.

<sup>112</sup>The term "industrial exports" refers to the Soviet definition.

<sup>113</sup>Table T-26. Unadjusted for changes in product coverage. In 1925/26 prices (with much higher prices for oil) industrial exports increased 41%.

higher foreign prices and not from increased quantities of exports. That is, the value of fur and grain exports increased without major increases in the volume exported. Thus, by the end of 1926/27 a major question was to what extent could industrial exports be a vehicle for restoring exports to pre-1914 levels in place of agricultural exports? The particular problems and prospects for expanding several important industrial exports is examined briefly below.

Timber exports strong. The value of timber exports increased 37% in 1926/27 and equalled 10.2% of total exports in 1926/27. The volume of timber exports still lagged far behind pre-1914 levels.<sup>114</sup> To a large extent, the failure of timber exports to recover to the same extent as timber output (within the Soviet territory) was that only 60% of the timber exports of Russia in 1913 came from within Soviet borders of 1925.<sup>115</sup>

The factors which had retarded timber exports in 1925/26 -- high domestic demand as a result of the planned investment

---

<sup>114</sup>The volume of timber exports in 1926/27 (valued in 1926/27 prices) was about 35% of 1913 timber product exports (unadjusted for territorial change) (Table T-26). The increase in the value of timber exports was due almost entirely to an increased quantity exported (especially of sawn lumber). The price index of exported timber increased about one per cent (Table T-29).

<sup>115</sup>EIKS SSR, pp. 245-247. Timber exports from Soviet territory in 1913 were roughly 4.6 million m.t. The weight of timber product exports in 1926/27 was 2.48 million m.t., so that timber exports had recovered to about 60% of the 1913 level with adjustments for territorial losses. According to STAT-34, (p. 126) the output of sawn lumber in 1926 was 91.3% of 1913 levels but the availability of unworked timber -- a major export item -- was not indicated.

program and low foreign demand -- were reversed during 1926/27. During the first half year, there was a domestic sales crisis and production exceeded sales, while foreign demand was much stronger.<sup>116</sup> Thus, the export plan was 95% fulfilled by weight and 100% fulfilled by value. The export outlook for 1927/28, however, was more complicated, for although foreign demand was stronger than before, the domestic lumber market shifted from a "sales crisis in lumber" to a sharp and sudden "excess demand for lumber in the summer and fall of 1927. This increase in domestic demand was attributed to the enlarged construction program for 1927, under fulfillment of the procurement plan for logs, and a sharply increased demand by peasants, who were using the proceeds of the harvest for construction. Despite the predicted 15-20% increase in demand for 1927/28, the predicted increase in output of sawn lumber was only 7% so that the domestic market situation was to be considerably worse in 1927/28.<sup>117</sup> The growth of domestic demand conflicted with the expansion of exports.

Oil product exports expand. Oil product exports continued their rapid expansion and rose 22.1% in value and 44% in volume in

---

<sup>116</sup>ST, Vol. II, No. 43, pp. 56-57, and ST, Vol. I, No. 11, p. 49. The actual distribution of exports over the economic year is from October 1 to mid-December, at which time the ports freeze. Shipping opens again in the spring to fulfill the contracts concluded during the winter.

<sup>117</sup>The above discussion is based on ST, Vol. II, No. 43, p. 58.

1926/27 (Table T-26).<sup>118</sup> The outstanding feature of Soviet oil exports in 1926/27 was that the prices received for Soviet oil products abroad fell about 20% (1926/27 weights) (Table T-29). Prices of gasoline and naphthas fell almost 30% from 1925/26 levels.<sup>119</sup> The decline in prices was attributed to the over-production of oil in the USA, and the struggle of the large oil concerns with independent firms for European markets. The desire of the Soviet oil export syndicate to expand their market share also induced them to cut prices and set up their own independent distribution networks ("Der-uneft" for Germany, Austria, and Czecho slovakia; "Russian Oil Products" for Great Britain; "Soviet Naptha Syndicate" representatives in Italy, Baltic States, and Turkey).<sup>120</sup> By the end of 1926/27, Soviet oil products accounted for significant parts of British and European markets; about 50% for the Italian market, 18% of French, 15% of the Spanish, 16.5% of the German, 17% of the Belgian and

---

<sup>118</sup>Volume index weighted with 1926/27 prices. The total weight of Soviet oil exports in 1926/27 increased by 38.4% over 1925/26 levels, being led by kerosene (plus 43.5%), gasoline and naphthas (plus 47.5%), and fuel oil (plus 53.5%). The quantity of oil products exports in general was twice the level of 1913 exports; kerosene was almost identical, gasoline and fuel oil far exceeding it, while the lubricating and heavy solar oils lagged behind 1913 levels (ERSU, Vol. III, No. 9 (1928), p. 160).

<sup>119</sup>Unit values from VTSSSR -60. Kerosene and fuel oil unit export values declined 2.7% and 3.7%; lubricating oils fell 12.2% (SUYP-28, p. 263).

<sup>120</sup>ERSU, Vol. III, No. 9 (May, 1928), p. 160 and Solobev-27a, pp. 7-9. According to the ERSU article, about 15% of oil exports were sold directly to retail customers through distribution apparatus, and another 15% wholesale from their storage depots.

about 5% of the British market.<sup>121</sup>

Oil output was one of the few products in 1926/27 whose output exceeded the output of 1913 by a wide margin (16%) and the supply of oil products to the internal markets was relatively favorable compared to 1913.<sup>122</sup> The simultaneous expansion of exports and domestic consumption above 1913 levels was the result of relatively large investment programs oriented toward export expansion.<sup>123</sup> Output of oil expanded 23.7% in 1926/27 and well exceeded the original output plan (for both crude oil and refined products),<sup>124</sup> and the

---

<sup>121</sup>ERSU, Vol. III, No. 9 (May 1, 1928), p. 160. Sharp competition occurred also for the Indian and Egyptian markets. See ERSU, Vol. III, No. 16-17 (1928), p. 283, and Comolly-35, pp. 92-93. These market shares are considerably larger than in 1925/26. Cf. Solobev-27a, pp. 8-9.

<sup>122</sup>ST, Vol. II, No. 43, pp. 60-61 and 70-71.

<sup>123</sup>SUA, Vol. V, No. 22, p. 22. SUA, Vol. VI, No. 18, p. 9 and other references cited in this section. See p. 494 for fraction of investment allocated to petroleum industry. In 1927, the Soviet trade publications Economic Review of the Soviet Union and Sowjet-wirtschaft und Aussenhandel both replied to statements of Detering, head of Royal Dutch Shell about the shortage of oil products in Russia, which were interpreted as an attempt to discredit the expansion of Soviet oil exports. Cf. Solobev-27a, p. 9; ERSU, Vol. II, No. 16-17 (Sept. 1, 1927), pp. 1-2 and ERSU, Vol. II, No. 20-21 (Nov. 1, 1927), p. 8.

<sup>124</sup>The oil production plan for 1926/27 projected the output of 9.30 million m. t. of petroleum and gas, of which 8.63 million m. t. would be refined to produce 6.4 million m. t. of finished products (SUA, Vol. V, No. 22 (1926), p. 32). Crude oil output was 10.8 million m. t. in 1926/27; refined products 6.83 million m. t.

In comparison, crude oil and gas output was 8.24 million m. t. in 1925/26, 9.23 in 1913, and 11.56 in 1901 (STAT-60, p. 275, and ERSU, Vol. II, No. 16-17 (1927)). In 1925/26, 5.74 million m. t. of finished products were produced (ERSU, Vol. III, No. 14-15 (1928), p. 259). Figures for three trusts -- Asneft, Grozneft, and Embaneft). The 1926/27 output plan for naphthas, kerosene, and

large increase of exports in 1926/27 was also accompanied by significant increases in the domestic sales of all oil products.<sup>125</sup> Exports as a fraction of total crude oil in 1926/27 was 30%, for gasoline and naphtha about 88%, and for fuel oil about 13%.<sup>126</sup>

Thus, the major problem facing Soviet oil exports in 1926/27 were limited export markets and falling foreign prices rather than the lack of exportable surplus and inadequate domestic output.

Manganese exports faced increased competition. Manganese ore exports increased only 13% in value and 16.6% in quantity while export unit values were a bit lower. Prices began to fall as the USSR attempted to regain their pre-1914 markets.<sup>127</sup>

Cotton cloth and sugar exports to Asia. Cotton cloth and sugar were exported chiefly across the Asiatic borders to Persia

gasoline was 3,643, 1,456, and 552 thousand m. t., and actual output in 1926/27 was 3,354, 1,596, and 663 thousand m. t. (ERSU, Vol. II, No. 24 (1927), p. 6). SUA, Vol. V, No. 22 (1926), p. 32 and ERSU, Vol. III, No. 14-15 (1928), p. 259).

<sup>125</sup> Except for a slight temporary decline in fuel oil. ST, Vol. II, No. 43, pp. 60-61. Kerosene sales rose 30% on the home market because of rising demand in the rural areas for lighting and for use with tractors. The demand for gasoline was also increasing rapidly because of aviation and auto transport demand.

<sup>126</sup> Table T-20 and ST, Vol. II, No. 43, pp. 60-61.

<sup>127</sup> SUA, Vol. VII, No. 14 (1929), p. 21. Manganese ore production was actually reduced below 1925/26 levels because of the limited foreign demand. The principal mine for export ore, Chiatury, was being run by Hariman as a concession (Ibid., p. 19). The new competition was Brazil and the Gold Coast.

and China during the mid-1920's, and equalled slightly less than 50% of exports across Asiatic borders and 6.7% of total exports in 1926/27. Exports of cloth rose 42% in value and 73% by weight; the unit export value of cloth fell sharply. These cloth exports were only about 1.4% and 2.0% of total cotton cloth production in 1925/26 and 1926/27.<sup>128</sup> Although some economists advocated strengthening exports across Asiatic borders, increasing the export of cloth clearly conflicted with the official policy to increase domestic supply of cloth so as to mitigate the goods famine.

Sugar exports rose 64.5% in value and 146% by weight. Unit export value fell sharply from 417 rubles per m.t. in 1925/26 to 278 rubles per m.t. in 1926/27. The volume of sugar exports increased despite a decline in the 1926 sugar beet harvest and sugar production; gross sugar exports equalled 13.5% of sugar output, as compared to 4.3% of total sugar output in 1925/26.<sup>129</sup>

The important development with respect to sugar and cloth was that prices declined when the USSR attempted to regain traditional Russian markets and also attempted to improve their balance of trade with Asian countries (especially Persia); the price-cutting became even sharper in the subsequent years.<sup>130</sup> These

---

<sup>128</sup> See Table T-20.

<sup>129</sup> SUYB-29, p. 140, and Table T-20. See Reingold-31 (pp. 200-201) for a discussion of sugar exports costs, and domestic consumption. Peasant consumption and demand were relatively low compared to urban inhabitants and other countries. Excise taxes were not levied on exported sugar and cloth.

<sup>130</sup> See Conolly-28, pp. 56-63.

commodities were generally not sent to European markets which had freely convertible exchange, but rather to Asian countries with uncertain exchange rates and a forced balance of trade.<sup>131</sup> Furthermore, the expansion of these exports depended directly on Soviet agriculture for raw materials (or increased imports of cotton). Thus, the expansion of these exports as a means for accumulating foreign exchange and purchasing machinery were not particularly favorable.

#### Imports and plan

Total imports in current prices were successfully reduced in 1926/27 according to import plan, but the individual components of the plan, were unevenly fulfilled with machinery imports increasing less rapidly than planned, and raw materials increasing more rapidly than planned.

Machinery for reconstruction. Machinery imports (excluding agricultural machinery) increased only 39.8% in value in 1926/27 as compared to a 50% increase projected in the foreign trade plan (Table IX. 1). The lag in machinery imports was attributed to the longer than expected delivery times in machinery ordered in Germany, for value of machinery ordered exceeded by a considerable margin, the value of machinery delivered.<sup>132</sup> The influence of the

---

<sup>131</sup> Cf. Conolly-33, p. 60.

The major exports of Iran, Turkey, Afghanistan, Sinkiang were fibers, hides, and teas. Conolly-33 discussed Soviet trade with the East.

<sup>132</sup> See below table in footnote 36 on p. 333. See also SUA, Vol. VII, No. 7 (1928), p. 2. Kaufman -28c, p. 115.



1926 300 million mark credit (150 million rubles) from Germany began to affect Soviet machinery imports as Germany expanded its equipment exports by 25.6 million rubles, more than the entire expansion of machinery imports in 1926/27.<sup>133</sup> The share of machinery in total imports expanded rapidly from 14.2% in 1925/26 to 21.4% in 1926/27 (Table T-7).<sup>134</sup>

Kutusov emphasized the importance of imported machinery in the carrying out of the 1926/27 investment program in industry, and asserted that by value one-half the machinery installed in industry was imported.<sup>135</sup> Many theoretical problems complicate any estimation of the share of imported machinery in total machinery installed on an aggregate basis as discussed elsewhere in this study.<sup>136</sup> Thus, we found many differing estimates of the share of imported machinery in total industrial machinery installed -- the important point is that imported machinery was important in

---

<sup>133</sup> Excluding agricultural machinery, German machinery exports equalled 46.5% and 56.5% of total Soviet machinery imports (excluding agricultural machinery) in 1925/26 and 1926/27 (VTSSSR-60).

<sup>134</sup> Kutusov-28, pp. 57-58. As noted in Appendix A, Technical Note 4, the Soviet definition of "machinery" here included pipes, wiring, etc. Using the SOVTC definition (VTSSSR-60) machinery exports (excluding agricultural machinery) increased only 18.5% and equalled 18.4% of total imports. See below

<sup>135</sup> Kutusov-28, p. 58. Kaufman-29b (p. 17) noted that imports of industrial machinery alone (excluding agricultural equipment) equalled 27.2% of the total supply of machinery in 1927/28 and domestic output was listed at 518 million rubles. See also Table T-22 and T-23.

<sup>136</sup> See pp. 137 in Chapter III and footnote 32 on page 391 in Chapter X.

1926/27 in achieving overall investment levels as well as investment in specific industries or projects. Kaufman, for example, reported that 25% of the machinery installed in industry, and 51% of the electrical equipment was imported. While noting that the decline in the share of import in installed machinery would continue, Kaufman emphasized strongly that the imports of machinery imports would continue to increase in absolute terms.<sup>137</sup> Other estimates for 1926/27 were 35-45% (by value) of the equipment installed was imported -- but recall that domestic versions of identical products were usually more expensive in rubles or simply not obtainable (Table T-22, T-23).

Agricultural machinery imports were reduced from 44.4 million rubles to 25.4 million rubles.<sup>138</sup> This reduction, Kutusov explained, was permitted by increased capability of the domestic agricultural machinery industry to supply domestic demand. Imported agricultural machinery covered 20% of total marketed agricultural machinery (which rose 41.5% from 1925/26 to 1926/27).<sup>139</sup> But 88% of

---

<sup>137</sup> Above discussion based on Kaufman-28 c, pp. 112-113.

<sup>138</sup> VTSSSR-60 data. Data in Kutusov-28 (pp. 51 and 58) cited imports of agricultural machinery and tractors of 48.4 million rubles in 1925/26 and 23.79 million rubles in 1926/27. These figures cannot be reconciled with either the figures from VTSSSR-18-40 or from the data in the statistical appendix of Kutusov-28.

<sup>139</sup> Kutusov-28, p. 58. Table T-22. For demand was based on the peasant's purchasing power and demand, and on the financial resources of the state in supplying cooperatives with credit. Plans for the expansion of agricultural machines and tractor production had been under discussion since 1924, and actual production was started on tractors and other complicated equipment as early as 1924. Recall that Russia produced most of its own agricultural machinery (except for the newer and more complex types) in 1913 so

the tractors supplied in 1926/27 were still imported (Table T-22).

Industrial materials and import substitution. Raw material imports increased only 20.1% in value from 1925/26 to 1926/27 but because of substantial price declines, the volume of raw materials imports actually increased 53% (Table T-25). The share of raw materials in total imports increased from 36.2% in 1925/26 to 46.2% in 1926/27 and would have accounted for a much larger share in 1925/26 prices. The three major raw materials for consumers' goods -- cotton, wool, leather -- alone accounted for 31% of total imports in 1926/27.

Cotton imports. Cotton fiber imports increased 58.2% in weight in 1926/27 and equalled almost one-fifth of total imports in 1926/27. Imported cotton fiber supplied the Soviet textile industry with 39% of their total fiber requirements in 1925/26 and 45% in 1926/27 and expanding cotton textile output in 1926/27 was based entirely on increased imports of cotton fiber (Table T-21). The demand for imported cotton was further increased by a decline in the harvest of cotton (which was known) accompanied by a much larger drop in the marketing of cotton (which was not expected).<sup>140</sup> In fact, the unexpectedly large drop in marketing of cotton fiber -- attributed to low relative prices -- caused upward revision of the cotton import plan and contributed to the strain on the import plan

---

that this was merely expanding along its old lines.

<sup>140</sup> Kaufman-28c, p. 113. The crop was 1.1% less, procurements 8.7% less than the previous year (SUA, Vol. VI, No. 10, p. 48).

resulting from the demand for raw materials.<sup>141</sup> Continued expansion of cotton textile output on the basis of increased cotton fiber imports, in view of the shortage of foreign exchange, would be politically difficult and, possibly, economically irrational. Raw material limited the expansion of output, so that the expansion of domestic cotton fiber output would permit increased textile output and offered the possibility of freeing substantial sums of foreign exchange for other competing uses. Therefore, by 1926 extensive plans were made to resume the expansion of cotton acreage which had been proceeding rapidly and had reduced both the share and absolute level of cotton imports in the decade before World War I. In 1926, it was thought that by 1930 the domestic cotton crop would supply 90% of the cotton fiber needs (which would be 24% greater than in 1926) so that cotton fiber imports would be reduced to one-fourth the 1926 levels.<sup>142</sup>

Wool imports increased 38% (by weight) and expanded its share in total imports to 7.2% in 1926/27.<sup>143</sup> Imported wool's

---

<sup>141</sup> Kaufman-28c, p. 113.

<sup>142</sup> SUA, Vol. V, No. 20 (1926), pp. 26-29. See Table T-21 -- share of imports in consumption. See Table XIV.11 for import and supply of cotton.

<sup>143</sup> Net wool imports (imports minus exports) rose 45% from 99,407 m. t. in 1925/26 to 28,180 m. t. in 1926/27 (unadjusted for greasy versus scoured wool). The USSR exported short fiber wool and imported long fiber fine wool and an attempt was being made to adapt the cotton textile and woolens industries to use more of the coarser inferior fiber. A subtle form of import substitution was being carried out by the upgrading of the Soviet sheep breeding stock through repeated imports of high quality sheep (ERSU, Vol. II, No. 24 (1928), p. 11).

share in the supply to the state woolen's industry fell slightly from 59% in 1925/26 to 55% in 1926/27 as procurements increased more than 50% over 1925/26 levels,<sup>144</sup> as a result of a 15% increase in average procurement prices of wool in 1926/27.

Raw hides imports rose 55% (by weight and value) and increased their share in total imports to 5.4% in 1926/27. This increase in raw hides imports was actually the result of continued import substitution by the expansion of the leather tanning industry, for imports of worked leather were reduced 66% (in value) and the value of raw hides plus worked leather actually fell slightly even though the weight of leather and hide imports increased 38%.<sup>145</sup>

The USSR also exported small skins and hides and these more than tripled in 1926/27, reducing slightly the increase in net imports of hides and skins. It is difficult to estimate the share of hide and leather imports in total supply because of the different methods of measuring procurements and production (by number) and measuring imports (by weight). Many hides and skins are used in cottage and home industry, while imports were used almost entirely in state factories.<sup>146</sup> Imported hides and leather supplied roughly 20-30%

---

<sup>144</sup> Cf. ERSU, Vol. III, No. 10 (1968); ST, Vol. I, No. 11 (1926), p. 44, and ST, Vol. II, No. 43, p. 50.

<sup>145</sup> Kutusov-28. Hides and skins are not completely substitutable in use.

<sup>146</sup> ERSU (Vol. III, No. 13 (1928), p. 246) stated that large-scale industry used 7,350,000 hides of domestic origin and 52,400 m. t. of imported hides and leather in 1926/27. Recorded imports in 1926/27 were 52,900 m. t. The average weight of an imported large hide or skin was about 29-31 kilos which implies the import of

of the leather sold by the Leather Syndicate.

Rubber imports increased 50% by weight in 1926/27 over 1925/26 levels, but the value of rubber imports actually declined 10% because of rapidly falling prices. Imports supplied 100% of raw rubber until 1933 but roughly 24% of the total rubber used came from reclaimed rubber.<sup>147</sup> Rubber in 1926/27 was used largely (70%) for consumer goods.<sup>148</sup> If we take 70% of rubber imports by value, we see that four classes of imported raw materials used primarily for consumer goods production (cotton, wool, leather, rubber) equalled 30% of total value of imports in 1925/26, and 34% of imports in 1926/27 (and much more in 1925/26 prices).<sup>149</sup>

Perennial shortage of non-ferrous metals. Imports of all non-ferrous metals continued their rapid expansion in 1926/27.<sup>150</sup>

1,800,000 hides and skins in 1926/27 or about 20% of total consumption (by number) in state factories. However, the dependence of state industry on imported hides or larger average usable area per hide) or less (because skins are not included in the above figure). Average weight derived by dividing number of large hides and skins imported (603,000 in 1924/25 and 1,332,000 in 1925/26) into the weight of imported hides (21,200 m. t. in 1924/25 and 38,000 in 1925/26) as cited in SUYB-29, p. 143 and Kutusov-28, p. 329. This probably understated the importance of imports.

<sup>147</sup>Marbury-55, p. 68. These increases were not used to expand tire or galoshes production, but rather "other products." Tire production actually fell (SUYB-29, p. 146).

<sup>148</sup>Marbury-55, pp. 28 and 72. Of a total consumption of crude natural rubber in 1926/27 (7,610 m. t.) 70% was used in producing rubber footwear.

<sup>149</sup>Gross imports of cotton, wool, leather (worked and unworked) and 70% of rubber imports. Zinc and other raw materials were also used largely for "consumption goods" sold to peasants and individuals. See also Table T-18.

<sup>150</sup>Non-ferrous metal imports were 54% higher in value

The domestic non-ferrous metal industry (copper, zinc, lead) was approaching 1913 levels but imports of copper were triple, aluminum double, and zinc slightly above 1913 levels; lead and tin imports were over half their 1913 levels, but nevertheless, non-ferrous metals supplies in 1926/27 were less than demand (especially for copper).<sup>151</sup> Imports accounted for 100% of aluminum, nickel, and tin, 93% of zinc, and 86% of the lead, and 45% of the copper supplied in 1926/27.<sup>152</sup> Already in 1926/27 it was clear that rapid expansion of heavy industry (especially the electro-technical and transportation industries) as well as certain branches of consumer-oriented industry (galvanized roofing, cookware) required increasing amounts of non-ferrous metals, which currently could be supplied only by rapidly increasing imports. Soviet discussion often centered on resuming the rapid expansion of domestic copper, lead, and zinc industries which had been relatively and even absolutely replacing imports before 1913.<sup>153</sup>

---

and 68% higher in volume (1926/27 prices) than in 1925/26 and 6.5% of total imports in 1926/27.

<sup>151</sup> ERSU, Vol. III, No. 4 (1928), p. 61. Nickel, used primarily as a steel alloy, was only a tenth of 1913 imports. Copper, tin, lead, and zinc (in that order) accounted for 85% of non-ferrous metal imports in 1926/27.

<sup>152</sup> See Table T-20. "Supplied" implies "production plus imports."

<sup>153</sup> See ERSU, Vol. III, No. 4 (1928), pp. 61-62. Production of aluminum was also discussed by early 1928; concessions were offered for all these metals. (SUYB-28, pp. 168 and 172).

Imports supplied a very small part of the Soviet consumption of unprocessed ferrous metals in 1926/27 and equalled only 1.6% of total imports.<sup>154</sup> A large portion of the value of these imports were ferro-alloys, which were produced in negligible quantities in the USSR in 1926/27. Ferro-alloys, an essential material in the machinery-building and defense industries, was another product, which would contribute to the rapid growth of import demand as industrialization accelerated.

Import substitution in paper. Paper imports hit a post-1917 peak of 139,560 m.t. in 1925/26 which was slightly below 1913 imports of 144,510 m.t. for Russia. The share of paper in total imports was 4.1% in 1925/26. In 1926/27, however, paper imports fell sharply as domestic production, based on early and extensive re-equipping of its existing paper factories, continued expanding output far beyond the 1913 output within the Soviet borders of 1925, (which it had already reached in 1924/25).<sup>155</sup> Part of this decline in paper imports in 1926/27 was offset by a slight increase in pulp

---

<sup>154</sup> Unprocessed ferrous metals excludes pipes, cylinders, cable, etc., and includes cast iron, ferro-alloys, rolled products, scrap and ingot. Total ferrous metals including these semi-processed products (as defined in VTSSSR-60) rose 60.6% by weight and 46.4% by value from 1925/26 to 1926/27. The increase came largely in tubing-pipe and other semi-processed ferrous products.

<sup>155</sup> Imports fell 22.8% by weight and 37.3% by value (VTSSSR-60). EIKSSSR, pp. 532-537, Nutter-62, p. 426 (output), ERSU, Vol. III, No. 11 (1928), pp. 194-195. The decline in price was due largely to a contract with Finland for newsprint, which was supplied almost entirely by imports and equalled roughly one-half of total paper imports.



imports -- a form of import substitution, which started very early for paper in the USSR. Further import-substitution was being planned. Numerous new paper plants were started in 1926, and when these plants came into operation in 1929-1931, paper imports were reduced quite rapidly to negligible levels by 1932.<sup>156</sup>

Import substitution in chemicals. Of the remaining important materials imports for industry, the value of chemicals and dyestuff imports fell significantly, and tanning materials rose slightly.<sup>157</sup> About 70% of the tanning materials were imported during the NEP (Table T-21).

Import substitution was also being planned already in 1925/26 for many chemical products which were used extensively in Soviet industry and especially for tanning materials and dyestuffs -- but recall that this process had started before 1914.<sup>158</sup>

#### Consumer goods imports and the goods famine

Imports of manufactured consumers' goods in 1926/27 were reduced to one-half of 1925/26 levels and equalled 11.6% of total imports in 1926/27 as compared to 20.3% of total imports in 1925/26 (Table T-7). The decline in consumers' goods imports resulted

<sup>156</sup> Table XIV.11.

<sup>157</sup> Actual imports of tanning extracts increased 32%.

<sup>158</sup> See ERSU, Vol. II, No. 22 (1927), p. 13 and ERSU, Vol. II, No. 24 (1927), p. 10. In 1925/26 70% of tanning materials (by weight) used in large scale Soviet industry were imported. Concessions were offered for the production of tanning extracts (ERSU, Vol. III, No. 10 (1928), p. 176).

from the almost complete elimination of cotton cloth, sugar, and other manufactured consumer goods, which had been imported in abnormally large quantities as part of the policy of "goods intervention in the countryside" in 1925/26.<sup>159</sup> The traditional exports of cotton cloth and sugar were resumed. Why were these imports eliminated? The basic reason was that the import of processed consumer goods was at the expense of importing so-called "producers goods": cotton, wool, leather, dyes, tanning material, as well as machinery (including machinery for manufacturing consumer goods). These imports of raw materials, etc. could be used to produce a larger quantity of consumer goods than could be purchased from abroad for the same expenditure of foreign exchange.<sup>160</sup> Since raw materials and not plant capacity were the output constraint then the rate of supplying these consumer goods through domestic production would not lag far behind supplying them through imports.<sup>161</sup>

---

<sup>159</sup> Reduction of cotton cloth and sugar imports accounted for 44 million rubles of the 70.6 million ruble decline in manufactured consumer goods imports. Reduction of imports of four additional consumer goods -- haberdashery, stationery, artisans' tools, and woolen and silk cloth accounted for another 9.6 million rubles.

<sup>160</sup> Kaufman-27c, pp. 1-2. Kaufman noted that "in theory, of course, it would be possible to . . . import goods, currently inadequate to satisfy the demand of the peasants. This would increase the marketing of the agriculture, and as a consequence, to increase exports, and this will give us on final account the possibility to increase the imports of equipment. But this process would delay the realization of industrialization." (Kaufman-27c, p. 1). Kaufman and the NKT rejected this same theory as impractical just as Preobrazhensky had rejected it in 1925/26.

<sup>161</sup> The 1925/26 experience of goods intervention proved somewhat disillusioning because of the relatively long delivery period and the inappropriateness of the imported goods for the bulk of the Russian peasantry or worker (Kaufman-27c, p. 1).

Thus, the reduction of cotton cloth imports in 1926/27 did not represent a major shift in priorities and must be considered along with the increase in cotton, wool, and leather imports. The reduction in manufactured consumer goods imports (about 70 million rubles) and a decline in foreign prices reduced the share (in current prices) of imports allocated to consumer satisfaction. The share of "consumer-oriented imports" in current prices declined from 65% in 1925/26 to 59% in 1926/27 (Table T-18), but in constant 1925/26 prices, the share of consumer-oriented imports probably increased because prices of cotton, wool and hide had declined sharply.

Imports of some foodstuffs -- herring, salted fish, rice, tea, cocoa, dried fruit -- actually increased in value.<sup>162</sup> Tea and herring imports were 3.9% and 0.5% of total imports in 1926/27, but the quantities imported were far below 1913 levels. If tea and herring were imported in the 1913 quantities in 1926/27 and at 1926/27 prices, these two products alone would have equalled 13.5% and 3.4% of the total value of imports in 1926/27.<sup>163</sup> Restoring tea and herring imports to 1913 levels was a difficult task because of slowly

---

<sup>162</sup>Rice, some tea, and dried fruits as well as many other of the consumer goods came across the Asian border and were the almost inevitable result of expanding trade with some Eastern border countries. Cf. Conolly-33.

<sup>163</sup>If total imports were increased by the appropriate amount, tea and herring imports would have equalled 11.7% and 3.09%. Tea imports in 1913, 75,814 m.t.; herring imports in 1913, 282,694 m.t. Unit values for tea and herring in 1926/27, 1,242 rubles per m.t. and 85.9 rubles per m.t.; required expenditures for 1913 amounts of tea and herring imports in 1926/27, 94.09 and 24.28 million rubles; actual imports in 1926/27, 27.93 million rubles and 3.15 million rubles. Total difference between actual and 1913-level imports was 87.28 million rubles in 1926/27 prices.

developing exports and methods were sought to extend the cultivation of tea in Georgia, a project which had been started before 1917.<sup>164</sup>

Overvalued ruble and a new import tariff

The Soviet chrevonetz-ruble was overvalued (in terms of establishing a balance of payments equilibrium under free trade) soon after its initial parity was set in 1923, even though the relative wholesale price levels in 1923 suggested that it was not overvalued at that time (Tables T-31 and T-37). But after 1924/25 it was clear that under contemporary domestic economic policy and with the parity exchange rate, the demand for imports far exceeded exports receipts (even though exports were being "forced" to foreign markets despite more profitable domestic marketing possibility). Furthermore, during 1925-27, exports of major export products were carried out increasingly at a "commercial loss" because of rising domestic costs (butter, eggs, flax, grains and falling foreign prices (oil, cotton cloth, sugar) -- this was a clear indication of an overvalued exchange rate. The demand for imports grew rapidly during NEP and exceeded import capacity by an increasing degree so that the allocation of import licenses in response to growing number of requests from enterprises and trading agencies was eventually transferred to the highest economic policy-making agencies (STO and VSNKh). The state monopoly of foreign trade could limit the supply of imports

---

<sup>164</sup> Tea and herring imports were not restricted as much as other consumer goods because they were a source of revenue from excise and import duties (SUYP-26, pp. 327-423 and Reingold-31, pp. 186-226, especially pp. 202-203).

and determine the composition of imports in order to "protect" domestic industry and to maintain a balance of payment equilibrium. Then, why did the USSR maintain and continue to increase tariffs when they had the foreign trade monopoly. Soviet import tariffs were intended to reduce the demand for imported products (requests for import licenses by domestic firms), to encourage domestic enterprise to seek domestic substitutes for imported products (i. e., "protectionism") without direct state interference, and to reduce the profitability of imports to the importing enterprise and trading agencies (i. e., to divert the monetary profits from imports to the government).<sup>165</sup> As the pressure to increase imports increased in 1926 and 1927, the import tariffs were increased quite sharply in early 1927 -- not only on consumer goods but also on raw materials and equipment (Table T-47) in order to reduce the demand for imports. In theory, firms maximizing profits or at least covering costs would tend to reduce their demand for imported machinery and raw materials and this was the reason for raising tariffs in 1924 and 1927.<sup>166</sup>

#### Terms of trade and prices

The price index of exports moved slightly lower in 1926/27 (4.4% in 1926/27 weights), but this concealed a diversity of important price movements including large increases in fur and grain

---

<sup>165</sup> Reingold-31, pp. 211-212.

<sup>166</sup> Reingold-31, p. 211. Reingold-31 (pp. 211-223) discusses the rationale of maintaining import duties in the USSR (at least during the NEP). The 1927 import tariff is discussed and compared with the 1924 import tariff in an article by A. Potiaev "Novyi tamozhennyi tarif," ST, Vol. II, No. 9 (1927), pp. 4-9. For tariff rates,

prices and a sharp fall in flax, oil, sugar, and cloth prices. Timber and butter prices remained more or less stable. Although the importance of commercial profitability had been mentioned as an important consideration in attempting to maintain low agricultural prices and in reducing marketing costs, it was clear to the NKT that exports would have to be made regardless of their temporary commercial inprofitability, i. e., exports would have to be "forced." Both sugar, oil, and perhaps textiles were being "forced" exported at "commercial losses" by the end of 1927, and direct government special subsidies were given for their export.<sup>167</sup>

The import price index (1926/27 weight) fell 13.5%, largely because of a decline in cotton fiber prices (-20%) and rubber prices (-40%).<sup>168</sup> Prices of other raw materials also declined slightly. Thus, the commodity terms of trade shifted strongly (10.5%) in favor of the USSR. This improvement in the commodity terms of trade permitted imports in constant prices to significantly exceed the original import plan.

---

see SUYB-29, pp. 341-388.

<sup>167</sup> Evidence for losses on sugar exports was that the cost of production at the factory was 230 rubles per m. t. (Reingold-31, p. 201), the FOB unit value of sugar exported in 1926/27 was 256 rubles per m. t. (VTSSSR -60, SOVTC 84000-01): the overhead cost for shipping to the border, etc., is not known but "additions" to the retail price domestically (excluding excise tax) were 137 rubles per m. t. (Reingold-31, p. 201).

The continuous decline in foreign petroleum prices led to commercial losses in petroleum products perhaps as early as 1926/27 and certainly by 1927/28. Reingold-31 (p. 210) and Haensel-30 (pp. 160-161) discussed losses and State subsidies for the export of sugar, oil, cotton cloth.

<sup>168</sup> Table T-30 and Kaufman-28c, p. 114.

Balance of payments, credits, and  
foreign reserves 1926/27

The balance of payments position improved considerably during 1926/27, but the difficulties of the previous year were not completely overcome. The trade surplus was 66 million rubles (as compared to the trade deficit of 80 million rubles in 1925/26), but according to Shenkman this surplus was more than offset by "invisibles" so that a deficit on current account was about 5 million rubles (Table T-14).<sup>169</sup> Outstanding "real foreign debt" rose 41 million rubles to 252 million rubles in October, 1927, (about one-third the value of exports in 1926/27, and more than one-half of available foreign reserves at the end of 1927) (Table T-17). The net export of precious metals (including platinum) equalled 34 million rubles (Table T-16), but foreign currency holdings increased 33 million rubles (Table T-15). Thus, Soviet foreign reserves could have increased by 80 million rubles if we consider domestic gold and platinum production (46 million rubles) and the increase of real foreign debt of 41 million rubles.<sup>170</sup> Our estimates of Soviet foreign reserves show only between 0 and 35 million rubles increase between January 1, 1927 and January 1, 1928 (Table T-17). Foreign reserves at the end of 1927 were about 450 million rubles (Table T-17). The foreign exchange crisis was over for the moment.

---

<sup>169</sup> The directive to the Commissariat of Finance was to accumulate gold and foreign reserves, chiefly through gold purchases (ST, Vol. II, No. 26, p. 2).

<sup>170</sup> (Tables E. 3, E. 4 in Appendix E). The trade balance just about balanced the deficit on the invisible items of current account.

Credit conditions improved considerably during 1926/27 as to both cost and availability.<sup>171</sup>

Summary, the problem of exports

The apparent successful overall fulfillment of the foreign trade plan concealed unfavorable developments with respect to the future expansion of exports and revealed the dependence of domestic industry on imports for continued growth.

If the fulfillment of the quarterly export plan is examined, we see that the fulfillment of these plans deteriorated from quarter to quarter:

	<u>Export</u> <u>Plan</u> <sup>a</sup>	<u>Actual</u> <sup>a</sup>	<u>Per Cent</u> <u>Fulfilled</u> <u>(by value)</u>	<u>Import</u> <sup>a</sup>	<u>Trade</u> <u>Balance</u> <sup>a</sup>
October-December	188.0	229.1	121.9	151.2	+77.9
January-March	176.1	185.4	105.0	136.9	+48.5
April-June	175.5	163.8	93.3	218.5	-54.5
July-September	<u>223.3</u>	<u>200.9</u>	<u>90.0</u>	<u>205.9</u>	<u>- 5.0</u>
	762.9	779.0	102.0	713.5	+66.9

<sup>a</sup> millions of rubles

This was attributed to a combination of events which included the increased domestic demand for export goods by both the consumer and

---

<sup>171</sup>ST, Vol. II, no. 43, pp. 14-16. Besides the middle-term 300 million mark credit from Germany, signed in mid-1926, the Midland Bank had also agreed on a 10 million pound long-term credit but this credit was never activated because of the rift in diplomatic relations over the Arcos Incident in early 1927.



industry, limited foreign markets, by the unexpected unwillingness of the peasant to increase his marketing (or share of output marketed), and by a reappearance of the goods famine in the second half of the year.<sup>172</sup>

It was recognized that the failures of exports to expand posed a severe threat to the future growth of the economy because of the lack of raw materials and equipment. Since agriculture was thought to still be the major source of export reserves, the critical problem was to restore the peasant's willingness (and expand the output) of the major agricultural products.<sup>173</sup> And according to official opinion, the best policy to do this was to improve the peasants' real terms of trade for agricultural output by lowering industrial prices and by increasing the supply of goods to marketing regions.<sup>174</sup> In addition, the development

<sup>172</sup>Export plans and trade data from Gurevich-27a, p. 3. Import data from Appendix A, Table A.1c. Many articles were written about these problems during 1926/27. Cf. B. N. Kovarskii "Problema eksports" ST, Vol. II, No. 12, pp. 3-5; A. Kovner, Predvaritel'nye itogi kleboeksportnoi kampanii, ST, Vol. II, No. 28, pp. 7-8; Kaufman, Kontrol'nye tsifry; eksportno-importnyi plan, " ST, Vol. II, No. 14, pp. 1-3; M. B. "Itogi vneshei torgovlie za 1926/27 g., ST, Vol. II, No. 43, pp. 10-12; B. E. Gurevich, "Vynolnenie vneshetorgoge plana, " ST, Vol. II, No. 31, pp. 3-5; M. Kaufman, Eksport i narodnoe khoziaistvo, ST, Vol. II, No. 31, pp. 1-3.

<sup>173</sup>Kaufman-28c (p. 106) emphasized that the export reserves lay mostly in agriculture "with all the significance of industrial exports, and with all the effort in the forcing of their exports, industry is not in the condition to give such export surpluses as could agriculture."

<sup>174</sup>Cf. Zalkind-27a. This policy is examined critically in Chapter II and in Chapter XI.

of export industries -- oil, timber, minerals, sugar, cloth -- was not to be neglected, (in terms of capital investment, and export efforts) for they do not "depend on the harvest." The sale of these products abroad, however, was more difficult. So ran the export strategy for 1927/28.<sup>175</sup>

---

<sup>175</sup>See Kaufman-27c, pp. 1-3, Gurevich-27a, and Kaufman-28c.

## CHAPTER X

## STAGNATION OF EXPORTS 1927/28:

## CRISIS IN A BAD YEAR

... industrialization in its first period of growth leads to an intensification of imports and to a retardation in the growth of exports.

M. Kaufman, September, 1927<sup>1</sup>

Outlook and goals for foreign trade in 1927/28

"Rapid industrialization" had become the officially accepted policy by the beginning of 1927.<sup>2</sup> The unresolved policy issues centered on the proper growth rate and the optimal investment strategy to assure "crisis free expansion" of the socialist Soviet economy.<sup>3</sup> Discussion of these issues - how they were influenced by the past and projected developments in foreign trade, and how in turn the decisions on these issues affected foreign trade - is deferred to Chapters XII-XIII.

Poor prospects of export expansion in 1927/28. The possibilities for expanding exports during 1927/28 became extremely uncertain during the summer of 1927 - in fact, a comprehensive foreign trade plan for 1927/28 was probably not worked out until after the start of the economic year.<sup>4</sup> By the fall of 1927 it was clear that chances for

---

<sup>1</sup> Kaufman-27d, p. 1.

<sup>2</sup> Krzhizhanovskii-27a, p. 432. For a one-sided account of the debate on tempo and strategy and for a description of the evolution of

increasing exports much above 1926/27 levels were poor - at a time when import demand was rapidly increasing.<sup>5</sup>

NKT's major problem was that grain exports, which had been the major source of export expansion and equalled 26% of total exports in 1926/27, would probably have to be reduced greatly in the coming economic year because of a slightly lower harvest, unfavorable harvest distribution, increasing demand by the urban and consuming regions, and a strengthening of forces which depressed marketing (predicted worsening of the goods famine, unfavorable relative prices (to animal products) and rumor of war).<sup>6</sup>

The possibilities for expanding flax exports (in value) were mixed. The flax crop was lower in 1927, but foreign prices were distinctly higher, - the higher foreign prices reflected, to some extent, the poor prospects for Soviet flax exports.<sup>7</sup> NKT also was confronted with the conflict between exporting flax and supplying domestic industry, whose output had been limited only by the shortages of raw materials in 1926/27.

---

the planning process and plans during the period 1924-1929, see Strumlin-32, pp. 89-132, especially pp. 118-125.

<sup>3</sup> Erlich-60.

<sup>4</sup> On September 15, 1927, Kaufman wrote an article entitled "K kontrol'nym tsifram po vneshei torgovie" in ST, Vol. II, No. 35 pp. 1-2, in which he described the factors which should be considered in drawing up the control figures for the economic year starting October 6, 1927 ("Na paroge novogo goda," ST, Vol. II, No. 38, pp. 1-3) although it thoroughly discussed the problems and strategy for expanding exports without grain. Little information has been located about the foreign trade plan for 1927/28.

<sup>5</sup> Kaufman-27d, p. 1. See below p. 390.

The outlook for other agricultural exports was generally favorable.<sup>8</sup> The possibilities for expanding the quantity of animal product exports - eggs, butter, meat, wool - were good because of the elastic response of the peasants' output and marketing to state procurement agencies for higher procurement prices, which had been increased during the past year to specifically increase state procurements for export (butter, eggs, coarse wool) and to supply domestic industry (wool, leather).<sup>9</sup> The favorable relative prices for animal products and other technical crops, however, was depressing grain procurements and hence grain exports. According to Zalkind, writing in July

---

<sup>6</sup> The grain export problem of 1927/28 is analyzed in detail in Chapter XI.

<sup>7</sup> Flax output was 300,000 m. t. in 1925, 270,000 m. t. in 1926 and 240,000 m. t. in 1927; both flax acreage and yields fell. (Diamond-55, pp. 83-85 and Johnson-60, pp. 228, 232, 237). The decline in sown area was attributed to unfavorable domestic flax prices relative to grain, linen cloth, and other technical crops (ST, Vol. III, No. 45-46, pp. 30-31). Kaufman-27d (p. 2) expected higher foreign prices in 1927/28 than in 1926/27.

<sup>8</sup> Increased exports (volume) of sugar and oil-seed products could be planned because of the record sugar beet and sunflower seed crops. The improvements were attributed to higher domestic prices (SUA, Vol. VI, No. 15/16, (1927); pp. 21, 30; SUA, Vol. VI, No. 17 (1927), pp. 18, 23, 25, 32; and SUA, Vol. VII, No. 1, (1928), pp. 32-33).

<sup>9</sup> ST, Vol. III, No. 45/46, pp. 30-31, and ST, Vol. III, No. 25, p. 3. Kaufman-27d (p. 2) predicted increased exports of butter, eggs, and wool.

of 1927:

... our success in the livestock groups has turned out to be not entirely favorable for stimulating the sale of grain products, thanks to the significantly increased break (in prices) between the livestock groups and grains (see Figure X. 1). The producer preferred to sell animal products before grain products and he sold them in such quantities, which, because of the total receipts, gave him the possibility to retain part of the grain for himself.<sup>10</sup>

Peasants also fed their livestock increased quantities of feed grains.<sup>11</sup>

Zalkind recommended equalizing somewhat (and with great caution) the relative prices of grains and livestock products by raising the grain prices and lowering slightly (2-5%) the procurement price for meats and possibly for butter.<sup>12</sup>

Increasing butter and egg exports in 1927/28 threatened to be at the cost of reducing grain exports. Increased procurements of eggs and butter (from higher output and improved marketing coefficients) would be somewhat offset by growing urban demand for these products (more people consuming more per person) and lower foreign prices were expected for eggs and butter (because of a limited foreign demand for Soviet eggs), so that the value of butter and egg exports would

---

<sup>10</sup> Zalkind-27a, p. 3. A rational behavior on the part of the peasant from the viewpoint of consumer theory. If the prices of agricultural goods relative to industrial goods did not change, but the relative prices of animal products to grain prices did, as actually occurred, this is the predicted behavior. See Zalkind-27b, p. 2, and Chapter XI.

<sup>11</sup> See above, p. 341 and Chapter XI, pp. 438.

<sup>12</sup> Zalkind-27b, p. 2. The problem of determining the proper relative prices among animal products was complex because of the demand for wool, butter, and milk on the one hand and the demand for meat and hides on the other (Zalkind-27c, p. 2).

increase less than procurements.<sup>13</sup>

The important factor affecting the growth of agricultural exports in 1927/28 was the willingness of the peasant to market his products, i. e., the peasants' "tovarnost".<sup>14</sup> And in the NKT, which had the task of regulating both internal and foreign trade, almost everybody agreed that the most important factors in increasing the "tovarnost" (marketing coefficient) of agriculture was to increase the flow of industrial goods to the agricultural surplus regions and to lower the prices of these goods - that is, to increase the real terms of trade of agriculture:

The maintenance of the equilibrium between the demand of the peasant population for industrial goods and the offer of agricultural goods, a favorable relationship between agricultural and industrial prices, the proper regulation of market turnover not only with respect to separate goods but also to regions with consideration for the regional particularities - here are all the areas in which measures appear to be necessary for the development of tovarnost', and in its turn, appears to be the precondition for increasing exports.<sup>15</sup>

This was the rationale behind the official policy of the 1927 decree to lower prices of manufactured goods by 10%. Its economic rationality is re-examined in Chapter XI.

<sup>13</sup> Zalkind-27b (p. 1) predicted an 8% increase in the urban demand for agricultural goods. Kaufman-27d, p. 1. Both Kaufman and Zalkind emphasized the importance of pursuing the proper price policy for animal products in order to increase marketing and the marketing coefficients.

<sup>14</sup> Kaufman-27d, p. 2.

<sup>15</sup> Kaufman-27d. See also Zalkind-27a, p. 4; ST, Vol. II, No. 38, p. 2; Mikoian-27a, p. 2.

<sup>16</sup> In constant prices, Zalkind-27b, pp. 1-2. Actual output and marketing from ST, Vol. III, No. 45/46 (pp. 1, 7-8, 14-15).

The predicted (and actual) growth of agricultural output and marketing on which NKT's projection about agricultural exports was based was the following:<sup>16</sup>

	<u>Output</u>		<u>Marketing</u>	
	% Increase Over 1926/27		% Increase Over 1926/27	
	Plan 1927/28	Actual 1927/28	Plan 1927/28	Actual 1927/28
Gross Agricultural Output	+4	-2.7	+11	+9.0
Technical Crops	+25	+19.2	+27.5	-
Livestock-Foodstuffs	+5	-	+10	+5.4
Livestock-Raw Materials	+6	-	+11.5	-
Grain	-2.5	-5.8	+5	-12.8

In contrast the projected increase in the value of manufactured retail goods sold at prices projected for the coming year was 5-6% but the actual volume (in constant prices) of goods supplied would be larger because retail and wholesale prices were to be lowered further in 1927/28.<sup>17</sup> Aggregate demand would increase faster than aggregate supply thus increasing excess demand in the countryside.<sup>18</sup> Despite these uncertainties (especially about grain exports) Kaufman, the chief planner of foreign trade for NKT, predicted that agricultural exports

---

<sup>17</sup> Zalkind-27b, pp. 1-2. Increase 16-17% in constant prices, but only 11% in current wholesale prices.

<sup>18</sup> Ibid.



should be somewhat higher in 1927/28 than in 1926/27.<sup>19</sup>

Industrial exports. The volume of industrial exports were easier to plan because they were independent of the harvest and the peasant and were more closely controlled by the economic planners. This important characteristic was specifically emphasized by planners in NKT and a large increase in industrial exports was projected for 1927/28, especially for the traditional timber and oil products but also for several less important mineral products.<sup>20</sup> The capability for increasing the quantity of oil exports in 1927/28 was good because of the large projected increase in output.<sup>21</sup> But accurately projecting the value of oil product exports for 1927/28 was more difficult because foreign oil prices had been falling sharply in the second half of 1926/27, partly because of the campaign against Soviet oil sales by major international oil concerns, but largely because of the glut on the world oil markets resulting from American overproduction.<sup>22</sup>

The expansion of timber exports projected for 1927/28, on the other hand, conflicted directly with the increasing domestic demand for at the end of 1926/27, demand exceeded supply by a significant mar-

---

<sup>19</sup> Kaufman-27.

<sup>20</sup> Kaufman-27d, p. 2; ST Vol. II, No. 38, p. 2. Kaufman-27b (p. 2) particularly emphasized the independence of industrial exports from the harvest. See also Gurevich-27a, p. 2.

<sup>21</sup> Segal-28a, pp. 120, 130-131.

<sup>22</sup> ST Vol. II, No. 43, p. 61. See Chapter IX, p. 359.

gin.<sup>23</sup> Foreign prices were expected to be slightly higher.<sup>24</sup>

Industrial exports (cotton, sugar, oil products) to the Eastern countries were also to be expanded on the basis of a new treaty signed with Persia - but the Eastern markets were limited and competition between Soviet and other exporters was forcing prices down in these markets. Although the Soviet expansion of textiles and sugar exports was at the expense of supplying their domestic market (where there was excess demand for these goods, especially cloth), the impact on the aggregate supply of consumer goods was probably favorable because it diversified the composition of the consumer goods supply and supplied materials for light industry: imports over the Eastern borders included cotton, wool, and hides and jute, as well as citrus fruits, rice, dried fruit and tea.

Emergency diversification of exports. For the second time in four years, Soviet foreign trade was thrown into crisis because of a poor grain harvest. The reliance on grain exports - a perennial problem in pre-1914 Russian exports - was considered excessive by Soviet economists (although many underdeveloped countries today would envy the export diversification of Russian and the USSR).<sup>25</sup> As the extent

---

<sup>23</sup> M. Safianov, "Regulirovanie rynka lesomaterialov i chas-tnyi kapital" (ST, Vol. II, No. 50, p. 5). According to ST, Vol. III, No. 43 (p. 57), the increase in output of sawn timber in 1927/28 (in RSFSR) was projected at 7% compared to actual output in 1926/27 while construction in 1927/28 was to increase not less than 15-20% over 1926/27. See Gosplan-29a, p. 489.

<sup>24</sup> ST, Vol. III, No. 43, p. 58.

<sup>25</sup> "The share of exports concentrated on 6-7 commodities now as well as before the war equalled 75-80% of total exports. Such

of the 1927/28 grain export disaster became known, the neglected group of export products - denoted by the term "secondary exports" - were increasingly emphasized as being an important source of additional export revenue.<sup>26</sup> Sovetskaia Torgovlia noted in October 1927, that the immediate outlook for basic agricultural exports was not favorable for various reasons, so that "future growth of exports requires a complete reconstruction of the export fields of the economy."<sup>27</sup> But, it continued, "in a series of basic export fields we, evidently, are not able to move forward without significant capital investment, without broadening the technical base for exports."<sup>28</sup> For the most part, expansion of secondary exports, it was argued, could be accomplished with little or no investment. The major problems in expanding were not necessarily scarcity of the basic raw material, but rather marketing, procurement, and processing problems, and also "commercial profitability for the exporting firm."<sup>29</sup> But secondary exports were still relatively unimportant in total exports - goods not in one of the ten basic export groups equalled 21% of total exports in 1926/27 while grain exports

---

an export structure is unfavorable, for inadequate growth of any one of these important commodities is reflected in the balance of trade. Especially capricious in this respect are grain products. A crop failure immediately reduces our export resources by a significant sum, which it is very difficult to compensate for in one year." (Kaufman - 28a ). For list of country for which exports of one commodity equalled more than 50% by value of total exports in 1928, see Kindleberger - 62, p. 31).

<sup>26</sup> See "O vtorostepennom eksporte", Kaufman-27e, pp. 1-2. "Nashi zadachi po rashireniiu vtorostepennykh vidov eksports" Gurevich-27b, pp. 1-3, and ST, Vol. III, No. 4, p. 1. Some of the more important secondary exports included coal, rags, fish, cement, samolin, guts, seeds.

alone were 26% of total exports by value in 1926/27.<sup>30</sup>

Despite all these problems plaguing Soviet exports the NKT predicted an increase in agricultural and industrial exports for 1927/28.

#### Import demand and industrialization

Twice in two years, the scarcity of export receipts had forced restriction on the growth of output and investment. Again in 1927/28 the limited ability to import raw materials restricted the expansion of output. Total equipment imports, financed on the German credits, were more than adequate for the projected levels of investment in 1927/28, although investment in particular branches may have been restricted below desired levels, because of the inability to purchase appropriate machinery (such as tractors for agriculture) on credit. The import structure had been "industrialized" in the previous year so that it was not possible to further reduce "consumer goods" imports to permit increased imports of cotton, wool, and other industrial materials which were constraining the growth of Soviet output. Thus, the increasing demand for imported goods in 1927/28 could be supplied only by increasing Soviet foreign debt and import substitution.<sup>31</sup>

The projected increase in investment for 1927/28 was based to a large extent on an increase in machinery imports. Chernobaev re-

---

<sup>27</sup> ST, Vol. II, No. 41, p. 1.

<sup>28</sup> Ibid.

<sup>29</sup> Ibid. See also Gurevich-27b, pp. 2-3 and Kaufman-27e for the measures recommended to expand these exports.

ported that imports provided almost 45% of total machinery installed in industry in 1926/27 and according to the plan projections (Perspective Five Year Plan 1926/27 - 1930/31), imports would continue to supply about 40% of total machinery installed in industry through 1930/31.<sup>32</sup> The demand for foreign machinery during NEP increased not only because domestic machine-building capacity was limited but also because domestic enterprises preferred foreign machinery over Soviet machinery. They argued that foreign machinery was "cheaper" in terms of rubles (at the parity rates of exchange) and higher quality than domestic versions of the same machine.<sup>33</sup> Kaufman and others recommended denial of licenses for imports of equipment which could be produced domestically.<sup>34</sup> The timing of machinery imports was to be

<sup>30</sup> By value the ten groups are: grain products, flax, butter eggs, furs, timber products, oil products, manganese ore, sugar, cotton cloth. See Table T-4.

<sup>31</sup> Kaufman-27c, pp. 1-2. Kaufman-27d, pp. 2-3.

<sup>32</sup> This continues our discussion of machinery imports and investment from Chapter IX, pp. 362 ff. Chernobaev-28a, pp. 29-30. Such estimates have to be treated with some caution for they tend to understate the importance of imported machinery because they are usually comparisons in current domestic and foreign prices. Domestic prices for some types of comparable machinery were higher. In addition, there is the problem of estimating the hypothetical cost of a domestic machine which is currently not produced, and which could not be produced for technical reasons in a reasonably short time.

<sup>33</sup> This was one reason for sharply raising the tariff on imported machinery and selected raw materials (cotton, hides, wool) in 1927. Table T-47.

<sup>34</sup> Kaufman-27d, p. 2.

more strictly controlled in order to prevent purchase and arrival of machinery before the plant construction was completed.<sup>35</sup> A large increase projected machinery imports was expected in 1927/28 because of the large backlog of undelivered machinery which had been ordered in previous years; the value of industrial machinery imported in 1926/27 was about half the value of industrial machinery ordered in 1926/27.<sup>36</sup> But the impact of these increase machinery imports on the balance of payments would be offset to a significant extent by the use of medium-term credits (2 - 4 years) for financing the import of German machinery.<sup>37</sup> Actual machinery in 1927/28 imports are discussed below (p.

---

<sup>35</sup> Ibid. Apparently, machinery was ordered and delivered before construction was completed; this problem was to grow worse in 1927/28.

<sup>36</sup> Imports of industrial machinery were about 18% of total imports in 1926/27.

USSR: Imports and orders of Industrial Machinery 1924/25 - 1927/28  
(millions of rubles)

	1924/25	1925/26	1926/27	
	<u>delivered</u>	<u>delivered</u>	<u>delivered</u>	<u>ordered</u>
Total machinery	48.6	84.5	131.7	270.9
Metallurgical	4.3	13.2	29.2	74.8
Mining	3.1	9.2	19.8	32.2
Oil Industry	2.6	10.2	22.2	46.6
Textile	12.5	28.0	19.7	21.0
Paper	0.9	3.4	3.7	16.0
Chemical	1.1	1.8	4.2	12.9

Source: Chernobaev-28, p. 30.

<sup>37</sup> According to Chernobaev-28 (p. 30) 166 million rubles of the 271 million rubles of industrial machinery ordered in 1926/27 was financed through credits received in Germany and other countries. The first repayments on the so-called "300 million mark credit" from Germany were due, however, in March 1928 (SUA, Vol. VI, No. 8/9, p. 10 and SUA, Vol. VIII, No. 7, p. 2).

412).

Expected raw materials shortage. Raw materials requirements for light industry projected for 1927/28 increased faster than domestic supply and the limited capacity to import more raw materials was cited as the major cause for the continuing "goods famine" for cotton cloth, woollen cloth, leather goods, and tea. In analyzing the reasons for the predicted deficit (excess demand) in these goods, Zalkind concluded:

The basic cause for these deficits consists of a scarcity of raw material for these fields. The increase in the price of foreign raw materials, and also the impossibility of increasing the allotment (of foreign exchange) for the purchase of foreign raw materials do not give the possibility to develop to the necessary degree those fields of light industry working on imported raw materials: cotton cloth, wool, leather.<sup>38</sup>

NKT predicted a fairly severe "goods famine" in 1927/28 on the basis of projected output and aggregate demand and believed immediate additional raw materials would permit the necessary increases in output to prevent it, but additional raw materials were available only through imports purchased (normally) on a cash basis. The increase in machinery imports projected for 1927/28 were almost entirely financed by credits and ordered in advance so that, in the short-run, cutting back machinery imports or orders would not greatly increase the supply of foreign exchange which could be spent to import more raw materials in 1927/28.

The supply of cotton textiles was expected to grow more slowly in 1927/28 than demand, thereby aggravating the shortages occurring during the summer of 1927.<sup>39</sup> The inadequate growth was due primar-

---

<sup>38</sup> Zalkind-27b, p. 3. This was the correct prediction and reasoning. Of course, the multiple effects on aggregate demand of

ily to the limitations of raw material (and possibly skilled labor), for the cotton textile industry for the first time planned to convert significant portions of the industry over to three shifts.<sup>40</sup> Planned price reductions not only of cotton textiles but of other consumers' goods contributed to the excess demand.<sup>41</sup> The cotton textile production plan for 1927/28 was based on a 14.5% increase in the supply of cotton fiber for 1927/28.<sup>42</sup> The predicted increase in domestic output and marketing (+30%) of cotton was sufficient to supply this increase and to permit a cutback in the quantity of imported cotton.<sup>43</sup> Furthermore, given the limited import capacity, the quantity of cotton imports had to be reduced in 1927/28 because of the great increase in the price of cotton.<sup>44</sup>

---

producing goods with these additional raw materials were not considered.

<sup>39</sup> Zalkind-27b, p. 3, and ST, Vol. 2, No. 43 (1927) pp. 43-45.

<sup>40</sup> ST, Vol III, No. 45-46 (1928, p. 38 and Mikoian-27a, p. 2.

<sup>41</sup> ST, Vol, II, No. 49 (1927), p. 49 and Zalkind-27b, p. 34.

<sup>42</sup> SUA, Vol. VII, No. 1, p. 32.

<sup>43</sup> SUA, Vol. VI, No. 17, p. 32. According to STAT-35 (p. 193), 306,800 m.t. of ginned cotton was consumed in 1926/27 of which 168,600 m.t. was domestically produced. A 14.5% increase in raw material requirements implied an expected demand of about 352,000 m.t. and a 30% increase in domestic fiber would supply 218,000 m.t. so that about 134,000 m.t. of imported cotton would be required in 1927/28 as compared to 163,000 m.t. of imported cotton in 1926/27.

<sup>44</sup> Martin-37, pp. 152-154. American middling 7/8 inch rose steadily from the 13-14 cents per pound level which existed during the period October 1926 to March 1927 to the 20-22 cents per pound during the August-October 1927 period.



(Cotton imports had expanded more than planned in 1926/27 because of the unexpected decline in prices in early 1926/27.)<sup>45</sup> In September 1927, however, prices were 55-60% higher than in the fall of 1926. To have imported the same quantity of cotton in 1927/28 would have cost about 210 million rubles in 1927/28 as compared to 132 million rubles in 1926/27. Rising world prices in the late summer of 1927, also reduced the USSR's "real import capacity" to increase the imports of wool, tea, and hides - all in short domestic supply (prices trends for other raw materials, toward the autumn of 1927 were mixed).<sup>46</sup>

The policy of severely restricting consumer goods imports was to be continued; only the goods of the greatest necessity and which yielded significant tax revenues (tea) would be permitted.<sup>47</sup> The continuing rather high figure for consumers' goods imports (especially foodstuffs) in light of this policy pronouncement, was to a large extent the result of the less strictly controlled trade across Asian borders.

Other ways for economizing on foreign exchange expenditures were sought including the substitution of lower quality raw materials for the better quality previously imported.<sup>48</sup> Using the price cycles for the purchase of raw materials was also advocated.<sup>49</sup>

---

<sup>45</sup> American middling 7/8 at New York (cited in Martin-37, pp. 152-154) rose from 19 cents per pound in August 1926 to 13 cents per pound in October 1926.

<sup>46</sup> Jute was rising, non-ferrous metals declining (ST, Vol. II, No. 43, p. 72).

<sup>47</sup> Kaufman - 27d, pp. 2-3.

<sup>48</sup> Ibid.

<sup>49</sup> ST, Vol. II, No. 38, p. 2.

Break with Great Britain. The foreign trade picture was further beclouded by the break in diplomatic relations with Great Britain in May 1927, for Great Britain was one of the USSR's major export markets (27% of total Soviet exports in 1926/27), and the USSR always ran a large trade surplus with Great Britain. The break also denied to the USSR the use of a hundred million ruble credit agreement signed with the Midland's Bank Ltd., and temporarily worsened the terms and availability of credits for the USSR.<sup>50</sup> Other international incidents also seemed to emphasize the USSR's political isolation in 1927 and increased the threat of war.

#### Foreign Trade Plan 1927/28

Little information was published about the 1927/28 foreign trade plan.

The original projection for exports in 1927/28 predicted a slight increase in agricultural exports and a strong increase in industrial exports,<sup>51</sup> so that one might guess that in September 1927, the increase in total exports was projected at about 5-10%. The only evidence about an over-all target for exports in 1927/28, however, were statements about the fulfillment of an export plan. This plan was presumably a revised plan adopted after the extent of the grain export crisis was known and was set at 754 million rubles or 25 million rubles below actual 1926/27 exports.<sup>52</sup>

---

<sup>50</sup> ST, Vol. II, No. 43, p. 15. Kaufman-27d, p. 3.

<sup>51</sup> Kaufman-27d.

<sup>52</sup> This figure is based on a fulfillment figure for the 1927/28

The expected development of exports was discussed above and NKT projected significant increases in the export of eggs, butter, oil products timber, and strong increase of "secondary exports". Although grain exports were expected to decline in 1927/28, it was projected that they would still be very substantial - or at least higher than they turned out to be in 1927/28.<sup>53</sup>

Less information is available about the import plan for 1927/28, but probably NKT expected the imports to be about 830-860 million rubles in 1927/28.<sup>54</sup> Imports would almost unavoidably increase significantly over 1926/27 levels because of the delivery of previously ordered machinery purchased on credit. Imports of raw materials were to be strictly limited - probably to about 1926/27 values. No grain imports were planned! Of interest is the stated priorities in the import plan:

The problems of raw material supply for industry for domestic as well as foreign raw materials is becoming a very critical issue, for in a number of light industrial branches, raw materials are the limit to further growth of output. In this connection raw materials to a certain degree determine the marketable supply of a number of important industrial goods.

---

exports of 103.7% cited in Kaufman-29d, p. 1 and an export figure of 779.4 million rubles excluding platinum (Table T-1). If platinum was included in the estimate for plan fulfillment in 1927/28, this implied a plan of 763.4 million rubles (VTSSSR-60 data) or 43.4 million rubles below 1926/27 exports including platinum (Table A. 3, Appendix A, Technical Notes 3, p. 728).

<sup>53</sup> See below, p. 400.

<sup>54</sup> Geller-28a (p. 45) stated that "expected imports for 1927/28 were 893.1 million rubles. Actual imports were 944.7 million rubles or 51.6 million rubles above "expected imports". Geller was probably writing in mid-1928 when the emergency imports of grain of about 32 million rubles were made and already included in his estimates. Fur-

At the same time the interests of the consumer markets of industrial goods, for the most part, increasing the supply of goods by the expansion of the import of foreign raw materials, can not avoid being subordinate in the cause of the immediate future to the interest of the largest development of heavy industry. As a consequence, the problem of market equilibrium will be settled primarily from the side of regulating demand.

October 1927<sup>55</sup>

Even though a trade deficit was expected in 1927/28, the balance of payments was to be favorable because of the credit financing of machinery imports.<sup>56</sup>

#### Foreign trade in 1927/28

Soviet foreign trade went through crisis in 1927/28. The total value of exports in 1927/28 in current prices was almost identical to 1926/27 exports while imports rose by almost a third and created a huge balance of trade deficit of 163.7 million rubles:

#### SOVIET FOREIGN TRADE: 1926/27 - 1927/28<sup>57</sup>

	Current Prices		Constant 1926/27 Prices	
	(millions rubles)		(millions rubles)	
	1926/27	1927/28	1926/27	1927/28
Exports	779.4	781.4	779	780
Imports	713.5	945.5	714	889
Balance	+65.9	-163.7	66	-109

thermore, the extra raw material imports of cotton fiber were authorized in December 1927 (see text). Compare Tables T-5, XIII. 2 for actual imports in 1927/28 and "expected imports during 1927/28 as reported in Geller-28a.

<sup>55</sup> ST, Vol. II, No. 38, p. 1.

Exports. The development of Soviet exports during 1927/28 was described as a fundamental conversion of Soviet foreign trade from reliance on grain exports toward emphasis on industrial exports.<sup>58</sup> Grain product exports collapsed almost completely - grain exports fell to one-fifth of 1926/27 levels. The value of grain exports equalled 4.2% of total exports in 1927/28 as compared to 26% in 1926/27 and 36% in 1913, so that the share of agricultural products (not including fur and fish) fell from 66.3% of total exports in 1913 to 45.2% in 1926/27 to 29.8% in 1927/28 (Tables T-4 and T-26). Thus the resources base for Soviet exports by 1927/28 had perforce been shifted from agriculture (grain) to "industry" by the failure of agricultural exports, and the shift was at the cost of reduced import capacity and reduced growth in light industry. The one advantage was that the remaining exports were less dependent on the harvest and on the willingness of the peasant to market.

Exports developed in 1927/28 almost as expected except that grain exports probably fell more than initially projected in the fall of 1927. Two important trends in exports emerged during 1927/28. First exports of some products were increased at the explicit cost of reducing the domestic supply of commodities for which there was already explicitly recognized excess demand in domestic markets (butter, meat, furs, timber, and coal). Second, the price trends of Soviet exports were diverse, but those commodities exported in significantly higher

---

<sup>56</sup> Kaufman-27d, p. 3.

<sup>57</sup> Tables T-2, T-5. Value in 1926/27 prices based on volume indexes from Tables T-24 and T-35.

quantities in 1927/28 were sold at stable or lower prices than in 1926/27 (with the exception of furs and butter), and those commodities exported in smaller quantities were sold at stable or higher prices than in 1926/27. The inverse relationship between quantity and foreign price suggests that Soviet exports faced less than perfectly elastic demand curves for its export goods.

#### Collapse of grain exports

The prospects of grain exports for 1927/28 were confused right up through the harvest. Writing in early July, Zalkind noted that an overall "average" harvest was expected and that sown area was 1-2% greater than in 1926, so that the harvest would be slightly less than the 1926 harvest.<sup>59</sup> It would be the third consecutive average-to-good harvest and could in no way be described as a crop failure. The crop distribution was unfavorable for exports because grain surplus regions were located away from the normal export regions.<sup>60</sup> Grain procurement targets were slightly higher than 1926/27 because of an expected increase in the marketing coefficient. This optimism was based on three factors including larger surpluses in the peasants' possession, lower industrial retail prices now and in the course of 1927/28, and the fact that this was the third average-to-good harvest - even if slightly lower than the previous harvest.<sup>61</sup> On the other hand, peasants'

---

<sup>58</sup> Kaufman-28f, p. 11.

<sup>59</sup> Zalkind-27a, p. 4.

<sup>60</sup> SUA, Vol. VI, No. 15/16, p. 30. Zalkind-27a, p. 4.

on-farm demand was increasing because of increased rural population and large livestock herds, the peasants had accumulated considerable stock of cash, the "goods famine" was predicted to get worse in the fall of 1927 and the prices of non-grain agricultural products were much more favorable than grain prices compared to pre-1914 relationships (see Figure X.1). All these factors depressed the peasants' willingness to market grain.<sup>62</sup> Furthermore, the demand for marketed grain products in 1927/28 was increasing because of a growing urban population, increased sowing and marketing of technical crops, and the need to replenish the State Grain Reserve Fund, which had been depleted during the procurement problems in the spring of 1927.<sup>63</sup> Thus, the prospects for maintaining grain exports simply were not favorable. Kaufman assessed the outlook for grain exports for 1927/28:

The level of grain exports will depend on a series of factors (in addition to the general conditions of "tovarnost" noted above); these include the outlook for the 1928 harvest, the degree of insurance (grain reserves) with peasants in case of crop failure, and also the influence of non-economic causes.

Of large significance will also be the transport conditions, that is the supply of the internal market from non-export regions. For this year, the task should be the maximum development of the export of the secondary grain exports...<sup>64</sup>

The actual developments in grain exports were worse than anticipated:

<sup>61</sup> SUA, Vol. Vi, No. 18, pp. 10-12, and SUA, Vol. VI, No. 15/16, pp. 20, 30 and 49.

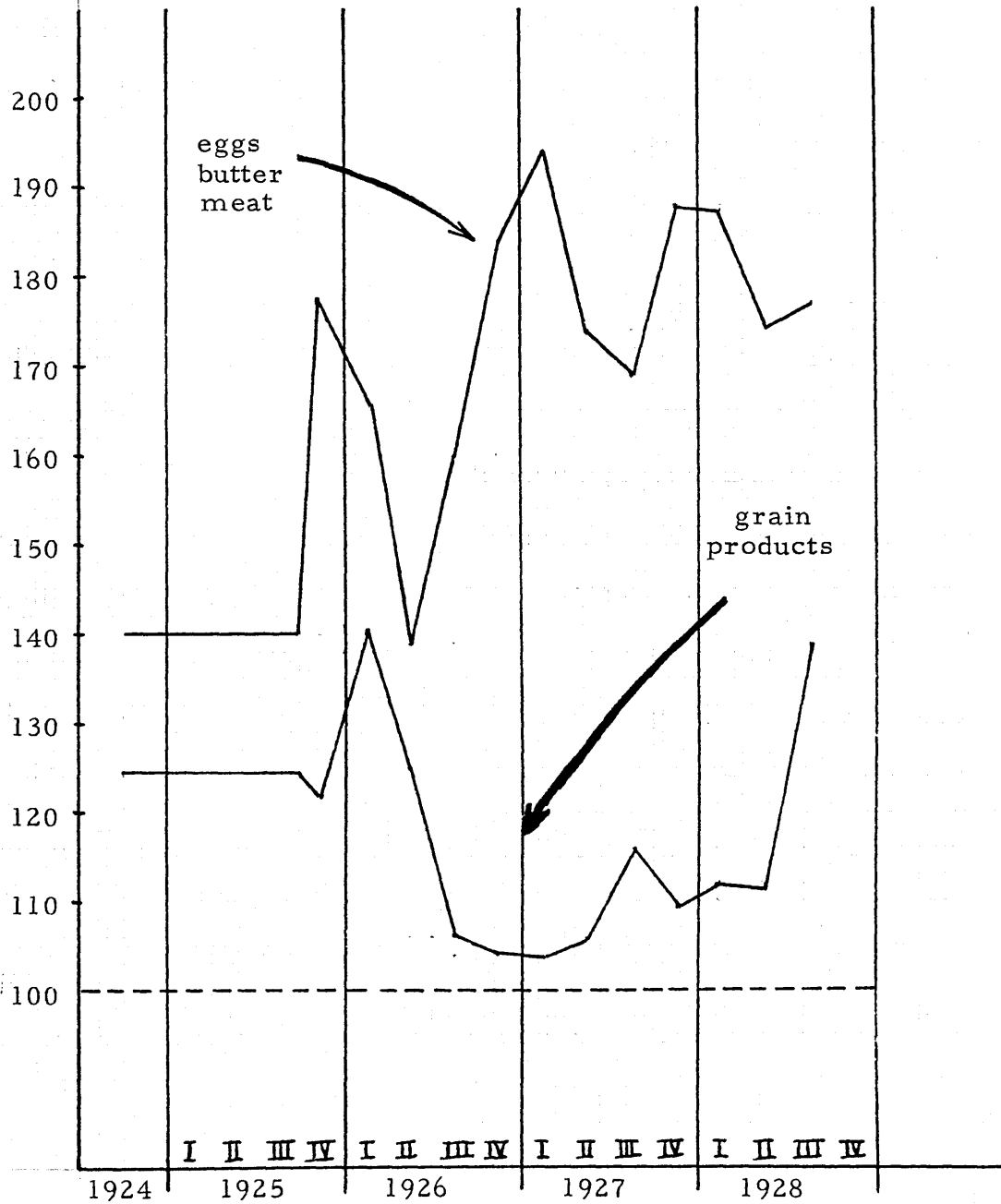
<sup>62</sup> Zalkind-27b, p. 4. See Chapter XI for a more detailed description of the significance of each of these factors.

<sup>63</sup> According to Gosplan-29a (p. 408), urban population grew 5.6% in 1926/27 and grew another 3.8% in 1927/28; overall population

USSR: INDEXES OF PRICES PAID BY STATE PROCUREMENT  
AGENCIES FOR GRAIN PRODUCTS AND BUTTER-EGGS-MEAT

1924 - 1929

(1909-13 = 100)





GROSS EXPORTS OF GRAIN PRODUCTS<sup>65</sup>

<u>Quantity</u>	(1000's m. t.)		
	1925/26	1926/27	1927/28
Grains-unprocessed	2,016	2,099	289
Grains-processed	13	14	35
Pulses (legumes)	50	78	55
Gross grain products exports	2,079	2,191	379
	(millions of rubles)		
Value of gross grain product exports	165	216	41

Oil-seed and oil cake exports declined further despite very favorable harvests of sunflower seed and cotton in 1927 (Table T-3).<sup>66</sup>

The evidence that Soviet authorities projected higher grain exports is indirect. First, grain including rye and corn was exported in significant but much lower quantities in October-December 1927, but fell off sharply in January-March 1928, and were negligible for the remaining six months. In fact, large amounts of wheat and hulled grains (valued at 43.3 million rubles) were imported toward the end of

---

growth was 2.3% in both years.

<sup>64</sup> Kaufman-27d, p. 2.

<sup>65</sup> VTSSSR-60, Grain-unprocessed, SOVTC 70, Grains-processed, SOVTC 820, and Pulses SOVTC 821. See Tables T-9 and T-11.

<sup>66</sup> SUA, Vol. VI, No. 17, pp. 28 and 32. Exports of oil-seed and oil cake fell from 546,000 m. t. in 1925/26 to 383,000 m. t. in 1926/27 to 203,000 m. t. in 1927/28 (Table T-3).

1927/28.<sup>67</sup> Few realize that not only did Bukharin suggest grain imports during 1927/28, but that substantial quantities of grain were actually imported. In this context it is interesting to recall Stalin's commentary on this policy.

Bukharin is for grain purchasing through "voluntary" sale by the peasant. If they do not market enough? To this Bukharin replies: Do not worry the kulaks with emergency measures; import grain from abroad... Not long ago he proposed that we import about 50,000,000 poods of grain (820,000 m. t.) i. e. to the value of 100,000,000 rubles in foreign currency. But what if foreign currency is required to import equipment for industry? To this Bukharin replies: Preference must be given to imports of grain - thus, evidently, relegating imports of equipment for industry to the back-ground."<sup>68</sup>

Net grain product exports in terms of value were about -3 million rubles as compared to +205 million rubles in 1926/27.<sup>69</sup> Second, it was emphasized that the slow flow of grain exports in the first half of 1927/28 caused great strain in the import-export plan, which implies that the export plan had projected higher exports for at least the first half of the year.<sup>70</sup> Nevertheless, it was to the planner's credit that

---

<sup>67</sup> It is little known that large quantities of wheat (276,000 m. t.) and hulled grain were actually imported in July-September quarter of 1927/28 and accounted for 6% of total imports in 1927/28 (Baksht-28b, p. 10).

<sup>68</sup> Stalin-29a, p. 65.

<sup>69</sup> Table T-11, and VTSSSR-60.

<sup>70</sup> Exports of Grain and Related Products  
(Million rubles)

	1926/27	1927/28
October-December	102.2	39.1
January-March	77.8	10.8
Year	234.6	59.0

Source: SUA, Vol, VII, No. 10, p. 12.

they projected severe problems in both grain procurements and grain exports in 1927/28.

Causes of the grain procurement crisis of 1927/28 had been thoroughly studied by both Soviet economists at the time and by Western scholars. We defer our analysis of the procurement crisis of 1927/28 to the next chapter, for the problems of expanding exports during the NEP were due largely to the failure of grain exports during NEP. The grain crisis of 1927/28 simply was the 'coup de grace' of restoring of exports on the basis of NEP agriculture.

#### Other agricultural exports

A very large portion of the butter and eggs procured by planned agencies was exported and this portion increased significantly in 1927/28:

#### PERCENTAGE OF PROCUREMENTS EXPORTED<sup>71</sup>

	<u>1925/26</u>	<u>1926/27</u>	<u>1927/28</u>
Eggs	58%	49%	59%
Butter	56%	40%	44%

Butter exports rose, but domestic procurements were stable and actually declined in the major export regions despite stable or higher prices so that the supply of procured butter available for domestic consumption was reduced causing butter shortages, especially in the second half of 1927/28.<sup>72</sup>

---

<sup>71</sup> Table T-20.

<sup>72</sup> ST, Vol. III, No. 45/46, pp. 44-50. The sale of butter in Moscow and Leningrad greatly increased, but the supply to other cities

Egg exports in quantity boomed in 1927/28 (+47.2%), but the increased export of Soviet eggs was accomplished at the cost of lower foreign sale prices in an otherwise buoyant foreign egg market - so the value of egg exports rose only 40%.<sup>73</sup> Domestic procurements rose rapidly in 1927/28 (+27.5%) but the total marketing of eggs rose less rapidly because market share of private traders declined. Thus, there were considerable shortages of eggs in urban areas for most of the year, and the private trader's price considerably exceeded the retail prices in state and co-operative stores. The state procurement prices were perforce maintained at the previous high levels after a temporary reduction in egg procurement prices demonstrated again the elasticity of state procurement to lower procurement prices. Grain shortages also retarded the output and marketing of eggs. Both eggs and butter exports reflected procurements and as procurements fell off sharply in July-September 1928, exports dropped below 1927 levels. Increased egg and butter exports in 1927/28 were achieved basically by restraining the growth of domestic consumption and the government's willingness to permit overt excess demand in the domestic market - this was a definite change in policy as compared to 1925/26 and 1926/27.<sup>74</sup>

---

was at the same levels as in 1926/27.

The difficulties in procuring butter during 1927/28 were ascribed to a shortage of fodder, and to an inadequate supply for butter producing regions of industrial goods, grain and foodstuffs (which was caused by a diversion of manufactured goods to the grain regions and a severe shortage of grain). The shortage of fodder and a later spring caused a slaughter of cattle in some butter producing regions, so that butter procurements in the second half of 1927/28 lagged behind 1926/27 levels and butter exports during this period were lower than the preceding year. (Ibid.)

<sup>73</sup> Ibid., p. 49.

The prospects of further expansion was darkened by limited foreign markets and increasing procurement problems encountered toward the end of 1927/28. The 1927/28 export plans for these two products (and also for flax) was not fulfilled in 1927/28.<sup>75</sup>

Timber exports. Timber exports increased 18% in quantity even though excess domestic demand existed for almost all timber products during 1927/28 as a consequence of increased construction and uninterrupted growth of demand in rural areas.<sup>76</sup> Despite this excess demand, (list) prices were lowered.<sup>77</sup> About 17% of all hauled industrial timber was exported (Table T-20). Timber exported in 1927/28 was sold at higher prices because of advanced contract sales, but foreign prices for sawn lumber at the end of 1927/28 were significantly weaker than in 1926/27 because of weaker demand (especially in England). The export plan for sawn materials was 91% fulfilled (in terms of sales). The export plan for other types of wood was completely fulfilled.<sup>78</sup> The increase in exports of sawn lumber was at the expense of the Scandinavian timber syndicate which had reduced its sales for a number of

<sup>74</sup> Discussion based on ST, Vol. III, No. 45/46, pp. 48-49.

<sup>75</sup> Baksht-28b, p. 9.

<sup>76</sup> Gosplan estimated that 14.5% of the demand for round timber and 18% of the demand for sawn timber went unfulfilled in 1927/28 as compared to 5.9% and 20% in 1926/27. Gosplan-29a, p. 489.

<sup>77</sup> ST, Vol. III, No. 45/46, pp. 54-55.

<sup>78</sup> Ibid.

reasons including a voluntary cutback of exports. Thus, continued favorable foreign prices for timber were possible only because of the oligopolistic structure of the European timber market and the USSR's willingness to play ball. But it also limited the possibilities of expanding Soviet sales.

Oil products. Oil products exports continued to increase (33% in weights and 20% in value in 1927/28) and foreign prices for Soviet oil products continued to decline (-8.4%), Table T-29. Soviet oil prices were destined to decline for the next seven years. Oil exports were definitely carried out at a commercial loss in 1927/28 and required "export premiums" from the state budget.<sup>79</sup> Exports increased along with increased domestic sales (+18%) so that kerosene and other oil products continued to be relatively abundant compared to other consumer products.<sup>80</sup> The substantial investment in oil industry in the past five years was intended not only to increase output of crude oil but also to improve refinery capacity for exports (to build ahead of demands). In 1927/28 limited cracking capacity on the first time restricted the export of gasoline to below possible sales so that the oil industry continued to receive a disproportionate share of the investment funds.<sup>81</sup> The oil industry was being developed primarily for export purposes (at least in the short-run) and exports were a significant part of output:

---

<sup>79</sup> Haensel-30, p. 161.

<sup>80</sup> The exception was fuel oil which played a small but significant role in the overall fuel balance of the USSR.

EXPORTS AS PERCENTAGE OF OUTPUT 1927/28<sup>82</sup>

All oil products	24.3	(% of crude output)
Refinery products	29.9	(% of refinery products)
Kerosene	36.0	(% of refinery products)
Gasoline	86.2	(% of refinery products)

Oil and timber exports equalled 13.7% and 12.2% of total exports in 1927/28 as compared to 3.3% and 11% in 1913 (Table T-4). The volume of oil exports, however, was about double 1913 levels while timber exports were only about 40% (unadjusted for territory changes) (Table T-26).<sup>83</sup> Kaufman and others emphasized that the poor development of the timber industry compared to the oil industry (with respect to both exports and the domestic markets) was primarily the result of much greater capital investment in the oil industry. Chapter XII offers an explanation for this investment policy.

Sugar. Sugar was one of the few consumer goods in excess supply in 1927/28 (as compared to 1924/25 and 1925/26 when sugar was so scarce that it was imported). Granulated sugar output rose 47% because of an exceptionally large harvest (larger sowings (because of higher prices) and better yields).<sup>84</sup> Thus domestic consumption increased, sugar exports increased and supplies were carried over for

---

<sup>81</sup> Discussion based on Gosplan-29a, p. 472 and ST., Vol. III No. 45/46, p. 57. See below p. 497.

<sup>82</sup> Table T-20.

<sup>83</sup> 1927/28 price weights.

<sup>84</sup> ST., Vol. III, No. 45/46, p. 44. NBER-56a, series, 1116.1.

the following year. But the higher prices for sugar beets and the larger harvest may have actually discouraged the sowing and marketing of grain.<sup>85</sup>

Cotton cloth exports more than doubled despite the large domestic excess demand for cotton cloth. The share of cloth in total exports rose from 2.7% in 1926/27 to 6.4% in 1927/28 - making cloth one of the most important exports (Table T-4). Exports of cotton fabrics were roughly 4.8% of total cotton fabric output.<sup>86</sup> This was another good example of the change in Soviet export policy by 1927/28 away from "exportable surplus" with "market clearing prices" to "forced exports" with non-market clearing prices. The economic rationality (from the viewpoint of maximizing total value of exports, and reducing the goods famine) was nowhere carefully discussed in Soviet literature at the time.

Flax exports. The value of flax exports increased 29% even though the quantity of flax exports declined 3% in 1927/28. Procurements fell only -3.4% despite a 9.1% decline in the crop caused by a decline in sown area.<sup>87</sup> Procurement prices were higher during 1927/28.<sup>88</sup> About 36% of marketed flax was exported in 1927/28 even though it reduced the supply of flax to the domestic flax industry so that domestic output of flax products actually fell in 1927/28.<sup>89</sup>

<sup>85</sup> See pp. 449 ff in Chapter XI.

<sup>86</sup> Table T-20. As far as can be determined about 25% of the increase in cotton fabric output was exported. Table T-20, Nutter-62, p. 445 and VTSSSR-60.

<sup>87</sup> The marketing coefficient for flax actually rose slightly, but was still below 1925/26 (and 1913) levels.

<sup>88</sup> ST, Vol. III, No. 45/46, p. 31.



"Secondary exports." The group of so-called "secondary exports" was successfully expanded from 15.3% in 1925/26, and 14.5% in 1926/27 to 26.3% of total exports in 1927/28,<sup>90</sup> and was important in offsetting the collapse of grain exports. But could it be repeated?

Summary. The Soviet's desperate search for exportable products had begun. Comparative prices - at the overvalued parity exchange rate - had ceased by and large to be a guide to export and import decisions. An ill-defined system of priorities had perforce been substituted. Poor prospects for grain exports in 1928/29 was to force it to continue.<sup>91</sup> The expanding exports, however, for several products - timber, cloth, flax, butter, and eggs - conflicted clearly with the needs of the domestic markets. The criteria for expanding exports on the basis of "exportable surplus" at market clearing prices and on the basis of "commercial profitability" had been abandoned.

#### Rapid import expansion in 1927/28: its causes

The 33% increase in imports in value in 1927/28 was due to price increases for major import items (cotton, wool, hides), large increases in machinery imports, increased imports of raw materials

---

<sup>89</sup> ST., Vol. III, No. 45/46, pp. 30 and 38, and Table T-20.

<sup>90</sup> ST., Vol. III, No. 45/46, p. 9. The export of "basic" secondary agricultural exports in 1927/28 increased 36% while the "smaller" secondary agricultural exports increased 115.7%; for secondary industrial exports the analogous figures are 26.6% and 181.8%.

<sup>91</sup> ST., Vol. III, No. 4 (1928), p. 10.

(particularly for light industry), and emergency grain imports during the July-September quarter of 1928.

The value of imports of "consumers goods" (excluding grain products), semi-processed goods, and agricultural producers' goods remained more or less unchanged from 1926/27 levels (Table T-5). These aggregate figures, however, concealed declines in the volume of imports in several fields where import substitution was being pressed including agricultural machinery, paper and cotton. Due to the export crisis in 1927/28, the government continually urged stricter economy in the use of imported raw materials, for greater attention to the timing and types of machinery ordered, for import-substitution or simple "import-deprivation" for imported goods, for import of the cheaper types of raw materials, and for greater attention to overhead costs in imports.<sup>92</sup> In fact, an editorial in Sovietskaia Torgovlia in January 1928 suggested that a cutback in capital construction might be in order.<sup>93</sup>

#### Machinery imports and investment

Machinery imports (Soviet definition) for industry and transportation increased from 152.8 million rubles in 1926/27 (24% of total imports) to 225.8 million rubles in 1927/28 (32.1% of total imports). Two features about these machinery imports stand out in 1927/28. First, most machinery was imported on credit from Germany, the United States, and Great Britain.<sup>94</sup> Second, machinery imports (del-

---

<sup>92</sup> ST., Vol. III, No. 4, p. 2. According to this article overhead on import operations were not economized on because of the high profitability of import operations.

ivery at border) lagged behind the ordering of machinery. The 1926 German credit had been designed to force the Soviet trade delegation to immediately order machinery in 1926 in order to get the benefit of the length of the credits; one-half were payable by the end of 1928 and one-half by the end of 1930. Soviet industrial trusts went on a buying spree which resulted in a large accumulation of uninstalled machinery by the end of 1928.<sup>95</sup>

Increased machinery imports in 1927/28 were by and large not at the immediate expense of reducing raw material imports in 1927/28 - despite Stalin's assertions to the contrary. Possibilities for immediately reducing machinery imports in order to import more raw materials or to reduce the payments deficit were small because 1) it was commercially difficult to cancel contracts in process, 2) reducing current orders would not immediately free foreign exchange, for this year's

<sup>93</sup> ST, Vol. III, No. 4 (January 26, 1928), p. 2.

<sup>94</sup> Trade with Great Britain continued even though diplomatic relations were broken between the USSR and Great Britain in 1927.

<sup>95</sup> The stock of imported machinery not put into production was 13 million rubles at the end of 1925/26, 25 million rubles at the end of 1926/27 and 80 million rubles at the end of 1927/28 (estimate of VSNKh) (Pashkov-30, p. 59). For Soviet commentary on the use of the 300 million mark credits, see "Die Kreditaktion", SUA, Vol. V, No. 13, pp. 5-9; "Die Industrie der UdSSR und de Abwicklung ung des Duet-schen 300 Millionen-Kredit", SUA, Vol. VI, No. 12, pp. 24-25; "Zur Abwicklung des Deutschen Garanteekredits", SUA, Vol. VII, No. 8/9, pp. 18-20.

machinery orders were usually delivered next year on credit and 3) machinery delivered in 1927/28 was ordered in 1926/27 and was largely on credit. And "next year" would always be better, so "don't cut down on orders this year!" - Soviet optimism.

To what extent the level of investment in industry and electric power industry was dependent on the volume of imported machinery? Pashkov did a study of the "Balance of Industrial Machinery" in early 1930 which suggested that between 30 to 40% of the expenditure on machinery in 1927/28 was for imported machinery (Table T-23).<sup>96</sup> Three important trends appeared during 1925/26-1927/28. First, industrial investment became more machinery intensive, according to Pashkov, and the demand for industrial machinery rose faster than both investment in industry and the domestic output of machinery (Table T-23). Second, the share of imported machinery (at current prices) in the total machinery installed in industry and electric power rose steadily from 25% in 1925/26 to 35% in 1926/27 to 40% in 1927/28 (Table T-23). Third, the share of machinery imports in total imports was rising steadily and machinery imports rose much faster than the growth of exports. These trends for the demand for industrial machinery and the derived demand for machinery imports compared very unfavorably to the projected growth (and actual growth) of exports.

Investment in agriculture was much less dependent on imports than before 1914 (Table T-22).

---

<sup>96</sup> Pashkov-30.

Shortages in raw materials. Just as Zalkind predicted, shortages of raw materials were a major limitation on increasing the output of textiles and leather products - and imports were a major source for raw materials.<sup>97</sup>

Cotton imports fell 10% in quantity but a good cotton harvest increased the total cotton supply in 1927/28, (Table XIV. 11). The increase was insufficient however, to fulfill the demand of the cotton industry which went on to three shifts. The "strain" on the foreign exchange plan in 1927/28 was specifically cited as limiting the actual consumption of cotton and wool.<sup>98</sup> The increase in the domestic cotton crop was due largely to a 16% increase in yield. Similar increases in yield could not be expected in the coming years, for the cotton yield in the USSR was variable and was near, post-1917 highs. This suggested that further increases in the domestic supply of cotton would have to come from expansion of area sown, possibly at the expense of grain?<sup>99</sup> According to Sovetskaia Torgovlia, imports supplied 40% of the fiber used in the cotton textile industry in 1927/28.<sup>100</sup> But the possibilities for rapidly increasing the cotton fiber imports for 1928/29 and beyond was uncertain - especially in view of the increasing demand for imports, the high foreign cotton prices, and the projected slow growth of foreign trade.

---

<sup>97</sup> ST, Vol. III, No. 45/46, p. 31 and l. 39.

<sup>98</sup> Ibid., pp. 30-32. The consumption of cotton rose 14.8%.

<sup>99</sup> Diamond-55, p. 72.

<sup>100</sup> ST, Vol. III, No. 45/46, p. 32. See Table T-21.

Wool imports increased 17% in quantity in 1927/28, and according to Sovetskaia Torgovlia, accounted for roughly 60% of the supply to the (large scale?) woolen textile industry.<sup>101</sup> The domestic procurements of wool also rose 36% and this success was attributed to the relatively high procurements prices for wool.<sup>102</sup> But the increase in total supply was not sufficient to meet the demand for wool by state industry.

The shortage of leather and hides was even more acute during 1927/28.<sup>103</sup> The value of hide and leather imports rose slightly because of higher prices but the weight of leather and hides declined (-13.4%).

The value of imports of these three items - cotton, wool, hides - increased 16% and accounted for 67% of raw materials imports and 27% of total imports in 1927/28. Thus, to continue the expansion of light industry on the basis of imported raw materials implied either substantial export growth or adjustments in the growth of other sectors of the economy.

The demand for raw materials imports used largely in heavy industry also expanded rapidly (23%) in 1927/28 and comprised 10% of total imports in 1927/28. Lower prices facilitated import expansion of rubber and many non-ferrous metals, but despite the substantial increase in non-ferrous metal imports, there were persistent reports of shortages of these metals (as well as other non-agricultural materials

---

101 Ibid.

102 Ibid., pp. 30-31.

103 Gosplan-29a, pp. 201-202.

supplied largely from domestic production such as fuel, iron products, and timber products).<sup>104</sup>

Imports supplied between 50 and 100% of the total supply of the following raw materials in 1927/28: wool, copper, lead, zinc, nickel, tin, aluminum, ferro-alloys, paper, rubber, tea, and jute (Table T-21). Some of these materials were not easily produced in the USSR under known techniques or geological knowledge in 1927/28 so that the increased demand for these "non-competing imports" such as tin, rubber, nickel, jute, tea and copra would have to be supplied through increased imports.

#### The import situation

Several special conditions tended to accelerate imports in 1927/28, including the delivery of machinery under the German credit and emergency grain imports in the fourth quarter of 1927/28, but the basic underlying pressure to expand imports of raw materials was the continuing increase in industrial output - and the planned acceleration of industrialization would increase this pressure, especially if the state was not successful in increasing the domestic output of agricultural raw materials.<sup>105</sup>

The share of consumers' goods imports (Soviet definition) in total imports increased from 13% in 1926/27 to 18% in 1927/28 largely because of grain imports (Table T-7). If imports of raw materials for

---

<sup>104</sup> Gosplan-29a, p. 175 and ST, Vol. III, No. 45/46, p. 41.

<sup>105</sup> In current prices, raw material imports rose 14% and semi-processed materials imports rose 15% (Table T-5). Imports of

use in the consumer goods industry are considered, the "consumer-oriented imports" accounted for between 49 and 55% of the total imports in 1927/28 - slightly higher than in 1926/27 Table T-15). This high fraction of imports oriented toward consumer needs during NEP contrasted strongly with the 1933 structure of imports when only 21 to 26% of total imports were directed toward satisfying consumer needs (Table XIV.12). The second "industrialitsatsia" of the import structures was yet to occur.

#### Terms of trade

The commodity terms of trade (1926/27 weights) went somewhat against the USSR in 1927/28 (-4.3%) and the shift was almost entirely to be attributed to an increase in cotton prices (Table T-28). The price index for Soviet exports rose slightly (3% using 1926/27 weights and 0.5% using 1927/28 weights).<sup>106</sup> The direction of the price changes for various exports was discussed above. The price index for imports rose also (+7.5%) using 1926/27 weights and 3.7% using 1927/28 weights). Raw material price trends were mixed in 1927/28 but the large increase in cotton, wool, and leather prices caused the price index for raw materials (1927/28 weights) to rise 10% (Table T-30). German machinery prices also increased (Table T-30) and the Soviet trade authorities

---

these groups rose by about 5% in constant prices (Table T-27).

<sup>106</sup> Table T-28. The price index using 1913 weights rose about 8% from 1926/27 to 1927/28 primarily because of higher grain prices and the heavier weights for grain.



accused German industries of conspiring to charge "Russian prices", that is, to charge higher prices to the USSR than to other countries. Some evidence suggests that this indeed was the case.<sup>107</sup>

#### Trade balance, gold flows, and reserves

The year 1927/28 was a disaster with respect to the Soviet balance of payments. The foreign trade deficit was 168 million rubles and the estimated deficit in the balance of payments on current account was a staggering 247 million rubles (Table T-14). This was financed by an increase in short and medium-term credits of 120 million rubles and by the net export of gold and platinum worth 155 million rubles. Foreign exchange reserves were depleted and were probably down below 330 million rubles by the end of 1927/28. The gold stock dropped from 347 million rubles on January 1, 1928 to 187 million rubles on January 1, 1929 (Table T-17). In contrast, outstanding Soviet foreign debt had increased to 370 million rubles by October 1, 1928, or more than Soviet reserves. The maturity of most of the foreign debt was short-term with one group of credits extending as far as 1930. But large repayments on the German credits were already due at the end of 1928 and the beginning of 1929. The 1928 crop and grain procurement campaign, however, promised that almost no grain would be exported in 1928/29.<sup>108</sup> The year

---

<sup>107</sup> A preliminary study by the author of unit-value of machinery exports from both the USA and Germany to the USSR and other countries revealed a tendency for the unit values of machinery imports to Russia to exceed the unit values to other countries. See SUA Vol. V, No. 13, p. 8.

<sup>108</sup> Baksht-28, p. 10.

1928/29 - the first year of the FYP - was to be begun under extreme pressure to cut imports and expand exports. A difficult way to start a program for industrialization. The Soviet economy of 1927/28 had come up against the now classic balance-of-payments problems encountered by developing countries today.

## CHAPTER XI

SOVIET FOREIGN TRADE AND THE "GRAIN PROBLEM"  
DURING NEPThe collapse of grain exports and the stagnation of Soviet foreign trade during NEP

The poor recovery of grain exports during NEP was the major cause of the stagnation of Soviet exports during NEP at levels far below 1909-13 levels. In comparing pre-1914 grain exports from the Russian Empire and grain exports from the USSR during NEP, recall that, all other things being equal, the separation of territory from the Russian Empire would have increased the capacity of the Soviet territory to export grain, for the separated territories were net importers of grain (0.5-1.0 million m.t.) from the rest of Russia.<sup>1</sup>

GRAIN PRODUCT EXPORTS, 1909-13 AND 1923/24-1927/28<sup>2</sup>  
(millions of metric tons)

	<u>1909-13</u>		<u>NEP</u>
1909	12.5	1923/24	2.7
1910	13.9	1924/25	0.6
1911	13.5	1925/26	2.1
1912	9.0	1926/27	2.3
1913	10.7	1927/28	0.4

---

<sup>1</sup>See page 168.

<sup>2</sup>Table III.4 and Table T-9. (Unadjusted for territorial change.)

What impact did this virtual collapse of grain exports during NEP have on Soviet foreign trade? Let us make some rough estimates. Remember that Russian grain product exports during 1909-13 accounted for more than 45% of the total value of Russian exports and if we adjusted the value of Russian grain exports for the increase in prices between 1913 and NEP, the value of Russian grain exports during 1909-13 would have been about 900-1000 million rubles (in NEP prices).<sup>3</sup> Annual total exports during 1909-13 (with a similar rough adjustment for increases in prices) would be about 2.0-2.4 billion rubles for the Russian Empire and 1.8-2.1 billion rubles for the Soviet territory alone (based on Soviet adjustments).<sup>4</sup>

During the NEP, gross grain product exports never exceeded 210 million rubles and averaged 130 million rubles during 1923/24-1927/28.<sup>5</sup> As a consequence, even in the two best years during NEP (1926/27 and 1927/28) total annual exports were about 0.78 billion rubles.

---

<sup>3</sup>Data for Russian Empire from Table III.2. Grain export prices during NEP were roughly 40-50% higher than 1913 grain prices (1926/27 weights) (Table T-29).

<sup>4</sup>The usual Soviet adjustment for territorial change is 11.1% (p. II.34), but due to the methodology of this adjustment, there exists considerable question as to the relevant adjustment for territorial loss for the actual loss in export capacity. The total export price index during 1924/25-1927/28 was between 45 and 55% higher than 1913 export prices using 1913, 1926/27 and 1927/28 weights (Table T-28).

<sup>5</sup>Even if 1923/24 and 1924/25 are excluded as being unrepresentative years for NEP, grain product exports still average less than 140 million rubles during 1925/26-1927/28 (Table T-11). Net grain product exports (in value) during 1923/24-1927/28 were only 94 million rubles per year because of significant grain product imports in 1924/25 and 1927/28 (based on sum of imports of SOVTC 70 and SOVTC 82 in VTSSSR-60).

If, all other things being equal, the Soviet government had been able to restore grain exports simply to 1909-13 levels during these two years (1926/27-1927/28), then the value of total exports would have been as high as 1.5-1.7 billion rubles instead of about the actual 0.8 billion rubles.<sup>6</sup> The Soviets' inability to restore grain exports was probably the single most important factor in the failure of Soviet exports to recover to pre-1914 levels. This failure was not easily offset by the expansion of other exports (some of which also failed to recover to pre-1914 levels).<sup>7</sup>

---

<sup>6</sup>Total annual exports were about 780 million rubles in both 1926/27 and 1927/28; grain product exports were 208 million and 41 million rubles in these years. Average annual grain product exports during 1909-13 were about 900-1000 million rubles (in exports prices during NEP) (Table T-11 and p.106). The projection ignores any effect of Soviet grain exports on world grain prices, domestic income, other exports, etc.

<sup>7</sup>Karcz-67a, p. 410, argued that the pressure to export grain was not a valid or important consideration in the grain problem of 1928 because these grain exports could easily be compensated for by expanding the exports of other products. He cited the "successful compensation" by other exports, especially agricultural products, when grain product exports fell sharply during 1927/28.

Karcz's hypothesis, however, misleads the reader about the broader implications of the grain problem to Soviet foreign trade and the whole strategy of industrialization. First, the collapse of grain exports in 1927/28 was only the final phase of a continuing crisis in Soviet efforts to restore grain exports on the basis of small peasant agriculture; this collapse of grain exports ended any hope of immediately restoring total exports to 1909-13 levels. Second, the short-run effects of the collapse of grain exports were particularly burdensome in 1927/28, and required the export of precious metals and the forcing of export of goods in excess demand within the USSR (lumber, flax, etc.). That is, in the short-run, increasing non-grain exports was costly from the viewpoint of other goals in the economy, and offered little promise of offsetting the loss of grain exports from 1909-13 levels. The text develops this hypothesis further. Third, the failure of exports to recover to pre-1914 levels restricted the growth of imports and hence retarded the recovery of light industry and threatened to restrict the level of investment because of the insufficient

This chapter examines the basic causes for the failure of grain exports to recover to pre-1914 levels. The obvious but simply symptomatic cause of the failure was the Soviet government's inability to induce the peasant to produce and market sufficient grain and to restrict the domestic demand for marketed grain so as to generate large exportable surpluses comparable to the pre-1914 grain exports.

Here we attempt to identify the major factors in 1) retarding the recovery of grain output to pre-1914 levels, 2) the poor recovery of grain marketing by the peasants, and 3) the growth of domestic demand for marketed grain. In particular, we reexamine the conventional explanations for the "grain problem" during NEP (recently challenged by a provocative article by Jerzy Karcz<sup>8</sup>) and consider various hypotheses about the causes of the so-called "grain procurement crisis of 1927/28". In the process we question the importance of the "goods famine" and various sets of relative prices in the "grain marketing problem" and trace the relationship between Soviet policies to deal with the problem of the poor recovery of foreign trade (through expanding non-grain exports, import-deprivation, and import-substitution) and the actual set of relative prices evolving during NEP and other factors influencing the recovery of exportable grain surpluses.

---

equipment. The desire to overcome the constraint on growth imposed by limited import capacity influenced the structure of the FYP.

<sup>8</sup>Karcz-67a.

The grain problem and the 1927/28 marketing crisis

There are two distinct questions to be asked about grain marketing by the Soviet peasant during NEP. First, why did gross grain marketing fail to recover to pre-1914 levels during NEP? Second, why did gross grain marketings decline so sharply in the fall of 1927, so as to precipitate an internal political crisis and to force the government to confiscate grain from the peasant? The causes of the grain marketing problem during NEP are still debated among Western specialists and one Western economist recently has gone so far as to deny its existence as an important factor in the Soviet NEP economy (up to 1928).<sup>9</sup>

Conventional wisdom and grain marketing problem during NEP.

The usual Soviet explanation during NEP of the general problem of restoring grain marketing to pre-1914 levels emphasized 1) the poor terms of trade of grain sold by the peasant for manufactured goods bought by the peasant (the "scissors"), 2) the higher per capita consumption by the peasants, whose real income was larger because of the social and economic changes wrought by the revolution (including the redistribution of the large estates) and to the increased use of grain for livestock feed.<sup>10</sup> Only in 1928 did Stalin really start pushing the hypothesis that the major cause of the grain marketing problem during the NEP was

---

<sup>9</sup>Karcz-67a. See Addendum to Chapter XI, pp. 468 for a critical analysis of Karcz's conclusion that the share and quantity of grain marketed by the peasant by 1926/27 were roughly identical to pre-1914 marketings.

<sup>10</sup>For example, see above, p. 271. See also Bukharin-28a in Spulber-64, pp. 259 ff. and discussions of the grain export problems in Chapters VII-IX of this study.

the redistribution of land from the estates (which marketed a large fraction of its grain output) to the smaller peasant holdings (which marketed a much smaller share of its output) -- but recall here that Stalin was also attempting to push the idea of collectivization, for collective farms marketed a large share of their output as the kulak and large estate did before 1914.<sup>11</sup>

Western economists -- basing their explanation heavily on the famous Nemchinov-Stalin data on grain marketing -- tend to emphasize even more the differences in the "marketing coefficients" and the redistribution of the large estates to the small peasant producers as the major cause of the general grain marketing problem during NEP.<sup>12</sup> It is interesting that Stalin's original hypothesis about the relationship of the grain marketing problem and the redistribution of grain production was based on the Stalin-Nemchinov data which presented only the average propensity to market grain from gross output produced by various types of grain producers -- whereas the relevant concept is the marginal propensity to market grain.<sup>13</sup> It is likely, however, that the marginal propensity-to-market grain from an increment in per capita output eventually rises as real per capita income (or grain output) rises.

---

<sup>11</sup>Stalin-28b, pp. 85-101.

<sup>12</sup>Compare Dobb-48, pp. 216-221; Jasny-49, pp. 192, 223-224; Schwart-54, pp. 111-112; Erlich-67, p. 254. This table is reproduced in Dobb-48 (p. 217), Karcz-67a (p. 402) and Stalin-28b (p. 89) as well as in other references cited in Karcz-67a.

<sup>13</sup>Although the table strongly suggested that redistribution of grain output from the rich to the poor will lower grain marketing, close examination shows that their data are gross figures rather than the per capita figures necessary for cross-section analysis. Furthermore,



The impact of the redistribution of the large estates to the small producers or agricultural laborers on both the recovery of gross grain marketing and net grain marketing (net of repurchases by rural population) during the NEP is much more complex than suggested by Stalin's rough data cited in 1928, as will be discussed below.<sup>14</sup>

The Western explanation emphasized the redistribution of the estate lands (and hence grain production) to the small producer as a source of increased real income (from the rents and profits formerly earned by the landlord) and hence increased demand for grain. The Soviet explanation -- before Stalin -- insofar as it emphasized income redistribution and higher per capita income rather than relative prices, argued more that the higher demand for grain by the peasant was a function of higher real disposable money income after taxes, rent, and debt repayment rather than higher gross real income alone which might result from a redistribution of estates. For the revolution and the social-economic policy of the Soviet government wiped away rents, and old debts, and possibly lowered direct agricultural taxes.<sup>15</sup>

---

when considering demand for grain in all forms and considering the per capita output on kulak farmsteads and estates, we see that the Stalin-Nemchinov data may well be consistent with a constant marginal propensity-to-market grain (although this is probably not the case), in which Stalin's strongest argument for collective farms fall apart.

<sup>14</sup>For example, redistribution of grain output from estates to smaller producers (who were formerly paid money wages rather than grain-in-kind) would reduce rural demand for marketed grain (reducing the demand on gross marketed output).

<sup>15</sup>See Jasny-49 (p. 226) for discussion of Soviet explanation. The comparison of direct money taxes on agriculture before and after the revolution is still unclear (Timoshenko-32, p. 400). According to Carr-58a, (p. 261), "... at the 14th Party Conference on April 27, 1925 .... Tsyurupa... claimed that the annual tax falling on the

But how adequate is the income-redistribution hypothesis in explaining the grain marketing problem during NEP. In particular, the hypothesis suggests that per capita grain consumption in rural areas would be higher during NEP than in 1913. This prediction has not been supported by empirical studies!<sup>16</sup> Then where was the grain during NEP if it was not marketed? Perhaps it didn't exist at all (on a per capita basis) during NEP!

The grain crisis of 1927/28 and "conventional wisdom"

The conventional Western explanation for the grain marketing crisis in the fall of 1927 emphasized the worsening "goods famine" and the de facto deterioration in the terms of trade of grain for industrial manufactured goods -- this factor was also recognized by almost all Soviet leaders.<sup>17</sup> There are two flaws in this explanation. First, if the "goods famine" for industrial goods were severe enough to be a major factor in the collapse of grain marketing, then one would think that the marketing of other agricultural goods would also be reduced by the "goods famine" because of a similar de facto deterioration of

---

peasantry was now only 4 rubles a head against a pre-war annual charge covering taxes, rent and other obligatory payments of 10 rubles."

<sup>16</sup>For empirical studies, see Timoshenko-32, pp. 401-403. Dobb-48 (p. 216) expressed the common belief that the peasants were eating more.

<sup>17</sup>See Erlich-60 (pp. 170-171), Baykov-47 (pp. 68-69), Dobb-48 (pp. 219-220), Schwartz-54 (pp. 111-112). Erlich's analysis of the grain crisis emphasized the goods famine as the basic cause of the marketing crisis (Erlich-60, pp. 170-175).

See footnote 71 on p. 453 and p. 273, n. 67, for references to Soviet analyses of the grain marketing problem.

the terms of trade. Second, the price ratio of industrial goods to grain would be expected to rise relative to the previous year. But neither of these predictions were true. Rather, in 1927/28, procurements of virtually every major agricultural commodity except grain rose above 1926/27 levels (Table T-51).<sup>18</sup> But even more startling was that the purchasing power of grain (and especially wheat) sold at official procurement prices in the fall and winter of 1927, in terms of manufactured goods sold in private trade was equal or above the purchasing power of grain in the fall of 1926.<sup>19</sup> In fact, retail prices of manufactured consumer goods did not begin to rise rapidly until the fall of 1928 (after the price of grain had been raised considerably). Is there a better explanation than the "goods famine" argument for the sudden unexpected grain marketing crisis in November and December of 1927? We shall consider this problem after analyzing the general grain marketing problem during NEP, for the explanations of the general grain marketing problem and the 1927/28 crisis are closely related.

---

<sup>18</sup> Although Karcz's conclusion about the virtually complete recovery of grain marketing and the importance of grain exports for Soviet foreign trade are at odds with my analysis and my data (see Addendum at end of Chapter XI), we should not ignore his two important conclusions about agriculture during NEP. First, the grain marketing problem was not as bad as implied by the often-cited Stalin-Nemchinov data (Karcz-67, p. 409), and second, total agricultural marketings were increasing during 1926-1928 despite the so-called goods famine (Karcz-67, p. 410).

<sup>19</sup> See Table T-35. We must not rule out, however, the possibility that the price index for private trade was no longer representative of "private-trade market clearing prices" in the rural areas.

Alternative explanations of the grain marketing problem during the NEP

The hypothesis that the combination of the different average propensities to market grain and the redistribution of grain output from the estates to the small producers was the important factor in the failure of grain marketing to recover to pre-1914 levels is inadequate. The basic causes of the failure of grain marketing to recover to pre-1914 levels were due to 1) lower gross output, 2) larger rural population and 3) a series of other factors, such as the need to replenish stocks, reduction in taxes, favorable prices for other agricultural goods, and perhaps, the worsening of the goods famine at critical moments. We must then ask why the gross output of grain failed to recover to pre-1914 levels and why grain prices were relatively unfavorable to the prices of other agricultural products.

Poorer harvests during NEP. The major reason for the poor recovery of gross grain marketing during the NEP was simply that the absolute quantity of the gross grain crop was significantly less during the NEP than during 1909-1913 on the same territory (Table T-8 and Table XI.1). Such poor recovery of the harvest would be expected to be reflected in a decline in gross grain marketing by the peasants, all other things being equal.<sup>20</sup>

---

<sup>20</sup> A constant rural population and a fairly inelastic demand for grain is assumed. Before 1914, however, marketing was asserted to be less sensitive to the size of the harvest (Jasny-49, p. 193 and others) because of 1) the financial pressure of the fixed taxes, rents and debts (as well as monetary wage payments by the landlord) on the peasant to market, 2) the existence of substantial grain reserves in the possession of the peasant and 3) the poor transportation system.

As noted above, the social and economic changes caused by the revolution reduced the monetary pressure on the peasant to market (see

The causes for the poor recovery in the gross grain harvest are considered below.

Larger rural population. The population grew rapidly during NEP, and according to Soviet sources, it already exceeded the population of January 1, 1914 by January 1, 1925, so that the restoration of the grain harvest during the NEP on a per capita basis (for the same territory) remained much below 1913 per capita grain output.<sup>21</sup> Grain marketing, however, depended more on the output per capita of rural population (or output per capita of rural population in grain-producing areas) than on the output per capita of the total population. According to Soviet data, the rural population already by January 1, 1924 exceeded the rural population of January 1, 1914, and it was growing at about 1-3/4% per year, so that by April 1, 1928, the rural population was 10.5 million (8.3%) more than January 1, 1914.<sup>22</sup> Western sources (Eason-62) estimated the same growth rates for total population, but lesser increases in the rural population during NEP as compared to 1914; nevertheless, even these sources indicate that the rural population on January 1, 1928 was about 3 million more than on January 1, 1914.<sup>23</sup> Based on identical per capita consumption in 1913 and in

---

pp. 50, 70-72, 272 ff, and chapter 10.

<sup>21</sup>Table T-48, Part A, Table T-12, and Table XI.1.

<sup>22</sup>Table T-48, Part A. Growth rate of rural population calculated from January 1, 1924 to January 1, 1928. Western sources (Eason-62) differ from Soviet sources about the growth of rural and urban population but not about the total growth of population. See Table T-48, Part B.

<sup>23</sup>Table T-48, Part B.

mid-NEP of about 250 kilograms of grain, by early 1928 the population increase in rural areas over 1913 levels implied an increase in the rural demand by 1927/28 for grain of about 2.5 million m. t. (according to Soviet data) or 0.7 million m. t. (according to Western estimates) above 1913 levels.<sup>24</sup>

The combination of poorer harvests and a larger rural population during NEP as compared to 1913 could well have caused much of the decline in gross marketing during NEP as compared to 1913. Assuming identical levels of rural per capita grain consumption (directly for foodstuffs) in 1913 and during the NEP, the change in the quantity of "grain surplus available for marketing" in any year during NEP as compared to 1913 resulting from smaller harvests and increased rural population would be the sum of the absolute difference between the harvest in that year during NEP and the 1913 harvest, plus the absolute increase in rural demand for grain as foodstuffs to feed the increase in the rural population (above 1913 rural population).

---

<sup>24</sup>STAT-28 (p. 853) indicated that rural per capita grain consumption was roughly identical in 1909-13 and 1925-1928. The figure of 250 kilograms per capita consumption of all grains in rural areas is a rough estimate based on Timoshenko-32 (p. 402) and may be somewhat low. Jasny-49 (p. 280) stated that rural per-capita grain consumption fell from 265 kilograms before World War I to about 255 kilograms in 1927/28. See Jasny-49 (pp. 750-751) for a discussion of these estimates of direct grain consumption in 1909-13 and 1927/28.

CHANGE IN "SURPLUS AVAILABLE FOR MARKETING"  
DURING NEP COMPARED TO 1913<sup>25</sup>  
(millions of metric tons)

	Harvest of					
	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>
Difference from 1913 harvest	-13.5	-18.7	-7.6	-3.3	-7.8	-6.8
Additional rural demand due to population increase (Soviet data)	- 0.3	- 0.7	-1.2	-1.7	-2.3	-2.7
Total change in "surplus" available for marketing compared to 1913 harvest	-13.8	-19.4	-7.8	-5.0	-10.1	-9.7
% reduction of surplus compared to 1913	17.2	24.2	12.2	6.2	12.6	12.1

Such reductions in the "surplus" available for marketing should reduce gross grain marketing (assuming no change in per-capita rural consumption).

---

<sup>25</sup>From Table XI.1. Additional rural demand for grain based on Eason's population data (Eason-62, pp. 72-73) would be the following (in millions of metric tons):

	<u>1913</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>
Rural population on Jan. 1 of next year	119.5	114.1	116.3 <sup>a</sup>	118.5 <sup>a</sup>	120.8	122.3	123.4
Increase in rural demand over 1913 levels	-	- 1.4	-0.8	-0.3	+0.3	+0.7	+1.1

---

<sup>a</sup>Interpolated estimates of rural population for January 1, 1925 and January 1, 1926.

TABLE XI. 1

USSR: GROSS HARVEST AND MARKETABLE SURPLUS  
OF ALL GRAIN ON SOVIET TERRITORY

(millions of metric tons)

	HARVEST OF							
	Average 1909-1913	1913	1923	1924	1925	1926	1927	1928
1. Gross harvest	81.6	80.1	65.6	51.4	72.5	76.8	72.3	73.3
2. Decline (-) from 1913 levels	+1.5	0	-13.5	-18.7	- 9.1	- 3.3	- 7.8	- 6.8
	January 1st of following year							
3. Total population	[133.5]	139.7	137.0	140.0	143.2	147.1	[150.5]	[153.9]
4. Rural population (Soviet estimates)		113.9	114.9	116.8	118.7	120.8	[122.9]	[125.1]
5. Output per capita of total population	611	573	479	367	506	522	481	476
6. Output per capita of rural population		703	571	440	610	635	588	584
7. Additional grain (-) required by rural population to main- tain per capita levels		0	- 0.3	- 0.7	- 1.2	- 1.7	- 2.3	- 2.9
8. Total reduction (-) in surplus available for marketing (from col. 2 and col. 7)		0	-13.8	-19.4	- 9.8	- 5.0	-10.1	- 9.7

Source: Notes to Table XI.1, Appendix B, p. 770.



Additional factors depressing grain marketing during NEP

The quantity of grain marketed from a given harvest is also influenced strongly by other factors including the marginal propensity to consume grain from higher incomes, the demand for additional reserve stocks, the demand for livestock feed, the money prices and financial pressures to meet money payments, and the price of grain relative to the price of other marketable products and the prices of grain and other marketable products relative to the prices of commodities the peasant purchases.<sup>26</sup> The net effect of these factors probably depressed grain marketings during NEP relative to 1913.

The per capita quantity of grain consumed for food by the peasant (especially in surplus areas) fluctuated significantly during the 1920's. Some variation in per-capita consumption was to be expected in 1920 and 1921, when the crops were extremely poor, but variations in per capita consumption in 1923-26 seem to suggest some direct relationship between per capita grain output and consumption.<sup>27</sup> Thus, the impact on grain marketing from the changes in surplus from 1913 levels would be less than suggested by the above table. For reasons discussed

---

<sup>26</sup>Gross marketing also depends on the distribution of the crop between surplus and deficit areas and the distribution of the crop among various types of producers (on a per capita basis). Similarly, the effect of an increase in the rural population on gross marketing from a given harvest depends on the distribution of this increase between surplus and deficit producers. In general, the more unequal the distribution of the crop in favor of the surplus producer (on a per capita basis), the larger the gross marketing of grain. Net marketing should be less sensitive to these factors.

<sup>27</sup>STAT-28, p. 853.

below, however, per capita grain consumption in the surplus areas in 1926 and 1927 changed in the opposite direction of the grain harvest.<sup>28</sup> What impact would small shifts in rural per capita consumption have on grain marketing and exports? The decision of the peasants to consume more or less grain from a given harvest usually has magnified effects on the level of marketing because of the residual nature and the relatively smaller volume of marketings (as compared to total demand by the rural population). If all peasants consumed 5% more grain in 1926/27, rural consumption would have increased 1.5 million m.t. and net marketing would have been reduced about 16% from 10.3 million m.t. to 8.8, which would have in turn wiped out most of the grain which had been made available for exports.<sup>29</sup> That is, relatively small shifts (5%) in the per capita grain consumption of the rural population cause larger shifts in the net marketing of grain available for the urban population, and because the grain requirements of the urban population are relatively inflexible, relatively large shifts in net grain marketing results in massive changes in the surplus available for exports.

The peasants' demand for additions to reserves varies according to the pattern of preceding harvests; the replenishment of stocks depleted from the early years of NEP and from the poor harvest of 1924 was a significant part of the total utilization of the harvest in 1925

---

<sup>28</sup>Ibid. Per capita grain consumption in surplus areas declined somewhat in 1926/27 when grain harvest increased, and increased about 4% in 1927/28 when the crop declined.

<sup>29</sup>Based on rural population of 120.8 million, average per capita consumption of 250 kilograms and net marketings of 10.3 million m.t. (cited by Karcz-67, p. 408).

and 1926 (but not in 1927).<sup>30</sup> Peasants also used considerable quantities of grain brewing (for a strong drink called "samogen" or self-distilled) and it was estimated that about 1.4-1.5 million m.t. were used for private brewing about 1925.<sup>31</sup>

The other major use of grain was for livestock feed. The evidence about the actual quantity of grain and grain by-products fed to livestock in 1913 and during NEP is still a matter of dispute.<sup>32</sup> Even with constant rates of feeding, the demand for feed grain grew rapidly as livestock recovered from the 1922 low:

LIVESTOCK  
(Number in millions of head)<sup>33</sup>  
(June-July count)

	<u>1916</u>	<u>1922</u>	<u>1923</u>	<u>1924</u>	<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>
Horses	35.8	24.1	24.6	25.7	27.1	29.2	31.6	33.5
Cattle	60.6	45.8	52.9	59.0	62.1	65.5	68.0	70.5
Cows	26.0	24.8	26.1	27.1	28.6	29.7	29.9	30.7
Swine	20.9	12.1	12.9	22.2	21.8	21.6	23.2	26.2

---

<sup>30</sup> See Jasny-49, pp. 230-231. See also Timoshenko-32, pp. 396-399.

<sup>31</sup> Reingold-31, pp. 196-197. Private brewing used 2.5 times more grain per unit of alcohol than industrial brewing of vodka which could also use potatoes.

<sup>32</sup> See Jasny-49, pp. 752-759.

<sup>33</sup> Diamond-55, pp. 140, 142, 144 and 147.

SOVIET ESTIMATES OF FEED USE OF GRAIN  
(million m.t.)<sup>34</sup>

	<u>1909-13</u>	<u>1925/26</u>	<u>1926/27</u>	<u>1927/28</u>	<u>1928/29</u>
Quantity	19.0	20.9	24.3	23.8	22.6
% of Crop	23.5	28.0	31.1	32.9	31.0

Gosplan estimated that the rates of feeding were rising in 1926/27 and 1927/28 and were 20% above pre-1914 levels: the rates of feeding clearly increased in 1926/27 as indicated by the increase in feed use shown in the above table.<sup>35</sup> In 1927/28 the total use of grain for feed fell only slightly below 1926/27 levels (-0.5 million m.t.) even though the 1927 crop was substantially below the 1926 crop (4.9 million m.t.)<sup>36</sup> Thus, the increasing demand for livestock feed during NEP (relative to the size of the crop) tended to increase the market demand for grain (to feed livestock in urban and grain difficient areas). These are the factors which directly depressed the willingness of the peasant to market grain during NEP relative to 1913.

<sup>34</sup>V. P. Nifontov, Animal Husbandry of USSR in Figures (in Russian?) (Moscow, 1932), pp. 127; cited by Jasny-49, p. 754.

<sup>35</sup>Jasny-49 (pp. 752-753) disputed Gosplan's assertion that feeding rates were 20% higher and the rates were rising, but Jasny's evidence for disputing Gosplan's claim is inconclusive. In fact, Nifontov's data, (cited by Jasny), for total feed grain and for per capita feeding of horses and cows revealed that the rate of feeding rose sharply in 1926/27 (over 1925/26 levels) and declined somewhat in 1927/28 (Nifontov-32, pp. 128-148 as cited in Jasny-49, p. 753).

<sup>36</sup>The livestock herds continued to expand in 1927/28, so that the feeding rate fell somewhat. Data from pp. 437-438.

Causes of poor recovery of grain output during the NEP

Why did grain output recover only partially to 1913 levels during the NEP while the other agricultural crops recovered much faster (in terms of sown area if not output)?

SOWN AREA (SOVIET TERRITORY)<sup>37</sup>  
(millions of hectares)

	<u>Total Area</u>	<u>Grains</u>	<u>Industrial Crops</u>	<u>Flax Fiber</u>	<u>Sugarbeet</u>	<u>Sunflower Seeds</u>	<u>Cotton</u>
1913	105.6	94.4	4.55	1.01	0.65	0.97	0.69
1925	104.3	87.3	7.17	1.27	0.53	3.10	0.59
1926	110.3	93.7	6.66	1.27	0.54	2.59	0.65
1927	112.4	94.7	7.29	1.20	0.66	2.83	0.80
1928	113.0	92.2	8.62	1.36	0.77	3.90	0.97

Three factors probably tended to retard the recovery of grain output. First, subdivision of large estates into small holdings tended to reduce yields.<sup>38</sup> Second, loss of draft power (horses) during the 1921-22 famine greatly retarded the recovery of sown area in important grain producing regions during NEP; areas with fewer horses during NEP than in 1916 in general experienced a less complete recovery of sown

---

<sup>37</sup>Johnson-60, p. 229.

<sup>38</sup>Yields on estates were 15-20% higher than on peasant holdings, probably because of better equipment, better seed, better techniques and more rational use of resources (Timoshenko-32, pp. 274-275). Average yields of the 4 major grains for 1922-1927 were substantially below average yields for 1909-13 according to Groman-28 (p. 238).

area.<sup>39</sup> Third, the prices of grains were unfavorable relative to most other agricultural crops and tended to become even less favorable during NEP for reasons discussed below (Table T-34).<sup>40</sup>

Prices and grain marketing. The prices of most major marketed products -- flax, cotton, tobacco, hemp, butter, leather, eggs, wool -- were much higher relative to grain prices during NEP than in 1913, so that the expected market behavior of the peasant, ceteris paribus, would be to curtail the production and marketing of grain relative to the production and marketing of other higher priced agricultural goods. This shift in relative prices against grain and in favor of other crops helps explain the faster growth of areas sown to technical crop relative to grain (which reached 1913 levels only in 1927). The area sown to non-grain crops in 1928 had almost doubled over 1913 levels.<sup>41</sup> To the extent that individual peasants increased their sowing of technical crops at the expense of grain acreage, the peasants would either demand more grain on the grain market (depressing net marketings) and produce lower

---

<sup>39</sup>See Timoshenko-32 (pp. 226-234) for a discussion of the supply of horses during NEP relative to 1913. The shortage of horses in the Volga area (which supplied much of the grain to the domestic deficiency regions) was particularly acute during NEP and explains the reason why the sown area recovered so slowly. The decline in grain shipments from the Volga had to be covered with grain from the former export regions. See also Gosplan-29a, pp. 576-578.

<sup>40</sup>Gosplan-29a, p. 412. Jasny-49 (pp. 213-222) particularly noted the effects of the unfavorable grain prices on the recovery of grain output and of the favorable price of technical crop, etc., on the recovery of these other products. It did not fail to escape the attention of Gosplan either (Gosplan-29a, p. 232).

<sup>41</sup>Johnson-60, p. 229.

surpluses for market (depressing both net and gross marketing).<sup>42</sup>

The high prices of non-grain crops and animal products (relative to 1913 and to grain crops) tended to depress grain marketing in other ways besides retarding the recovery of grain acreage. First, high prices of animal products relative to grain prices induced peasants to use grain as feed for livestock and to market the animal products rather than the grain.<sup>43</sup> Second, for any given set of agricultural products produced by the peasant, and which could be sold on the market or consumed on the farm, a shift to higher relative prices for non-grain products and lower relative prices for grain normally induced the peasant to consume more grain and to sell more non-grain products, i. e., to substitute non-grain products for grain products in their marketing.<sup>44</sup> Third, high or rising prices (absolutely and relative to grain) stimulated the output and marketing of most non-grain agricultural products, and the combination of high or rising prices with increased marketing sharply increased the money income of the peasant (at least from these sources) and offset the impact on money income of the lower prices for grain.<sup>45</sup>

---

<sup>42</sup>This was the case in flax growing and cotton growing regions in the U.S.S.R.

<sup>43</sup>See above, pp. 347-348.

<sup>44</sup>Assuming that substitution effect outweighs any income effects.

<sup>45</sup>See Table T-34 and T-51.

Tax policy, manufactured goods prices and marketing. The direct agricultural tax was either stable or falling (in total revenue) during most of NEP and further increased net money income.<sup>46</sup>

RELATION OF AGRICULTURAL TAX TO MONEY INCOME  
OF PEASANTS<sup>47</sup>  
(million rubles)

	<u>1924/25</u>	<u>1925/26</u>	<u>1926/27</u>	<u>1927/28</u>
Agricultural tax for year July 1 to June 30	346	250	331	320
Money income of the peasantry from sales of produce and from non-agricultural earnings	3,300	4,300	4,700	5,200
Percentage of the money income levied as agri- cultural tax	10.6	3.8	7.1	6.2

The peasants had accumulated a fair amount of monetary reserves by 1927, reducing the incentive to sell merely to accumulate money (as part of their "portfolio" of assets: grain, money, cloth, gold, livestock, house, land).<sup>48</sup> Last, although there was continual discussion of the "goods famine" from the beginning of 1925, the volume of consumers' goods was rapidly rising during the entire period.<sup>49</sup> The prices of

---

<sup>46</sup>Reingold-31, pp. 160-167.

<sup>47</sup>Reingold-31, p. 167.

<sup>48</sup>Zalkind-27b, p. 3. In July 1927 the peasant population held an estimated 400 million rubles of cash hoards (cited in Karcz-67a, p. 419).

<sup>49</sup>SUYB-30, p. 171.



manufactured goods in the private trade (which tended to be market clearing prices) were stable or even tended to decline at times from the spring of 1926 to the fall of 1928, but they were usually significantly higher than goods sold in the state and cooperative retail stores.<sup>50</sup>

The government's official policy to reduce the prices of manufactured consumers' goods was implemented largely by price controls on the goods sold in the state and cooperative retail stores. These prices were lower than private traders' prices and were generally not market clearing prices so that there was excess demand for many (but not all) goods at these lower prices even though the volume of goods supplied in general and by these price-controlled stores was increasing. The government's price policy increased the real income of the peasant, so that the peasants' real income was rising faster at times than his net money income.

This combination of higher money income from non-grain agricultural sales, lower taxes, and falling prices increased real income (including a mild "Pigou effect" from accumulated money assets). If the income-elasticity of demand for grain used in all forms is positive, then the total on-farm demand for grain would increase as a result of the increase in real income, and the combination of income and substitution effects tended to reinforce each other to reduce grain marketings from any given grain harvest during NEP.<sup>51</sup> If these simple income

---

<sup>50</sup>ST, Vol. I, No. 11 (1926), p. 63 and ST, Vol. I, No. 43 (1927), p. 66.

<sup>51</sup>The terms of trade of grain for manufactured products was far inferior to 1913 terms of trade and the governments' grain price policy -- for reasons discussed below -- did not permit the terms of trade of

and substitution effects are considered along with the lower per capita output of grains and the greater demand for livestock feed during NEP, grain marketing should have been substantially less. This multiple cause explanation of the grain marketing problem -- as opposed to the land redistribution argument -- is more satisfying from theoretical viewpoint and more accurate and complete from the viewpoint of actual developments in the economy during NEP. But more detailed data would be required to settle this issue completely.

More important, our explanation suggests strongly that the Soviet economic policy dealing with agriculture was based on the wrong assumptions as to the cause of the grain marketing problem and that the policies of 1) lowering agricultural taxes, 2) reducing the price of manufactured goods for which excess demand existed in order to improve the terms of trade of grain (and agricultural products in general), 3) restricting the mobility of factors and the incentives of the more productive peasants for social and political reasons, and 4) permitting a sharp increase in the relative and absolute prices of non-grain agricultural prices -- all these policies probably aggravated the grain marketing problem. This explanation suggests that an entirely different set of agricultural and other economic policies -- higher direct taxes on the peasant, reducing disposable income of urban population through taxes and wage controls, charging peasants rent, supplying agricultural technical aid, capital fertilizer and seeds to increase yields and reduce

---

grain for manufactured products to rise during most of NEP (after 1924) (Table T-34).

costs, permitting greater mobility of factors of production and reducing the political, social and economic disincentives of becoming a successful farmer, reducing the prices of non-grain agricultural products through increased monopsony power in these markets or restriction of demand, charging higher market-clearing prices for available manufactured consumer goods and increasing their supply -- all these policies might have succeeded in stimulating the marketing and production and export of grain. To have simply raised grain procurement prices without any other policy changes would -- and did -- simply result in a worsening of the goods famine and increased inflationary pressures because of its large effect on rural disposable income.<sup>52</sup> Furthermore, this explanation also leads us to a better explanation of the grain marketing crisis in the fall of 1927 than the conventional explanations of the "goods famine," "terms of trade," and "kulak plot," none of which have sound factual support.

#### The grain procurement crisis of 1927/28

The factors which depressed grain marketing during 1923/24 - 1926/27 "converged" in the summer and fall of 1927 and caused the "grain procurement crisis" in the fourth quarter of 1927 and early 1928. This forced the government to take "extraordinary measures" to insure the flow of grain to the cities and grain deficit regions.

Procurements in July and August proceeded better than

---

<sup>52</sup> According to STAT-28 (pp. 278-279), grain marketing equalled about one-third of total agricultural marketing during 1926/26 - 1927/28; animal products also equalled about one-third in value at current prices.

predicted, but procurement prices moved slightly higher.<sup>53</sup> Grain procurements dropped slightly in September as procurement prices were lowered, and dropped disastrously in November and December, when again the procurement prices were reduced.

GRAIN PROCUREMENTS BY PLANNED AGENCIES<sup>54</sup>  
(millions of metric tons)

		<u>1925</u>	<u>1926</u>	<u>1927</u>	<u>1928</u>
January-March	I	1.2	2.4	2.6	4.3
April-June	II	0.7	1.3	1.1	0.9
July-September	III	2.3	2.4	2.7	2.1
October-December	IV	2.3	4.7	2.4	3.7

The procurement of only 2.4 million m. t. in the fourth quarter of 1927 as compared to 4.7 million m. t. in the fourth quarter of 1926 represented a catastrophe with respect to supplying the city, exports and replenishing government stocks. The impact of the "extraordinary measures" in early 1928 is reflected in the jump in procurements in the January-March quarter of 1928. Why did procurement drop off so sharply in the fourth quarter of 1927?

First, the 1927 grain harvest was 6% (4.5 million metric tons) less than in 1926 (Table T-8). Second, the purchasing power of grain

---

<sup>53</sup>SUA, Vol. VI, No. 15/16, p. 49; SUA, Vol. VI, No. 17, pp. 20 and 45; and SUA, Vol. VI, No. 18, p. 12.

<sup>54</sup>Table T-10. The planned agencies' share in total marketing of grain products increased from 69% in 1925/26 (AY) to 84% in 1927/28 (AY) based on data from Table T-10. The share of planned agencies was sharply increased after the October-December quarter of 1925, when it equalled 59% of rail shipments. (see p. 268, n. 58.)

sold at procurement prices fell about 14% from August to December 1927 due mostly to the reduction of grain procurement prices. The prices of manufactured consumer goods sold in the private trade rose slowly during this period but they were still lower than in the previous fall (Table T-35). Prices in the state-cooperative retail network were being reduced despite a shortage of goods.<sup>55</sup> Are the lower harvest, the reduction in the purchasing power of grain (substitution effect) and peasants' price expectations the complete explanation for the sharp, unexpected decline in grain procurements in the fall of 1927? I think there are additional factors which tended to further reduce peasant marketing -- in many ways the procurement crisis of 1927 was due to the same policy errors and forces which caused the procurement problems in 1925.<sup>56</sup>

Numerous factors tended to increase the peasants' on-farm demand for grain in 1927/28 as compared to 1926/27; which when combined with the lower harvest, would naturally tend to reduce total grain marketing below 1926/27 levels. In particular, the increase in rural population required another 1/2 million tons just to maintain average per capita consumption,<sup>57</sup> livestock herds had grown considerably during 1926/27 (Table T-49) and third, the price of animal products (relative to grain products) had continued to improve during 1927,

---

<sup>55</sup>Sugar, kerosene, salt and other commodities were in good supply but cloth and leather products were in excess demand (Mikoian-27a, pp. 1-2).

<sup>56</sup>See Chapter VIII, pp. 267-295.

<sup>57</sup>See above, 433.

increasing the incentive to feed livestock more intensively during 1927.<sup>58</sup>

Income and substitution effects also tended to depress the peasants' willingness to market grain in the fall of 1927. The peasants at the start of the season held larger quantities of money than in the previous year.<sup>59</sup> As a result of favorable prices for and greater output of non-grain agricultural products, the marketing of technical crops, animal products and oil increased considerably in value in 1927/28. Furthermore, larger quantities of grain were sold at higher prices in the July-September quarter of 1927.<sup>60</sup> As a consequence, rural incomes in June-November 1927 were 20% above the corresponding period in 1926 (primarily because of higher sales of animal products and technical crops).<sup>61</sup> Net money income was even higher because direct agricultural taxes had been reduced compared to 1926/27 (AY).<sup>62</sup> Prices of manufactured consumer goods were more or less stable and the volume of goods sent to the countryside was deliberately increased (even at the expense of urban consumption) and steps were taken to

---

<sup>58</sup>As a consequence, the total use of grain for feed for all of 1927/28 was estimated at only 1/2 million m.t. less than 1926/27 despite the 4-1/2 million decline in the gross crop -- and the peasant probably would have fed more grain to his livestock if large quantities had not been confiscated.

<sup>59</sup>Mikoian-27a, pp. 1-2.

<sup>60</sup>ST, Vol. III, No. 45/46, pp. 68-69, Table T-34 and T-10.

<sup>61</sup>ST, Vol. III, No. 45/46, pp. 68-69.

<sup>62</sup>Reingold-31, p. 167.

increase the output of textiles and other manufactured consumer goods through triple-shifts in the cotton-textile industry and increasing imports of cotton, wool fiber and tea).<sup>63</sup> The real income of the peasants was further increased in the fall of 1927 because the prices of manufactured consumer goods were being reduced in the state-cooperative retail store network as part of the official price policy to reduce the price level and to improve the terms of trade of agriculture -- so that the retail value of all industrial goods was to be lower in 1927/28 than in 1926/27 despite the fact that the volume of output was much larger.<sup>64</sup> This official price policy not only aggravated the "goods famine" and resulted in higher "market-clearing price" in the private trade, it also increased real income and hence the on-farm demand for grain in all-forms, (which was a superior good, especially at these lower income levels).

Higher prices for non-grain agricultural products also increased the peasants' demand for grain because of the substitution effect. The opportunity cost to the peasant of consuming grain relative to the opportunity cost of consuming other agricultural products fell considerably in the fourth quarter of 1927 because of lower grain procurement prices and slightly higher prices for non-grain agricultural products (Table T-34). The combination of these two effects should raise per capita

---

<sup>63</sup>Mikoian-27a, p. 2. Output for consumer goods show substantial increases in output in 1927/28 over 1926/27: cotton fabric (+9%), rubber footwear (+23%), boots and shoes (+8%), vodka (40%), matches (32%), cigarettes (22%), woolen fabric (14%), salt (9%) (Nutter-62, p. 420 ff.).

<sup>64</sup>Mikoian-27a, pp. 1-2 and Table T-33.

grain consumption, ceteris paribus. In fact, despite the poorer harvest in 1927, per capita grain consumption for foodstuffs in rural grain surplus provinces rose 4% in October, 1927 compared to October 1926, which implied an additional 1/2 to 1 million m.t. consumed directly by the peasants.<sup>65</sup>

Thus, when all these factors are considered, a sizable drop in grain marketing in 1927/28 compared to 1926/27 was to be expected even though the parity price (terms of trade) of grain with respect to manufactured goods actually was slightly higher in the fall of 1927 than in the previous year (Table T-35). That gross grain marketing declined only slightly (0.18 million m.t.) in 1927/28 was the result of the "extraordinary measures" taken in the spring of 1928 -- although more positive measures such as increased tax collection, additional consumer goods, etc., were also taken.<sup>66</sup> The sudden drop in procurements in the October-December quarter as compared to previous years (and the previous quarter) was basically the result of 1) lower prices of grain (lowered absolutely) relative to prices of non-grain agricultural products so that the peasant changed his marketing pattern away from grain, 2) price expectations of a seasonal rise in grain price, 3) a high net monetary income early in the procurement season, and 4) possibly, an increase in the excess demand for goods in the late fall of

---

<sup>65</sup>Timoshenko-32, p. 402. Per capita grain consumption in October 1927 was roughly at pre-1914 levels in grain surplus regions.

<sup>66</sup>Karcz-67a, p. 408; Mikoian-27a, p. 2; ST, Vol. III, No. 45/46, pp. 14-15 and Timoshenko-32, pp. 451-455.



1927 which resulted from the rapid increase in net money income relative to the increased supply of manufactured goods early in the season. The government, by and large, repeated the error made in the fall of 1925, except that then both grain prices and consumer goods prices were bid rapidly upward.

Net grain marketing, rural demand and exports. The "net marketed grain supply" available for urban areas and exports fell much more than the "gross marketed supply" in 1927/28 (2 million m.t. decline) largely because of the increased rural demand for marketed grain.<sup>67</sup> The rural demand for marketed grain increased in 1927/28 for several reasons including poorer grain crops (which made more peasant households deficit in grain), larger acreages devoted to non-grain crops (especially in cotton-growing and sugar beet regions), larger population in grain deficiency regions, increased demands for livestock feed, lower taxes, and possibly the income and substitution effects (although grain purchasers faced a much higher price for grain than did grain sellers). Thus, the difference between net and gross grain marketing rose from about 6 million m.t. in 1926/27 to 7.7 million m.t. in 1927/28 and accounted for 85% of the decline in the net marketing of grain.<sup>68</sup>

Net grain marketing, according to Karcz, rose from 9.4 million m.t. in 1925/26 to 10.3 million m.t. in 1926/27 and then fell to

---

<sup>67</sup>Karcz-67, p. 408.

<sup>68</sup>Karcz-67, p. 408.

8.3 million m.t. in 1927/28 despite the "extraordinary measures" taken in the spring of 1928.<sup>69</sup> During NEP the domestic demand for marketed grain also increased because of the growing urban population, the growing livestock herds owned by the urban population and for technical purposes (production of vodka).

From 1925/26 to 1926/27 net grain marketing rose about 0.9 million m.t. (from an increase in the harvest of 4.4 million m.t.), but grain product exports rose only 0.2 million m.t.<sup>70</sup> In 1926/27 grain product exports of 2.3 million m.t. were a small fraction (2.9%) of the 1926 harvest and also of net marketing in 1926/27 (22%) -- but made up a large fraction of exports (27%). Thus, when net grain marketing dropped roughly two million tons (-19% of net marketing of 1926/27) and urban and industrial demand continued to grow, the surplus for grain exports was wiped out completely. This slight dip in the 1927 harvest combined with other factors to cause a more significant dip in net grain marketing, which in turn led to a collapse of grain exports and to a grave balance of payments crisis in 1927/28.

#### Relative prices, the grain problem and foreign trade

The price of grain relative to other prices also affected, to a certain extent, the recovery of both grain output and grain marketing.

---

<sup>69</sup>Ibid. Karcz noted that an alternative figure of 9.8 million is given by Gosplan for 1926/27.

<sup>70</sup>Karcz-67a, p. 408 and Table T-11.

Two hypotheses. Two major hypotheses have been offered to explain the relationship between low grain prices relative to other prices and unsatisfactory development of grain marketing. The first (and conventional) hypothesis stated that low grain prices relative to the price of manufactured goods purchased by the grain producer (compared to pre-1914 price relatives) reduced the incentive of the peasant to produce and market grain and therefore the low prices of grain relative to manufactured goods was the major factor in retarding the expansion of grain production and marketing.<sup>71</sup>

The second hypothesis is that the low price of grain relative to technical crops and animal products induced the peasants to expand the output and marketing -- and exports -- of these products at the expense of grain and grain exports.<sup>72</sup> If this second hypothesis more accurately describes the cause of the grain output and grain marketing problem, then the policy to stimulate the output and marketing of grain differs radically from the policy required if the grain problem is caused by low grain prices relative to manufactured consumer goods. Did the "scissor crisis" of 1923 influence excessively the judgment of the policy-makers and focus their attention too much on

---

<sup>71</sup>This hypothesis was widely held by influential party members in the mid-1920's, including Bukharin and Rykov and members of the Commissariat of Trade (see Zalkind-27a, Mikoyan-27a, Kaufman (various years)). Many Western observers have accepted this hypothesis (Jasny-49, pp. 206-214). Jasny was in favor of price control on grain as a temporary anti-inflationary measure during World War I (Jasny-49, pp. 210-211).

<sup>72</sup>Zalkind-27a (p. 3) and Zalkind-27b (p. 2) increasingly emphasized this second hypothesis. High prices for animal products might induce continuing expansion of grain output but not grain marketing.

the wrong set of relative prices during most of the NEP?

Although I won't argue that low prices of grain relative to manufactured goods had no effect at all on the production and marketing of grain in mid-NEP, I think that excessive emphasis has been placed on this factor while other important factors have been under-emphasized. In particular, I think that the price relationships between various competing agricultural products during NEP have been ignored.

An equally plausible hypothesis can be made that the low price of grain relative to other crops and livestock products shifted resources from grain to these higher priced products and shifted on-farm demand from non-grain products to grain, and thus induced peasants to market less grain and more of the other higher priced products. A strong argument for this hypothesis is that the rate of return to agriculture (and even to grain farming) was sufficient to induce the peasant to expand total sown area, to increase his capital investment in workstock, and to increase marketing, even though the prices of agricultural goods relative to manufactured goods was less favorable than in 1913. Of course, I am talking about the price relationships that existed from mid-1924 to mid-1928. The extremely low relative price of grain (and agricultural products in general) in the fall of 1923 and from late 1928 onward are sufficiently different to be a separate case.<sup>73</sup>

---

<sup>73</sup>In the fall of 1923 wholesale grain prices were roughly sixty per cent of 1913 levels, while the retail prices for manufactured goods were as much as or more than 240% of 1913 levels. Similarly, the low procurement prices of grain relative to market-clearing prices of manufactured consumer goods in the winter of 1928/29 was substantially less favorable than in the best years of NEP.

Relative prices 1924-1928. What was the behavior of relative prices in agriculture during 1924-1928 and what factors influenced them? Why did the producers' prices of some commodities -- especially grain -- increase much less above 1913 levels than did the producers' prices of other commodities such as flax, cotton, animal products and sugar beets?

Four factors influenced relative prices in agriculture at one time or another during NEP: a concern for overall price stability in the economy, a need to stimulate production and marketing of agricultural commodities for industry and export, an expectation that exports be commercially profitable in the long run, and, last, the elasticity of procurements, marketing, and output to changes in relative prices.

The prices of all agricultural products (sold either in the wholesale trade or to procurement agencies) relative to privately sold manufactured goods never reached their pre-1914 parity even in the "golden era of agricultural prices" in the spring of 1925, when grain procurement prices soared briefly above 1913 parity levels (Table T-35). Between October 1924 and March 1929, the level of agricultural procurement prices relative to privately-traded manufactured goods fluctuated between 45% and 78% of 1913 parity levels; (the low of 45% and the high of 78% came in October 1924 and April 1925). After June 1925, it fluctuated between a relatively narrow range of 50 to 70% of parity (Table T-36). Despite these low parity prices, aggregate agricultural output recovered to 1913 levels fairly satisfactorily, especially if we consider the adverse effects of the reduced number of

horses, legal restrictions, and subdivision of estates.<sup>74</sup> Most students of Soviet agriculture believed that by 1927/28, additional increases in agricultural output would not be due to the expansion of land and labor inputs, but rather to added inputs of capital, fertilizer, new technology and rationalization of agricultural operations.<sup>75</sup> That is, the next step in expanding output was highly dependent on government policy.

Although low agricultural prices did not prevent the recovery of sown area and agricultural output to 1913 levels these low relative prices may have contributed to the decline in the tovarnost' (marketing coefficient) of agricultural output. Why were the prices of agricultural goods relative to the retail prices of manufactured consumer goods "held" at fairly low levels during NEP compared to 1913? Was it a conscious effort to shift resources from agriculture to industry as part of Soviet policy for industrialization, or can we ascribe this behavior to other causes and policies?

Price-stability and export-profitability were, I think, the two major constraints on the increase in the overall price level of agricultural goods. Relative prices of various agricultural goods were also influenced by a concern for price-stability and export-profitability (especially during mid-NEP), but the elasticity of supply (marketing)

---

<sup>74</sup>Per capita agricultural output was not quite reached by 1927/28 -- population in 1927/28 was 7.6% larger than the population in 1913. (Jasny-49, p. 217)

<sup>75</sup>Jasny-49, pp. 198, 204, 217. The retardation in the growth of agriculture in 1927/28 came from lower yields and the unavailability of additional easily cultivated land.

and the requirements of industry and foreign trade exercised an increasing force on price formation in agriculture.

Export-profitability, import-substitution and relative prices in agriculture. Even in 1924/25 (EY) when the 1924 grain crop was poor, the average procurement price level of grain was below the price level of most other agricultural goods. To some extent, this change in relative agricultural prices reflected the change in the world market prices for these agricultural commodities. Prices of most major grains in the major Soviet export markets in 1924/25 were relatively lower than the world prices of flax, butter, and eggs, so that from the viewpoint of export operations (a major use of these products), the procurement prices of these latter products could rise (or be bid up) more than grain prices while still maintaining profitable export operations.<sup>76</sup> The prices of cotton, leather, and wool -- all major import items -- were relatively independent of foreign prices because of the foreign trade monopoly. Thus, higher prices were offered, from early in NEP, as a method of inducing the peasants to expand output and marketing of these raw materials which were in such short supply relative to demand and to pre-1914 supply. (The scarcity of foreign exchange had forced a sharp reduction of most Soviet imports of these products during NEP relative to 1914 (Table T-6).<sup>77</sup> Thus, export prices and import-substitution were two important factors influencing the absolute and

---

<sup>76</sup>See Chapter VIII and Tables T-43 through T-46.

<sup>77</sup>In addition, inexpensive grain was sold to peasants in cotton-growing regions (Jasny-49, p. 211). Quantity of imports in Table T-6 not adjusted for territorial losses.

relative prices of various agricultural goods in 1924 and 1925.<sup>78</sup>

Evidence of the impact of foreign market prices on Soviet procurement prices came in 1925/26 when foreign market prices fell. Soviet procurement agencies deliberately lowered prices in order to maintain export profitability; grain, flax, butter, and egg prices were all cut substantially.<sup>79</sup> Export operations for grains were still unprofitable and further price reductions were made in the spring of 1926; an explicit goal of the 1926/27 grain procurement campaign was to restore and maintain the profitability of grain exports.<sup>80</sup>

The price cut in oil seed, butter, eggs and flax caused an immediate sharp decline in the state procurement of these products and, in the case of flax and oil seed, a reduction in sowing. The peasants either sold eggs and butter to private traders -- because the government could not establish sufficient monopsony power in the purchase of these goods<sup>81</sup> -- or willingly consumed or used these products on the farm because of the peasants' high price-elasticity of on-farm demand or output of such products.<sup>82</sup> Exports fell sharply and

---

<sup>78</sup>See p. 246 for Preobrazhenskii's view about the relevance of world prices as a guide to imports versus domestic production decisions, when there is an "insufficiency of foreign exchange."

<sup>79</sup>See above, pp. 297 ff.

<sup>80</sup>See above, pp. 338 ff.

<sup>81</sup>See Preobrazhensky-26 (p. 175) for discussion of state monopsony and monopoly power in the mid 1920's for various products.

<sup>82</sup>The reasons for this high price-elasticity is discussed below on pp. 492.



contributed to the export crisis in 1925/26. The high price-elasticity of marketing to state agencies convinced the state trading authorities that the maintenance or expansion of output, marketing and exports of these products was more important than commercial profitability in the short-run, so the price was raised back to (and beyond in certain cases) the previous levels. By and large, marketing and output responded well and exports were forced, i. e., sold at a commercial loss or for prices below domestic market prices. Export goals were an important factor in raising the procurement price of these goods.

Price of grain. Why didn't the government raise the price of grain as well in order to stimulate output and marketing, and to restore grain exports to pre-1914 levels? One important reason why grain prices did not rise much after the winter of 1925/26 was that the government increased its monopsony power in the grain market by restricting competition of private traders and also among state procurement agencies. The government fixed maximum prices at which grain could be bought by a planned agency and then they bought the grain offered to it more or less voluntarily (principle of "samotek" or "spontaneous" marketing at state prices) up until the spring of 1928. As we noted in Chapters VII and VIII, there were many pressures on the government to hold down grain prices including general price stability, its large impact on aggregate demand in the countryside and on the cost-of-living of workers and poor peasant export profitability, insufficient knowledge about the price-elasticity of both grain marketing and grain output, and the problem of allocation of

of resources between agriculture and industry, and savings and consumption.

The primary constraint on raising grain prices was the goal of price stability for the entire economy. As Naum Jasny and others pointed out, the entire price level in the Soviet economy would be affected by the price of grain because of its importance in the workers' and peasants' budgets.<sup>83</sup> Higher living costs were likely to be quickly reflected by higher money wages and higher costs, which, in turn, resulted in higher wholesale prices, and higher retail prices in the state and cooperative trading network and possibly in private trade.<sup>84</sup> Further price increase of manufactured goods would be pyramided into higher labor costs because of the wage-setting mechanism.<sup>85</sup>

Higher grain prices would have to be offset either by higher cotton, flax, and sugar beet prices or be absorbed by the state, because the sowing of these crops (and especially cotton) were sensitive to the ratio of grain prices to their prices.<sup>86</sup> That is, raising grain prices relative to non-grain agricultural products might have reduced

---

<sup>83</sup>Jasny-49, p. 210 and, above, pp. 236-237.

<sup>84</sup>Baykov-47, p. 58. The retail prices in state and cooperative stores were more or less cost-determined rather than market-clearing prices. (Mark-ups of some goods became increasingly controlled in the private trade in late-NEP.) What happens to private trade prices in the free markets is a more complex problem.

<sup>85</sup>At issue here is the distribution of consumption between the workers and the peasants. Here the government's political needs and social bias was an important element in the cost-push mechanism (Baykov-47, p. 58).

<sup>86</sup>See above, p. 300 Jasny-49, p. 211.

the output and marketing of these other products, so that the exportable surplus would be reduced (or imports increased). An increase in the price of grain, ceteris paribus, might stimulate grain marketing and grain exports, but because of limited resources and income-elasticity of demand, higher grain prices might merely shift factor inputs from other products to grain, shift marketing from other agricultural products to grain and induce the peasants to consume more of both (income effect), and increase grain export at the cost of other exported agricultural products and additional imports of raw materials. The two basic issues, therefore, concerned 1) the price and income elasticity of agricultural production and marketing in general rather than for a specific product, and 2) the optimal combination of relative agricultural prices to achieve their economic goals. As area sown approached pre-1914 levels the price elasticity of output in Soviet agriculture as a whole probably became fairly price inelastic because of the limitation of resources (in the short run).<sup>87</sup> Total marketing of agricultural products may have been somewhat price-elastic even though output was not. But raising grain prices alone caused the problems in the output, marketing, and export of non-grain products mentioned above. But if the price of the non-grain crops were raised along with grain prices so as to maintain the relative price advantage of technical crops, then the costs of the raw materials for industry would rise, thereby leading to cost-push price increases in the state

---

<sup>87</sup> Baykov-47, p. 62.

and cooperative trade network.<sup>88</sup> Furthermore, price increase in major export agricultural commodities would make the export of these products commercially unprofitable.

Third, an increase in the price of grain would further increase the money income of the peasant (to the extent he increased total marketing rather than reducing marketing and output of non-grain agricultural goods). Increased money incomes would either push up the retail prices of manufactured goods if additional goods were not made available or require that the supply of these goods to the urban areas be curtailed. This latter action was difficult to implement from a political viewpoint. Increasing the total supply of manufactured goods depended almost entirely on the supply of raw materials. The important question is, of course, whether or not an increase in the price of grain would induce increases in marketing to permit sufficient additional exports to finance an increase in the imports of raw materials or manufactured goods adequate to meet the additional demand for these goods generated by higher grain prices. As pointed out in Chapter II, there were good theoretical reasons for suspecting that increasing the supply of manufactured consumer goods by increasing grain exports on the basis of higher procurement prices might actually have increased the excess demand for manufactured consumer goods.<sup>89</sup>

---

<sup>88</sup> Baykov-47, p. 62.

<sup>89</sup> See pp. 64-74.

The "goods famine" reexamined

If the "goods famine" (a euphemism for repressed inflation) was actually an important factor in retarding the recovery of grain marketing (from 1925 to the spring of 1928) then the official policy of the forced lowering of retail prices in the state and cooperative trade networks was ineffectual at best in the presence of excess demand for these goods (for reasons discussed in Chapter II).<sup>90</sup> It was inflationary at worst because it increased the real income (and hence demand) of those peasants buying goods at the below market clearing prices. It failed to ration out some buyers, who would otherwise be unwilling to buy at market-clearing prices, while it simultaneously rationed out (because of its arbitrary basis) some buyers willing also to pay higher prices and forced their additional demand onto the private traders.<sup>91</sup> The policy with respect to industrial price reveals a basic lack of understanding of the price system even among the Right.<sup>92</sup>

Similarly, we saw that increasing grain prices was not a satisfactory policy for inducing additional marketing. Yet these were the two major policies pushed by the government to stimulate the output and marketing of grain, and they both were based on the assumption that the major cause of grain marketing problems was an

---

<sup>90</sup>See pp. 84.

<sup>91</sup>Reducing wholesale prices to all retailers increased the profit margins of the private trader (Baykov-47, pp. 65-66).

<sup>92</sup>See p. 289-291 for Presbrazhenskii's insightful criticism of this policy.

unfavorable price of grain relative to the market clearing price of manufactured goods.

Increasing the output of consumers goods enough to overcome the goods in excess demand was difficult because of the scarcity of raw materials, the import of which was essentially limited by the level of exports.

There were several other policies available which would have overcome the "goods famine" including increased direct taxes and "state rent" on agricultural producers, a redistribution of real income from the workers to the peasants, and inducing the peasant to save more of his income in savings accounts. Let us consider the actual policies pursued during the NEP.

As could be seen above, the policy of agricultural taxation during 1924-1928 was directly opposite to the desirable policy to maximize grain (and agricultural) marketings.<sup>93</sup> Total direct taxes on peasants were either constant or falling during this period or rising peasant incomes, even though the rate of taxation on higher incomes was increased. Soviet social and political goals worked at odds with economic policy.<sup>94</sup> The more sophisticated economists in the Commissariat of Trade were well aware of the excess demand for industrial goods in the countryside and even made projections of the value of the excess demand.<sup>95</sup> But they had no control over tax policy.

---

<sup>93</sup>See above p. 42.

<sup>94</sup>Reingold-32, pp. 160-167.

<sup>95</sup>See Zalkind-27 references.

Social, political and economic goals also limited the extent to which urban consumption of manufactured goods (as well as major export goods) could be constrained in favor of increased supply for rural areas and for exports. Reducing the real wage of the workers, however, was politically difficult because of the Party's reliance on the workers for a political power base and the wage-setting mechanism quickly passed on higher living costs. During 1925-28 the aggregate demand for manufactured consumer goods, as well as for major export products, was increasing rapidly in urban areas due to inflationary wage increases (greater than productivity increases) and rapid expansion of the labor forces employed in light and heavy industry and construction. (The inflationary impact of producing investment goods and construction activity was recognized and perhaps overemphasized by some contemporary Soviet economists.) Some steps were taken in 1927 to divert supplies destined for the cities to grain surplus areas, but it did not represent a fundamental, permanent change in policy of preserving the workers' living standard. Again, social and political and ideological goals seemed to thwart implementation of the correct economic policy.

Inducing the peasant to save more money was a most difficult job in the Soviet peasant economy because of his distrust of paper money. The peasant, remembering recent price behavior, preferred to hold his "portfolio of assets" in grain, commodities, cattle, gold or coin, agricultural implements perhaps, and possibly some money. Thus, the money rate of interest might have little effect on the rate of saving from money income -- and in fact, the

peasant was likely at best to deposit his currency, which he would hold anyway, even at zero interest, in a savings bank, and thereby augment his money income further. One wonders to what extent both the rate of saving and the "peasants' portfolio" (particularly grain reserves) would exhibit any interest-elasticity. Most observers agree that the response of peasant saving to interest-earning assets was inelastic.<sup>96</sup>

Thus, of four possible policies for overcoming the goods famine -- large increase in output, stimulating monetary saving, raising taxes, and transfer of goods from town to country -- the first was not possible because of raw material shortages, the second was ineffectual because of the peasants' inelastic response to inducements to save (money), and, the last two could not or were not applied on an adequate scale because of social, ideological and political implications.

The two policies which were seriously debated and applied to a limited degree -- lower retail prices and increased grain prices -- were incorrect and probably did not improve the market situation and might well have worsened it. The whole conduct of economic policy during 1924-1928 revealed a lack of understanding of the functions and working of a price system (as well as an understandable inability to deal with the macro-economic aspects of the price policies). Their ideological and political baggage not only hindered adoption of a "proper tax and wage policy," -- it hindered the rational analysis of the problems by most Party leaders.

---

<sup>96</sup>Firth-64, passim.



Thus the grain export problem was not a problem to be solved in a short time. The planners also concluded -- correctly or incorrectly -- that the grain export problem could not be solved within the NEP forms of agricultural organization. The draft of the foreign trade plan for the first FYP gave up hope of any significant grain exports in 1928/29 and 1929/30, suggested that modest grain exports might be possible in 1930/31 and based their optimistic conclusion about grain exports in 1931/32 and 1932/33 on the surpluses which would be produced by the new mechanized state and collective farms.<sup>97</sup> Despite the large investments planned for agriculture, grain exports were still expected to reach less than 50% of 1909-13 levels.<sup>98</sup>

Thus, in the face of the grain export problem, the Soviet Union was forced to develop other export resources as well as to develop domestic sources of imported products, which could not be purchased abroad in sufficient quantities because of foreign exchange shortage. In some sense, the grain problem forced the Soviet Union to industrialized.

---

<sup>97</sup>See below, p. 522.

<sup>98</sup>Original projections were for 5 million tons, later projections were for 8 million tons. See p. 526.

Addendum to Chapter XI

The "conventional knowledge" of the grain marketing problem based on Nemichinov's table cited by Stalin (Dobb-48, p. 217), has been challenged in a provocative article by Jerzy Karcz (Karcz-67). He argued that the famous table cited by Stalin compared gross grain marketing in 1913 by various grain producers and net 1926/27 marketing by various groups of peasants. In essence, gross marketing includes marketed grain which is subsequently repurchased by other peasants. This comparison exaggerates greatly the deficiency in grain marketing during NEP and Karcz cited figures which showed that the volume of gross marketing during 1926/27 - 1927/28 came to 96.7% of the 1909-1913 average (Karcz-67, p. 409). His figures implied gross marketing of 16.7 million tons, but unfortunately his sources for this figure are not clear. In fact, other data suggests strongly that Karcz's figure for gross marketing of grain products during 1909-13 of 16.7 million m.t. (presumably for Soviet territory alone) is too low and that the gross marketings of grain products were closer to 20-24 million m.t. than to 16.7 million m.t.

The first important clue that Karcz's estimate of gross marketing of grain products is too low is that the Soviet territory in 1909-13 exported about 12.5 million m.t. (including 11.9 million metric tons abroad and net exports to the separated territories of at most 1.2 million m.t. so that net exports of grain during 1909-13 from the Soviet territory were about 11.3 million m.t. (based on Groman-28a). This implies that only about 5.5 million m.t. were available for the supply of urban areas, for the supply of grain deficit areas, and for resale to grain-deficit peasants. This amount seems inadequate for these needs. Urban demand during 1909-13 averaged about 4.9 million tons alone, assuming an average of 23.5 million urban dwellers during 1909-13 (Karcz-67, p. 409) and a per capita consumption of grain of urban dwellers of about 220 kilograms of grain products in terms of unmilled grain. This latter figure is based on an annual average per capita urban consumption of grain products (flour) of 175 kilograms during 1924/25 - 1926/27 cited by Timoshenko-32, p. 403 from A. Lositsky, "Dynamics of Grain Consumption" (in Russian) Statisticheskoe Obozrenie, No. 12, 1927; this figure was adjusted upward by coefficients cited in Groman-28a (p. 223) to convert flour, etc., into full grain equivalents. Urban per capita grain consumption during the mid-1920's did not seem to be significantly higher (if at all) as compared to the 1909-13 period (Timoshenko-32, p. 402). Demand for marketed grain by the rural population is the basic difference between gross and net marketing according to Karcz-67, p. 403. According to Karcz-67 (p. 408), the difference between gross and net marketing during 1925/26 - 1927/28 was between 6.0 and 7.7 million m.t. There is little reason to think that rural demand for marketed grain was substantially less during 1909-13.

Therefore, gross marketed grain during 1909-13 must have been on the order of 21-24 million m.t. (11.9 for net exports, 4.9 for urban areas, and 5 - 8 for rural demand by grain-deficient peasants). If these rough estimates are at all accurate, then Karcz's figure, that gross grain marketing during 1909-13 was roughly 17 million m.t., is too low by 4 - 7 million m.t., and his provocative conclusion that gross grain marketings had almost entirely recovered during 1926/27 - 1927/28 is incorrect. According to these figures, gross grain marketing recovered, in 1926/27 - 1927/28, to approximately 67-76% of average 1909-13 levels. On the other hand, Karcz's conclusion that grain marketings had recovered more than the 50% figure implied by the Stalin-Nemchinov data is still valid.

Other evidence supports my conclusion about the recovery of gross grain marketing in 1926/27. Karcz-67 (p. 406) argued that the Stalin-Nemchinov figure for gross marketing for 1913 (21.3 million m.t.) must have been relatively high compared to the 1909-13 average gross marketings because the 1913 crop was much bigger than the average crop during 1909-13. Data in Timoshenko-32 (p. 524) indicate that the average crop (wheat, rye, barley, oats) during 1909-12 was in fact about 18% lower than in 1913. The gross marketing figure cited by Karcz for 1909-13 (16.7 million m.t.) was about 21% lower than the Stalin-Nemchinov figure for 1913 (Karcz-67, pp. 408-409).

But there are several reasons for thinking that gross marketings for the calendar year 1913 are more or less representative of average marketing during 1909-13. First, grain marketing, according to some observers (e. g. Jasny-49, p. 193) was fairly insensitive to the size of the harvest in the short run because of institutional factors (stockpiling, forced sales, slow transportation). Second, the impact of the harvest, which comes in the latter part of a calendar year, has much less impact on total marketing during a calendar year than on the agricultural year running from July 1 to June 30. Marketings during the first half of 1913 were strongly influenced by the lesser 1912 harvest. Third, according to Timoshenko-32 (p. 419) shipments of bread grains (wheat and rye) in 1913 were just about average for 1909-13. All this suggests that Stalin-Nemchinov's figure for gross marketing in 1913 was not significantly unrepresentative of annual average marketing during 1909-13. Thus, these data suggest, that, contrary to Karcz's provocative hypothesis, there was a significant problem in restoring gross marketing to 1909-13 levels during late - NEP. Further support for the existence of a grain marketing problem was that data on rail and water shipments of grain also indicated that grain marketing (especially in traditional grain surplus regions) had not recovered in volume to 1909-13 levels. Timoshenko-32, a strong proponent of this latter viewpoint, cited considerable evidence in support of the "grain marketing problem" hypothesis, especially with respect to the marketing and supply of bread grains (Timoshenko-32, pp. 414-418, and pp. 419-432).

## CHAPTER XII

THE RECOVERY OF SOVIET FOREIGN TRADE DURING THE NEP  
AND THE PROBLEM OF RAPID INDUSTRIALIZATION  
SUMMARY AND CONCLUSIONS

The purpose of this chapter is 1) to summarize the major trends and factors affecting the recovery of foreign trade during the NEP, 2) to describe the major changes in Soviet foreign trade policy which occurred during the NEP and the forces which caused these changes, and 3) to review the relationship between the recovery of various sectors of the economy and foreign trade during the NEP and to examine within this context the problems which would be caused in the foreign trade sector by the acceleration of industrial growth and investment planned by the Soviet leadership after the mid-1920's.

Failure of Soviet foreign trade to  
recover during NEP

The most outstanding feature of Soviet foreign trade during the NEP was its relatively slow recovery toward pre-1914 levels compared to the rest of the economy. Estimating the recovery of the volume of Soviet foreign trade as compared to 1913 is complicated by the uncertain impact on import demand and export capacity caused by the loss of territory from the Russian Empire in the formation of the USSR.<sup>1</sup> As we argued in Chapter III, the Soviet adjustments overstated the loss of

---

<sup>1</sup>See above, pp. 157 ff.

export capacity and the reduction of import demand because of their failure to take interregional trade into account. Thus, the recovery of Soviet foreign trade during the NEP relative to the needs and resources of the territory of the Soviet Union would be overstated by the index based on Soviet estimates of 1913 foreign trade from the Soviet territory of Russia and the recovery of Soviet foreign trade during NEP would probably be understated if no adjustment were made at all for the loss of territory. Regardless of which basis is used for estimating the recovery of foreign trade during NEP, the recovery of Soviet foreign trade and especially exports lagged far behind the recovery of the rest of the Soviet economy on Soviet territory.

USSR: RECOVERY OF FOREIGN TRADE  
AND DOMESTIC PRODUCTION<sup>2</sup>

(1913 prices, 1913 = 100)

	Foreign trade				Gross output	
	Adjusted for loss of territory		Unadjusted for loss of territory		Soviet territory (Soviet data)	
	Export	Import	Export	Import	Industry	Agriculture
1913	100	100	100	100	100	100
22/23	10	15	9	11	40	75
23/24	28	28	24	21	48	81
24/25	26	52	22	39	67	85
25/26	34	66	29	48	90	103
26/27	40	66	34	52	104	102
27/28	41	84	35	66	117	104

Exports. After an initial spurt from virtually zero exports in 1920 to about 24-28% of 1913 levels, the recovery of exports (in volume)

<sup>2</sup>Foreign trade data from Table XII. 1. Gross output data from SUYB-30, pp. 92-94. Agricultural index excluded output of forestry, fishing and hunting.

TABLE XII. 1

USSR: THE RECOVERY OF SOVIET FOREIGN TRADE  
1913, 1922/23 - 1927/28

1913 = 100

A. Foreign Trade on Soviet Territory <sup>a</sup>						
	Exports			Imports		
	Current prices	1913 prices	1927/28 prices	Current prices	1913 prices	1927/28 prices
1913	100	100	100	100	100	100
1922/23	16	10	14	14	15	14
1923/24	41	28	29	44	28	28
1924/25	43	26	25	72	52	51
1925/26	52	34	34	75	66	64
1926/27	60	40	38	70	66	68
1927/28	60	41	37	94	84	81

B. Soviet Foreign Trade Compared to Foreign Trade  
of Russian Empire in 1913

	Exports			Imports		
	Current prices	1913 prices	1927/28 prices	Current prices	1913 prices	1927/28 prices
1913 Russ. Emp.	100	100	100	100	100	100
1922/23 Sov. Ter.	14	9	12	14	11	10
1923/24 Sov. Ter.	35	24	25	32	21	20
1924/25 Sov. Ter.	37	22	22	53	39	37
1925/26 Sov. Ter.	45	29	29	55	48	47
1926/27 Sov. Ter.	52	34	33	52	52	50
1927/28 Sov. Ter.	52	35	32	69	66	60

<sup>a</sup>Based on Soviet estimates of 1913 trade by separated territories with foreign countries only and probably understates total foreign trade of Soviet territory (including trade with separated territories).

Source: Notes to Table XII.1, Appendix B, p. 770.

proceeded very slowly (about 6.5-8.0% per year) during 1923/24-1927/28 and failed to grow at all in 1927/28. By 1927/28 the volume of exports had recovered to about one-third of Russian foreign trade in 1913 and to about 37-41% of foreign trade in 1913 using Soviet estimates of exports on Soviet territory in 1913 (Table XII.1). In contrast, the gross agricultural output - the main basis of pre-1914 exports - had recovered to 104% of 1913 levels (unadjusted for increases in population).

Imports. Imports in volume recovered more rapidly than the volume of exports and reached two-thirds of 1913 Russian imports by 1927/28 and above 80% of 1913 imports using the Soviet adjustment for loss of territory (Table XII.1). In contrast, gross industrial output - a major user of Soviet imports - on Soviet territory was 117% of 1913 levels by 1927/28. This more favorable recovery of imports by 1927/28, however, conceals the fact that the value of Soviet imports had to be held virtually constant because of balance of payments pressures during the three crucial years during the NEP (1924/25-1926/27). The great surge in imports in 1924/25 and 1927/28 was achieved only at the cost of large balance of trade deficits, and the levels of imports for 1924/25 were sustained in 1925/26 only because of the government's willingness to continue to run a balance of trade deficit, to export precious metals, to accumulate short-term foreign debt and to increase exports. The surge of imports in 1927/28 was achieved largely by expanding short-term foreign debt and exporting large quantities of precious metals; the 1927/28 level of imports were clearly not sustainable in the coming year (in the opinion of the foreign trade planners) so that a cutback in imports

was planned for 1928/29.<sup>3</sup>

The favorable recovery of imports compared to 1913 levels was achieved largely at the cost of shifting from a relatively large balance of trade surplus in 1913 to a large balance of trade deficit in 1927/28,<sup>4</sup> so that the more favorable recovery of imports relative to exports during 1923/24-1927/27 depended on the export of precious metals and on the accumulation of short-term foreign debt.

Terms of trade. The Soviet commodity terms of trade were slightly more favorable in general during NEP than the commodity terms of trade for Russian foreign trade in 1913 (Table T-38). This conclusion is true for all five weight years; the measured improvement, however, varies considerably depending on the chosen weight year (Table XIV.8).<sup>5</sup> The terms of trade fluctuated considerably from year to year (as much as 15%) and affected the fulfillment of the foreign trade plans and the balance of trade, but there was no discernible trend up or down. Soviet planners did not foresee or consider in their five-year perspective plans the possibility of a severe prolonged collapse in the Soviet terms of trade. But this was precisely what occurred during the depression in the 1930's (Table XIV.8).

The export price index tended to decline from 1924/25 to 1927/28 (using 1926/27 or 1927/28 quantity weights), but the decline was not continuous and was relatively slow when compared to the sharp

---

<sup>3</sup>See Table XIII.4.

<sup>4</sup>See below, p. 476.

<sup>5</sup>See Appendix F.



decline during 1929-34 (Table XIV.6).<sup>6</sup> A decline in the export prices of flax, oil products, animal products and timber accounted for the overall tendency for the Soviet export price index to decline (Table T-29). The import price index also tended to decline and was influenced chiefly by changes in raw material prices (especially cotton, but also wool and hide prices) (Table T-30). The fluctuations in raw material prices and especially cotton prices caused considerable difficulty in adhering to the import plan during NEP.

#### Balance of trade and payments during the NEP

The Soviet balance of payments was under constant pressure during the NEP with the possible exception of 1923/24 when a payments surplus was forced for domestic monetary policy reasons. The relatively small trade surpluses achieved in 1923/24 and 1926/27 were quite inadequate to cover the large trade deficits in 1924/25, 1925/26 and 1927/28 as well as in the early 1920's.

In general, the plan targets for the balance of trade were underfulfilled with a less-than planned trade surplus or a greater-than-planned trade deficit (Table T-1). The total trade deficit and the large deficit for the invisible trade items on current account from 1924/25 to 1927/28 (341 million rubles and 235 million rubles) were financed by the shipment of precious metals and the accumulation of short-term and medium-term foreign debt.

---

<sup>6</sup>The export price index using 1913 export quantity weights of Russian trade, however, tended to rise or be stable during 1924/25 - 1927/28 because of the much larger weight of grain and other agricultural goods whose prices tended to rise during 1924/25 - 1927/28. See Tables T-28 and T-29.

BALANCE OF TRADE, NET DEFICIT ON CURRENT ACCOUNT,  
PRECIOUS METAL SHIPMENTS, AND CHANGES IN  
SOVIET FOREIGN DEBT 1923/24 - 1927/28<sup>7</sup>

(millions of rubles)

	<u>1913</u>	<u>23/24</u>	<u>24/25</u>	<u>25/26</u>	<u>26/27</u>	<u>27/28</u>
Balance of trade	+130.9	+83.2	-163.6	-79.7	+65.9	+163.7
Balance of invisible trade items on current acc't.	-	-	-30	-59	-71	-75
Net shipments of precious metals	-	-	+24	+72	+34	+155
Net increments in Soviet foreign debt	-	-	+69	+62	+41	+120

From 1924/25 to 1927/28, about 355 million rubles of precious metals were exported including about 270 million rubles of gold and about 85 million rubles of platinum (Table T-16). Particularly large quantities of gold were exported in 1925, 1926, and 1928 in order to finance emergency imports and to cover an unexpected shortfall in exports. Net exports of precious metals were lower (285 million rubles) because of some imports of gold for domestic foreign reserves in 1924 and because of substantial imports of silver coin and silver bullion for minting (Table D. 3).<sup>8</sup> But these silver imports did not enter directly into foreign reserves in the State Bank, so that the net drain on Soviet foreign reserves was greater than indicated by the "net shipments" figures cited above.<sup>9</sup>

---

<sup>7</sup> Tables T-14 and T-16, p. 202.

<sup>8</sup> See p. 238-246.

<sup>9</sup> This imported silver apparently was recovered for the purpose of foreign reserves. During the worst balance of payments crisis in 1932, it appears that the USSR withdrew the silver coins from circulation.

Domestic production of gold (about 174 million rubles for the calendar years 1924-1928) and of platinum (about 88 million rubles in current prices for 1923/24 - 1927/28) were less than net exports of gold, platinum, and foreign exchange during 1924-1928.<sup>10</sup> Thus, Soviet reserves of precious metals (gold, silver, platinum) and convertible foreign currency fell from 445-590 million rubles at the end of 1924 to 313-329 million rubles at the end of 1928 (Table T-17). Soviet gold reserves fell from 330 million rubles at the end of 1924 to 187 million rubles at the end of 1928. Russian gold reserves were about 1200 million rubles in October 1917, and about 1560 million rubles in 1913.<sup>11</sup>

Low Soviet foreign reserves, and risk aversion. This low level of foreign reserves was inadequate for Soviet needs, especially because of the sharp fluctuations in the harvest, marketing, and foreign prices which led to large unexpected deficits and because of the need to maintain some reserves for possible repayment of outstanding short-term and medium-term foreign debt. Furthermore, continued reduction of visible gold reserves along with large trade deficits made foreign suppliers and financial institutions increasingly reluctant to grant credits to the USSR and increased the cost of these credits.

The depletion of foreign reserves during NEP made Soviet

---

circulation, melted them and exported them. The shortages of coins in 1932 was created by the government rather than by peasants' hoarding, as it was officially stated. There is no other way to explain the large silver exports in 1933-35. See Appendix D and Table D.3.

<sup>10</sup>Tables E.1 and E.3, D.1, D.5 and T-14.

<sup>11</sup>Pasvolsky-24, p. 193.

planners increasingly conservative in projecting exports and increasingly reluctant to rely on and contract for imports, for by the end of 1927/28, Soviet holdings of foreign reserves were insufficient to cover several large trade deficits of the size which were incurred during 1923/24 - 1927/28. Since planners could not fall back on large-scale expenditures of foreign reserves to finance imports if exports fell below expectations or the terms of trade shifted, the depletion of foreign reserves reinforced the planners' tendency to rely on the development of domestic import-substitute sectors for the supply of selected imported goods rather than to rely more on imports.

The large balance of payments deficit during NEP was also financed by an inflow of foreign capital in the form of short and medium term credits granted by firms, banks, brokers, and foreign governments.<sup>12</sup> The total foreign debt outstanding on October 1, 1928 was estimated at 370 million rubles (exceeding foreign reserves) and had grown rapidly since October 1, 1924, largely on the basis of credits received in Germany and Great Britain (Table T-15 and above footnote). The Soviet leadership, however, believed that the supply of credit was unreliable because of the international political relationship of the Soviet Union to the encircling "hostile capitalist world economy". They attributed their difficulties and the high cost of credit to a deliberate financial blockade.<sup>13</sup> The volatility of the credit supply was

---

<sup>12</sup>The major articles on the development of Soviet foreign debt during NEP are Shenkman-31, -32a, and Birmingham, No. 2-1931.

<sup>13</sup>Gosplan-29a, p. 391.

illustrated by the sudden withdrawal of credit by the British Midlands Bank when diplomatic relations with Great Britain were broken off in May 1927, and the prolonged and arduous negotiations with Germany for an extension of the credit guarantee and trade agreement in 1928 (because of the Shakhty Trial of German engineers).<sup>14</sup> Since most of the outstanding credit had relatively short maturity, a sudden collapse of the overall foreign credit supply would force the USSR to run an unusually large trade surplus to prevent a default and the large volume of debts maturing each year. Because of the low foreign reserves holdings and the policy of "maximum" forcing of exports (by 1927/28), moving toward a larger trade surplus implied cutting back imports and in turn cutting either output and investment programs dependent on imports. To some extent, therefore, import-substitution was a form of risk-aversion -- namely the risk of defaulting and the risk implied in an unexpected forced import deprivation. The potential economic costs of defaulting were high for the USSR because most foreign firms already considered the USSR to be a poor credit risk because of their attitude toward private capital and capitalist countries and because of initial annulling of foreign debt and foreign property rights in the first years of Soviet power. The government responsibility for the debts of Soviet firms was implied by the institutional framework of foreign trade (the state monopoly of foreign trade). Thus, to default on the payment of any bill of any Soviet import organization

---

<sup>14</sup>Dyck-66, pp. 128-131 and 139-143. See above p.299.

would be interpreted as an insolvency (in terms of foreign exchange) of the USSR. The practical result of a default would have probably been complete cessation of foreign credits to the USSR and possibly the refusal of some foreign firms to ship to or manufacture for the USSR (except perhaps against cash pre-payment, which was a procedure used in the early 1920's). Another embargo or form of economic and political retaliation might also result from a large-scale default. Default in essence threatened to cut off trade entirely or to at least cut back imports sharply and to raise their costs. Thus, although the development of import-substitute industries might have been less efficient from strictly economic arguments based on comparative advantage, this loss of efficiency from not specializing according to their comparative advantage was in part the premium paid for reducing the risk of default and the economic slowdown caused by forced import deprivation. As events turned out, this insurance premium built into the 1st FYP turned out to be well spent, for precisely this type of event -- a reduction in the supply of credit -- occurred in 1932 and was aggravated by Hitler's rise to power in 1933: The Soviets were forced to trim back their imports sharply with considerable import deprivation and were forced to export grain and cotton even in the face of a vicious famine so as to avoid defaulting on outstanding Soviet bills. We shall return to this problem in Chapter XIV.

Fundamental changes in the planning criteria  
for export and import

A fundamental change occurred in the criteria for planning exports and imports during the NEP. After the decentralization of foreign trade operations in 1922, one basic principle of foreign trade planning was to maintain market equilibrium. The composition and level of exports was planned on the concept of "surplus" where the amount of surplus was the quantity which could (and should) be exported without excessive increases in the domestic market price. Domestic demand for a product would be fully satisfied at the desired domestic price. One upper boundary on the domestic price was the price of Soviet products on foreign markets, because the NKT relied on the initiative of individual profit-maximizing firms and trading agencies to carry out export operations and because existing economic orthodoxy insisted on the long-run commercial profitability of export operations. When the trade authorities had tried to reduce domestic agricultural prices (of eggs, butter, flax, oil seed, barley, etc.) in order to maintain the export profit margins, however, the peasants responded rapidly by reducing marketing to state agencies and by reducing output. Domestic prices in private trade for these products rose substantially above state prices, and the state trade agencies were faced with the dilemma of shipping procured products to domestic markets to satisfy the rapidly rising urban demand to maintain domestic price stability, or of exporting procured products.

Furthermore, they had to decide between less exports at a commercial profit, or to raise the domestic procurement price and to export larger quantities at a commercial loss. As discussed in Chapter XI, price policy was complicated by the fact that raising domestic procurement prices of important non-grain agricultural products was likely to aggravate the goods famine in the countryside and to reduce the pressure to market grain.<sup>14</sup>

But as the pressure to expand exports increased, the government decided to increase domestic procurement prices and they increasingly exported products which were "commercially unprofitable" and for which domestic demand was unsatisfied at current government (retail) prices; that is, they forced exports. Prices in the private trade were higher than state trade prices (and occasionally higher than foreign market prices) so that the government was increasingly forced to restrict the activity of private traders -- especially in the grain trade -- in order to be able to purchase increased quantities (for export) without excessively bidding up the price. Thus by the end of 1927/28, the criteria for planning exports had changed from the estimation and export of surplus based on maintaining market equilibrium, commercial profitability and enterprise initiative to the forcing of exports of planned quantities regardless of commercial profitability and by the use of obligatory export quotas for selected enterprises and export subsidies. The export plan considered domestic requirements, but the size of these requirements was no longer determined

---

<sup>14</sup>See Chapter XI, p. 440.



purely on the basis of market equilibrium, and the authorities did not try to continuously clear the market at state prices at the cost of reducing exports.<sup>15</sup>

The criteria and goals of import planning and operations also changed considerably during NEP. Most of this change was due to the overvalued exchange rate and the expansionary economic policy so that there was large excess demand for imports compared to foreign exchange resources during all of the NEP. In general, tighter control was exercised over the expenditure of foreign exchange than any other economic activity. After the decentralization of foreign trade operations, individual firms, syndicates, and trading agencies would on their own initiative apply for import licenses. Their incentive to apply for import licenses was based on the profit-motive and at times firms would apply for licenses to import products produced within the USSR because the imported product was cheaper and superior to the domestic version. Tariffs were raised several times (1922, 1924, 1926, 1927) so as to reduce domestic demand for imports (requests for licenses) and to encourage the development of domestic industry (Table T-47).

Increased tariffs proved to be an ineffectual weapon in reducing import demand because of the large excess demand for imported goods simply not available in the short run at any price domestically,

---

<sup>15</sup>The supply of urban areas was determined in part on a per-capita basis, in part on total supply of retail goods, and in part on the availability of supplies in the private market at reasonable prices.

because of the price-setting mechanism or productivity gains which allowed costs to be passed on or absorbed, and because of general excess aggregate demand. Lenin's worry about the ineffectiveness of a tariff system in restraining imports was right -- but for the wrong reason! It was not foreign exporters trying to destroy Soviet industry (through export subsidies) but just the contrary -- Soviet industry and consumers wanted more imported goods (even at the higher "Russian prices" occasionally charged) than the import-capacity of the USSR permitted.

After considerable debate, ultimate control of imports was retained by the State in the form of a licensing system and the NKT allocated licenses to individual firms on the basis of the import-plan confirmed by Gosplan and STO.<sup>16</sup> The individual firm would then negotiate with foreign suppliers of its choice through the trade delegations. The biggest problem for NKT was the allocation of licenses. By and large, licenses were reserved for the import of so-called "producer's goods" and especially raw materials and semi-processed goods for light industry, and machinery. Luxury goods were not imported.

---

<sup>16</sup>SUYB-25, pp. 267-291. The initiative to import lay basically with the individual firm and the NKVT had to turn down the request within 48 hours or five days (depending on the type of goods), or it had to issue a license. Since some types of firms had higher "national priority" and were more difficult to refuse, pressure existed for excessive issue of licenses. See Carr-58a (pp. 445-464) for a description of the debates in 1922-23 about the foreign trade monopoly versus free trade.

Imports and market equilibrium during NEP. In early NEP the government experimented several times and in several ways with the use of moderate scale imports of consumer goods and foodstuffs as a method of restoring equilibrium in some markets and to offer competition to domestic monopolies.<sup>17</sup> This policy of "goods intervention" was abandoned by the end of 1926, and imports of most manufactured consumer goods and foodstuffs were not allowed even though it was thought that the market disequilibrium in the countryside ("goods famine") might well disrupt the marketing of grain and other produce. The basic reason for abandoning the policy of "goods intervention" was the scarcity of foreign exchange rather than any deliberate attempt to restrict the consumption of the populace. On the contrary, it was thought that the gains from the policy of goods intervention were insignificant compared to the total shortages and the short supply of foreign exchange, and that the same foreign exchange expenditure would have been more effectively used for importing raw materials for the expansion of the domestic consumer goods industry. For example, based on import values of cotton cloth and fiber in 1925/26 (VTSSSR-60), one metric ton of cotton cost less than one-third the price of a metric ton of cloth, which suggests that a unit of foreign exchange spent on cotton fiber would increase the supply of (domestic) cloth about three times more than spending the same amount on imported cotton fiber. This

---

<sup>17</sup>Ironically, a large part of the goods imported under the policy of goods intervention were major export items under the Tsarist regime. See Chapters V, VII, and VIII.

argument ignores the effect on aggregate demand (and on the worker's demand for scarce consumer goods and exportable goods) represented by the additional wage bill of the workers hired to produce the consumers' goods from imported raw materials. The increase in aggregate demand, however, is the difference between total unemployment compensation, and the wages; furthermore, additional raw materials might have increased the productivity of the existing labor force which was idle part-time from the lack of raw materials. This first so-called "industrialization of the import structure" (increasing the share of producers' goods in imports) was not intended to reduce consumption but rather to increase the domestic output of consumption goods, and the share of "consumer-oriented imports" did not decline substantially in 1926/27 (Table T-18). When a severe goods famine and grain shortage arose in the spring of 1928, the export receipts, holding of foreign exchange and credits were already too over-committed to permit a moderate-scale import campaign similar to that attempted in 1924-1926 to help restore market equilibrium (although some modest amount of grain was imported in 1928 and some above-plan cotton fiber imports were sanctioned to increase domestic textile output in 1927/28). The import plan by the end of 1927/28 was directed almost entirely toward the supply of materials for domestic industry, which in turn was relied on entirely to provide sufficient manufactured consumer goods. Imports were no longer directly used to bring about equilibrium in the retail markets for consumer goods.

Decentralization of import operations. The second change in

the planning and operation of imports was the gradual abandonment of a decentralized allocation of licenses and purchasing in favor of a centralized system of monopoly trading firms responsible for the supply of imported raw materials and imported machinery to all the firms in an entire industry.<sup>18</sup> The advantages of a centralized import monopoly were stricter control over the issue and use of import licenses, immediate flexibility in changing the overall level of imports, increased monopsony power of foreign markets, greater expertise about foreign markets, greater efficiency in import operations, and greater control over the disbursement of foreign exchange: the disadvantage was the added layer of bureaucracy between the operating enterprise and the center of decision-making. This was important, however, in reducing the many pressures on NKT from individual firms. The pressures of firms were now directed to the import monopoly, and the import-monopoly had to carry its argument for additional licenses to NKT and to higher economic organs.

In summary, by the end of 1927/28 the attempt to decentralize foreign trade operations and to utilize profit incentive and tariffs to develop foreign trade, and the attempt to use foreign trade as a method for maintaining market equilibrium had been abandoned under the pressure to expand foreign trade and domestic inflation and an undervalued exchange rate. Foreign trade operations had become increasingly re-centralized, exports were forced despite market disequilibria at home, and imports were permitted on the basis of priority as perceived by

---

<sup>18</sup>SUYB-29, p. 244.

the government rather than market demand and profitability.

Problems in the poor recovery of exports during NEP

A major problem in the Soviet economy during the NEP was the restoration of Soviet exports to pre-1914 levels. The stagnation and collapse of grain exports was the most important factor in the Soviet government's failure at this task -- a failure which had widespread ramifications in other areas of the economy and in the policy decisions about industrialization. In addition to the grain export problem, the failure of many other export groups -- flax, timber, manganese ore, sugar, cloth, animal products -- to recover to pre-1914 levels also contributed to the problems of restoring exports to pre-1914 levels; the notable exceptions to this poor export performance were oil products and timber.

Poor recovery of other major agricultural exports. The export of major export commodities such as flax, sugar, eggs, butter, hemp, oil seed and oil cake, and rawhides failed to attain the level of pre-1914 exports from both the Russian empire and even from the Soviet territory, as can be seen in the table below (and also in Table T-3):

INDEX OF EXPORTS OF SELECTED AGRICULTURAL PRODUCTS<sup>19</sup>  
(1913 price weights, 1913 = 100)

	<u>oil-seed</u>	<u>fibers</u>	<u>animal products</u>
1913 - Russia	100	100	100
1913 - Soviet Territory	90	74	85
1923/24	42	28	15
1924/25	64	45	24
1925/26	60	55	22
1926/27	39	35	28
1927/28	19	39	37

Relatively little of this shortfall in the recovery of exports can be ascribed to the loss of the Baltic and Polish Provinces.<sup>20</sup>

For the most part, the decline can be traced to reduced exportable surpluses which resulted from lower output (total or per capita), smaller marketing coefficients (tovarnost<sup>1</sup>) and marketing, and a larger urban and industrial domestic demand for these agricultural products.

The total marketing of agricultural products in 1926-28 was less than in 1913.<sup>21</sup> Since agricultural exports were only about 28% of

---

<sup>19</sup>All data except for 1913 estimates of exports from Soviet territory from Table T-26. Little adjustment should be made for oil seed exports from Soviet territory because most oil seed area was in the Southeast (Jasny-49, p. 195). Virtually no area in separated territories were sown to sunflower seed (Johnson-60, p. 228). The adjustment for fiber exports from Soviet territory is based on a Soviet estimate for flax exports from Russia and the Soviet territory (Table T-23). The 15% reduction in animal product exports to adjust for territorial losses is based on the fact that about 14.5% of the egg output and 13.5% of the cows of the Russian empire were in the separated territories (Table III.22).

<sup>20</sup>See Chapter III, pp. 157 ff.

<sup>21</sup>Jasny-49 (p. 224) stated "According to Oganovsky, marketing

agricultural marketings before World War I, a decline in marketing combined with stable or increased domestic demand inevitably would result in a larger reduction in agricultural exports.<sup>22</sup> Although gross agricultural output in 1927/28 exceeded 1913 by 4-5%, rural population grew even more rapidly (8%), so that per capita gross output was only about 95% of 1913 levels, and if gross per capita consumption was maintained in rural areas, marketings would fall by roughly 20-22% because marketing was a relatively small part of total agricultural output.<sup>23</sup>

This relatively poor recovery of marketing of non-grain agricultural products seems somewhat surprising at first, in view of the relatively favorable procurement prices, tax advantages and other economic advantages (cheaper grain, lower priced finished goods) accorded to the producers of these technical and export products.<sup>24</sup>

---

per capita of rural population declined 32 per cent from 1913 to 1926/27, assuming average crops. This implies a decline in total marketing by about 25 per cent." His reference was N. P. Oganovskii in Socialist Economy in Russian, Vol. V, 1927, 2nd issue, p. 38.

<sup>22</sup>Data cited by Krasin-28, p. 158. Estimates based on 1913 prices. Dobb-28 (p. 224) stated that gross agricultural marketing in pre-1914 Russia was 32 per cent of gross output.

<sup>23</sup>Jasny-49 (p. 226) found little increase in the per capita consumption of agricultural products in rural areas. Vegetable oil was the major item consumed in larger quantities in 1927/28 (Ibid., p. 227). With the exception of butter, both the quantity and the share of output, which was marketed during NEP, failed to recover to 1913 levels -- tovarnost' was a problem throughout Soviet agriculture (Jasny-49, pp. 223, 228 and 232).

<sup>24</sup>See Carr-58a, pp. 249-265, for a discussion of their tax policy and for references to original Soviet sources. According to Jasny-49 (p. 211), sugar beet growers had their agricultural tax reduced, while cotton growers could buy grain at lower retail prices than elsewhere in the USSR. They also got help in maintaining irrigation systems and purchasing fertilizer.



The economic advantages of producing non-grain agricultural products did in fact stimulate the peasants to expand their sown area for these crops and to expand their livestock holdings, so that by 1927 the sown area for most crops and the size of the cow, swine, and sheep herds exceeded 1913 levels for comparable territory.<sup>25</sup> For some products (flax, sugar beets, cotton, eggs, wool) however, total output failed to recover by 1927 to 1913 levels on comparable territory and this failure was probably a major factor in the reduction of marketing and hence of exports.<sup>26</sup> If the recovery of output during NEP is compared to 1913 on a per capita basis (of either total population or rural population), then the recovery was even less favorable than 1913 and explains why the marketing of several products recovered substantially less than output.<sup>27</sup> Other factors also tended to depress the peasants' incentive to market. The lack of fiscal pressure during NEP compared to pre-1914 -- lower rents, taxes, and debts -- probably played some role.<sup>28</sup>

---

<sup>25</sup>See Johnson-60, pp. 232-235, and Diamond-55. But not on a per capita basis.

<sup>26</sup>Some observers (Jasny-49, p. 216, and Gosplan-28/29, p. 232) attributed this decline in yield to the subdivision of the better managed and better capitalized estates into small peasant holdings.

<sup>27</sup>Jasny-49, p. 217.

<sup>28</sup>See above, p. 442.

High price-elasticity of state procurements for non-grain agricultural products. Another important factor in reducing marketing (and increasing procurement prices) was the apparent high price-elasticity of on-farm demand (or output) of these products with respect to their prices relative to the price of manufactured goods.<sup>29</sup> This high price-elasticity might be attributed to two characteristics of Russian peasant agriculture. First, many of these "cash crops and products" (such as eggs, butter, meat, and the end-products of leather, hides, feed, oilseeds, flax, wool, and cotton) were as much luxury goods to the average peasants as were purchased manufactured goods and hence were fairly substitutable in consumption.<sup>30</sup> Second, the peasant could process on the farm (or trade with local village craftsmen) many of the agricultural raw materials into goods which served as close substitutes for purchased manufactured products. Thus, if the retail price of those manufactured goods which could be easily produced locally rose enough, the peasant responded by processing substitute goods locally rather than marketing the raw material inputs.<sup>31</sup>

The price elasticity of state procurements for several of these goods was further increased because of the high substitutability of

---

<sup>29</sup>Preobrazhensky-26 (p. 143) and Baykov-47 (p. 62) stress this point.

<sup>30</sup>See above footnote. Jasny-49 (p. 226) discusses this point also.

<sup>31</sup>Flax into linen, oilseed into oil and feed, hides into boots, wool and hemp into cloth, milk into butter. See Baykov-47, p. 62.

factor inputs from one crop to another, and of feed from one animal to another, and because of the difficulty in eliminating the private trader from trading in some of these products (especially animal products).<sup>32</sup> These factors explain the sharp decline in output and/or marketing which occurred in 1926 when authorities tried to reduce procurement prices in order to maintain commercial profit margins for these export goods when foreign prices declined. Confronted with the elastic marketing response, the trade authorities restored procurement prices to their previous levels.<sup>33</sup>

Despite these measures, the marketed supply of most non-grain agricultural goods available for urban consumption and export never attained 1913 levels in the best years of NEP.<sup>34</sup>

Increased urban demand for exportable foodstuffs, etc. The expansion of exportable surplus of agricultural products, sugar and cloth was further retarded by rapidly increasing urban demand. The urban population was growing at roughly 5 1/2% per year from 1924 to 1928, and according to Soviet data, urban population on January 1st, 1928 was 106.6% of urban population on January 1st, 1914 (a comparable

---

<sup>32</sup> Cotton and sugar beets crops were sold almost completely to state procurement agencies.

<sup>33</sup> The prices of final products of selected raw materials were also adjusted downward in the major producing regions of these raw materials (linen in flax areas, cotton cloth in cotton areas, sugar in sugar beet areas, vegetable oil in oil seed areas (Mikoian-27a)).

<sup>34</sup> With the exception of butter and tobacco. See Jasny-49, p. 223.

figure based on Western estimates is 135% of 1914).<sup>35</sup> Between 1924 and 1928 income grew faster than urban population increase.<sup>36</sup> The total income of wage labor in urban areas grew 18% in 1926/27 and 11% in 1927/28 over preceding years, while the demand from the income of wage labor for agricultural and manufactured consumer goods grew 14.2% and 12.1% in 1926/27 over 1925/26 and 8.7% and 8.9% in 1927/28 compared to 1926/27.<sup>37</sup> The demand of the total urban population grew somewhat more slowly. The growth in urban demand was frequently cited as a cause of underfulfillment of export plans (particularly in 1925/26 and 1926/27) especially for butter and eggs and other food-stuffs.<sup>38</sup> Additional direct taxes and a stricter incomes policy should have been imposed on the urban work force. The current levels of wages were not needed to attract labor from rural areas; on the contrary, the high wages had attracted large numbers of workers who were unable to find jobs. Restricting the growth of urban demand would have increased the exportable surplus (especially of butter, eggs, meat) and reduced the urban demand for manufactured goods which could be shipped to the countryside (or exported, in the case of sugar and cloth).<sup>39</sup>

---

<sup>35</sup>Table T-48.

<sup>36</sup>Cf. Gosplan-29a, p. 398 and Gosplan-29a, p. 446.

<sup>37</sup>Gosplan-29a, p. 447. Wage labor earned 65-70% of urban income.

<sup>38</sup>See Chapter VIII, pp. 303.

<sup>39</sup>The tax structure, however, relied largely on excise taxes (vodka, sugar, tea, tobacco products, salts, textiles and petroleum

Rising industrial output during NEP also increased domestic demand for flax, hemp, wool, hides, tobacco and reduced export surpluses sharply, and there arose a clear conflict between the expansion of industrial output and the expansion of exports (such as for flax).<sup>40</sup> The important point here is that the growth of agricultural export surpluses were not only determined by the expansion of output and marketing of these export goods, but also by the expansion of domestic demand. Accelerated industrialization, ceteris paribus, reduced agricultural export surpluses.<sup>41</sup>

#### Recovery of industrial and other exports

Expansion of industrial exports was more under the control of the government and -- unlike agriculture -- did not rely on proper and delicate manipulation of the proper price, tax, and other signals to influence indirectly the growth of export surpluses provided by millions of producers. The government could simply reallocate scarce resources to the export producing sectors and to "contract" with the trusts for the export of these additional products. The best success in the use of this policy during NEP was the expansion of the petroleum industry almost entirely for the purpose of expanding petroleum product exports.

---

products) and there was considerable reluctance to increase direct taxes on wage-earners who earned much of the urban income (Reingold-31, p. 174).

<sup>40</sup>See Chapter IX, p. 350.

<sup>41</sup>Even though surplus labor immigrated from off the peasant homestead, marketing did not necessarily recover enough to feed the labor migrant. The higher per capita income in agriculture, which occurs because of immigration, might result in higher consumption of farm products on the homestead.

INDEX OF INDUSTRIAL EXPORTS<sup>42</sup>  
(1927/28 price weights 1913 = 100)

	<u>Oil Products</u>	<u>Timber</u>	<u>Mining Products</u>
1913 Russia	100	100	100
1913 Sov. Terr.	100	60	100
1923/24	70	26	
1924/25	120	28	49
1925/26	135	25	61
1926/27	195	34	75
1927/28	255	40	59

A partial explanation for the exceedingly rapid expansion of petroleum product exports as compared to timber is the distribution of investment during NEP. As Gosplan noted in 1929:

The necessity to force industrial exports and to replace imports by products of domestic fabrication had a large influence on the direction of these expenditures. The large expenditures in the petroleum, paper, timber and chemical industries, general agricultural machine-building and several other fields were made with this purpose.<sup>43</sup>

The investment among "planned industries" under the supervision of VSNKh was distributed in the following manner:

---

<sup>42</sup>Table T-26. No territorial adjustments for mining products or oil products were made because all oil product was located within Soviet territory, and most mineral exports (manganese ore, iron ore) came from Soviet territory. Forty per cent of the timber exports, however, came from the separated territory according to Table III.22.

<sup>43</sup>Gosplan-29a, p. 173.

INVESTMENT IN PLANNED INDUSTRY  
DURING 1925/26 - 1927/28  
(1925/26 Prices)<sup>44</sup>

<u>Industry</u>	<u>Millions of Rubles</u>	<u>% of Total</u>
Metallurgical & Metal- Working	822.8	26.0
Petroleum	536.6	17.0
Textile	489.9	15.4
Coal	346.9	11.1
Foodstuffs	216.0	6.7
Chemical	181.3	5.8
Glass and Pottery	145.3	4.6
Paper Industry	104.5	3.3
Timber	95.6	3.0
Leather-working	66.8	2.1
Electro-technical	50.8	1.6
Other	107.5	3.4

The poor development of timber exports and investment in the timber industry during NEP was somewhat of an enigma because few investment resources were allocated to develop this old export industry. Output failed to regain 1913 levels until 1928 and all during the NEP exports fell far short of 1913 exports.<sup>45</sup> Part of the poor recovery of timber exports is explained by the fact that 40% of Russian timber export originated from the separated territories (see above table). This apparent neglect of the timber exports was explained also by the condition of the Soviet and foreign timber markets until 1927. Foreign markets for Soviet timber were in general fairly

---

<sup>44</sup>Gosplan-29a, p. 173.

<sup>45</sup>Nutter-62, p. 428. Industrial timber hauled from the forests on Soviet territory in 1927/28 was still below 1913 levels. Sawn lumber had just reached 1913 levels by 1928.

depressed from 1924/25 to 1926/27 and the oligopsonist foreign market structure along with the size of Soviet timber sales made any rapid expansion of timber exports impossible without a price war.<sup>46</sup> The foreign demand was not expanding rapidly. Second, the Soviet demand for timber did not begin to grow rapidly until the end of 1926 (except for speculative demand in the fall of 1925 which resulted from Gosplan's control figures for 1925/26).<sup>47</sup> Thus, there seemed to be excess capacity in the timber industry during mid-NEP and there was little pressure to expand investment in an industry where there was excess capacity. Only in 1927 and 1928 did timber export possibilities and domestic demand exceed domestic output capacity.<sup>48</sup>

Although the expansion of industrial output and the allocation of output could be more directly controlled by the government during NEP, several problems hindered the expansion of industrial exports. First, rapid expansion of domestic demand reduced the exportable surpluses of timber and petroleum products, and especially sugar and cloth. Second, the expansion of output for export of sugar and cotton cloth and vegetable oil was dependent on raw material produced by agriculture (or imported) and hence was dependent on agricultural developments and the weather. Third, the market demand for many major

---

<sup>46</sup> Chapter VII, p. 231. Foreign prices were so depressed in 1924, that the profit oriented firms preferred to sell to domestic consumers. Sovetskaya Torgovlia always emphasized the success in selling (not shipping) the planned amount at the planned prices

<sup>47</sup> See p. 247.



Soviet foreign industrial exports were less than perfectly elastic.

Soviet planners were aware that the foreign demand for Soviet exports was definitely limited in any given period for many important Soviet export products including flax, manganese ore, platinum, petroleum products, furs, timber, butter, eggs, and possibly grain.<sup>49</sup> Either the Soviet market share was large enough, or the market imperfect enough (oligopsonist or cartelized) so that at one time or another, Soviet attempts to expand their market share required significant cuts in export prices.<sup>50</sup> Furthermore, the Soviet trade authorities and planners were well aware of their monopoly (or market) power, and in several cases, tried with some success in exercising it to their advantage.<sup>51</sup> This market imperfection -- especially for "industrial exports" -- had serious implications for the growth of Soviet exports and tended to lower the optimal point of Soviet exports below the free trade equilibrium levels. The choice faced was to expand these exports at lower prices (and hence much lower marginal benefits from expanding exports) or to restrict the expansion of exports to the expansion of foreign demand, which was below the desirable rate of Soviet export expansion. That is, the slow growth of world demand and the limited capacity of world markets for major Soviet export

---

<sup>49</sup>Gosplan-29a, pp. 392-393.

<sup>50</sup>Gosplan-29a, pp. 392-393.

<sup>51</sup>One of the earliest steps was to eliminate competing Soviet agencies selling the same product abroad (such as flax, oil, and timber).

products presented a barrier to expanding Soviet trade.<sup>52</sup>

### Problems in restoring agricultural exports

What were the prospects of renewed rapid expansion of agricultural exports in the coming years within the framework of NEP agriculture? This was an important question in deciding on the strategy and tempo of Soviet economic growth and industrialization.

From 1900 to 1913 under fairly good conditions Russian exports grew at an average rate of 6% (uncorrected for price changes).<sup>53</sup> Was this an upper limit on the possible long-run growth rate of Soviet exports. Was this moderate growth even attainable under the NEP system? Or could the Soviet state accelerate export growth to the much higher rates required to finance the rapid expansion of imports of equipment and raw materials for economic growth?

Agricultural exports were the traditional basis of Russian exports before World War I and the rapid expansion of exports during 1900-1913 was based on a renewed expansion of agricultural output after Russian agriculture had stagnated for 20 years because of the world

<sup>52</sup>Soviet leaders on the Right were aware of the limited capacity of foreign markets, but thought that market capacity for Soviet exports had not yet been attained during NEP (Shanin-26b, in Spulber-64, p. 214). The optimal points of offering is at the same price and quantities as for the optimum tariff. Cf. Chapter II, pp. 59-64.

<sup>53</sup>Actually, the growth rate of exports depends on end points: from 1897 to 1913 exports grew at about 4-3/4%, from 1897 to 1911 (peak-to-peak) exports grew at 5-3/4%. Exports stagnated from 1897 to 1900 (Pasvolsky-22, p. 27).

agrarian depression (1875-1895).<sup>54</sup> But Russian agriculture's long-run growth rate (1860-1913) was between 1.5 - 1.9% per year -- and barely exceeded (by 1/4 - 1/2%) the 1-1/2% growth rate of the population during the period.<sup>55</sup> And the growth rate of population during NEP of about 2 - 2.4% per year.<sup>56</sup> Thus, the increased population growth rate combined with the long-term growth rate of agriculture would imply little or no growth in the surplus available for export. Could rapid industrialization using mostly imported equipment and raw material be founded on agricultural-dependent exports, when agriculture was the traditional "slow-growth sector" in modern economies as well as in Tsarist Russia?<sup>57</sup>

---

<sup>54</sup>Liashchenko-49, p. 453.

<sup>55</sup>Goldsmith-61, p. 454.

<sup>56</sup>Eason-62, p. 49n. SUYB-30, p. 21 stated that the population growth rate was between 1.8 - 2.4%. The increase in population rate was the result of public health measures and heavier incidence of the famine of 1921 on the older cohorts of the population.

<sup>57</sup>Gross Soviet agricultural output weight with 1925-29 price weight and adjusted roughly for territorial change, grew at about 2 - 2-1/4% per year between 1928 and 1957 (excluding the nine war years and recovery 1941-1949). Data from Johnson-60, pp. 204-205.

The problems confronting the expansion of agriculture on the basis of NEP peasant agriculture were basically the shortage of additional good quality land, the shortage of draft power and the inefficiencies of small-scale traditional peasant agriculture (parcelled plots, separation, agricultural techniques). The Soviet government further complicated the problem by its basic mistrust of successful peasants, who had all the trappings of a capitalist in the eyes of most Party leaders; restrictions on hiring of labor, leasing or sale of land, the tax structure, and eventually procurement policies, all affected the allocation of resources. Furthermore, government investment and credit were placed in the hands of the poor peasants, who generally were the most inefficient farmers. See Carr-68a, Chapter 5.

Even with high growth rates in agriculture, two barriers to rapid industrialization remained as long as the "voluntary aspects" of NEP agriculture were maintained. First, there was no assurance that marketing would immediately grow along with the increase in output because of the Russian peasants' income-elasticity of demand for his own produce (for direct consumption of higher-grade products and for "reserves" as savings). Second, even if the peasant marketed a larger fraction of his additional output, he might demand either an excessive amount of consumer goods in exchange for his produce (see Chapter II) or he might be willing only to save and to invest in the sense that he would invest in additional investment goods -- better seed, fertilizer, housing, livestock, machinery, barns -- but would not be willing to save in a monetary form (currency, bank deposits, bonds). Then, the only way to mobilize the peasants voluntary savings would have been to provide him with the "physical investment goods" for his own ownership and use, for if he is not provided with the opportunity to invest, he will demand consumer goods or not market. That is, the allocation and level of investment would be dependent on the government's willingness 1) to let some significant amount of investment be directed toward agriculture, 2) to permit increasing class differentiation in the countryside and 3) to permit the emergence of an increasingly wealthy class of capital-owning peasant who produces most of the surpluses. (Of course, an astute combination of agricultural taxes and price-fixing might avoid some of these problems by inducing (forcing) the peasant to market grain to pay taxes and rent, and then by getting him to market some additional amount for goods

and savings -- but Soviet authorities had proven inept in applying these tools during the critical years of NEP.

Even a successful expansion of agricultural marketing would not automatically lead to a successful expansion of agricultural exports (in value). First, some part of the rapidly increasing marketing would have to be used to provide for the rapidly growing industrial demand and industrial labor force. Recall that this was apparently an important factor inhibiting the recovery of exports during NEP. Second, some agricultural exports -- flax, eggs, butter, and even grain -- faced less than perfectly elastic demand in foreign markets.

In summary, the growth of Soviet exports was retarded by the slow recovery of agricultural output and marketing, by increasing domestic demand for export commodities and by inelastic foreign demand for major Soviet export products.

#### Imports and economic recovery during NEP: summary

The expansion of imports during NEP was restricted by the slow growth of exports, the failure to attract large-scale long-term capital, and the necessity to conserve meager foreign exchange holdings. As a result of the slow growth of imports during NEP, the demand for imported goods by industry and consumers was not satisfied compared to 1913 levels even though industry and agriculture had recovered to 1913 levels.

The most important consequences of the restricted growth of imports during NEP was the shortages of consumer goods, which resulted primarily from the shortage of imported raw materials but

also from the virtual elimination of all consumer goods imports (except those from the Eastern trade). For Soviet light industry was as dependent on imported cotton, wool, hides, dyes, paper, chemicals, and tanning materials as was Tsarist Russia and the shortages of these materials was the major constraint on the expansion of output of light industry.<sup>58</sup> Thus, during NEP the Soviet government continually attempted to stimulate the domestic output and marketing of cotton, wool, and hides by offering relatively favorable prices, better seeds or animals and special tax concessions to the peasants. As noted above, such policies competed directly with the expansion of exports of other agricultural products (in the use of land and the growth of animal herds) and tended to aggravate the goods famine and depress grain marketing because of the higher incomes from the higher prices, lower taxes, and increased marketing of these products.<sup>59</sup> Soviet planners also promoted the growth of paper, non-ferrous metals, and chemicals output in order to overcome the shortages of these products. Their policy of pushing import-substitution of domestic output for these imported products followed directly in the footsteps of Tsarist economic development, when the output of these goods was vigorously promoted by a tariff policy. The Soviet policy of import-substitution during NEP was for the most part not inspired by some goal of economic independence qua economic independence but was dictated by

---

<sup>58</sup>Kaufman-29f (p. 9) discussed the problem of raw material imports and the recovery of light industry. See also Krzhizhanovskii-27a, p. 424.

<sup>59</sup>Chapter XI.

structural disproportion in an economy which had previously relied on higher levels of foreign trade and capital inflow to supply needs in certain areas.<sup>60</sup>

The development of domestic sources of selected raw materials (where technologically possible and economically feasible) was increasingly more important because of the growing demand for the so-called non-competing imports which could not be produced domestically because of current resource endowment. These "non-competing imports" included tin, nickel, rubber, tea, jute, cocoa, coffee, tropical fruit as well as aluminum and certain chemicals; in 1909-1913 these non-competing imports made up more than 12.5% of total Russian imports (Table III. 8). During NEP the imports of tea and other "non-competing foodstuffs" was sharply restricted because of the foreign exchange shortage: nevertheless, these "unavoidable" imports accounted for 9.4% of Soviet imports in 1927/28 (Table T-7).<sup>61</sup> As income and industrial output increased, the demand for these non-competing imports would claim an ever increasing amount of foreign exchange.<sup>62</sup>

---

<sup>60</sup>Kaufman-29f.

<sup>61</sup>See Kutusov-28 or Conolly references.

<sup>62</sup>We have excluded imports of "non-competing luxury goods" (caviar, furs, silk) as well as machinery which currently could not be produced for technological deficiencies rather than capacity deficiencies. If we considered items such as radios, airplanes, automobiles, etc., "non-competing" import shares would be higher. Excluded are also goods such as lead and zinc where the import-consumption ratios were very high.

During NEP the nature of the Eastern trade further limited the amount of total export earnings which could be devoted to materials and machinery imports. Foreign trade over the Eastern border, and the type of goods offered by the Eastern countries (other than low-quality wool and hides and cotton) were largely consumer foodstuffs. To some extent this permitted a change in the composition of consumer goods (because cloth and sugar and eventually oil products were exported to these countries), and hence extended the Soviet consumers' choice to citrus fruit, rice, herbs, dried fruit, and additional tea as well as providing additional raw materials. Nevertheless, it must be pointed out that the rapid expansion of the Eastern trade did not in general augment the Soviet Union's foreign exchange resources and thus did not augment their ability to expand Soviet imports from stable-currency countries.

In addition to the import demands from light industry, unavoidable imports, and the Eastern trade, the expansion of heavy industry and the investment level also required a complimentary expansion of imports (beyond a certain level, or in certain fields) because of the lack of output capacity in the investment goods and input-industries (especially metals and some chemicals). In 1927/28 the import-dependence pattern of Soviet heavy industry and investment still reflected more or less the import-dependence pattern of Tsarist Russia. The Soviet electrical industry and other metal-working industries continued to rely heavily or entirely on imports of non-ferrous metals and ferro-alloys, but Soviet heavy industry was almost entirely independent of imports



for ferrous metals, just as the Russian heavy industry had been largely self-sufficient in ferrous metals. Thus, the Soviet leadership's desire to build further ferrous metal producing capacity was not new policy of import-substitution or the pursuit of autarky.<sup>63</sup> They were simply building to meet the demands of their expanding machine building industry as the Russian industry had done from 1890-1913. The Soviet dependence on imported investment goods was particularly crucial in some sectors -- tractors, complex agricultural and electrical machinery, auto-transport, air-transport, large-shipbuilding, and complex industrial machinery (textiles and chemical), and the Soviet government took steps quite early in NEP (1924) to start up domestic production of these products (especially tractors, trucks, airplanes, and more complex electrical equipment).<sup>64</sup> Again, one could interpret these policies as an early indication of Soviet drive toward autarky or as Soviet continuation of developments in the machinery industry which were taking place already in the pre-World War I decade, when increasingly complex equipment was being either completely manufactured or assembled within Russia.<sup>65</sup>

Not only were certain types of investment dependent on imports during NEP, but the overall level of investment beyond a certain level

---

<sup>63</sup>The Soviet ferrous metal industry recovered less quickly than the rest of industry and was retarding the expansion of machinery output and the supply of roofing iron, rails, etc., by 1927/28. See SUYB-30, p. 129, p. 139.

<sup>64</sup>See Dodge-66 for a discussion of the development of plans to produce tractors.

<sup>65</sup>See Rosenfeld-61 and Chapter III, pp. 120 ff, pp. 137 ff.

was also dependent on imports because of the limited capacity of Soviet investment goods industry. When import funds were relatively plentiful and investment levels were a fairly modest proportion of national income during the Tsarist period, this import-dependence of Russia on imported machinery was not a barrier to the desired level of investment.<sup>66</sup> But during NEP when foreign exchange was relatively scarce and when the metal industries had only partially recovered, then the total supply of investment goods from both imports and domestic producers seemed to be a barrier to raising the level of investment. So much so that some policy-makers felt at times that reconstruction of Soviet industry was dependent on obtaining long-term capital funds from abroad.<sup>67</sup> And in fact much of the capital equipment imported during 1925-1928 was financed either directly or indirectly through the expansion of short and medium-term credits granted for machinery imports into the USSR. It was unlikely that such a large investment program would have been planned for 1926/27 and 1927/28 if the German and other foreign credits for machinery imports had not been available -- because to have carried out such a large machinery import program (under the given development of exports) would have necessitated cutting back raw material imports for light industry just at the very moment when the expansion of light industrial output was thought to be crucial to the realization of grain marketing and export plans. The inability to

---

<sup>66</sup> According to Dobb-28 (p. 311) pre-1914 investment was about 8 - 9% of national income (Soviet definition).

<sup>67</sup> Krasin-28, pp. 354-373 and Dohan-65.

expand capital equipment imports did not become a pressing constraint on investment in most industries during NEP because the existence of excess capacity in much of industry until the end of 1925/26 and when the pressure to expand investment grew in 1927 and 1928, foreign credits smoothed the way to expanding machinery imports -- but not of the necessary raw material imports. But the supply of machinery was clearly perceived by most planners as being an important potential constraint on industrialization, electrification, and the mechanization of agriculture.<sup>68</sup>

Some economists felt that exports could not be increased rapidly enough to finance the required machinery imports so that the Soviet investment goods industry would have to be expanded to permit further increases in the level of investment.<sup>69</sup> And by the end of 1927/28, this latter interpretation clearly was a very realistic view of the foreign trade problem confronting planners working on the first Five-Year Plan. Investment (mostly in fixed capital) was about 20% of GNP in 1927/28 as

---

<sup>68</sup>Pashkov-30, Table T-23. For example, the pace of mechanization and collectivization of agriculture was thought to be directly dependent on the speed with which the Soviet government could produce sufficient agricultural equipment and fertilizers for the collective farms so as to induce the poor peasant to voluntarily join (see below, p. ). The 1925/26 investment plan was predicted on a certain supply of investments supplied by both domestic and foreign producers. When the domestic producers could obviously not fulfill their output plan, the investment targets had to be cut back and part of the short-fall in investment goods was to be covered by expanding machinery imports (on credit). See Chapter VIII, p. 307, n. 144.

<sup>69</sup>Pashkov-30.

compared to 8 - 9% of "material income" in 1913.<sup>70</sup>

The dependence of the Soviet economy on imports not only meant that the Soviet economy's continued progress was dependent on the continued willingness of capitalist nations to trade with ideological enemies and on the continued prosperity of the world capitalist economy. Under the NEP system, the total level of import-dependent activities (output of light industry, level and direction of investment, output of certain heavy industrial branches) depended essentially on the level of exports (given the uncertainty of the expansion of foreign credit and the low levels of foreign reserves). And during the mid-1920's the growth performance of exports depended on the harvest and the willingness of the surplus-producing peasant to expand his output and to bring his surpluses to market in every increasing amounts. Most Soviet policy-makers felt that this good performance of a basically class-enemy capitalist peasant class was dependent on expanding the supply of consumer goods (and agricultural equipment) and improving the terms of trade.<sup>71</sup> But they were caught in a vicious circle, because the expansion of consumer goods output and agricultural equipment supply required increased imports of raw materials (and agricultural equipment) which cut down growth of industrial investment goods from any given expansion of agricultural exports.<sup>72</sup> Under the NEP system, to

---

<sup>70</sup>Moorsteen-66, p. 364 and Dobb-28, p. 311.

<sup>71</sup>This argument was examined critically in Chapter XI.

<sup>72</sup>Furthermore, some of the additional investment would have to be allocated to the investment demands of the prosperous peasant.

eschew development of Soviet heavy industry and to rely instead on the growth of imports for the entire additional supply of investment goods meant that the industrialization program of the socialist worker's state would depend on the state's ability to indirectly stimulate (through price-manipulation and tax concessions) the rich kulak peasant to accumulate capital and to expand his output and his marketings at a fast rate. And the success of this policy would result in a growing class differentiation in the countryside, with the (relative) impoverishment and political subjugation of the poor and middle peasants, who were supposed to be, at least in theory, the workers' class ally in the countryside.

Many in the Party doubted if this "easier route" (economically more efficient) to industrialization was worth the political, social and economic risks of gambling on the goodwill of their class enemy and on Mother Nature. Both seemed to have failed them in 1927/28 and caused a serious foreign trade crisis and a severe domestic grain collection crisis, which was remedied only by compulsion. Compulsion of the peasant, unbeknownst to the Party leadership in the spring and summer of 1928, was to become the permanent solution of the grain marketing problem. But in 1928 they were still seeking the economic policy to avoid both compulsion and this gamble on the kulak and the harvest. The chosen policy was rapid industrialization with considerable emphasis on the development of the Soviet investment goods industry as well as further expansion of light industry and agriculture.

CHAPTER XIII<sup>1</sup>

## FOREIGN TRADE PLANS AND SOVIET INDUSTRIALIZATION

## STRATEGY IN THE FIRST FIVE YEAR PLAN

"Increasing the foreign trade turnover will strengthen the connections of the USSR with the world economy, but not on the basis of an increase of the dependence on foreign markets, but on the basis of reducing this dependence in the fundamental and most important junctions in the economy of the USSR."

G. Geller and A. Sovalov<sup>2</sup>  
Voprosy Torgvli, 1928

Drafting of the Five Year Perspective Plans  
 and foreign trade during the NEP

Various versions of five year perspective plans for various sectors of the economy and for the entire national economy were drawn up during NEP.<sup>3</sup> Starting in 1925/26, Gosplan drew up several plans for the national economy; during 1928 and the early months of 1929, Gosplan worked up a perspective five year plan for the period 1928/29

---

<sup>1</sup> This chapter is abstracted from a longer study by the author and presents only the barest bones of the foreign trade plan for the 1st FYP. In particular, we have omitted most discussion about the planned trade and output for individual commodities and the problem of equilibrium in the economy.

<sup>2</sup> Geller-28a, p. 45.

<sup>3</sup> Strumilin-32a. Chapter I discusses the history (from Strumilin's viewpoint) of the evolution of the five year plans during NEP. See also Zaleski-62, pp. 32-70 for a Western economists's description of this process.

1932/33 (designated as the "Draft 1st FYP" in this study), which was based on directives issued in December 1927 by the XV Party Congress; these directives called for the enlargement of the socialist sector, for the maximum development of the defense industries, for moderately high growth rates over the long-run, for a "balance" between growth of consumers' goods and producers' goods, etc.<sup>4</sup>

The "optimal variant" of this draft five year plan for 1928/29-1932/33 was adopted in April 1929, and is referred to simply as the "1st FYP" in this study, or as the "approved 1st FYP" in contexts where it could be confused with the "draft 1st FYP".<sup>5</sup> The period, during which the original directives were issued and the draft 1st FYP was being worked on by Gosplan, was precisely the period when the USSR experienced a most severe crisis in foreign trade because of the collapse of grain exports. Furthermore, by the end of 1928, it was also clear that grain exports were not likely to be restored to even the moderate

---

<sup>4</sup> Strumilin-32a, p. 133 and Zaleski-62, p. 52. Three editions of the First Five Year Plan were published. According to Zaleski-62 (p. 52), the second edition published in 1929 was the definitive text. Piatiletanii plan narodno-khoziaistvennogo stroitel'stva SSSR, 2nd edition, Moscow: Gosplan, USSR, 1929, in three volumes.

In 1930 the third edition was published which differed basically in an extra annex added to Volume III describing the various construction projects in the FYP. References to the Five Year Plan in this study (Gosplan-30a) are to the 1st volume of the third edition: Gosplan USSR, Piatiletniiplan narodno-khoziaistvennogo stroitellstva SSSR, tom pervy, tret'e izganie, Moscow: Izd., "Planovoe khoziaistvo" under the auspices of Gosplan SSSR, 1930.

<sup>5</sup> SUYB-30, p. 562.

levels attained during NEP in the coming few years and hence could not be relied upon for a rapid expansion of trade in 1928/29 or 1929/30. It must have been clear to all the planners in Gosplan - who had to cut back output targets for two and possibly three years in succession because of inadequate growth of foreign trade - that Soviet foreign trade had failed to keep pace with the rest of the economy (after its moderate success in 1923/24) in making a full recovery toward pre-1914 levels.<sup>6</sup> As Krzhizhanovskii summarized in his introduction to the control figures of 1929 about the relationship of growth and foreign trade:

The XV Party Congress has emphasized a number of basic disproportions left to us from the past: the "scissors" between prices in industry and in agriculture, between whole and retail prices, and between world and domestic prices; the disproportion between demand for technical raw materials and their actual supply... the "scissors between the dynamics of the growth of industry and of agriculture... has not yet entered its zone of mitigation...

Which disproportions of a new order can be noted by us as resulting from the entrance of the economy into the phase of socialist reconstruction...?

... The general growth of domestic production is not accompanied by a corresponding quantitative growth of foreign trade, a fact which, in turn, depends not only on the lack of coordination between domestic outputs and the needs of the world market, but also on the policy of economic and financial isolation of the USSR due to the continuing capitalist encirclement. A direct expression of this disproportion is represented by our needs in foreign currencies, by our overexpenditure of our currency means, and by shortage of currency savings as necessary reserves for defense purposes and as insurance against economic difficulties...<sup>7</sup>

---

<sup>6</sup> During 1923/24-1927/28 exports grew less than 11% per year.

<sup>7</sup> G.M. Krzhizhanovskii in the introduction to Gosplan-29a as translated in Spulber-64, p. 463. He further noted that: "The data on industry disclose the critical bottlenecks of our economy; the series on the industrial branches working for export reveal our difficulties in the foreign trade area". (Ibid., p. 466).



The more rapid growth of imports during NEP had been achieved only at the cost of the accumulation of volatile short-term costly foreign debt and by reduction of foreign reserves to a dangerously low point by January 1st, 1929.<sup>8</sup> Furthermore, political and economic relations with the USSR's two largest trading partners - Great Britain and Germany - were very unsettled and until the very end of 1928, the Soviet government was uncertain about the renewal of the important credit guarantee and trade agreements by the German government.<sup>9</sup> Thus, we should not be surprised if the Soviet planners did not wish to rely on the expansion of foreign trade as a leading sector in promoting economic growth in the coming five year plan - for all the actual developments in Soviet foreign trade reinforced the natural tendency and ideological bias of the Soviet leadership against staking the future growth of the Soviet economy on the growth of foreign trade with a hostile capitalist world.

---

<sup>8</sup> See section on "Economic Independence" in Chapter II and Chapters X and XII for discussion of trade in 1927/28 and during NEP.

<sup>9</sup> Recall that diplomatic relations were broken off between Great Britain and the USSR in 1st May 1927 as a result of the British police raid on the "Soviet foreign trade delegation" in London (the Arcos incident of May 12). Formal diplomatic relations were not resumed until the fall of 1929 (SUYB-30, pp. 561-563). The diplomatic break disrupted commercial and credit relations although considerable trade (especially Soviet exports) with Great Britain continued.

Dyck-66 (pp. 128-131 and 139-142) discusses the unsettled economic and political relations between Germany and the USSR which were caused by the poor results of the German-Soviet trade and credit agreement and by the Shakhty Trail of the German engineers. A German trade organization was founded of all organizations dealing with the USSR (Dyck-66, p. 146): the USSR viewed that as a monopolistic combination against the USSR and as a threat to new trade.

Central importance of foreign trade  
in fulfillment of 1st FYP

The Soviet planners knew that the developments in the foreign trade sector could have a decisive influence on the fulfillment of the plan. As Gosplan wrote in the draft 1st FYP:

The question of economic relations with the world economy is one which considerably influences the possible speed of the national economic construction according to the minimal or the optimal variant. . .

The whole national economic plan in both variants is based on the necessity of widening the ties with the world economy with, however, the indispensable condition that this widening in the final analysis and in all important stages leads to a systematic strengthening of independence of our country from the leading capitalist countries.<sup>10</sup>

The role of foreign trade in the realization of the 1st FYP is discussed in more detail below.

No published foreign trade plan for draft 1st FYP. As far as can be determined, no comprehensive or aggregate targets for the development of foreign trade during 1928/29-1932/33 were ever published in the "definitive texts" of the draft 1st FYP, although rough estimates of the volume or fraction of exports or imports in domestic supply or output are mentioned for several products.<sup>11</sup> Gosplan noted in the third edition of the 1st FYP (Gosplan-30) that: "Here it is possible to indi-

---

<sup>10</sup> Gosplan-30a, p. 101.

<sup>11</sup> I have not found any reference to the foreign trade plan for the draft FYP in reading Gosplan-30a, nor have I found any references to such a plan in any other sources, such as Zaleski-62, who made a thorough study of the 1st FYP - his references to a five year plan for trade are not from the summary volumes, such as Gosplan-30a, but from journal articles.

cate in only the most general form without numerical illustration the position which both variants of the national economic plan takes with respect to the question of economic relations with the world economy'.<sup>12</sup> The reasons for this public silence about the development of Soviet foreign trade during the five year plan in the summary volumes of the draft 1st FYP can only be surmised. This silence does not mean that the planners and Soviet leaders were indifferent to the development of foreign trade during the FYP - on the contrary, the development of foreign trade during the FYP was probably one of their most important concerns as shall be seen below.

Foreign trade plans for both the "draft 1st FYP" and the "adopted 1st FYP" were drawn up by NKVT and these shall be discussed in detail below. An interesting question is why target figures for such an important sector were not included in the summary volumes. There are two types of reasons. First, no definitive plan existed or at least, no plan existed to which Gosplan wished to commit itself in print, or which they felt they could rely on because of the uncertainties inherent in the foreign sector (harvest, prices, marketing, credits, etc.). Or, second, a definitive plan for foreign trade may have been drawn up or accepted from other sources by Gosplan, but Gosplan or the Soviet leadership may have decided to keep it secret for a number of reasons including a) a desire not to reveal Soviet intentions to foreign competitors about Soviet

---

<sup>12</sup> Gosplan-30a, p. 101. By the third edition, published in 1930, this absence of specific targets may have been the result of the chaotic conditions existing for Soviet trade during late 1929 and 1930.

plans for export expansion in certain markets, b) to have an upper hand in concealing the import needs when purchasing machinery, etc., c) to conceal from the Soviet and foreign public the implications of the foreign trade plan for the balance of domestic supply and demand, d) to remain uncommitted on paper so as to permit deviation from the foreign trade plan without political embarrassment, etc. From statements in both Gosplan-30a ( which was published after the onset of the world depression) and in Gosplan-29a (Control Figures for 1928/29) I feel that the first set of reasons for not publishing a foreign trade plan in either Gosplan-30a or in Gosplan-29a is closer to the actual situation prevailing in 1928 and 1929 - Gosplan was simply not in possession of a foreign trade plan although they had to make some assumptions about the development of imports and they did have some general ideas about the sources of export supply, especially of "industrial exports".<sup>13</sup>

Before turning to the foreign trade plans for the 1st FYP we review briefly the orientation figures for imports for the Perspective Five Year Plan 1927/28 - 1931/32 worked up by VSNKh which was drawn up during 1927, because changes between this plan for 1927/28 - 1931/32 and the foreign trade plan for the draft 1st FYP and the foreign trade plan for the approved 1st FYP are indicative of the deterioration of foreign trade situation between early 1927 and early 1929, and are also indicative of the greater demands being placed on foreign trade by the more ambitious economic plans for the national economy.

---

<sup>13</sup> As explained in the Notes to Table XIII. 9 and the text.

VSNKh's import plan 1927/28 - 1931/32

VSNKh's perspective plan for 1927/28 - 1931/32, which was completed in 1927, projected a steady but relatively slow increase in imports for the for the years 1928/29 - 1931/32 (8% increase per year compounded annually).<sup>14</sup>

## INDEX OF PLANNED IMPORTS

	1927/28	1928/29	1929/30	1930/31	1931/32
Imports (1927/28 = 100)	100.0	106.0	116.8	126.4	136.0

The important unknown is the value of imports in 1927/28 which was used as a base for the above index. Available evidence suggests that the NKVT expected imports to be about 830-860 million rubles (Table T-1).<sup>15</sup> On the basis of this estimate the planned annual growth

---

<sup>14</sup> Chernobaev-29a, p. 20. The compounded growth rate is for the years 1928/29-1931/32 on a base of 1927/28. These import projections were made by VSNKh on the basis of exports and "the needs of the Soviet Union" and were cited by Chernobaev strictly as "orientation, illustrative materials". Chernobaev cited an average growth of 7.2% per year (uncompounded). Growth of imports for the five year period 1927/28-1931/32 which he derived apparently by dividing the total increase of imports in the fifth year as compared to the first year of the five year period by five. This procedure was either incorrect or assumed that imports in 1927/28 were identical to 1926/27 (which was also incorrect). If this latter assumption was actually made, this would imply a 6.5% growth rate of imports (compounded annually). If it was an error, then the expected average annual growth rate for the four years 1928/29-1930/31 was 9% (uncompounded) and 8% (compounded annually).

<sup>15</sup> Two boundary assumptions about the value of 1927/28 trade were that VSNKh assumed that imports in 1927/28 would be equal to 1926/27 imports (713.5 million rubles), and that imports in 1927/28 would be equal to actual 1927/28 imports (945.5 million rubles). With this range of assumptions the range in increase in imports in 1931/32

rate of imports for 1927/28 - 1931/32 was about 9.5 - 10.5%. Projected growth of industrial output for planned industry during 1927/28 - 1931/32 was 12-15% per year and was substantially higher than the increase in imports especially in the years 1928/29 - 1929/30.<sup>16</sup>

Foreign trade and the basic assumptions of the basic and optimal variants of the 1st FYP

The success of both variants of the 1st FYP and especially the successful construction of the giant industrial projects were thought to be - and were in fact - highly dependent on imported equipment and technical aid to build the factories, imported raw materials for existing and new factories, and imported agricultural machinery for the mechanization of agriculture. The planned tempo of investment, industrialization and growth depended strongly on imports because of the temporary structural rigidity of domestic productive capacity which would prevent savings - should they in some sense be "mobilized" - from being converted into the appropriate set of inputs required to carry out the desired pattern of investment. Exports, as a consequence, were given high priority in terms of theory, policy, and even allocation of resources

---

as compared to 1926/27 would be between 36% and 80% (or between 6.5% and 12.5% compounded annually).

<sup>16</sup> Chernovaev-29a, (p. 20). Several variants of the projected five year plan (1927/28-1931/32) for industrial output have been estimated. According to Strumilin-32a, p. 126, an early variant drawn up under the guidance of A. Ginsburg projected an 82% increase in the output of planned industry (12.7% per year compounded growth rate). A later variant for the same period 1927/28-1931/32 drawn under the leadership of V. I. Mezhlank projected an 108% increase (about 16% per year compounded growth rate).

but the importance of exports was based on the pressing demand for imports. As has been repeated in many articles and speeches:

The level of our imports depends on the development of our exports.

Mikoian, Commissar of Trade  
Izvestia, March 24, 1929

Basic assumptions about foreign trade. In the very first pages of the text of the 1st FYP, the basic assumptions about the relationship between the fulfillment of the 1st FYP in its two variants and the development of foreign trade were spelled out clearly:

The difference between the initial and optimal variants - with unity of their economic policies - proceeds along the following lines. The starting variant (referred to as "basic variant" in this study) takes into account:

- (a) the possibility of partial crop failures during the five year period;
- (b) the present-day type of relations with the world economy, approximately (particularly in the sense of the growth of long-term credits - namely, a projected increase at the rate characteristic for recent years);
- (c) a relatively less rapid progress in the realization of high qualitative objectives in economic construction in general and in agriculture in particular;...

The optimal variant, on the contrary, postulates:

- (a) the absence of any even moderately serious crop failure during the five year period;
- (b) a considerably greater scope of economic ties with the world economy by virtue of the presence of greater export resources in the country (complete realization of the decree... concerning crop yields) as well as by virtue of a considerably more rapid growth of long-term foreign credits in the initial years of the Five Year Plan;
- (c) a sharp shift in the qualitative indicators of economic construction during the next two years (production costs, crop yields, etc.).<sup>17</sup>

---

<sup>17</sup> Gosplan-29b (pp. 9-12) as cited in Spulber-64, pp. 476-477. Also in Gosplan-30a, p. 11.

In the introduction Gosplan also wrote that "The construction of the collectivized sector in agriculture has been projected on almost the same scale for both variants, with the greatest possible forcing of this matter in view of its particular importance.<sup>18</sup> As will be seen in the discussion below, the fulfillment of the foreign trade plan - especially in the last three years - was closely tied to the realization of the targets for agriculture, the success of the harvest and the collectivization of agriculture (which at the time of the drafting of the 1st FYP was being planned on a very modest scale - 13.3% of sown area).<sup>19</sup>

The fulfillment of both the basic variant and the optimal variant depended on the growth of foreign trade and the expansion of credits. The major differences between the two variants with respect to foreign trade were the growth of foreign long-term credits, and the performance of agricultural exports in the last three years of the plan. For example, the basic variant assumed that grain exports would be resumed in the third year of the FYP.<sup>20</sup> Furthermore the magnitude of the projected grain exports varied between the two variants.<sup>21</sup>

#### Foreign trade plan for draft FYP 1928/29 - 1932/33

By late 1927/28 NKT had drawn up a draft foreign trade plan to accompany the draft Perspective Five Year Plans being drawn up by

---

<sup>18</sup> Gosplan-29, (pp. 9-12) as cited in Spulber-64, pp. 476-477.

<sup>19</sup> ARCC-31, (p. 50).

<sup>20</sup> Gosplan-29b p. 99.

<sup>21</sup> See below, p. 523.



Gosplan and VSNKh.<sup>22</sup> The export plan was worked up in two variants (basic variant and "optimal" variant) which were almost identical in the first three years and differed largely in the assumptions made about the growth of grain exports and animal-poultry product exports in the last two years (Table XIII. 1).<sup>23</sup> Exports would grow at a compounded rate of 18.5% by the basic variant and 21.5% by the optimal variant; these planned growth rates exceeded the growth rate of exports during NEP, exceeded by a wide margin the historical growth rate of Tsarist Russia trade and exceeded the historical growth of exports in most large of industrialized countries.<sup>24</sup> The two variants were identical during the first three years; the basic difference was the estimate of grain exports in the last two years of the FYP (and to a lesser extent animal-poultry product exports (Table XIII. 2). For example, projected exports of grain and related products in 1932/33 were 3.9 million tons in the basic

---

<sup>22</sup> This section is based primarily on two articles appearing in Voprosy Torgovli, Geller-28a and Kaufman-28f. The foreign trade plan for the 1st FYP (1928/29-1932/33) was perhaps the first draft of a foreign trade plan drawn up specifically for the draft plans of Gosplan and VSNKh for 1928/29-1932/33; it was probably worked up during the summer of 1928, for the complete data or even preliminary estimates of foreign trade for 1927/28 was not yet available and they had to use "expected" figures, which differed from the final figures.

The foreign trade plan worked up to accompany the optimal variant of Gosplan's FYP was significantly different than the plan described in this section. See the next section.

Furthermore, Geller-28a (p. 37) noted that it was difficult to plan foreign trade (exports) without knowing the final targets for development of industry and agriculture. Gosplan probably felt the same way about the incomplete foreign trade plan.

<sup>23</sup> Geller-28a, pp. 40, 47.

<sup>24</sup> Projected compound growth rate of exports based on "expected exports" in 1927/28 (Table XIII. 1) and planned exports in 1932/33.

TABLE XIII. 1

USSR: ORIENTATION ESTIMATES OF EXPORTS IN 1932/33 OF  
DRAFT FYP (BASIC AND OPTIMAL VARIANTS)  
COMPARED WITH EXPORTS OF 1927/28

	1927/28		1932/33 Plan					
	Expected Exports		Basic Variant			"Optimal" Variant		
	millions rubles	% of total exports	millions rubles	% of total exports	1932/33 as % of 1927/28	millions rubles	% of total exports	1932/33 as % of 1927/28
<u>Agricultural Exports</u>								
a. Crops	93.5	12.0	409.3	22.4	437.8	612.0	29.6	654.5
b. Animal and poultry	136.6	17.5	280.7	15.3	205.5	333.1	16.1	243.9
c. Hunting and fishing	130.0	16.6	127.0	7.0	97.7	129.0	6.2	99.2
d. Other products of agricultural	25.4	3.3	68.5	3.8	269.7	53.9	2.6	212.2
Total Agricultural	385.5	49.4	885.5	48.5	229.7	1128.0	54.5	292.6
<u>Industrial Exports</u>								
a. Mining industry	134.5	17.3	353.8	19.4	263.0	353.8	17.1	263.0
b. Timber industry	94.2	12.1	225.3	12.3	239.2	225.3	10.9	239.2
c. Chemical industry	16.8	2.1	69.9	3.8	416.1	69.9	3.4	416.1
d. Food industry	61.5	7.9	125.3	6.9	203.7	125.3	6.1	203.7
e. Textile industry	66.8	8.6	122.5	6.7	183.4	122.5	5.9	183.4
f. Other branches	20.5	2.6	43.6	2.4	212.7	43.6	2.1	212.7
Total industry	394.3	50.6	940.4	51.5	238.5	940.4	45.5	238.5
TOTAL EXPORTS	779.8	100.0	1825.9	100.0	234.1	2068.4	100.0	265.2

Source: Notes to Table XIII.1, Appendix B, p. 770.

TABLE XIII. 2

USSR: ORIENTATION ESTIMATES OF IMPORT REQUIREMENTS  
FOR DRAFT FYP IN 1932/33 COMPARED WITH  
IMPORTS OF 1927/28

	Expected 1927/28		1932/33 Plan		1932/33 % of 1927/28
	millions rubles	%of total imports	millions rubles	%of total imports	
1. Equipment for industry and electrification	200.0	22.4	300.0	20.6	150.0
2. Equipment for trans- port and communal needs	33.5	3.8	125.0	8.6	373.1
3. Raw materials	352.2	39.4	543.0	37.2	154.2
4. Semi-processed materials	84.2	9.4	60.0	4.1	71.3
5. Needs for agriculture	39.4	4.4	84.0	5.8	213.2
Total Producers' Imports	709.3	79.4	1112.0	76.3	156.8
1. Foodstuffs	94.9	10.7	174.0	11.9	183.4
2. Needs for public health	8.9	1.0	9.0	0.7	101.2
3. Cultural goods	9.2	1.0	17.5	1.2	190.2
4. Manufactured consumers' goods	4.9	0.5	50.0	3.4	1020.5
Total Consumers' Imports	117.9	13.2	250.5	17.2	212.5
Other goods	60.0	6.7	60.0	4.1	100.0
Reserves	6.0	0.7	35.0	2.4	583.4
Total Imports	893.1	100.0	1457.5	100.0	163.4

Source: Notes to Table XIII. 3, Appendix B, p. 770.

variant and 6.5 million tons in the optimal variant; average annual exports of grain and related products were 2 million tons during 1923/24 - 1927/28 and 11.3 million tons during 1909-13.<sup>25</sup> Geller and others emphasized that even this modest grain export program (compared to 1909-13) depended on the timely and effective development of kokkhozy and sovkhozy, which in turn required "large financial means" and a large supply of imported and domestic agricultural equipment.<sup>26</sup> Both agricultural exports and industrial exports were to be expanded at the same rate so that Soviet exports would continue to rely more on the export of the so-called industrial exports (about 1/2) than foreign trade of Tsarist Russia (1/4 industrial exports).<sup>27</sup> Economists in NKT emphasized strongly that this was the maximum expansion of industrial exports which could reasonably be expected by the end of the FYP and only one variant of the industrial export component was drawn up.<sup>28</sup> Industrial exports would be limited in the first years of the FYP by insufficient productive capacity, but a large investment program in oil, timber, and other exports industries (more than 2 billion rubles during the FYP was projected by VSNKh) would increase output capacity, especially of the extractive industries, so much so that the barrier to fur-

---

<sup>25</sup> Kaufman-28f, p. 9, and Table III.23.

<sup>26</sup> Geller-28a, p. 40 and p. 46. Kaufman-28f, p. 8.

<sup>27</sup> Tables III.3 and XIII.1.

<sup>28</sup> Geller-28a (p. 38) noted the plans for industrial exports were less uncertain because of greater control over state industry. Agricultural exports would grow slightly faster in the optimal variant.

ther expansion of industrial exports by the end of the FYP would be the limited foreign demand for more Soviet export goods (especially oil, timber, asbestos, manganese).<sup>29</sup> Geller also viewed the world cartels as a barrier to the growth of Soviet exports in oil, timber and a series of less significant Soviet exports.<sup>30</sup> Other potential industrial exports could not be expanded because very rapidly rising domestic demand (chemicals and fertilizers) combined also with limited raw materials from agriculture (vegetable oil, canned goods, starch products, linen cloth).<sup>31</sup> Geller though that these estimates of industrial export possib-

<sup>29</sup> Geller-28a, pp. 46, 47. He cited for oil, the problems of Venezuela oil, dominance of world monopolies, increasing refining of oil within boundaries of consuming nations, prospect of synthetic oil (*Ibid.*, pp. 38-39, 43). Similar problems were cited for timber. The export plan would double the market share of the USSR oil exports in Europe and would take 3/4 of the increase in European consumption of raw timber (*Ibid.*). Foreign market capacity was specifically cited as making unprofitable any more investment in the timber than planned for by the end of the FYP (*Ibid.*). Soviet markets for raw materials were in Western Europe and less in the USA, while the export markets for their manufactured goods (sugar, cloth, canned goods, metal articles) were also limited by the size of the market and the implementation of the "net balance principle" which did not permit running a large export surplus or deficit with the Eastern countries. See Geller-28a, p. 44.

<sup>30</sup> Geller-28a, p. 7. See Mason-46 for a study of world cartels and commodity agreements during the inter-war period. The Soviet government itself participated in several commodity or cartel agreements including lumber, wheat, sugar, watches, platinum, asbestos, oil, electric lamps, phosphates, potash and soda ash (*Ibid.*, p. 14). But the USSR had to purchase many commodities sold by world or regional cartels and I agree with Mason-46 (p. 14) that the USSR's losses from being forced to buy from cartels probably were greater than its gains. These latter cartels, however, existed independent of the USSR.

<sup>31</sup> Geller-28a, pp. 43-44.

ilities by VSNKh might be excessive in view of these factors.<sup>32</sup> According to Geller, agricultural exports would be limited by insufficient exports surpluses and these could not be expanded more rapidly because of the growing demand of the expanding urban population and industrial sector and because of the state's lack of direct control on output and marketing decisions of the peasant.<sup>33</sup> He also pointed out that foreign market demand would limit meat exports and possibly butter exports.<sup>34</sup> Exports would grow slowly in the early years (because of time required for "reconstruction") and the resultant constraint on imports (to maintain a trade surplus) would cause "great tension" in the supply of imported materials and machinery so that the needs of several low-priority industries would not be met.<sup>35</sup> But by 1932/33 the volume of exports would finally exceed average exports for 1909-13 by 14.2% in the basic variant and 30.1% in the optimal variant (with Soviet adjustment for territorial loss).<sup>36</sup> It is important to note that Geller and others thought that there were no other possibilities for further expansion.

---

<sup>32</sup> Geller-28a, p. 44.

<sup>33</sup> Geller-28. He noted that "100's of millions of rubles" were to be spent on butter factories, elevators, flax factories, refrigerated warehouse, bacon factories, etc. (*Ibid.*, p. 46). But this investment merely improved the quality and value - still the basic raw inputs into this investment (and its intensity of use) depended on the peasants' willingness to market and increase output.

<sup>34</sup> Geller-28a, p. 47. We also saw that the market for Russian eggs was limited.

<sup>35</sup> Geller-28a, p. 47.

<sup>36</sup> *Ibid.*, p. 40. Exports in 1932/33 in pre-1914 prices would be 1493.8 million rubles and 1701.1 million rubles in the two variants.

ding exports and that even this export program rested on large-scale investments in the export field and in socialist agriculture. The barriers to further export expansion were world markets and the slow growth of agricultural surplus with rapidly rising domestic demand.<sup>37</sup>

The import plan was drawn up only in one variant and projected a 63.2% increase in imports in 1932/33 over 1927/28 levels (10.3% annual compounded growth rate) (Table XIII.2). The reason for such a low target for planned growth of imports relative to exports was the need to go from a 113.3 million rubles trade "expected deficit" in 1927/28 to a minimum large (368.4 million rubles) trade surplus by 1932/33.<sup>38</sup> Some trade surplus was simply necessary to cover the other current "invisible items" (about 80 million rubles in 1927/28).<sup>39</sup> But the planners wanted also to accumulate reserves of foreign exchange and commodities to permit the trade agencies more flexibility in the sale and purchase of goods in world markets rather than being forced to export at once and buy at the last minute.<sup>40</sup> The planned trade surpluses and complete satisfaction of import needs" in 1932/33, however, concealed the great strain in the foreign trade plan in the early years. In addition

---

<sup>37</sup> Geller-28a. This theme runs through his article. '

<sup>38</sup> Geller-28a, p. 45. Presumably if the optimal export plan was realized, they would also expand imports, but no extra variant was worked up.

<sup>39</sup> Table T-14.

<sup>40</sup> Geller-28a, p. 45. See also Ianovski-29a, p. 50.

to the rapid expansion of imports, considerable import-substitution was also planned as a means of reducing the tension in the foreign trade sector and to make the economy more independent of the world economy in its most important branches and Geller pointed out that the success in the "foreign trade plan" depended also on the large investment plan for cotton irrigation, non-ferrous metals, and machine-building.<sup>41</sup> The target shares of imports in 1932/33 compared to 1927/28 and 1913 are presented in Table XIV.3. Imports of raw materials would continue to rise but at a less rapid rate than the consumption of raw materials, so that the share would fall. In 1927/28 the demand for imported raw materials (especially cotton, wool, leather) was unfulfilled, and despite efforts to increase domestic output by the end of the FYP, increases in both imports and domestic production would be needed to satisfy all domestic needs fully. Similarly with machinery and agricultural equipment. Only imports of semiprocessed materials (paper, chemicals) would fall absolutely as well as relatively.<sup>42</sup> Geller noted the large deficit in the machinery supply needed for carrying out VSNKh's investment plan for industry in the early years and he doubted that exports could be expanded rapidly enough in the early years to permit the rapid expansion of machinery imports required to carry out the plan.<sup>43</sup> As an

---

<sup>41</sup> Geller-28a, p. 46.

<sup>42</sup> Paper imports would be ended by the end of the FYP and the imports of dyes and semi-processed materials would be reduced because of increased domestic output (Geller-28a, p. 42).

<sup>43</sup> Geller-28a, p. 48.



TABLE XIII. 3

USSR: PLANNED IMPORT SUBSTITUTION IN DRAFT VARIANT AND OPTIMAL VARIANT  
OF FYP 1913, 1927/28, 1932/33 - PLAN 1932, 1933

	Variant	Actual		Plan 1932/33	Actual	
		1913 (Russia)	1927/28		1932	1933
<u>Copper</u> (1000 m. t.)						
1. domestic output	draft		31.0	72.0	42.8	42.0
2. imports	draft		22.1	26.1	4.9	7.9
3. imports % supply	draft	15	42.2%	26.6%	25.8	15.7
4. domestic output	opt. var.	32.8	28.5	84.7		42.0
5. imports (ingot, rolled)	opt. var.	7.3	27.8	55.8		7.9
6. total supply	opt. var.	40.1	56.3	143.5	57.7	49.9
7. imports % supply	opt. var.	18.2%	49.3%	41.0%	25.8%	15.7%
<u>Zinc</u> (1000 m. t.)						
8. output	draft		7.2	61.3	13.6	16.6
9. imports % supply	draft		86.9	14.3	43.7	25.9
10. domestic output		19.4	2.3	77.4	13.6	16.6
11. imports (slab, rolled)		28.2	31.0	19.9	10.6	5.8
12. total supply		47.6	33.3	97.3	24.3	22.4
13. imports % supply		59.3%	93.2%	20.5%	43.7%	25.9%
<u>Lead</u> (1000 m. t.)						
14. domestic output		1.5	2.3	38.5	18.7	13.7
15. imports		58.1	49.3	60.5	33.8	16.4
16. total supply		59.6	51.7	99.0	52.5	30.0
17. imports % of supply		97.4%	95.5%	61.0%	64.3%	54.6%

TABLE XIII. 3 (continued)

	Variant	Actual		Plan 1932/33	Actual	
		1913 (Russia)	1927/28		1932	1933
<u>Aluminum (1000 m. t.)</u>						
18. domestic output		0.0	0.0	5.0	0.9	4.4
19. imports		1.8	5.8	5.7	10.6	12.8
20. total supply		1.8	5.8	10.7	11.5	17.2
21. imports % of supply		100.0%	100.0%	53.3%	92.2%	74.4%
<u>Nickel</u>						
22. imports % supply	opt. var.	100.0%	100.0%	44.0%	100.0%	100.0%
<u>Cotton</u>						
23. domestic output	opt. var.	239.0	209.0	606.0	386.3	394.8
24. imports	opt. var.	197.0	145.0	78.7	21.0	10.5
25. total supply	opt. var.	436.0	354.0	684.7	407.3	405.3
26. imports % of supply	opt. var.	45.2%	41.0%	19.5%	5.2%	2.6%
imports % of supply	draft	36.4%	42.3%	24.8%	5.2%	2.6%
<u>Fine Wool</u>						
27. imports % planned supply	draft	47.5	88.3%	slightly less		
<u>Wool</u>						
28. imports % planned supply	opt. var.		43.9	36.1		
<u>Leather</u>						
29. imports % consumption	draft	10.0%	11.2%	higher		

TABLE XIII. 3 (continued)

	Variant	Actual		Plan 1932/33	Actual	
		1913 (Russia)	1927/28		1932	1933
<u>Industrial Machinery</u>						
30. imports % of supply	opt. var.	50%	27.2%	21.8%		
<u>Agricultural Machinery</u>						
31. imports % of supply	opt. var.		9.6%	7.6%		
<u>Tractors</u>						
32. imports % supply	opt. var.	100.0%	67.5%	21.0%	0.0%	0.0%

Source: Notes to Table XIII. 3, Appendix B, p. 771.

indication of the problem, he presented the following rough estimates of the supply and demand for equipment for industry and electrification.

PROJECTED MACHINERY BALANCE 1926/27 - 1932/33

(millions of rubles)

<u>26/27</u>	<u>27/28</u>	<u>28/29</u>	<u>29/30</u>	<u>30/31</u>	<u>31/32</u>	<u>32/33</u>
<u>Total Capital Expenditure in Industry and Electrification (VSNKh data)</u>						
1154.0	1578.8	1943.6	2654.6	2861.6	2867.4	2665.1
<u>Required Expenditure on Equipment (40% of total cost of construction)</u>						
461.6	631.5	777.4	1061.8	1144.6	1147.0	1066.0
<u>Domestic Output of Equipment (VSNKh data) (in prices of respective year)</u>						
356.6	443.6	518.3	569.8	603.8	651.0	752.0
<u>Deficit of Equipment (Supplied by Imports?)</u>						
105.6	187.9	269.1	498.1	540.8	496.0	314.0

Presumably the deficit was to be covered by imported equipment. Geller had similar doubts about the combined ability of imports and domestic output to provide sufficient tractors and fertilizer for agriculture in the early years to permit the mechanization and intensification of agriculture required to expand exports in later years, for the new domestic factories would produce only toward the end of the FYP, and import resources were inadequate in the short-run to permit much expansion of imports for agricultural producers.<sup>45</sup> Thus, the inadequate supply of

machinery from domestic output and inputs was looked at as a barrier to implementing the investment plans - as in the traditional investment-goods growth models. Nobody mentioned that one might actually cut back the imports of raw materials for light industry and thereby "force" consumers to save (not consume) so as to permit the necessary machinery imports in the short-run. Instead they alluded to the great strain in the foreign trade plan and in the short supply of imports in the early years of the FYP. In some sense the FYP could be interpreted as an effort to break out of the tightening bands of import shortages which increasingly threatened to slow the growth of the economy to a snail's pace by the end of NEP.'

The final foreign trade plan for the approved version of the 1st FYP.

In April 1929, the optimal version of the draft 1st FYP was approved and made official. About the same time NKT published a series of articles in various journals (fairly obscure journals for the most part) about the foreign trade plan drawn up to accompany the approved optimal version of the FYP.<sup>46</sup> These foreign trade plans are largely unknown in the West and largely undiscussed in the USSR - especially when discussing the fulfillment of the 1st FYP.<sup>47</sup> NKT's foreign

---

<sup>44</sup> Geller-28a, p. 48. Domestic machinery prices were higher substantially higher than prices of imported machinery.

<sup>45</sup> Geller-28a, p. 48.

<sup>46</sup> The May, 1929 issue of Voprosy Torgovli contain numerous articles, which have been summarized in Gosplan-30b, pp. 196-216.

<sup>47</sup> The only study on the foreign trade plans of the 1st FYP is

trade plan was drawn up by the Torgplan section of NKT; contrary to the basic assumptions about the more rapid growth of long-term credits assumed in the optimal variant of the FYP, NKT's final foreign trade plan assumed no growth in foreign credits.<sup>48</sup> Kaufman justified Torgplan's assumption because "it would be incorrect to include in the projection of the Five Year Plan an increase of foreign credits. It is more correct and more probable to consider only our own resources."<sup>49</sup>

#### NKT's foreign trade plan

NKT's final foreign trade plan for the 1st FYP (1928/29 - 1932/33) reflected the actual developments of foreign trade in 1927/28 and the expected pressures on the balance of payments in the first two years of the 1st FYP. In 1927/28 the value of exports stagnated at 1926/27 levels, (actually declined slightly in volume) while the value of imports rose sharply causing a huge trade deficit and catastrophic depletion of foreign reserves.

Differences between the final foreign trade plan and the draft foreign trade plan. The final version of the foreign trade plan for the adopted 1st FYP (optimal variant of Gosplan's Draft FYP) was worked up in a single variant which differed significantly from either variant of

---

Zaleski-62, pp. 102-104, 142-45, and 246-50. Bettelheim-40 discusses more general problems of planning foreign trade and its relationship to industrialization, but does not treat foreign trade plans for the 1st FYP in detail. Gosplan-33a does not mention the foreign trade sector in discussing the fulfillment of the 1st FYP.

<sup>48</sup> Kaufman-29a, p. 93.

<sup>49</sup> Ibid.

TABLE XIII. 4

## USSR: FOREIGN TRADE PLAN FOR VALUE OF EXPORTS AND IMPORTS DURING 1st FYP

(millions of rubles in current prices)

	Russia Annual Average 1909-13	Actual 1926/27	Actual 1927/28	Plan 1928/29	Plan 1929/30	Plan 1930/31	Plan 1931/32	Plan 1932/33	Totals Planned for FYP
<u>Total Export</u>	1487.1	779.4	781.8	910.0	1078.4	1272.2	1662.6	2047.5	6971.7
Agricultural	1127.3	448.5	364.9	386.8	423.7	497.4	776.6	1033.0	3117.5
Industrial	359.8	330.7	416.9	523.5	654.3	774.6	886.4	1014.5	3853.3
<u>Total Imports</u>	1139.0	712.7	944.7	754.8	950.0	1220.0	1550.0	1705.0	6179.8
Producers' goods	646.8	626.2	796.2	-	-	-	-	1273.0	4823.0
Consumers' goods	(493.0)	80.8	142.3	-	-	-	-	282.0	925.0
<u>Machinery</u>	(126.8)	152.3	256.0	158.0	240.5	350.0	510.1	525.5	1784.0
<u>Raw Materials</u>	(291.7)	328.0	384.0	296.5	399.5	400.0	482.1	523.3	2046.4
<u>All other goods</u>	(720.5)	231.7	304.6	300.3	365.0	470.0	557.8	657.0	2349.0
(Including) semi-processed	(138 )	101.9	117.1	-	-	-	-	60.0	370
fuels	( 50 )	5.6	0.6	-	-	-	-	-	-
agri. prod. gds	( 91 )	37.8	39.0	-	-	-	-	165.0	622
consumers' gds	(493 )	80.8	142.3	-	-	-	-	282.0	925
"other"	-	-	-	-	-	-	-	150.0	430
<u>Balance of Trade</u>	348.1	66.7	-162.9	155.2	128.4	52.2	112.6	342.5	791.9

Source: Notes to Table XIII. 4, Appendix B, p. 773.

TABLE XIII. 5

USSR: INDEX OF FOREIGN TRADE PLANNED FOR 1st FYP AND BASED ON THE VALUE OF EXPORTS AND IMPORTS IN CURRENT PRICES, 1927/28 = 100

(based on values in current prices)

	1913 - Russia		Actual 1926/27	Actual 1927/28	Plan 1928/29	Plan 1929/30	Plan 1930/31	Plan 1931/32	Plan 1932/33
	Current prices	1927/28 prices							
<u>Total Export</u>	192.6	312.3	99.7	100.0	116.4	137.9	162.7	212.7	261.9
Agricultural	277.9	-	122.9	100.0	106.0	116.1	136.3	212.8	283.1
Industrial	92.8	-	79.3	100.0	125.6	156.9	185.8	212.6	293.3
<u>Total Imports</u>	145.4	169.5	75.4	100.0	79.9	100.6	121.1	164.0	180.5
Producers	(111.1)	-	78.6	100.0	-	-	-	-	159.9
Consumers	(275.5)	-	56.8	100.0	-	-	-	-	198.2
<u>Machinery</u>	67.3	-	59.7	100.0	61.7	93.9	136.7	199.3	205.3
<u>Raw Materials</u>	89.3	-	85.4	100.0	77.2	89.7	104.2	125.5	136.3
<u>All other goods</u>	281.4	-	76.1	100.0	98.6	119.8	154.3	183.1	215.7
(inclndg) semi-processed	(181.4)	-	87.0	100.0	-	-	-	-	51.2
agr. prod. gds	(167.4)	-	96.9	100.0	-	-	-	-	423.1
consumers	(274.5)	-	56.8	100.0	-	-	-	-	198.2

Source: Notes to Table XIII. 5, Appendix B, p. 775.



TABLE XIII. 6

USSR: ANNUAL GROWTH RATES OF FOREIGN TRADE DURING NEP  
AND PLANNED FOR 1st FYP

(based on values in current prices)

	Average Annual Growth Rate		% Increment over Preceding Year						av. annual growth rate for FYP
	Russia 1900-1913	1923/24-1927/28	Actual 1927/28	Plan 1928/29	Plan 1929/30	Plan 1930/31	Plan 1931/32	Plan 1932/33	
<u>Total Export</u>	5.9%	10.5%	0.3%	16.4%	18.5%	18.0%	30.7%	23.1%	21.1%
Agricultural	-	-	-18.4%	6.0%	9.5%	17.4%	56.1%	33.0%	23.1%
Industrial	-	-	+26.1%	25.6%	24.9%	18.4%	14.4%	14.4	19.5%
<u>Total Imports</u>	6.1%	21.1%	32.6%	-20.1%	25.9%	28.4%	27.0%	10.0%	12.5%
Producers	-	-	27.2%	-	-	-	-	-	9.8%
Consumers	-	-	76.1%	-	-	-	-	-	14.7%
<u>Machinery</u>	-	-	67.5%	-39.3%	52.2%	45.6	45.8	3.0	15.5%
<u>Raw Materials</u>	-	-	17.9%	-22.8%	16.2%	16.2%	20.4	8.6	6.5%
<u>All other goods</u>	-	-	31.4%	- 1.4%	21.5%	28.8	18.6	17.8	16.6%
(incl'd) semi-processed	-	-	14.9%	-	-	-	-	-	-12.5%
agr. prod. gds	-	-	3.2%	-	-	-	-	-	33.5%
consumers	-	-	76.1%	-	-	-	-	-	14.7%

Source: Notes to Table XIII. 6, Appendix B, p. 776.

TABLE XIII. 7

USSR: STRUCTURE OF FOREIGN TRADE DURING NEP AND PLANNED  
STRUCTURE DURING THE 1st FYP

(based on values in current prices)

D. Structure of Exports: % of Total Exports									
	Average <sup>a</sup> 1909-13	Actual 1926/27	Actual 1927/28	Plan 1928/29	Plan 1929/30	Plan 1930/31	Plan 1931/32	Plan 1932/33	Plan FYP
<u>Total Exports</u>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
A. Agricultural	75.8	57.5	46.6	42.5	39.3	39.1	46.7	50.5	44.7
B. Industrial	24.2	42.4	53.3	57.5	60.7	60.9	53.3	49.5	55.3
E. Structure of Imports: % of Total Imports									
<u>Total Imports</u>	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
A. Machinery	11.1	21.4	27.1	20.9	25.3	28.7	32.9	30.8	28.9
B. Raw Materials	25.6	46.0	40.6	39.3	36.3	32.8	31.1	30.7	33.1
C. Other	63.3	32.5	32.2	39.8	38.4	38.5	36.0	38.5	38.0

Source: Notes to Table XIII. 7, Appendix B, p. 776.

<sup>a</sup>Russia.

TABLE XIII. 8

USSR: PROJECTED ANNUAL GRAIN EXPORTS FOR FIRST FYP  
AND THEIR EFFECT ON THE TOTAL FOREIGN TRADE PLAN

(millions of rubles)

Foreign Trade Plan Including Grain Exports							
	Actual 1927/28	Plan 1928/29	Plan 1929/30	Plan 1930/31	Plan 1931/32	Plan 1932/33	Plan FYP
1. Total Exports	781.8	910	1078	1272	1663	2048	6971
2. Agricultural	364.9	387	424	497	777	1033	3118
3. Grain (estimate)	59.0	( 0)	( 0)	( 74)	(295)	(440)	809
4. Industrial	416.9	524	654	775	886	1015	3853
5. Total Imports	944.7	755	951	1221	1551	1706	6179
6. Balance of Trade	-162.9	+155	+127	+51	+112	+342	+792
Foreign Trade Plan Excluding Grain Exports							
7. Total Exports (excluding grain)	722.8	910	1078	1207	1367	1608	6162
8. Agricultural (excluding grain)	305.9	387	424	423	481	593	2309
9. Industrial	416.9	524	645	775	886	1015	3853
10. Total Imports	944.9	755	951	1221	1551	1706	6179
11. Balance of Trade (excluding grain exports)	-222.1	+155	+127	-14	-184	-98	-17

Source: Notes to Table XIII. 8, Appendix B, p. 776.

TABLE XIII. 9

USSR: NKVT's EXPORT PLAN FOR FIRST FYP AND FOR 1932/33 COMPARED TO 1927/28

(millions rubles, current prices)

	Actual 1913	Actual 1926/27	Actual 1927/28 <sup>(a)</sup>		Plan 1932/33			Entire FYP
			Value	% Total Exports	Value	% Total Exports	Index 1927/28=100	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Exports	1505.9	779.4	(774.4)	100.0	2047.0	100.0	264.6	6971.7
A. <u>Agricultural Exports</u>	1014.2	448.5	382.3	49.4	1033.0	50.5	270.2	3117.5
1. <u>Major crops</u>	(697.2)	(237.1)	95.3	12.3	543.5	26.6	570.3	-
a. grains <sup>(b)</sup>	(595.9)	(208.1)	52.5	6.8	440.0	21.5	837.5	809.0
(inc. oil seed)								
b. flax	94.2	20.8	24.2	3.1	66.5	3.2	274.8	-
c. hemp & oakum*	23.7	1.9	3.7	0.5	8.0	c 0.4	218.0	-
d. tobacco*	6.6	4.4	4.9	0.6	12.0	0.6	247.4	-
e. medicinal herbs*	6.6	4.4	4.7	0.6	11.0	0.5	236.6	-
f. seeds: non-oil*	6.6	4.4	5.4	0.7	6.0	0.3	110.7	-
2. <u>Animal &amp; poultry</u>			135.2	17.5	319.5	13.6	236.3	
a. butter	167.4 { 71.6	68.0 { 34.2	94.0 { 39.2	12.1 { 5.1	242.2 { 5.1	11.8 { 5.1	257.7 { 5.1	
b. eggs	90.7	29.0	45.2	5.8				
c. bacon	5.1	4.8	9.6	1.2				
d. poultry, killed*			9.7	1.3	18.0	.9	185.6	-
e. guts (sausage casing)*			10.7	1.4	19.0	.9	177.6	-
f. horsehair*	13.1	2.3	2.4	.3	2.5	.1	104.2	-
g. bristles*	8.9	6.7	6.6	.9	11.0	.5	166.7	-
h. rawhide	47.7	5.7	4.5	.6	10.0	.5	222.2	-

TABLE XIII. 9 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2. (continued)								
i. feathers & down*			2.3	.3	5.0	.2	217.4	-
j. cocoons*			1.7	.2	4.0	.2	235.3	-
k. other animal prod.			3.3	.4	es. 7.8	.3	236.4	-
3. <u>Fur &amp; fish</u>	15.1	96.3	132.2	17.1	130.0	6.4	98.3	-
a. fur	6.5	86.1	119.3	15.4	110.0	5.4	92.2	-
b. fish (excluding canned <sup>(d)</sup> )	8.6	10.2	13.7	1.8	20.0	1.0	146.0	-
4. <u>Other</u> *			19.6	2.5	40.0	2.0	204.0	-
B. <u>Industrial Exports</u> <sup>(e)</sup>	(484.2)	(336.7)	391.6	50.6	1014.5	49.6	259.0	3853.3
1. <u>Forest &amp; mining</u>	241.2	207.1	230.5	29.8	678.4	33.1	294.3	-
a. lumber	166.0	80.4	94.1	12.1	631.9	30.9	296.7	2258.8
b. oil products	50.4	89.4	106.7	13.7				
c. manganese ore	14.5	24.1	13.8	1.7				
d. other mining**			17.0	2.2				
2. <u>Food processing     industry</u>	27.6	31.2	48.7	6.3	99.6	4.9	204.5	-
a. sugar			34.2	4.4	33.8	1.7	98.8	-
b. oil seed pressing industry				.7	24.3	1.2		
c. canned goods (fish)			2.0	.0	24.0	1.2		
d. other foods - processed			7.2	.9	16.6	.8	230.5	

TABLE XIII. 9 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
3. <u>Other industry</u>			112.4	14.5	236.5	11.5	210.4	-
a. chemical industry**			21.4	2.8	76.5	3.7	357.5	-
b. textile			63.3	8.2	114.5	5.6	180.8	-
i. cotton cloth	4.39	20.9	49.8	6.4	74.0	3.6	148.6	-
ii. other textiles (flax, etc.)**			13.5	1.7	40.5	2.0	300.0	-
c. other industries (n. e. s.)**			28.2	3.6	45.5	2.2	161.3	-

Source: Notes to Table XIII. 9, Appendix B, p. 778.

TABLE XIII. 10

USSR: NKT's IMPORT PLAN FOR THE FYP (1928/29 - 1932/33)

(millions of rubles, current prices)

	Actual				Plan 1932/33			Value FYP
	1913	1926/27	1927/28 value	%of total imports	value	% of total imports	1927/28 = 100	
Total Imports	1374.0	712.7	945.5	100.0	1705.0	100.0	180.0	6971
A. Producers' goods <sup>a</sup>	884.4	626.2	796.1	84.3	1273.0	74.7	159.9	4823
1. Machinery for industry and transport	172.4	152.8	255.8	27.1	525.0	30.8	205.1	1784
2. Raw materials	343.1	328.1	383.6	40.6	523.0	30.7	136.2	2047
3. Semi-processed goods	212.4	101.9	117.1	12.4	60.0	3.5	51.3	370
4. Import for agri- cultural purposes	65.3	37.8	39.0	4.1	165.0	9.6	431.1	622
B. Consumer Goods	392.0	80.8	142.9	15.1	282.0	16.5	197.2	925
1. Goods for general consumption	392.0	80.8	120.0	12.7	250.0	14.6	208.3	814
2. Hygienic & medical	392.0	80.8	10.5	1.1	12.0	0.7	114.3	45
3. Cultural	392.0	80.8	12.5	1.3	20.0	1.2	160.0	66
C. Diverse Commodities	91.6	5.7	5.6	0.6	150.0	8.8	--	430

<sup>a</sup>See Appendix A, Technical Note 4 for description of goods included in each category.

Source: Notes to Table XIII. 10, Appendix B, p. 781.

TABLE XIII. 11

COMPARISON OF FOREIGN TRADE PLAN AND BASIC INDICATORS  
OF THE OPTIMAL VARIANT OF THE FYP

1927/28 = 100

	1927/28	1932/33 - Plan
Total Exports	100	265
Agricultural	100	270
Industrial	100	259
Total Imports	100	180
Machinery	100	205
Raw materials	100	136
Consumer, agricultural, other	100	215
National Income		
1926/27 prices	100	203
Current prices	100	175
Gross Industrial Output - All Industries		
1926/27 prices	100	232
Current prices	100	182
Gross Output of "A" Industry		
1926/27 prices	100	302
Current prices	100	214
Gross Output of "B" Industry		
1926/27 prices	100	204
Current prices	100	166
Agricultural Output		
Pre-war prices	100	154

Source: Notes to Table XIII. 11, Appendix B, p. 781.



the draft export plan and from the draft import plan drawn up in mid-1928. The foreign trade plan projected a 165% increase in exports, an 80% increase in imports during the five year period. The target for total exports of 1932/33 in the final foreign trade plan was only slightly below the total export target of the optimal variant of the draft export plan (in value terms, but not in percentage growth).<sup>50</sup> But the final plan was less optimistic about the prospects of crop (grain and flax) and animal-poultry exports in 1932/33 than the draft optimal export plan, for the grain marketing crisis repeated itself in the latter half of 1927/28. Instead, the final export plan emphasized mining and timber exports more than the draft optimal export plan. That is, the final export plan shifted its structure even more toward state-controlled industrial exports and away from reliance on peasant agriculture.<sup>51</sup>

The final import plan for 1932/33 of 1705 million rubles was significantly higher (17%) than the draft import plan for 1932/33 of 1458 million rubles for the FYP and again called for increased imports of virtually every class of imports except semi-processed materials. The bulk of the increase in import targets was for equipment imports (from 425 million in draft import plan to 525 million in final import plan) and to imports of producers' goods for agriculture (from 84 to 165 million rubles). The projected trade surplus for 1932/33 was slightly lower in the final plan, but a larger sum was allocated to "reserves" (presumably for emergency imports or possibly for military or defense

---

<sup>50</sup> Compare Table XIII. 1 and XIII. 10.

<sup>51</sup> Ibid.

needs). Did the pressure for higher import plans force the planners to opt for the higher variant of the export plan even though the outlook for agricultural exports deteriorated during the winter of 1928/29?

Tension in the foreign trade sector during first two years. The projected distribution of exports and imports during the 1st FYP is interesting.<sup>52</sup>

#### FOREIGN TRADE PLAN FOR 1st FYP (1928/29 - 1932/33)

Index, 1927/28 = 100 (current prices)

	<u>1927/28</u>	<u>1928/29</u>	<u>1929/30</u>	<u>1930/31</u>	<u>1931/32</u>	<u>1932/33</u>
Export	100	116	138	163	213	262
Import	100	80	101	129	164	180

Percentage increase over preceding year

Export	(-).6	17.6	18.5	18.0	30.8	23.5
Imports	32.5	(-)20.0	25.9	28.4	27.0	10.0

Exports were projected to grow at 18% per year during the first three years (1928/29 - 1930/31) largely on the basis of increased industrial product exports; the projected growth in exports during the last two years was to be raised to 30.8% and 23.5% and was to be based almost entirely on expanded exports of grain which would be made possible through the development of collective farms.<sup>53</sup> As Gosplan noted:

---

<sup>52</sup> Tables XIII. 5 and XIII. 6.

<sup>53</sup> See Tables XIII. 4-6 and XIII. 8. Table XIII. 8 illustrates the great importance of grain exports for fulfillment of the foreign trade plan for the entire FYP.

... The development of state and collective farms will be of particular importance in its effects upon the export trade. The extension of the socialized sector will bring about an increase in the relative amount of the marketable portion of agricultural output, and this will not only result in making available for export additional grain supplies from the socialized sector, but will also furnish a firmer and more reliable basis for the realization of the export program.<sup>54</sup>

Exports would be expanded more rapidly than total gross output, and industrial exports would be expanded more rapidly than gross industrial output, but agricultural exports would be expanded less rapidly than gross agricultural output in the early years and much more rapidly than gross agricultural output in the later years.<sup>55</sup>

The projected growth of imports was much lower than the projected growth of exports and was also lower than the projected growth of industrial output and investment.<sup>56</sup> The total projected increase in imports for the five years compounded annually (as compared to a 21% annual growth rate for exports). The restraint in the projected growth of imports was due almost entirely to the balance of payments constraint and the restricted growth of imports increased the tautness in the plan, especially in the first years. As Kaufman, a planner of foreign trade for NKT noted:

The first two years of the projected five year plan of foreign trade are the most strained, and to a certain degree places a limit on the development of industrial and agricultural output. Therefore, in these two years special effort in the field of foreign trade is required to assure the plan tempo of the development of industry and also partially agriculture... the third year is less strained.<sup>57</sup>

---

<sup>54</sup> Gosplan-30b, p. 199.

<sup>55</sup> Table XIII. 11.

<sup>56</sup> Tables XIII. 11 and XIII. 4.

Imports were to be reduced 20% in the first year of the plan, restored to 1927/28 levels in 1929/30 and increased 28% in the third year of the plan so that the annual growth rate of imports during the first three years of the plan would be about 9% per year. Imports were to be expanded 27% in the fourth year and only 10% in the last year of the 1st FYP: this decline in the growth rate of imports in the last year would be due largely to a sharp cutback in the expansion of machinery imports which would be possible because of the new machine-building factories (Table XIII.6). The foreign trade plan projected a trade surplus for each year of the FYP. This trade surplus, especially in the early years of the FYP, was not evidence against the notion that the foreign trade plan was "strained" during the early years. Just the opposite. It was the need to force a trade surplus because of balance of payments pressures that forced the reduction in imports the forcing of exports and the general strain in the first two years. These balance of payments pressures included repayment of some credits, the growing interest payments on the outstanding foreign debt, the projected increase in expenditures on technical assistance from engineering firms and skilled foreign personnel, and the previous general level of expenditures on the invisibles trade items and the need to restore somewhat their depleted foreign reserve holdings (Tables T-14 and T-16).

The most important conclusion here is that only a moderate increase in imports would be possible even if the optimistic export plan

was realized because of the balance of payments constraints. It was always emphasized that the plan targets for investment and imports could be raised if a large flow of foreign capital became available.<sup>58</sup>

#### Equilibrium in the 1st FYP and import substitution

The different planned trends of machinery imports and raw material imports for the 1st FYP reflect the planned trends of investment (using machinery) and light industry (chief consumer of raw and semi-processed materials). Comparing the growth of the main users of machinery (investment) and the major consumer of raw materials and semi-processed materials (light industry and also heavy industry), we see that considerable "import substitution" would be necessary to realize the plan targets even though exports (and imports) would grow rapidly during the FYP:<sup>59</sup>

	<u>1927/28</u>	<u>1932/33</u>
Imports of machinery	100	205
Investment in basic capital at 1926/27 prices	100	321
Imports of materials	100	136
Gross output of "B" industry in 1926/27 prices	100	204

The general expansion of investment and other import-consuming activities and especially light industry (or so-called import-dependent activities) at a higher growth rate than the maximum feasible

---

<sup>58</sup> Gosplan-30b, p. 225.

<sup>59</sup> Table XIII. 5 and Gosplan-30b, p. 229.

growth of imports would require not only an expansion of import-substitute industries in general but an overall expansion of import substitute industries at a faster rate than the growth rate of imports. That is, the particular set of output and investment targets selected for the 1st FYP could be made internally consistent at all (from the viewpoint of materials and machinery alone) only if rapid expansion of import-substitute industries were undertaken. It was not a question of import-substitution versus no import-substitution or export-expansion versus no export expansion at the tempo planned for the FYP, but rather it was a question of the most effective area of import-substitution and export-expansion.

The table below indicates the general trends of import-substitution which were to occur by the end of the 1st FYP:

PLANNED IMPORT SUBSTITUTION IN THE FYP: 1932/33<sup>60</sup>

- I. Not Mentioned: High import-supply ratio not likely to fall.
 

A. rubber	C. some ferrous alloys
B. tin	D. coffee, cocoa, citrus fruits
  
- II. No or Little Planned Relative Import Substitution. Imports increase relatively faster than output.
 

A. rawhides (a)	C. aluminum ? (b)
B. nickel ? (b)	
  
- III. Relative Import Substitution (accompanied by rising imports)
 

A. wool (slight) (b)	E. copper, lead, zinc (b)
B. industrial machinery (b)	F. some ferrous alloys (a)
C. agricultural machinery (b)	G. tea, rice, herring (c)
D. tractors (b)	H. fertilizers ? (d)

---

<sup>60</sup>

Source:

(a) Gosplan-306. (c) SUA, VIII, no. 13 (1929), p. 34.  
 (b) Table XIII. 3. (d) Kaufman-29b, p. 19.

- IV. Absolute Import Substitution: Decline in imports
  - A. cotton (b)
  - B. chemicals (especially dyestuffs and tanning material) (e)
- V. Elimination of Imports by End of FYP
  - A. paper (e)
  - B. yarn (e)

Table XIII. 3 presents import-supply ratio targets for 1932/33 for several goods.

Import substitution in the Soviet economic plans and the Tsarist economy

The Soviet five year economic plans developed in 1927 and 1928 continued the major trends of import-substitution, which were developing in the Tsarist economy in the three decades before the war. Particularly conspicuous similarities between Soviet and Tsarist policies for import substitution occurred in the fields of cotton fiber, copper and other non-ferrous metals, paper, chemicals, and agricultural, electrical, and transport equipment and in the trend of producing increasingly complex equipment in these fields.<sup>61</sup> And these Soviet policies were adopted long before the adoption of the 1st FYP.

The heavy emphasis on ferrous metals is also continued a trend from the Tsarist economy. It should be emphasized that in the 1913 Tsarist economy a large domestic ferrous metallurgy almost entirely satisfied the internal ferrous metal requirements of a substantial machinery industry, the expanding railroad network and for domestic construction. Moreover it was among the most rapidly expanding industries in Tsarist Russia from 1880 to 1913.

---

(e) SUA, VIII, no. 13 (1929), p. 13.

Heavy industry grew as fast or faster than light industry in the Tsarist economy in the forty years before World War I, as well as in the Soviet economy.<sup>62</sup> But now as the Soviets pushed for the expansion of their investment goods industry to make up for the reduction in machinery exports caused by the poor development of foreign trade during NEP and to provide the additional investment goods to boost the investment levels to higher growth rates and shares of national income, the Soviet economy would also have to press for a rapid expansion in the ferrous metals production because of the obvious backward linkages of the Hirschman-type between machine-building and ferrous metal production.<sup>63</sup> For otherwise, they would have to import increasing quantities of ferrous metals (unlike their Tsarist predecessors) and the foreign exchange savings and economic independence achieved in the investment goods field would be lessened by this increasing reliance on imported iron and steel. The pressure on Soviet iron and steel output capacity was sorely felt in 1927/28, when the shortage of ferrous metals prevented the fulfillment of output and construction plans and led to small emergency imports of ferrous metals.<sup>64</sup> As the Soviets were to discover in the 1st FYP, the failure of pig iron and steel output to expand according to plan was to cost them hundreds of millions of rubles for

---

<sup>61</sup> See Chapter III, p. 136.

<sup>62</sup> Goldsmith-61, pp. 459-462.

<sup>63</sup> Table T-25, Volume of Machinery Imports. Even in 1927/28 when massive machinery imports occurred on the basis of credit and gold shipments, the volume was 25-40% below 1913 levels.

<sup>64</sup> Gosplan-29a, see below, Chapter XIV, p. 571-572.



imported steel at precisely those moments when foreign export earnings were both most scarce and costly in terms of Soviet commodities. Thus, the important point here is that the type and emphasis of the Soviet investment decisions implied in the 1st FYP draft plans were not significantly different than those made under the Tsarist capitalist economy in the three decades before World War I and were not made within a new policy framework of economic autarky, but rather within the framework of continuing import-substitution started in the Tsarist economy and of the shortages of foreign exchange during the NEP due to the failure of Soviet exports to recover to 1913 levels, and within the framework of an expected rapid growth in foreign trade during and after the 1st FYP was carried out.

#### Foreign price expectations for the FYP

Gosplan predicted a 13% decline in the foreign prices of the main Soviet export goods during the FYP; nevertheless, NKT predicted relative stability of "net sales prices" of Soviet export goods because of better Soviet quality control and sales timing.

Nevertheless, the general lines, which we consider to be correct with respect to the level of prices, proceeds from the stability of the average level of (foreign) sale price. This stability can and should be achieved as a result of a raising of the quality of our export goods and of our techniques in the export trade, which ought to occur as the planned measures are put into action.<sup>65</sup>

The foreign trade plan drawn up by NKT in 1929 was apparently based

---

<sup>65</sup> Vop. Torg. (May, 1929), pp. 98-99. Of course, Soviet export prices for a particular kind and quality of Soviet good - strictly defined - were to decline.

on estimates of trends in world prices and production made by Gosplan's Section on the World Economy. A comparison of 1927/28 exports and 1932/33 exports in current and constant prices, implies that NKT's plan was based on a very slight decline in export prices (from 131 to 128 where 1913 = 100) over the five year period.<sup>66</sup> The price decline was partially attributed to 1) increased competition where the Soviet Union was a major influence on the market (wood, oil, manganese ore, platinum, flax, eggs, butter), 2) increasing protectionism especially against Soviet "processed" commodities, and 3) the slower growth of world demands.<sup>67</sup> In particular, Torgplan (of NKT) assumed that, as in the preceding five years, the decline in prices would occur chiefly among industrial goods and industrial raw materials.<sup>68</sup> The projected trend of import prices is not known definitely, but evidence suggests that Gosplan predicted downward price pressure on important items purchased by the USSR, for Gosplan predicted a slowdown in the world economic growth and a growing disproportion between capacity of basic capital, output, and market in the world capitalist economy (i. e., excess capacity) which was significant primarily because the "capitalist world would be interested in enveloping Soviet markets and in increasing their

---

<sup>66</sup> According to SUA, Vol. VIII, No. 13 (1929), p. 24, exports for 1932/33 were planned for 2,047 million rubles at 1932/33 prices and 1,600 million rubles at pre-1914 prices; thus 1932/33 prices relative was 128 (1913 = 100). The price relative for Soviet exports in 1927/28 was 131 according to Soviet figures.

<sup>67</sup> Vop. Torg., (May 1929), pp. 98-99.

<sup>68</sup> Ibid., p. 98.

exports to the USSR" and would be willing to lower prices.<sup>69</sup> Drastic decline in world prices and in the Soviet terms of trade was not projected by NKT.

Three important observations should be made about the foreign trade plan for the 1st FYP. First, the FYP projected considerable investment for the so-called "export sectors" not only in agriculture in general but also in export industries of industry such as in timber, petroleum, food industry, textile industry, and also various minerals.<sup>70</sup> Second, the Soviet planners were very aware that significant marketing difficulties would be encountered in selling much larger quantities of most exports than the quantities already projected in the optimistic export plan and they expected price wars in some products (oil, timber, manganese and flax). To expand exports much further might actually be economically irrational from the viewpoint of the profit-maximizing oligopolist or monopolist - an intriguing question.<sup>71</sup> Third, the FYP would definitely result in increased relative economic independence from the world capitalist economy - but it was, by no stretch of the imagination, intended to make the Soviet economy absolutely autarkic of the world economy as one might tend to think, - and which is conventional knowledge in our field - when looking at the development of Soviet for -

---

<sup>69</sup> Vop. Torg., (May 1929), p. 98. See also Kaufman-29b, pp. 17-18.

<sup>70</sup> See for example, Gosplan-30b pp. 200-203. Most articles stressed the importance of capital construction in realizing the export plan: see articles by Kaufman for 1929 and 1930.

<sup>71</sup> See section above on "Draft foreign plan for FYP" and Chapter II.

foreign trade and listening to the Soviet planners after 1931 exhorting comrades to find domestic substitutes for all and every imported product.<sup>72</sup>

Foreign trade during NEP and the  
decisions on the 1st FYP

How did the poor recovery of foreign trade during NEP influence the timing and type of decisions about the strategy and tempo of the 1st FYP and industrialization in general? First, the slow recovery of exports during NEP and the resultant retardation of industrial growth and the constraint of imports in investment plans compelled economic planners and Party leaders to seek a growth strategy which was not bound to the performance of foreign trade. Second, the planners realized that the hope of restoring grain exports and agricultural exports in general to the dominant position in Soviet exports was not feasible as long as agricultural exports were based on Soviet agriculture as constituted during NEP. Thus, long-term rapid industrialization could not be based on imports of materials and machinery which were in turn based on expansion of agricultural exports until the Soviet planners could rely on fairly reliable marketing and higher output from a newly organized heavy-capitalized State-controlled agriculture. Third, the planners realized that the same barriers to the recovery of exports during NEP - limited foreign markets, increasing domestic demand, and inadequate recovery of output on a per-capita basis, bad harvest and marketing

---

<sup>72</sup> See below, Chapter XIV, for brief discussion of the "active policy of forced import substitution" which really started in late 1930 and early 1931.

problems - would continue to retard the growth of exports in the coming years. It was difficult to see how much higher growth rates of export could be expected even if additional investment resources were allocated to the important export fields. And since imports had to be more or less restricted to the levels of export growth, the growth rates of industry and investment in the early years of the FYP would be quite constrained by the relatively slow growth of exports - just as it was during NEP - until the import-substitution investment projects came into operation.

The catastrophic developments of foreign trade during the 1st FYP which led the Soviet economy into almost complete autarky by 1935, are discussed briefly in Chapter XIV. For the problems encountered in expanding foreign trade during the 1st FYP dwarfed those encountered in NEP and would have thrown the NEP type economy into virtual shambles and would have brought economic growth to a halt.

## CHAPTER XIV

POSTSCRIPT: THE SOVIET FOREIGN TRADE CRISIS  
AND SOVIET ECONOMIC AUTARKY IN THE 1930's

The purpose of this chapter is to describe briefly the development of foreign trade after 1927/28, to compare the actual development of foreign trade during the 1st FYP to the foreign trade plan for the 1st FYP, and to examine the causes for absolute decline of Soviet foreign trade during 1931-1935 (into what Western observers would describe as "economic autarky").

Foreign trade and the 1st FYP

Soviet foreign trade expanded rapidly in volume up through 1931 - in the face of collapsing world trade - and then exports fell sharply and imports literally collapsed in 1932 and 1933. Actual and planned exports are compared below.

USSR: EXPORTS 1927/28 - 1933<sup>1</sup>

<u>Plan</u>	<u>27/28</u>	<u>28/29</u>	<u>29/30</u>	<u>30/31</u>	<u>31/32</u>	<u>32/33</u>
	100	116	138	162	213	262
<u>Actual</u>	<u>1927/28</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>
Volume	100	129	193	212	167	160
Value	100	118	133	104	74	60

---

<sup>1</sup> Plan figures from Table III. 5, Volume figures in 1927/28 prices from Table XIV. 4, Value figures based on Table XIV. 3.

Exports 1928/29 - 1931. The growth of exports in volume exceeded the export plan for the first three years of the plan. The success in 1929 resulted from the forcing of timber and flax exports despite severe shortages at home and from an increase in oil product exports. Grain exports fell to even lower levels and the volume of animal products exports also declined slightly (Table XIV. 9).

The continued expansion of exports in 1930 and 1931 was partly due to continued expansion of timber and oil product exports and the expansion of minor exports (secondary exports) (Table XV. 9). But the major part of the export expansion resulted from the resumption of large scale grain exports which started in early 1930, but assumed really significant levels from mid-1930 onwards (Table XV. 1).<sup>2</sup> This resumption of grain exports was a year earlier than assumed in the export plan and exceeded all predictions for 1929/30 and 1930/31 (Table XV. 1), but then grain exports dropped back sharply to much lower levels due to the crop failures of 1931 and 1932 and 1933 (Table XV. 1). Grain exports, however, even in these years continued at a fairly high level - especially when compared to similar harvest years during the NEP and despite the starvation of millions of peasants in 1933 and 1934.<sup>3</sup>

Although the excellent crop of 1930 undoubtedly facilitated the

---

<sup>2</sup> VTSSSR-60. ERSU (Vol. V, No. 1 (1930), p. 320) mentioned exports of barley, wheat and rye in the first two quarters of 1929/20 - i. e., during the period of collectivization. Food rationing for grain had also become widespread by 1929 (Chapman-63, p. 19).

<sup>3</sup> For a discussion of famine in the USSR during 1932-34, see Dalrymple-64a and Dalrymple-64b. These articles contain many further references.

TABLE XIV. 1

## USSR: GROSS GRAIN PRODUCT EXPORTS 1927/28 - 1934

(value in millions of rubles, quantities in millions of metric tons)

Plan	1927/28	1928/29	1929/30	1930/31	1931/32	1932/33	
Value	41	0	0	(74)	(295)	440	
Quantity	410	0	0			(6.50)	
Actual	1927/28	1928/29	1929/30	1931	1932	1933	1934
Value in current prices	41	15	153	146	63	51	32
Value in 1927/28 prices	41	(16)	(320)	(445)	(175)	(180)	(115)
Quantity	0.41	0.10	2.29	5.22	1.87	1.81	0.97
	1927/28	1929	1930	1931	1932	1933	1934
Price index of Soviet grain exports (1926/27 weights) 1927/28=100	100	94	48	33	36	29	28
	1927	1928	1929	1930	1931	1932	1933
Gross grain harvest	71.7	73.3	71.7	83.5	66.6	63.0	67.1

Source: Notes to Table XIV.1, Appendix B, p. 781.



resumption of large-scale grain exports at an earlier than planned date - and it is probable that sufficient grain would have been marketed from the 1930 harvest to permit resumption of large grain exports from the NEP-type of Soviet agriculture - both the early timing (early 1930), the magnitude of grain exports, and the continuation of substantial grain exports during two poor crops and widespread famine in rural areas must be attributed to the 1) compulsory widespread collectivization of Soviet agriculture far beyond the levels originally foreseen in the draft 1st FYP, 2) the existence of rationing in urban and grain deficit areas and tight state control over grain markets, and 3) the attitude of Soviet leadership toward the fate of millions of peasants as compared to the gains from grain exports.<sup>4</sup> Compulsory mass collectivization of the Russian peasant was not done directly to increase grain exports, but occurred in a rather ad hoc manner on an emergency basis to insure the domestic supply of grain deficient regions. The grain exports of the 1930's, however, would simply not have been possible under the NEP system of agriculture.<sup>5</sup> Even the drafters of the 1st FYP foresaw that some voluntary collectivization of high-productivity, high-marketing farms would be necessary to produce an adequate amount of marketed grain for exports - but they envisaged a completely different mode and

---

<sup>4</sup> ARCC-31 (p. 50) stated that the original FYP's targets for state and collective farms in 1932/33 were 13.3% of sown area. For "official attitude" reported "unofficially" see Dalrymple-64b, pp. 473-474.

<sup>5</sup> For several articles on the evolvment of the policy goal of "sudden mass collectivization" see Lewin-65, Narkiewicz-66, Karz-67.

degree of collectivization.<sup>6</sup> What compelled the Soviet leadership to export several million tons of grain while millions of peasants starved to death? The answer - but not a justification - is found in the extreme balance of payments pressures which arose in the end of 1932 and grew worse during 1933 (as will be discussed below).

Three major exports - fur, eggs, butter - declined during this period in volume. Fur declined because of depletion of the wild fur resources and perhaps the inauspicious market conditions for this luxury good during the depression. But exports of the two major animal products - eggs and butter - fell sharply because of the livestock disaster caused by collectivization - so that exports of these products and especially butter exports (produced in State-controlled factories) were being forced from a greatly diminished supply.

Campaign against Soviet exports 1930-1931. Soviet export prices were falling faster than import prices and the commodity terms of trade deteriorated sharply. The Soviet export problems - already plagued by domestic shortages of "exportable surpluses" - were further aggravated

<sup>6</sup> See Chapter XIII, pp. 459.

<sup>7</sup> Johnson-60 (p. 235) gives the following data for milk and egg output during 1928-1934. Exports of butter and eggs from VTSSSR-60.

	<u>Milk</u> (millions m. t.)	<u>Butter Export</u> (1000, m. t.)	<u>Eggs</u> (billions)	<u>Egg Exports</u> (1000, m. t.)
1928 <sup>a</sup>	27.0	32.9	9.9	94.4
1929	25.9	25.6	9.3	44.4
1930	23.4	10.5	7.2	9.9
1931	20.4	30.9	6.0	20.4
1932	17.9	30.9	4.0	7.1

a. 1927/28 for exports.

by foreign campaigns - both organized and unorganized - against the import of Soviet goods into various countries including the USA, France, Belgium, the Netherlands, Canada, Rumania, Hungary, Jugoslavia, Bulgaria and Albania. Although individuals within Germany and Great Britain agitated for a ban against Soviet exports, the governments of these two countries - which were major Soviet export markets - did not support the anti-Soviet export campaign; that possibility, however, greatly worried the Soviet government. The "anti-Soviet export campaign" was inspired partly by individual producers wishing to protect diminishing domestic markets from the encroachment of expanding Soviet exports - exports which the Soviet government wanted to sell at the highest possible price, but which they were willing to sell at any price. The campaign - often named the "anti-Soviet dumping campaign" - started in early 1930 and reached its peak in mid-1931.<sup>8</sup> But by mid-1931 even the removal of this open discrimination against Soviet exports

---

<sup>8</sup> For a detailed description of the "anti-dumping campaign against Soviet exports in the U.S.", see Committee-33, pp. 208-222. For brief discussion of Belgium embargo against Soviet exports, see ERSU, Vol. VI, No. 3, (February 1, 1931), pp. 70-71. For Canadian embargo against Soviet exports in February 1931, see ERSU, Vol. VI, No. 7 (April 1, 1931) pp. 155-156. For French restrictions against Soviet goods initiated in October, 1930, see ERSU, Vol. V, Nos. 22-23 (December 1, 1930), p. 458. For Soviet discussion of this anti-Soviet export campaign (rumored to have been instigated by the French government), and their official reaction to these restrictions against Soviet goods, see ERSU, Vol. V, No. 22-23 (December 1, 1930), pp. 456-458. For further Soviet discussion of this anti-Soviet export campaign see: SUA, Vol IX, No. 17 (1930) pp. 2-7 (a particularly good article emphasizing the Soviet need to export in order to import for the FYP and admitting that the USSR did export goods which were in deficit supply in the USSR in order to import goods which were considered to be in even "great demand" for industrialization); SUA, Vol. IX, No. 20 (1931), pp. 2-7. In 1931, and early 1932, almost every other issue of SUA (the Soviet trade delegation's press organ in Germany) contained

would greatly improve the prospects of expanding Soviet exports without great difficulty - market conditions and general tariff and trade barriers had become much worse and made the expansion of Soviet exports increasingly more difficult - these conditions deteriorated further in 1932 and 1933.<sup>9</sup>

Imports during the first three years of the FYP. The volume of imports grew much more slowly than exports (and the rest of the economy) from 1927/28 to 1931 and were actually reduced somewhat in 1929 - although by a lesser amount than stipulated in the plan. Actual and planned imports are compared in the table below:

USSR: IMPORTS 1927/28 - 1933<sup>10</sup>

<u>Plan</u>	<u>27/28</u>	<u>28/29</u>	<u>29/30</u>	<u>30/31</u>	<u>31/32</u>	<u>32/33</u>
	100	80	101	129	164	181
<u>Actual</u>	<u>27/28</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>
Volume	100	99	120	137	101	59
Value	100	93	112	117	74	37

Unlike exports during the first two years of the FYP, the value of imports greatly exceeded the plan targets resulting in a much smaller than planned trade surplus for 1928/29 and a large unplanned deficit in

---

an article about the anti-Soviet export campaign or the "alleged sumping" of this or that Soviet product. Also Izvestia, October 22, 1930. The classic journalistic description of this anti-Soviet export campaign is by Knickerbocker-31a. See Knickerbocker-31b, and Documentation-33.

<sup>9</sup> League-33a, Chapter VII. ST, Vol. V, No. 30, pp. 11-13 (October 20, 1930) described the increase in tariff barriers.

<sup>10</sup> Planned figures from Table XII.5. Volume figures in 1927/28 prices from Table XIV.4. Index of value in current prices based on data in Table XIV.3.

in 1929/30 as can be seen below:<sup>11</sup>

USSR: BALANCE OF TRADE 1928/29 - 1929/30  
(millions of rubles, current prices)

	1928/29		1929/30	
	Plan	Actual	Plan	Actual
Exports	910	877.6	1078	1002.3
Imports	755	836.3	951	1068.7
Balance	+155	+41.3	+127	-66.4

The value of imports continued to rise despite a decline in the value of exports and resulted in a huge balance of trade deficit of nearly 300 million rubles in 1931 (Table XV.3). The volume of imports (in 1927/28 prices) exceeded the plan during each of the first three years - but the volume of exports (especially in 1931) exceeded the plan by even a larger margin - so that, as we shall see below, part of the deficit must be ascribed to the adverse terms of trade as well as to the uneven fulfillment of the export and import plans.

Growth of machinery imports. Even though machinery imports fell 17-18% in 1928/29 because of a decline in deliveries from the orders placed under the German credit of 1926, the value and volume of machinery imports during 1928/29 - 1931 exceeded the import plan by considerable margins and were the major source of imports growth during these years. Actual and planned imports of machinery are compared in Table XIV.2. The share of machinery imports in total exports rose from 27% in 1927/28 to 51% in 1931 (and these shares do not include

---

<sup>11</sup> ERSU, Vol. VI, No. 3 (February 1, 1931), pp. 56 - 58.

TABLE XIV. 2

USSR: MACHINERY IMPORTS FOR INDUSTRY AND TRANSPORT  
 PLANNED AND ACTUAL IMPORTS 1927/28 - 1933

<u>Value</u> (millions of rubles in current prices)						
	1927/28	1928/29	1929/30	1930/31	1931/32	1932/33
1. Plan:	256	158	240	350	510	525
2. Actual:	256	213	(370)	(565) <sup>a</sup>	(424) <sup>a</sup>	(178) <sup>a</sup>
<u>Index</u> (1927/28 = 100)						
3. Planned value:	100	62	94	137	199	205
4. Actual value:	100	83	(145)	(221) <sup>a</sup>	(166) <sup>a</sup>	(70) <sup>a</sup>
5. Actual volume:	100	82	(139)	(219) <sup>a</sup>	(180) <sup>a</sup>	(78) <sup>a</sup>
<u>Foreign Prices and Share in Total Imports</u>						
6. Price index <sup>b</sup> of German machinery	100	102	104	101	92	89
7. Share of machinery in total imports	26.9%	25.4%	34.6%	51.1% <sup>a</sup>	60.2% <sup>a</sup>	51.1% <sup>a</sup>

<sup>a</sup> Calendar years 1931, 1932, 1933.

<sup>b</sup> Calendar years 1928, 1929, 1930, 1931, 1932.

Source: Notes to Table XIV. 2, p. 782.

imports of agricultural machinery which equalled about 10% of total imports in 1931).<sup>12</sup> Machinery for the 1st FYP had quickly come to dominate the structure of imports - much more so than foreseen by the plan. This in part was undoubtedly due to the greater availability of credits for machinery than for other types of goods.<sup>13</sup>

Imports of semi-processed goods declined steadily to a small fraction of their 1927/28 levels as the paper, chemical and leather factories started during NEP came into operation during the early part of the FYP. This cutback in imports of semi-processed goods, however, was so abrupt that it caused "import-deprivation" (reduction in domestic consumption in the face of excess demand or rising demand) for some goods such as paper, tanning materials, and possibly leather and dyes, rather than being made possible by direct import-substitution of domestic output for imports (what I would call "absolute import substitution") (Table XIV. 11).

The volume of raw material imports fluctuated around 1927/28 levels rather than being sharply reduced in the first year and then gradually recovering. If the plan for raw material imports was drawn up assuming little foreign price change for raw materials, then the import plan for raw materials in terms of "volume" was excessively fulfilled in each of the three years:

---

<sup>12</sup> VTSSSR-60.

<sup>13</sup> See below discussion of credit in 1927/28-1931.

INDEX OF PLANNED AND ACTUAL RAW MATERIAL IMPORTS<sup>14</sup>

1927/28 = 100

<u>Planned</u>	<u>27/28</u>	<u>28/29</u>	<u>29/30</u>	<u>30/31</u>	<u>31/32</u>	<u>32/33</u>
Value	100	77.2	89.7	104.2	125.5	136.3
<u>Actual</u>	<u>27/28</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>
Value	100	94.2	74.0	76.6	46.0	32.2
Volume (27/28 prices)	100	103.5	93.1	119.7	86.9	69.2

More important, the composition of raw materials imports - and imports in general - underwent a "second industrialization" of the import structure between 1927/28 and 1931 when the imports of raw materials for light industry were cut back and imports of metals (especially ferrous metals) and rubber were rapidly increased; the share of consumer-oriented imports excluding rubber and aluminum fell from 52% in 1927/28 to 18% in 1931 (Table XIV.12). This second "industrialization of the import structure" was due not only to the more rapid expansion of machinery than the rest of the import structure, but also to the change in the composition of raw material imports and to the elimination of grain imports (which had been undertaken in 1927/28).<sup>15</sup>

Perhaps the most dramatic trend in raw material imports during this period were the extremely large imports of ferrous metals. The

---

<sup>14</sup> Planned value of raw material imports from Table XIII. 5. Actual value from STAT-34, p. 381, STAT-36, p. 571. Volume from Table XIV. 10.

<sup>15</sup> A Soviet economist described the change in the structure of Soviet import in 1930 and 1931 as the "metalization" (German word - *Metallisierung*) (B. S., "Die Entwicklung des Aussenhandels der UdSSR", *SUA*, Vol. 11, No. 21 (1932), p. 51).



share of imports in the supply of rolled ferrous metals, articles, and pipe rose from 5-6% in 1927/28 to 26% in 1931 at a time when domestic output was also rising rapidly - and the share of ferrous metal (not including metal articles and pipe) rose from 7.2% of total imports in 1927/28 to 17% of total imports in 1931 (Table XIV. 11).<sup>16</sup> Recall that Tsarist Russia in the pre-1914 decade supplied most of its ferrous metal requirements from domestic output and at times was a net exporter of ferrous metals. In 1913 - a boom year - imports supplied about 2 or 3% of rolled ferrous metals. The recovery of the domestic pig iron and rolled steel during NEP lagged behind the rest of the economy and had not reached 1913 levels by 1927/28 so that ferrous metals were in deficit supply in that year.<sup>17</sup> The slow recovery of ferrous metallurgy during NEP was an important reason behind the Left's urging for larger allocations of investment funds to this large existing branch of Soviet industry - an industry which was badly damaged during the Civil War. When the rate of investment accelerated in the early years of the FYP, the domestic ferrous metallurgical industries just did not keep up with the demand for construction and other types of ferrous metals so that imports of ferrous metals rose rapidly - à trend not at all forecast in drawing up of the foreign trade plan for the 1st FYP:

---

<sup>16</sup> VTSSSR-60.

<sup>17</sup> Clark-56, p. 10 and Gosplan-29a, p. 200.

IMPORTS OF FERROUS METALS 1913, 1926/27-1933<sup>18</sup>  
(000's metric tons)

	<u>1913</u>	<u>26/27</u>	<u>27/28</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	<u>1932</u>	<u>1933</u>
All Ferrous Metals	199	148	278	341	699	1624	1004	615
Rolled Steel	98	46	106	275	585	1289	885	457
Pipe	13	30	73	17	40	114	60	90
Semi-Processed	37	36	83	25	44	88	35	17

For the first time since the early 1900's, Russia (USSR) had become significantly dependent on foreign supply of ferrous metal both for construction and indirectly and directly for the building of machinery - and the trend was clear. Further acceleration of investment beyond 1931 levels clearly required more equipment and structural steel and similar producers' goods either from domestic or imported sources. But the outlook for expansion of export became worse as the world depression deepened, trade barriers increased, the terms of trade worsened and domestic export surpluses were being reduced through the slaughter of livestock, through the demands of construction (timber), through the mechanization of agriculture and the development of auto-transport (petroleum products), etc. The high export levels attained in 1931 were extremely costly - especially to the domestic consumer - in terms of alternative uses of the exported products, for the USSR began to export almost anything that they could sell including cotton, hides, canned goods, butter, eggs, etc., all of which were in

---

<sup>18</sup> Data from VTSSSR-60. All ferrous metal is SOVTC 26. Rolled steel is SOVTC 264. Pipe is SOVTC 266. Articles are SOVTC 268-269. See Appendix A, Technical Note 5 for description of SOVTC

excess demand within the USSR.<sup>19</sup> Here - through the foreign trade sector - the domestic "savings" were being converted into investment goods, and at an increasingly more costly rate, not only in terms of the marginal utility to the domestic consumer as the per capita supply of these products fell, but also with respect to the commodity terms of trade. Furthermore, even if the planners judged the cost of increased exports to the economy to be less than the benefits of increased imports - they surely harbored doubts about the simple practical possibility of increasing exports sufficiently to maintain the necessary increase in the imports of producers' goods for their investment program alone to say nothing about their once ambitious program for expanding the output and imports of consumer goods as well, which by 1931 had foundered on the shoals of unrealistic planning, the livestock disaster in collectivization and the world depression. For example, cotton exports were not at all foreseen in foreign trade plan of the 1st FYP drawn up in 1929 - the cotton exports of 1931 were a sign of the desperate position of the foreign trade sector by 1931.

When faced with 1) the prospect of stagnating imports (because of stagnating exports) and 2) the impossibility of cutting back consumer-oriented imports to increase the imports of commodities directly or indirectly used for investment - for the second "industrialization of

---

system.

<sup>19</sup> Even in 1927/28 and 1928/29, exports of timber and many agricultural products were being forced despite excess demand ("deficits in the domestic supply") of these goods (Gosplan-29a, p. 193, pp. 295-296).

imports" had already occurred by 1931 - the planners were left with only one alternative if they were to continue to expand the level of investment in the economy, rather than to abandon their long-run growth plans. That alternative was to place even greater emphasis on the rapid expansion of so-called investment goods industry (which actually included many branches of the economy including machine-building, ferrous metallurgy, non-ferrous metallurgy, construction materials industry, heavy industrial chemicals, etc.) in order to provide the investment goods which would have otherwise been imported in later years. While it is true that the discussions of the FYP and the discussion of the foreign trade plans often mentioned that the FYP would simultaneously increase economic ties with the world economy and make the economy more (relatively but not necessarily absolutely) independent of the world economy with respect to a series of raw materials (non-ferrous metals) tractors, complex agricultural machinery and machinery in general, the public discussion was aimed toward the end of the FYP and lacked any semblance of a widespread publicity campaign and great urgency in 1928. But from the middle of 1930, the public campaign for "uncovering" domestic sources for the supply or production of imported goods (especially equipment) began to swell and reached a loud crescendo in 1931 - this contrasted strongly with the press campaign to expand exports in 1929.<sup>20</sup> And it was during 1930 that the output targets for

---

<sup>20</sup> For some articles referring to the campaign to expand exports see Izvestia, March 24, 1929 ("Nado usilit' i uluchshit' eksport"); Izvestia, June 13, 1929 (Eksport vtorostepennykh produktov...); Izvestia, March 26, 1929 ("Neispol' zovannye vozmozhnosti v oblasti eksporta"); Izvestia, June 8, 1929 ("Postavim eksport v tsentre vnimanila

steel were revised upward and continued to be revised upward in 1931.<sup>21</sup>

Foreign trade and the revised (revealed?) priorities  
of the FYP: A hypothesis

Was there any relationship between the failure of foreign trade and the revised - or should we say "revealed" - planners' priorities away from light industry and agriculture toward heavy industry in the fulfillment of the 1st FYP and in the upward revision of the output targets in heavy industry during the 1st FYP? By failure of the foreign trade sector, clearly we do not mean that it had failed to grow, for Soviet foreign trade grew rapidly from 1927/28 to 1931. In fact, most

vsei obshchestvennosti SSSR") and many articles in 1929 in Sovetskaia Torgovlia.

By the middle of 1930 the tone of the press had changed; for a few articles referring to the "battle for economic independence campaign" see Izvestia, July 5, 1930, p. 2 ("Import i mobilizatsiia nashikh proizvodstvennykh vozmozhnostei"). According to Zaleski-62 (pp. 104) the campaign for economic independence and to economize of foreign exchange began in March 1930, and a letter from Kuibyshev published in Ekon. Zhisn on March 25, 1930, emphasized the importance of economizing in the use of imported machinery. The directives of the XVI Party Congress in July 1930 decreed a "complete re-examination of the plans for the machinery industry from the point of view of substantially freeing industry and the national economy from its dependence on foreign countries in view of assuring the essential needs by the (Soviet) machinery industry" (as cited in Zaleski-62, p. 104). Industries using primary agricultural materials, according to the same resolution of the XVI Party Congress, should be freed from their dependence on foreign markets (for raw materials) in the next three years (Ibid.). A special commission for imports was created and many orders for machinery previously imported from abroad were placed in arsenals (Ibid.). The complete change in attitude toward "economic independence" and its economic and political meaning is seen in the tone of the lead chapter in an edited collection on Soviet foreign trade in 1931 (Badmas-32). The article by V. Prosin was entitled "Vneshniaia torgovlia i borba za ekonomicheskuiv nezavisimost' SSR" in Badmas-32, pp. 3-39 and emphasized the importance of this or that accomplishment in economizing on foreign exchange.

<sup>21</sup> Jasny-61, pp. 75-78.

TABLE XIV. 3

USSR: EXPORTS, IMPORTS, BALANCE OF TRADE  
1913 - 1940 IN CURRENT PRICES

(millions of gold rubles, all borders)

	Excluding Precious Metals			Including Platinum		
	Exports	Imports	Balance	Exports	Imports	Balance
Tsarist Russia						
Av. 1909-13	1487.19	1140.16	347.03	1501.42	1140.16	361.26
1913	1505.90	1375.05	130.85	1520.14	1376.05	145.04
Soviet Territory						
1913	1291.00	1007.00	284.00	1305.00	1007.00	298.00
1918	} Not available in current prices			} Not available in current prices		
1919						
1920						
1921						
1921/22						
1922/23	[210.60]	[187.50]	[23.10]	212.47	[187.50]	24.97
1923/24	[522.60]	[439.40]	[83.20]	528.33	[439.40]	88.93
1924/25	558.78	723.41	-163.63	577.79	723.41	-145.62
1925/26	676.65	756.32	-79.67	703.29	756.32	-53.03
1926/27	779.41	713.52	65.89	805.98	713.52	92.46
1927/28	781.79	945.52	-163.73	791.61	945.52	-153.91
1928/29	877.60	836.30	41.30	[889.71]	836.30	53.41
1929	923.75	880.65	53.10	937.80	880.65	57.10
1930	1036.42	1058.84	-22.42	1042.42	1058.84	-16.42
1931	811.25	1105.09	-293.84	816.65	1105.09	-288.44
1932	574.97	704.07	-129.10	580.97	704.07	-123.10
1933	469.66	398.23	121.43	475.86	348.23	-127.63
1934	418.34	232.44	185.90	421.24	232.44	188.80
1935	367.43	241.39	126.04	373.93	241.39	132.54
1936	310.32	308.82	1.50	315.22	308.82	6.40
1937	376.34	291.50	84.84	384.64	291.50	93.14
1938	273.09	312.78	-19.69	298.29	312.18	-14.49
1939	132.45	213.64	-81.14	--	213.64	--
1940	305.75	313.10	-7.95	--	313.10	--

Source: Notes to Table XIV. 3, Appendix B, p. 782.

observers will readily concede that many projects of the 1st FYP could simply not have been completed (at least within the period) without access to imports and foreign technical assistance. By failure of the foreign trade sector we are referring to the failure of domestic export resources to develop as planned, to the deterioration of the terms of trade which made imports very costly in terms of scarce exports, and more important, to the poor outlook of continued expansion of foreign trade through the rest of the 1st FYP and beyond. Consider the following hypothesis:

Foreign trade by the end of 1931 no longer seemed to offer a method of overcoming the current structural rigidities in the economy encountered in shifting to higher investment rates and the cost of using the foreign trade sector to overcome the current structural rigidities at the existing level of imports was increasing because of the deteriorating commodity terms of trade on world markets for Soviet exports. Furthermore, the cost was also increasing at the margin because of the extreme forcing of exports (lowering per capita supplies, etc.) and because of the adverse effects further expansion of Soviet exports might have on the terms of trade - assuming that exports could be expanded at all in terms of real import capacity, an assumption to be questioned by Soviet planners observing world trade in 1931.

Thus, while the Soviet economy was not a "closed economy" in the traditional sense - for trade had expanded considerably in the past years - from the viewpoint of treating the foreign trade sectors as an advantageous method of converting additional "mobilized savings" in the form of export goods into additional investment goods in the form of imported investment goods, the Soviet economy was indeed a "closed economy" at the margin of its current levels of trade. Or, at least, there was little or no cost advantage to be derived by trying to convert additional mobilized savings in the form of exports goods into additional imported investment goods. The Soviet government - quite correctly - feared that current trade levels might not be sustainable in the near future for a number of reasons.

Thus the failures in the foreign trade sector and the threatening stagnation of exports - and hence imports - compelled planners to change (de facto as well as on paper) their priorities in the allocation of investment and other resources

away from the consumers' goods industry toward the so-called investment goods industry in order to develop the sectoral structure of the economy which would allow a further expansion of investment to the desired levels without any further expansion of foreign trade. They engaged in - to use Jasny's expression - Baccanalian planning rather than to publicly face the prospects of accepting lower long-term growth rates (especially in the investment goods industries) in the national economy.

Thus, we should not attribute the unrealistic planning in the 1930-32 period entirely to the caprice of Stalin, but rather - at least in part - to the problems in the foreign trade sector.

Deterioration of the Soviet terms of trade, 1929 - 1931. The world depression had a catastrophic effect on the Soviet commodity terms of trade during 1930 and 1931. Export prices plummeted 40-50% (depending on the quantity weights) from 1927/28 to 1931 (Table XIV.6). The import price index also fell but much more slowly (around 25%) (Table XIV.7) so that the commodity terms of trade shifted badly against the USSR and fell from 100 in 1927/28 to 70 (1926/27 quantity weights) or to 80 (using 1927/28 quantity weights). The 1926/27 quantity weights for the export price index are much more relevant to the actual terms of trade in 1930 and 1931 because they included substantial quantities of grain exports which were also important in 1930 and 1931 (Table XIV.9). The slower decline in the import price index could be attributed to several factors. First, the price index is based on unit-values so that a longer lag in the delivery of import goods compared to export goods during a period of falling prices would make the measured commodity terms of trade fall; in fact many products ordered by the USSR did have fairly long delivery periods (especially machinery) but also long-term contracts had been made for the delivering of metals and chemicals,



TABLE XIV. 4

USSR: VOLUME INDEX FOR EXPORTS 1913, 1922/23 - 1938

(1927/28 = 100)

	1913 price weights	1926/27 price weights	1927/28 price weights	1932 price weights	1937 price weights
1913	282.3	289.6	312.3	265.1	293.8
1922/23	24.8	31.8	36.9	29.3	40.0
1923/24	67.2	72.8	76.5	65.5	75.3
1924/25	61.9	64.6	67.9	62.3	71.7
1925/26	82.3	85.1	91.3	79.7	88.2
1926/27	96.8	100.2	102.7	93.0	99.4
1927/28	100.0	100.0	100.0	100.0	100.0
1929	131.0	128.6	129.0	125.2	137.4
1930	194.4	191.3	192.8	171.8	200.2
1931	218.2	207.8	211.5	189.3	202.2
1932	181.5	164.1	167.4	153.9	164.9
1933	171.5	156.5	160.7	148.3	159.0
1934	163.2	148.2	152.1	145.7	147.6
1935	145.3	133.1	136.2	131.7	132.3
1936	114.7	105.5	108.0	111.1	100.4
1937	113.3	110.1	113.6	110.8	99.9
1938	98.5	105.5	112.0	104.2	98.5

Source: Notes to Table XIV.4, Appendix B, p. 782.

TABLE XIV. 5

USSR: VOLUME INDEX OF IMPORTS 1913, 1922/23 - 1938

(1927/28 = 100)

	1913 price weights	1926/27 price weights	1927/28 price weights	1932 price weights	1937 price weights
1913	152.6	167.8	169.5	158.5	165.4
1922/23	16.8	16.8	17.0	17.4	17.2
1923/24	31.7	31.8	33.9	33.7	28.6
1924/25	59.1	61.7	63.0	59.5	56.5
1925/26	73.8	77.1	79.3	76.7	76.4
1926/27	79.0	80.3	83.3	81.4	77.5
1927/28	100.0	100.0	100.0	100.0	100.0
1929	95.2	99.3	99.3	96.4	98.1
1930	117.4	124.5	120.0	126.3	132.6
1931	141.7	144.8	137.0	147.1	159.3
1932	101.1	107.0	101.2	105.0	116.9
1933	67.4	63.4	59.0	57.9	63.2
1934	64.6	54.3	50.0	42.0	45.3
1935	64.6	55.7	52.8	45.5	46.7
1936	65.4	59.6	56.4	52.2	55.0
1937	65.7	57.1	54.0	47.2	49.6
1938	70.3	62.0	59.1	54.2	57.0

Source: Notes to Table XIV. 5, Appendix B, p. 782.

TABLE XIV. 6

USSR: PRICE INDEX OF EXPORTS 1913, 1922/23 - 1938

(1927/28 = 100)

	1913 quantity weights	1926/27 quantity weights	1927/28 quantity weights	1932 quantity weights	1937 quantity weights
1913	63.5	67.2	71.8	76.1	70.6
1922/23					
1923/24					
1924/25	108.2	108.5	114.0	113.0	113.7
1925/26	96.5	101.5	108.0	105.6	104.6
1926/27	92.2	97.0	99.5	97.9	97.0
1927/28	100.0	100.0	100.0	100.0	100.0
1929	90.2	94.0	95.6	91.1	91.3
1930	64.3	72.1	81.8	75.1	76.6
1931	46.6	51.9	60.4	54.8	56.5
1932	41.1	43.8	48.4	44.4	47.2
1933	34.5	37.1	41.7	38.6	39.8
1934	34.4	33.5	36.3	35.1	36.2
1935	33.5	34.0	36.2	34.7	33.7
1936	35.5	36.4	37.8	37.2	35.4
1937	45.8	46.9	48.6	48.2	43.0
1938	38.8	46.2	51.6	48.0	42.2

Source: Notes to Table XIV. 6, Appendix B, p. 783.

TABLE XIV.7

USSR: PRICE INDEX FOR IMPORTS 1913, 1922/23 - 1938

(1927/28 = 100)

	1913 quantity weights	1926/27 quantity weights	1927/28 quantity weights	1932 quantity weights	1937 quantity weights
1913	69.0	71.0	75.4	78.5	88.3
1922/23					
1923/24					
1924/25	116.5	112.6	113.7	113.7	110.0
1925/26	107.1	107.5	109.3	112.0	118.3
1926/27	96.0	93.0	96.4	101.6	102.5
1927/28	100.0	100.0	100.0	100.0	100.0
1929	94.4	95.7	97.3	92.6	92.0
1930	86.7	89.0	91.1	89.3	81.0
1931	75.1	74.7	75.8	78.7	66.1
1932	62.7	66.1	67.6	70.4	57.6
1933	51.4	53.9	56.5	63.3	49.0
1934	46.9	48.8	53.5	60.5	44.1
1935	47.8	48.0	49.8	58.2	42.3
1936	50.4	49.4	51.6	61.6	45.2
1937	53.6	53.0	56.8	66.5	50.2
1938	51.5	50.8	54.3	66.9	46.6

Source: Notes to Table XIV.7, Appendix B, p. 783.

TABLE XIV. 8

USSR: COMMODITY TERMS OF TRADE 1913, 1922/23 - 1938

(1927/28 = 100)

	1913 quantity weights	1926/27 quantity weights	1927/28 quantity weights	1932 quantity weights	1937 quantity weights
1913	92.0	94.6	95.2	96.9	80.0
1922/23					
1923/24					
1924/25	92.9	96.4	100.3	99.4	103.4
1925/26	90.1	94.4	98.8	94.3	88.4
1926/27	96.0	104.3	103.2	96.1	94.6
1927/28	100.0	100.0	100.0	100.0	100.0
1929	95.6	98.2	98.3	98.4	99.2
1930	74.2	81.0	89.8	84.1	94.6
1931	62.1	69.5	79.7	69.6	85.5
1932	65.6	66.3	71.6	63.1	81.9
1933	67.1	68.8	73.8	61.0	81.2
1934	73.3	68.6	67.9	58.1	82.1
1935	70.0	70.8	72.7	59.6	79.7
1936	70.4	73.7	73.3	60.4	78.3
1937	85.4	88.5	85.6	72.5	85.7
1938	75.3	90.9	95.0	71.7	90.6

Source: Notes to Table XIV. 8, Appendix B, p. 783.

TABLE XIV. 9

USSR: VOLUME INDEXES FOR SELECTED EXPORT  
COMMODITY GROUPS 1927/28 = 100

(1927/28 unit value weights)

	grain <sup>a</sup> products	timber products	petroleum products	fiber products	animal products	fur products
1913	2334	248	39.2	835.4	272.5	75.7
1922/23	165	30	3.5	115.3	21.0	59.3
1923/24	620	65	27.4	84.1	40.3	62.4
1924/25	139	68	47.0	140.6	62.7	80.2
1925/26	486	63	53.0	176.7	60.7	77.7
1926/27	556	86	76.6	106.4	75.3	81.8
1927/28	100	100	100.0	100.0	100.0	100.0
1929	69	180	135.5	212.3	91.4	98.7
1930	1217	229	166.1	225.1	65.1	94.8
1931	1307	200	182.2	327.5	80.7	80.4
1932	443	194	214.4	258.0	69.0	86.7
1933	446	212	163.3	201.5	64.2	85.2
1934	224	216	149.4	227.0	61.7	89.6
1935	408	226	108.0	135.8	46.6	80.3
1936	124	206	83.7	136.2	33.0	91.4
1937	368	177	65.3	225.5	25.5	70.8
1938	591	119	48.0	124.0	7.8	74.8

Source: Notes to Table XIV. 9, Appendix B, p. 783.

TABLE XIV.10

USSR: VOLUME INDEXES FOR SELECTED IMPORT  
COMMODITY GROUPS 1927/28 = 100

(1927/28 unit value weights)

	machinery including <sup>a</sup> agricul.	raw material	semi- processd materials	non- ferrous metals	'consumer oriented' imports	'tropical' products	rubber, tin, nickel
1913	133.0	141.5	302.7	79.4	(200.3)	224.8	105.3
1922/23	14.2	11.8	19.7	7.8	14.7	7.9	18.3
1923/24	14.7	41.9	44.8	20.2	46.3	30.1	28.7
1924/25	31.1	51.1	110.3	26.0	88.5	47.7	35.2
1925/26	70.2	62.1	183.4	40.6	87.1	67.8	45.6
1926/27	71.6	95.2	93.1	68.7	94.0	83.3	72.5
1927/28	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1929	114.5	103.5	76.5	98.3	91.7	103.6	91.4
1930	213.7	93.1	67.3	108.4	72.9	101.2	113.0
1931	263.5	119.7	39.0	122.1	56.5	116.2	163.4
1932	188.6	86.9	8.4	78.4	46.2	100.9	170.8
1933	75.6	69.2	7.9	65.0	35.6	106.0	172.6
1934	30.6	71.5	9.4	69.3	40.9	151.1	258.3
1935	31.8	81.0	17.5	94.7	53.2	139.8	232.3
1936	62.8	70.8	24.5	125.2	42.4	108.5	226.1
1937	41.2	77.9	10.0	174.3	41.7	117.4	249.0
1938	57.2	75.6	10.9	198.9	46.2	115.8	229.6

<sup>a</sup>Deflated by exporting country's price index for machinery.

Source: Notes to Table XIV.10, Appendix B, p. 783.

TABLE XIV.11

USSR: IMPORT-SUPPLY RATIOS, IMPORTS AND TOTAL SUPPLY FOR  
SELECTED COMMODITIES, 1913, 1923/24 - 1938

	COTTON FIBER			WOOL FIBER			COPPER		
	Imports of Cotton Fiber <sup>b</sup>	Total Cotton Consumption	Share of Imports in Total Consumption	Net Fiber and Yarn Imports	Total Supply to State Industry (Imports+Procurement)	Share of Imports in Supply to State Industry	Imports of Ingot and Rolled Copper	Supply of Copper; Imports + Output (including old scrap)	Share of Imports in Total Supply
	1000's	m. t.	%	1000's	m. t.	%	1000's	m. t.	%
1913	197.0	436.0	45.2	44.4	0	0	7.3	40.1 <sup>c</sup>	18.2 <sup>c</sup>
1923/24	.	.	.	13.7	.	.	.	.	.
1924/25	122.0	211.5	57.7	11.4	.	.	1.6	15.2	10.7
1925/26	102.6	265.6	38.5	20.4	.	.	11.3	30.7	36.8
1926/27	138.2	306.8	45.1	28.8	56.2	51.2	18.5	41.3	49.7
1927/28	145.6	354.0	41.0	34.6	73.3	47.2	27.8	56.3	49.3
1929	126.8 <sup>a</sup>	380.2 <sup>a</sup>	33.4 <sup>a</sup>	35.9	79.9	44.9	25.5	65.7	38.8
1930	67.7 <sup>a</sup>	325.1 <sup>a</sup>	19.3 <sup>a</sup>	27.2	79.2	34.3	21.1	63.4	33.2
1931	47.6	349.4	13.6	23.2	72.2	32.1	26.6	68.6	38.6
1932	21.0	407.3	5.2	20.6	61.6	33.5	14.9	57.7	25.8
1933	10.5	405.3	2.6	22.6	60.6	37.3	7.9	49.9	15.7
1934	24.0	403.0	5.9	22.8	64.8	33.2	11.5	62.2	18.5
1935	44.0	573.0	7.6	31.0	84.1	37.0	32.2	104.4	30.8
1936	15.0	628.0	2.3	27.0	.	.	46.2	151.9	32.5
1937	.	.	.	30.0	109.0	27.5	65.7	158.4	41.5
1938	.	.	.	30.1	.	.	82.3	180.4	45.6



TABLE XIV. 11 (continued)

	LEAD			ZINC			NICKEL		TIN
	Imports of Lead	Supply of Lead Imports plus Output	Share of Imports in Total Supply	Imports Slab Zinc Rolled Zinc	Total Supply of Zinc (Output + Imports)	Share of Imports in Total Supply	Total Supply (Imports plus Output)	Share of Imports in Total Supply	Imports in Ingots
	1000's	m. t.	%	1000's	m. t.	%	m. t.	%	m. t.
1913	58.1	59.6	97.4 <sup>c</sup>	28.2	47.6	59.3 <sup>c</sup>	3007	100.0	6035
1923/24	-	-	-	-	-	-	- 1	100.0	2539
1924/25	14.8	15.9	93.6	12.2	13.7	89.1	6	100.0	2177
1925/26	22.7	24.0	94.4	15.2	17.1	89.0	23	100.0	2234
1926/27	31.5	33.0	95.4	29.8	32.1	92.9	361	100.0	3748
1927/28	48.3	51.7	95.5	31.0	33.2	93.2	1732	100.0	4704
1929	44.3	52.1	85.0	35.6	39.6	89.9	961	100.0	5050
1930	50.2	60.5	82.9	40.0	45.5	88.0	2907	100.0	4906
1931	41.9	57.4	73.0	23.7	32.6	72.5	3841	100.0	4486
1932	33.8	52.5	64.3	10.6	24.3	43.7	3959	100.0	3910
1933	16.4	30.0	54.6	5.8	22.4	25.9	3498	100.0	4117
1934	18.9	45.9	40.8	4.3	31.5	13.7	5123	83.2	5879
1935	30.9	67.3	25.9	1.5	47.7	5.1	6601	84.5	7428
1936	29.7	78.4	37.9	0.1	63.4	0.2	9958	75.7	9819
1937	43.2	105.5	40.9	2.9	79.4	3.7	11435	79.4	12507
1938	41.8	119.6	34.9	0.6	83.7	0.7	13157	80.3	11057

TABLE XIV.11 (continued)

	Rolled Ferrous Metals and Allied Products			Paper and Cardboard			Tanning Materials (in terms of pure tannin)		
	Imports of Rolled Steel "Articles" Pipe	Total Supply of Rolled Steel, Pipe & Imported Articles	Imports as % of Total Supply	Paper Consumph Based on Imports of Paper and Pulp	Total Supply of Paper and Cardboard	Imports of Paper and Pulp as % Total Supply (see notes)	Imports	Total Supply	Imports as % of Total Supply
	1000's	m. t.	%	1000's	m. t.	%	1000's	m. t.	%
1913	119.2 <sup>c</sup>	.	.	247.2 <sup>c</sup>	605.6 <sup>c</sup>	40.8 <sup>c</sup>	.	.	.
1923/24	9.4	.	.	-	174.1	-	9980	14231	70.1
1924/25	24.1	.	.	218.4	350.2	72.4	17716	25501	70.5
1925/26	62.6	.	.	256.5	433.7	58.0	23464	33265	70.6
1926/27	85.3	.	.	222.8	420.3	53.0	31039	42968	72.3
1927/28	249.8	3771.4	6.6	190.7	422.5	45.1	30297	49890	60.8
1929	299.3	[4360.0] <sup>a</sup>	[6.9] <sup>a</sup>	150.6 <sup>a</sup>	520.6 <sup>a</sup>	28.9 <sup>a</sup>	23285 <sup>a</sup>	54110 <sup>a</sup>	43.0 <sup>a</sup>
1930	653.8	[5344.0] <sup>a</sup>	[12.2]	183.4	642.4	28.5 <sup>a</sup>	25500	54900 <sup>a</sup>	46.9 <sup>a</sup>
1931	1490.1	5857.2	25.4	110.1	596.2	18.5	2700	45400	5.9
1932	974.6	5488.6	17.8	4.4	544.8	0.8	0.0	41.4	0.9
1933	533.5 [	5750.4	9.3	3.4	585.6	0.6	.	.	.
1934	355.5	7580.4	4.7	4.4	657.8	0.6	.	.	.
1935	347.0	9965.9	3.5	6.4	749.0	0.9	.	.	.
1936	222.5	13012.1	1.7	5.3	898.4	0.6	.	.	.
1937	123.0	13386.3	0.9	.	978.1	.	.	.	.
1938	76.2	.	.	.	982.6	.	.	.	.

<sup>a</sup>Economic year 1928/29, 1929/30. <sup>c</sup>Russian Empire

<sup>b</sup>Gross fiber imports. Net fiber imports were 48,000 m. t. in 1930, 14,000 m. t. in 1931, 6,000 m. t. in 1932.

Source: Notes to Table XIV.11, p. 783.

TABLE XIV.12

USSR: CONSUMER - ORIENTED IMPORTS 1913, 1922/23 - 1938

(percent of total imports)

	Soviet definition	Adjusted Definition				
		Foodstuffs and manu- factured consumer goods	Plus fibers hides, dyes tanning materials	Plus paper pulp and cardboard	Plus other raw material for manu- facturing consumer	Plus raw rubber aluminum
1913	30.1	31.2	53.8	56.1	56.7	59.6
1922/23		25.8	45.9	49.8	50.0	55.3
1923/24	18.9	18.7	56.2	62.3	63.4	67.4
1924/25	33.1	32.6	68.6	72.6	73.7	75.1
1925/26	19.3	18.3	55.0	59.9	60.9	64.6
1926/27	10.8	10.9	50.5	54.3	54.9	58.6
1927/28	14.1	14.1	49.5	52.6	52.4	55.5
1929	12.4	10.4	43.0	44.6	45.3	47.3
1930	12.5	12.3	27.4	28.8	29.2	31.4
1931	7.9	7.4	17.0	17.6	17.8	20.5
1932	11.7	11.2	19.5	19.5	19.7	21.8
1933	9.8	9.3	22.0	22.1	22.3	26.1
1934	16.0	15.9	31.4	31.6	32.1	40.5
1935	13.9	13.2	34.4	34.6	34.1	41.1
1936	12.2	12.3	26.5	26.7	27.4	31.9
1937	9.8	10.6	26.3	26.5	27.4	33.7
1938	12.9	13.5	26.3	26.6	27.5	32.4

Source: Notes to Table XIV.12, Appendix B, p. 786.

while most Soviet exports were sold and delivered within a short period of time - and in fact many export goods were shipped and valued at current prices without being sold so that the eventual sale price was below the invoice price.<sup>22</sup> Second, the USSR purchases substantial quantities of manufactured goods whose prices tended to fall less rapidly than the raw material prices of Soviet exports. Third, the USSR purchased goods (especially in Germany) where prices were regulated officially or unofficially in international control agreements or cartel arrangements. The commodity terms of trade were to fall further in the coming three years.

Adverse balance of payments 1929-1931. Thus despite the slower growth of import volume relative to export volume from 1927/28 (but recall the large trade deficit in 1927/28), the balance of trade deteriorated again after a small surplus in 1929 and the trade deficit in 1931 reached almost 300 million rubles (Table XIV.3). Much of the trade deficit must be attributed to the deterioration of the terms of trade, for if 1927/28 prices had prevailed in 1931, exports would have been about 1650 million rubles while imports would have been about 1300 million rubles.<sup>23</sup>

The balance of payments on current account was deficit in each of the first three years of the FYP because of large and increasing net imports of "invisibles trade items on current account."<sup>24</sup> These invis-

---

<sup>22</sup> See Appendix A, Technical Note 2.

<sup>23</sup> Based on the ruble value of exports and imports in 1927/28 and the volume index of exports and imports using 1927/28 price weights from Tables XIV.4 and XIV.5.

<sup>24</sup> Table T-14.

ible trade items on current account included increasing interest payments on the growing short-term foreign debt and payments for patents, foreign technical assistance and remittances of foreign workers.<sup>25</sup> Thus, after a moderately favorable year in 1929, the Soviet balance of payments deteriorated rapidly in 1930 and 1931.

The large balance of payment deficits in 1930 was financed almost entirely by an increase of more than 200 million rubles in outstanding short-term foreign debt so that virtually no precious metals were exported during 1929 and 1930. (Tables T-15 and T-16). In 1931, outstanding foreign debt rose again by more than 200 million rubles, but this time net exports of 120 million rubles of precious metals were also required to cover the Soviet payments deficit in 1931 (Table D.8). Foreign credit conditions had improved considerably in the first years of the depression as foreign governments were anxious to attract orders to their industries, and major credits (actually, government guarantees) were received from Great Britain, Italy (1930), Germany (1931), and a host of other smaller countries.<sup>26</sup> The Soviet's major creditor was

---

<sup>25</sup> Birmingham-32a, pp. 11-12.

<sup>26</sup> There exists considerable scattered literature on credits to the USSR. The two major studies covering the period up through 1931 are Birmingham-32a and Shenkman-32a. For references to British credits to the USSR, see ERSU, Vol. VI, No. 11 (June 1, 1931), p. 257; ERSU, Vol. VI, No. 20, (October 15, 1931), p. 471; and ERSU, Vol. VII No. 13-14 (July 15, 1932), p. 296. For references to the 1931 Soviet-German credit guarantee agreement, see SUA, Vol. X, No. 7 (1931) pp. 2-4 and other numerous articles in SUA on the employment of this credit during 1931; the duration of the credits were for 14 to 27 months and all the orders had to be placed before August 31, 1931. The German-Soviet agreement was extended for the unused portion in June 1932 (SUA, Vol. XI, No. 11 (1932) pp. 4-11). ERSU also contained considerable discussion of the German-Soviet credit agreements in 1931 and 1932. For

Germany (estimated as high as 50% of outstanding Soviet-foreign debt); the second largest was Great Britain followed by Italy and the United States (granted by individual firms without any government guarantee).<sup>27</sup> In general, these credits were relatively short-term (six months to two years).<sup>28</sup> These credits when all costs were considered were usually quite expensive for the actual amount of credit received because of the giving of bills when the order was placed, because of the premiums paid for the insurance guarantee and similar costs, because of the higher prices which firms charged the USSR in order to compensate for the high discount rate on the unguaranteed portion of the Soviet bill which they were not willing to hold in their portfolio.<sup>29</sup> If the drastic decline in the prices of Soviet export goods is also considered between the time the credits were granted and the running of the trade surplus to repay the credits, the cost of imports bought with these credits in terms of exported goods was much greater. Despite the high cost of these credits, Soviet trade usually followed the availability of credit rather and outstanding Soviet foreign debt grew in the following manner (Table T-15).

---

the Italy-Soviet credit agreement of 1930 and 1931, see ERSU, Vol. VI, No. 10 (May 15, 1931), pp. 220; and Documentation-33, pp. 29-31. See Committee-33, pp. 187-199 for description of credit agreements signed as renewed in 1930 or 1931 with Austria, Norway, Latvia and Japan.

<sup>27</sup> Shenkman-32a, pp. 544-546 and Birmingham-32a, pp. 11, 20-21.

<sup>28</sup> Birmingham-32a, p. 16 and references cited above in note on p. 591.

<sup>29</sup> Shenkman-32a, p. 544, Birmingham-32a, p. 20.

SOVIET FOREIGN DEBT 1927/28 - 1932  
(millions of rubles)

Outstanding as of October 1st of				
<u>1928</u>	<u>1929</u>	<u>1930</u>	<u>1931</u>	<u>1932(July 1)</u>
370	415	625	855	975

Since much of the outstanding debt was short-term, the USSR was locked in to purchasing where credit was made available because as much as two-thirds of the outstanding Soviet bills had to be paid each year (as of 1930/31); thus, unless the USSR was willing to run a large trade surplus to reduce its outstanding foreign debt, trade was almost forced to follow credit availability.<sup>30</sup>

In comparison, Soviet foreign reserves were about 360 million rubles on January 1st 1932 (Table T-17).

The Soviet foreign trade and payments crisis 1932-1933

The stage was set for a severe crisis in the Soviet foreign trade sector by the end of 1931 - the worst grain harvest since 1925, a slaughter of livestock and poultry supplying major export products, collapsing terms of trade, increasing trade barriers (not only tariffs, but also quotas), and increasing domestic demand for oil products, timber, and other major export products. Recall that grain exports equalled 20% of total exports in 1931.

Plan and reality in 1932 and 1933. Although the volume of foreign trade far exceeded the plan targets during the first three years of

---

<sup>30</sup> Shenkman-32a, p. 549 cited the "two-thirds" figure.

the FYP, the deterioration of the terms of trade and the excess fulfillment of the import plan resulted in large trade deficits rather than the large trade surpluses which were projected for these years in the foreign trade plan, so that in 1931 large quantities of gold had to be shipped and foreign reserves declined again after being slowly built up through domestic gold production and the payments of the large deficit on current account through accumulation of high-cost short-term foreign debt.

The foreign trade plan had called for continued expansion of both imports and exports in 1932 and 1933; recall that exports were supposed to be expanded on the basis of increased grain exports (Table XIV. 1). But Soviet foreign trade had reached a turning point and these trade plans were never even remotely fulfilled - and never again mentioned in the Soviet press.

Exports. Exports fell 29% in value in 1932 and 19% in volume (1932 price weights) rather than increasing 31% as projected in the plan. The decline was largely due to the cutback in grain exports which was caused by the bad 1931 harvest, but exports of timber, manganese ore and other minerals, and flax also fell (Tables XIV. 1, XIV. 4, T-3).

Exports fell another 37% in value in 1933 even though the volume (1932 price weights) fell only a few percent - the plan, of course, had had projected a 23% increase in exports, which when combined with the moderate growth of imports was to result in a very large trade surplus (almost one-half of the entire trade surplus was to be achieved in 1932/33). A trade surplus was indeed achieved in 1933 - but not at all according to plan.

Imports. Imports were chopped back by 37% in value in 1932



and 26-29% in volume. But the real cutback in Soviet imports was really felt in 1933, when the value of imports fell to about 50% of 1932 levels and to about 32% of the level of 1931 imports. The cutback in volume in 1933 was even more draconian than in 1932; the volume of imports were reduced 45% below 1932 levels and equalled about 39% of 1931 import volume (using 1932 price weights)(Table XIV. 5). Whereas the plan had projected import to be about 80% above 1927/28 levels, the actual volume of imports in 1933 was about 40% below the volume of imports in 1927/28. What went wrong in 1932 and 1933 in the foreign trade sector to cause such underfulfillment of the import plan (and also the export plan)? For previously the overall trade plan targets for imports and exports were being exceeded at least in volume in 1929, 1930 and 1931.

The cutback in imports was widespread throughout the import list, but machinery, ferrous metals, non-ferrous metals, and paper imports were reduced most.<sup>31</sup> In some cases these cutbacks of imports caused a reduction in the net supply of these products to the economy (import deprivation rather than import substitution); this occurred in the case of wool, copper, lead, zinc, tin, aluminum, pipes, rolled ferrous metals, paper, and possibly leather and some types of machinery (and machinery in general). (Table XIV.11) Could this cutback in imports have contributed to the slowdown in investment and the growth

---

<sup>31</sup> An order went out in early 1932 cancelling previously granted licenses for imports of many types of machinery (Baykov-46, pp. 55). Assessing the impact on the total supply of machinery from the cutback in machinery imports is difficult because of the weighting problems (see Table XIV.2).

of non-agricultural output and in the production of certain products such as electrical machinery in 1932 and 1933.<sup>32</sup> Other reasons could have contributed to the slowdown, including the famine (which according to most observers was prevalent mostly in rural areas while the industrial areas remained fairly well supplied).<sup>33</sup>

Reasons for the cutback in trade in 1932 and 1933. Why was trade (and especially imports) reduced so sharply in 1932 and 1933. The major reason of course, was the problem in expanding Soviet exports. The Soviet explanation for the reduction in Soviet exports (and therefore, also imports) was explained by the editor of the journal of the Soviet trade delegation in Germany:

32

Indexes using 1937 price weights

1930 = 100

	Gross Annual Investment in Fixed Capital	Non-agric. & Non-resident. component of national prod.	Industrial Output	Electrical Equipment
1930	100	100	100	100
1931	112.4	109	111	185
1932	117.5	113	108	274
1933	104.5	115	103	235
1934	118.6	128	114	218

Sources: Gross annual investment in fixed capital based on Moorsteen-66, p. 358. Non-agricultural and non-residential component of gross national product from Moorsteen-66, p. 361. Output of electrical equipment based on Moorsteen-62, p. 314. Output of final industrial product from Powell-63, p. 178.

Electrical machinery is one of the major consumers of copper, the net supply of which was cut back in 1933.

<sup>33</sup> Cf. Moorsteen-66, p. 285. See Dalrymple-64a for discussion of the distribution of the famine.

... the cause of the cutback in imports consists in no way in a reduction of the demand of the Soviet economy for the import of producers' goods, but rather exclusively in the reduction in the absorptive capacity of foreign markets for the sale of Soviet goods - a condition, which is the result of the world economic crisis and the foreign trade policy measures to limit imports. As it is known, since the export of commodities is the major basis for the development of imports for the USSR, curtailment of exports must for the above named reason necessarily be followed by a curtailment of imports.<sup>34</sup>

While the increasing trade-policy restrictions on world trade undoubtedly were a major factor in restricting the expansion of Soviet exports in volume, two other factors also played an important part in the cutback of Soviet exports in 1932 and 1933.

First, the domestic output of several major export products such as grain, flax, crude oil, timber, matches, sugar, eggs, meat and milk actually fell in 1932 or 1933;<sup>35</sup> at the same time domestic demand for many export products (including grain, refined petroleum products, timber, etc.) was expanding because of the growing population, the desired expansion of investment and industrial output. Thus, the "exportable surplus" - if this term has meaning in an economy with great excess aggregate demand - was being reduced for those goods whose output in absolute terms was failing to keep up with domestic demand.<sup>36</sup>

---

<sup>34</sup> SUA, Vol. 11, No. 19 (1931), p. 5; This article also noted the rising trend of using quotas to limit imports especially in Germany, a major Soviet export market.

<sup>35</sup> Data on grain, milk, eggs, flax, meat and sugar beets during 1931-34 from Johanson-60, pp. 266-267. Data on timber and crude oil and sugar output from Nutter-60, pp. 420-459.

<sup>36</sup> Maybe a more relevant term than "exportable surplus" is "relative exportable surplus" denoting changes in relative shortages and relative excess demand (assuming some set of prices).

Second, the substantial deterioration of the commodity terms of trade in the first three years of the FYP had sharply reduced the gains of trade for the USSR - not only from the viewpoint of further "export specialization of the economy" by expanding export fields rather than import substitution industries, but also from the viewpoint of the economic gains of export-import operations from the current structure of output. If it is assumed that the planners' or Soviet leaderships' preferences did not change between 1927/28 and 1931 - which, of course, was not true - then from any given level and structure of output, an adverse shift in the terms of trade would be expected to cause a reduction in the level of imports. The planners' and leaderships' preferences, however, did change between the approval of the 1st FYP in 1929 and in late 1930; this change was not entirely unrelated to the adverse trends in the foreign trade sector. For now much greater emphasis was being placed on "heavy industry" or the "investment goods industry" to make the USSR more rapidly independent of the world economy. The gains from becoming more independent of the world economy were greatly enhanced (or the opportunity costs of becoming more independent from the world economy based on other reasons were reduced) by the decline in the terms of trade and the other adverse developments in world trade during the early 1930's. Thus, the planners' desire to accelerate the process (or at least maintain the process) of becoming less dependent on foreign trade to supply the Soviet economy with investment goods was increased, and they might have become more willing to expand trade even though the terms of trade had deteriorated. But once sufficient structural change had been achieved in the economy in the direction of a larger

investment goods industry, so as to permit the desired rate of investment without imports, that component of the gains of foreign trade which depended on the gains to the economy (or to the Soviet leadership) from changing the structure of the economy through export-import operations, became unimportant. During 1930 and 1931, this "structural change component" of the gains of trade was perhaps the most important component of the gains of trade to Soviet leaders and to Soviet planners. Remove this component of the gains of trade - which explains at least partially why the Soviet Union expanded trade in the face of deteriorating terms of trade - and the previous level of trade necessary during the structural change period turns out to be excessive with respect to the remaining gains of trade, so that the planners become willing to cut back on trade at the current terms of trade. Thus, we have a second reason why the USSR might start reducing foreign trade in 1932 and 1933.<sup>37</sup>

The terms of trade continued to deteriorate in 1932 (-9%) and 1933 (-3%) which, even without any further change in the planners' preferences, would increase the tendency for the planners to reduce trade (Table XIV.8, 1932 quantity weights). Against this tendency, however, must be considered the growth of the Soviet economy during this period and the economy's marginal propensity to import (the economy's marginal propensity to imports, however, was being reduced during this period by deliberate policy of the government).

---

<sup>37</sup> Holzman-63, p. 304 also suggests that the terms of trade might have been important in reducing Soviet foreign trade.

Thus, four factors tended to depress exports after 1931 - the poor harvests of 1931 and 1932 and a decline in output of other major export goods, increasing domestic demand for export goods, increasing world trade barriers in the form of both tariffs and quotas, and a reduction in the gains of trade because of the deterioration in the terms of trade and because of the structural changes in the economy toward importsubstitution.

Imports 1932-1933. Imports were reduced basically as a result of the deterioration in the export situation. The interesting question is why imports were not maintained at higher levels through the expansion of outstanding foreign debt rather than being reduced by almost one-third in 1932 and cut again by one-half in 1933. In 1932 the reduction of imports was sufficient to reduce the trade deficit by over 150 million rubles, but the trade deficit was still about 130 million rubles which when considered with the deficit of invisible trade items on current account must have resulted in a balance of payments deficit of more than 200 million rubles. Outstanding foreign debt did in fact increase somewhat in 1932 to maintain the level of imports; this reflected the fact that it was difficult to reduce imports of machinery to any greater extent in 1932 because of the lag between ordering and delivery of the equipment, so that the increase in foreign debt to July 1932, at least, represented the delivery of equipment purchased under previous credit agreements rather than any increase in the availability of foreign credits offered.<sup>38</sup>

---

<sup>38</sup> See below, pp.601 and Table T-15. See also ERSU, (Vol. XII, No. 8 (1932) p. 185) for the 1932 extension the permissible period for discounting Soviet bills under the 1931 credit agreement - but this

Political relations, credits and trade 1932-33. The possibilities of greatly expanding credits diminished during 1932 and large sums of bills were falling due during and especially toward the end of 1932 and the beginning of 1933. Furthermore, the Soviet government had increasing reasons to doubt the willingness of the German government to prolong or renew their credit and the possibilities of expanding British credits because of the deteriorating political relations between the USSR and Germany and the USSR and Great Britain.<sup>39</sup> The deterioration of political relations between the USSR and its two major creditors in late 1932 and early 1933 was an important factor in the decisions to cut back Soviet imports, for the level of imports depended to a large extent on the willingness of these two governments 1) to guarantee Soviet bills and 2) to accept Soviet exports. The forming of the von Papen government in Germany in mid-1932 certainly worried the Soviet government, for von Papen was long associated with anti-Soviet policies, while the continued rise of the stridently anti-Communist Nazi Party and final assumption of the Chancellorship by Hitler in January 1933 was not a sound basis for planning the long term continuation and expansion of trade and credit relations with the Soviet's major creditor and trading partner.<sup>40</sup> In October 1932 Great Britain denounced the Soviet-British

---

1932 agreement provided only for a very small increase in the credits to be made available.

<sup>39</sup> Malevsky-33, pp. 559-560 discussed the increasing reluctance of British and German firms to grant credit to the USSR, and emphasized that a large sum of Soviet bills were maturing in 1932 in Germany (180 million rubles) and in other countries (especially during the latter half of the year).

<sup>40</sup> See Dyck-66, pp. 250-255 for the Soviet attitude toward von

trade agreements and, as a consequence of the arrest in March 1933 of several British subjects in the USSR, the British government declared an embargo in April 1933 on about two-thirds of Soviet exports to Great Britain - here again there seemed to be little ground to assume stability of trade relations with this major trading partner.<sup>41</sup>

Deteriorating political relations with these two countries were reflected in the increasing unwillingness of the Soviet Union to rely on continued trade and credit relations with these two countries. Here were several reasons for not maintaining imports at higher levels through the expansion of credits, for the instability of trade and political relations and the emerging network of trade and currency restriction increased the risk of forcing the Soviet government to default on Soviet foreign obligations.

From the deficit of 1932 to the surplus of 1933. The trade deficit of 1932 and the even greater deficit on current account was financed by the shipment of about 100 million rubles in precious metals and some additional accumulation of short-term foreign debt (Tables T-15 and T-16).

In 1933 the Soviet trade surplus was about 120 million rubles and the balance on current account probably showed even greater improvement over 1932 due to efforts by the USSR to reduce their expenditures on invisible items on current account (especially technical aid and

---

Papen, and Beloff-47, pp. 64-69 and pp. 94 for the Soviet attitude toward Hitler.

<sup>41</sup> Beloff-47, p. 35.



and the hiring of foreign workers). The large sum of maturing credits, however, could be covered completely only by continued shipment of precious metals of 110 million rubles (including large quantities of silver) and by an emergency "transition credit" (Uerberbrueckungskredit) of about 75 million rubles from Germany, which was to be paid off in the summer of 1934.<sup>42</sup>

Soviet foreign reserves fell only slightly in 1932 and were at about 350 million rubles on January 1st, 1933. Domestic gold production was rising rapidly and as far as can be determined the large shipments of gold in 1933 were probably less than the total quantity of gold produced in that year so that the gold stock actually rose in 1933 (Table E. 3). Thus, all indications are that Soviet foreign reserves rose slightly by January 1934 (Table E. 3.).

Repayment of the Soviet foreign debt 1932-1934. The real cost of these relatively short-term credits to the USSR was quite high for a variety of reasons. First, the terms of the credit including the "insurance costs", the timing of the handing out of the trade bills, the deposit requirements, and the basic interest rate (especially in Germany in 1931) were not particularly favorable. Second, firms often increased prices on "Russian business" in order to compensate the firm for the high discount rate (on the "black bourse") on the non-guaranteed portion of the Soviet acceptances or on non-guaranteed Soviet bills, which they did not wish to hold in their own portfolio until maturity. Third, the real costs of these credits were increased by the decline in Soviet export prices between the time of the issue of the Soviet bill and the repayment of the Soviet bill by means of a trade surplus. Fourth, the short-maturity of

the bills locked the direction of Soviet trade into the availability of credit rather than being guided by competitive costs. Five, the repayment of Soviet foreign debts became increasingly more complex because of the end of multi-lateral clearing upon the creation of the maze of currency controls (especially in Germany, their main creditor), so that these currency controls threatened to raise the cost of credits to the USSR even more.

It is, therefore, understandable that the Soviet government became increasingly wary of relying on increasing short-term foreign debt as a basis for maintaining their import levels in 1932 and 1933 at the previous high levels - even if the political and commercial relationships with its major creditors and trading partners made it possible. Thus the Soviet government during the middle of 1932,<sup>43</sup> it seems, decided (was forced?) to reassess and to "reconstruct their current system of paying for a large share of imports through the use of short-term credits and using current export receipts to cover maturing short-term credits. They decided (or were forced?) to convert to a system of paying for current imports with cash received either from current export receipts or from long-term low-cost loans (in the form of bonds,

---

<sup>42</sup> Huntingdon-35, p. 13 and Wirtschaftsdienst (April 6, 1934) p. 480. This credit is very little discussed in any of the Soviet foreign trade press organs and was almost not noticed by the Western press - but it was very important to the USSR in permitting it to meet its payment obligations in 1933.

<sup>43</sup> Furthermore, the Soviet government wished to maintain and, if possible, increase, their foreign reserves because of the increasing threat of war with Japan in the Far East toward the end of 1931 and during 1932 (Beloff-47, pp. 80-88 and pp. 163 ff). The military events in the Far East also reduced trade with China and ended the con-

or long-term bank credits). But to reconstruct to this cash basis of import payment required paying off the large outstanding Soviet foreign debt - and this the USSR accomplished with amazing rapidity as can be seen in Table T-15. How did the USSR reduce their outstanding foreign debt so rapidly?

The Soviet foreign debt was reduced in a number of ways including the traditional methods of running a large trade surplus and the shipment of precious metals as well as the reduction of the large Soviet stocks of commodities warehoused abroad, the fortuitous devaluation of several creditors' currency, and the attraction of fairly substantial quantities of foreign currency into the hands of the government by means of a network of foreign currency stores (Torgsin). In addition the Soviet government took measures to improve their balance on the invisible trade items by reducing the size of trade delegations abroad, by the development of a Soviet shipping fleet, by encouraging tourism in the Soviet Union, by cutting back on their use of foreign technical assistance and foreign technicians, by changing the method of payment of the remaining foreign workers from convertible rubles to inconvertible rubles by the establishment of Soviet insurance and forwarding firms abroad.<sup>44</sup>

Devaluation and repayment of the Soviet debt. The 40% devaluation of the pound after October, 1931, significantly reduced the amount

---

siderable Soviet trade of oil and textiles to Manchuria (Ibid. p. 166). In 1933 further friction arose over the "forced sale" of the Chinese Eastern Railway by the USSR to the Japanese again causing considerable concern about the possibility of a war (Beloff-47, pp. 167-177).

<sup>44</sup> See ERSU and VT in 1934 and 1935 for description of these measures.

of Soviet foreign debt valued in gold rubles because much of the foreign debt was payable in pound sterling (even trade acceptances of some German firms), and the quotation (based on the cross exchange rate on the dollar in 1932) of the pound sterling in terms of rubles fell. Several other creditor countries (Norway, Denmark, Austria) devalued in 1931 and 1932 and the United States finally devalued in 1933. By the end of 1933 the devaluation of the pound and other currencies made a major contribution - maybe as much as 300-350 million rubles - to the reduction of Soviet foreign debt in terms of gold rubles.<sup>45</sup>

The devaluation also reduced the foreign debt in terms of gold and the USSR was forcing up the output of gold at a frantic pace in the early 1930's (Table E. 1). This increase in Soviet gold output was the second major means of paying off the Soviet foreign debt and net shipments of precious metals in 1932 and 1933 were estimated at 210 million rubles; another 120 million rubles of precious metals were shipped in 1934 (Table D. 8).<sup>46</sup>

The Soviet government, however, was not able to reap the full benefits of the increased "debt paying power" of gold in reducing its foreign debt during 1932-35 through gold shipments during this period. The balance of trade with Germany during this period was strongly un-

---

<sup>45</sup> Prokopovich-52, p. 210 noted that some foreign observers attributed about 300-350 million rubles of the rapid reduction in the Soviet foreign debt between 1932 and 1935 to the devaluation of currency.

<sup>46</sup> Considerable quantities of silver were exported in 1933 and 1934 (Table D. 8). The silver probably came from the melting of Tsarist and Soviet silver coinage, which was withdrawn from circulation or which was received through the network of "foreign currency stores" (Torgsin) which sold consumer goods to both Soviet citizens and tourists

favorable during 1930-1933 and the trade surplus was not very large relative to the debt repayments to be made in 1934. The Soviet government attributed their deficit to the increasing restriction on German foreign trade in general and also specifically on Soviet trade; the matter of expanding Soviet exports was the subject of continual negotiations in 1932-34.<sup>47</sup> Thus, the Soviet government had to ship gold to pay off its foreign trade debts to Germany; in fact, almost all Soviet gold shipments in the period 1931-1934 went to Germany (Table D. 1). This was unfortunate because it had to purchase marks with gold at the official parity rate of the Reichsmark and the German government refused to devalue the mark. Thus, the "debt-paying power" of Soviet gold in paying Soviet debt denominated in marks was less than the "debt-paying power" of Soviet gold in paying Soviet debt denominated in now devalued pounds sterling (or eventually the U.S. dollar). In Great Britain, on the other hand, the debt-paying power of gold had "risen" 40% in terms of paying off Soviet debt denominated in pounds. But because of the lack of foreign currency reserves, the USSR covered its pound sterling debts in Great Britain through the forcing (or maintenance) of its traditional trade surplus with Great Britain and since wholesale prices continued to decline in 1933 and were lower than when much of the original Soviet debt was incurred, the cost in real terms to the USSR in paying off Soviet foreign debt in Great Britain was not at all improved, but on the contrary continued to deteriorate because of the lower prices for Soviet export

---

only in exchange for foreign exchange, precious metals and silver and gold coin. See Appendix D, "Silver Exports".

<sup>47</sup> See issues of SUA, for these years.

goods.<sup>48</sup> Thus, while devaluation may have nominally reduced the Soviet foreign debt in terms of gold rubles, in practice it did not have a similar beneficial effect in real terms because of the distribution of the Soviet foreign debt between devalued currency countries and gold-standard countries and the varying possibilities of running an adequate trade surplus to pay off the Soviet foreign debt in each country.

Foreign currency stores as an export operation. In 1930 the USSR began to set up a network of retail stores, at which scarce (often rationed) consumer goods could be freely purchased by any foreigner or Soviet citizen possessing foreign currency, gold, silver, and old silver and gold coins. This chain of stores, called Torgsin, also advertised abroad that "Torgsin orders" could be sent to relatives and friends in Russia from abroad by purchases of a "Torgsin order" at local banks or authorized agents.<sup>49</sup> The purpose of these stores was primarily to bring foreign currency and precious metal and coinage out of the hoards of the Russian peasant (and other citizens); Aizenberg-62 cited estimates of pre-1917 hoards of 200-250 million rubles in gold, 100 million rubles in silver, and 75 million rubles in foreign currency.<sup>50</sup> The Torgsin network also served tourists - for otherwise, the position of the tourist in Russia and the expenses of the tourist in Russia for foreign currency converted at the official exchange rate would be prohibitively

---

<sup>48</sup> Huntingdon-35, (p. 11), noted this point in an oblique manner.

<sup>49</sup> See for example the ad in ERSU, Vol. IX, No. 12 (December 1934), p. 280.

<sup>50</sup> Aizenberg-62, pp. 64-65.

difficult and expensive. According to estimates cited in Aizenburg, sales and the ratio of Torgsin sales to total exports developed in the following manner:<sup>51</sup>

	<u>1931</u>	<u>1932</u>	<u>1933</u>	<u>1934</u>	<u>1935</u>	<u>Total</u>
Value (millions of gold rubles)	7	49	115	72	44	287
Torgsin sales as % of total exports	-	8.6%	23.8%	16%	13.8%	-

Several aspects of Torgsin operations are important for estimating their importance in foreign trade and the reduction of the foreign debt. First, the net earnings in foreign exchange and precious metals from the viewpoint of the balance of payments is less than total sales of the Torgsin network, because some goods of unknown proportion sold in these stores were imported expressly for the purpose of Torgsin sales or used imported inputs. Second, it would be interesting to know what portion of sales were for foreign currency or against foreign Torgsin orders - for the export of currency or the receipt of such money orders are not traceable in recipient countries' trade statistics, while statistics of Soviet exports of gold and silver are available from recipient country statistics; gold and silver exports originating from Torgsin sales would be no different than exports from domestic production in estimating the role of precious metal exports in reduction of the foreign debt. The League of Nations did cite an estimated composition of the Torgsin receipts: 15% was received in foreign currency from tourists, 16% from foreign money orders payable to the USSR citizens, and as much as 69% from the domestic population in the form of old coins, gold

and silver ornaments, etc.<sup>52</sup> Thus, about 90-100 million rubles of foreign currency was received in Torgsin sales which could be used to pay off the foreign debt without appearing in recipient country trade statistics.<sup>53</sup> The reduction in the "real foreign debt" of the USSR from about 850 in October 1st, 1931, (and perhaps even temporarily higher in 1932) to roughly 170 million rubles at the end of 1935 - a reduction of about 600 million rubles - appears to have been achieved by forcing a 200 million ruble trade surplus during the four and one-quarter years, 1932-1935, by exporting about 387 million rubles of precious metals and by the transfer of roughly 100 million rubles of foreign currency and deposits abroad and a fairly substantial sum, perhaps as much as 300 million rubles, through devaluation of the pound sterling and the dollar and several minor currencies.<sup>54</sup> Of course the total payments are in excess of the reduction in real debt during the period, but it must be recalled that the USSR ran a deficit on invisible items in the current accounts during most of these years.

The Soviet government claim to have reduced their foreign debt from 1400 million rubles at the end of 1931 to about 450 million rubles at the end of 1933 to about 170 million rubles at the end of 1935. This seems on the face of it to be completely at odds with the above

---

<sup>51</sup> Aizenberg-62, p. 65

<sup>52</sup> League-36a, p. 180.

<sup>53</sup> For some description of the Torgsin operations see Aizenberg-62, pp. 64-66; League-36a, p. 180; ERSU, Vol. VII, No. 13-14 (July 15, 1932); p. 303; ERSU, Vol. IX, No. 4 (April, 1934), p. 101; SUA, Vol. XII, No. 23/24 (1933), pp. 62-63.



statement about the reduction of the Soviet foreign debt (Table T-14) The Soviet figures are not necessarily incorrect, but they probably refer to different definitions of foreign debt - namely, to total liabilities including "real debt" as well as loans against Soviet goods warehoused abroad and for bills given out when orders for machinery and other goods were placed (20% was the practice in Germany).<sup>55</sup> These liabilities are what Shenkman called "contingent liabilities" for the loans against export goods warehoused abroad could be reduced simply by selling off the warehoused goods and this was probably what actually happened during 1932-35.<sup>56</sup> The bills delivered against commodities at the time of ordering rather than their delivery - even if the practice was continued as late as 1935 - would be much lower in value in 1935 due to the sharp cutback in the value of outstanding orders in 1935 (not only for imports in general, but even more for the type of commodities which required such financial arrangements). Since much of the import purchases by the USSR by 1935 was for cash rather than on credit terms, it was likely that such "contingent liabilities" would be even further reduced. In fact, it is likely that both types of "contingent liabilities" were negligible in 1935 because of a distinct change in export policy during the mid-1930's away from the export of unsold goods to warehouses abroad, and the policy of "cash payment for imports". In October, 1931, these contin-

---

<sup>54</sup> See Tables XIV, 3, A. 1c, T-16, and text of Chapter XIV.

<sup>55</sup> Shenkman-32a. See terms of 1931 credit agreement between Germany and the USSR in Committee-33, p. 189.

<sup>56</sup> See Prokopovich-52, p. 210 for his explanation of the increase in the foreign debt for 1929-1931 and its reduction in 1932-1933.

gent liabilities" were roughly 450 million rubles (Table T-15). If the reduction of these contingent liabilities are taken into account, the great discrepancy between the Soviet description of their debt reduction and the above description of Soviet debt reduction is largely eliminated.

#### 1934 - toward stabilization at lower levels of trade

The factors which had originally caused the turnabout in Soviet foreign trade and complete realigning of the Soviet foreign trade policy continued in various degrees in 1934 and need not be reviewed extensively here.

The volume of exports declined very little during 1934 as the pressure to maintain exports continued; the value of exports fell 11% as export prices continued to decline. Important structural changes occurred (Table XIV. 9). Grain exports, which were still quite substantial in 1933 despite the famine were reduced 50% in 1934 (Table XIV. 2) and oil product exports continued to decline as internal demand outpaced domestic production - this decline in oil product exports continued uninterruptedly during the rest of the period 1934-1938 (Table XIV. 9).

The volume of imports again was sharply reduced (by 28% using 1932 price weights), although the reduction was not as drastic in either relative terms or absolute terms as in the previous years (Table XIV. 5). The effect on the economy of this further reduction in imports was much less than in the previous two years because in the interim the domestic import-substitute industries had been sufficiently developed to permit increases in domestic supply despite the cutback in imports. The cutback occurred almost exclusively in machinery imports and ferrous

metals (Tables XIV. 10 and XIV. 11), while the import of tropical products and non-ferrous metals actually increased somewhat.

The structural change in the economy to permit economic growth independent of the level of imports had proceeded far enough so that the cutback in machinery and ferrous metal imports had little or no effect on the aggregate level of investment after 1934. The volume of imports in 1934 had been reduced to level below the volume of imports in 1924/25 (Table XIV. 4) and this was to be the nadir of Soviet imports during the period 1924/25 - 1938, a low level of imports completely unforeseen in the beginning of the 1st FYP. This was not the goal of the 1st FYP or even of the changes in the planners' preferences in 1930-31 - but were it not for the FYP and the shift toward a heavier emphasis on the investment goods and import-substitution industries, such low levels of imports would have posed a barrier to the growth of the Soviet economy even in the early 1930's. Soviet imports in 1934 had to be forced down to such low levels because of the large deficits run in the early 1930's - and the largest trade surplus of the entire period between the two world wars - 186 million rubles - was forced in 1934 in order to meet maturing Soviet obligations and to rebuild Soviet foreign reserves (which increased roughly 100 million rubles in 1934 (Table T-17). Large exports of precious metals continued to be necessary during 1934 in order to meet maturing obligations (especially in Germany), so that the increase in reserves was due largely to an excess of gold production over gold exports. Why did the Soviet government throttle imports rather than spending foreign reserves? The decline in imports might well have been the result of the policy actions taken in 1932 and 1933 - namely,

the decision to reduce imports and especially to reduce the ordering of machinery abroad, for the major reduction in imports in 1934 was in machinery and ferrous metal product imports while imports of other products including consumer goods such as tea actually increased in 1934. Second, the Soviet government had long felt that its foreign reserves were too low with respect to national security needs and also with respect to its economic needs.<sup>57</sup>

The accident of absolute autarky. In summary, the trends in Soviet foreign trade after 1931 were not at all the result of a long-run policy to reduce the level of Soviet foreign trade through industrialization and the achievement of "economic independence". Both the original planners of the FYP in 1928 and Soviet leaders in the mid-1930's saw little contradiction between the Soviet goal of economic independence and a policy of expanding foreign trade. The low levels of foreign trade, it must be emphasized, were the result not of deliberate long-run policy goals, but rather the result of a series of unforeseen events - collapse of world trade, failure of Soviet agriculture, military, political and commercial problems with foreign countries - to which the Soviet government responded with ad hoc policy decisions which eventually led to a sharp cutback in foreign trade. The levels of trade maintained during 1933 and 1934 were at the cost of literally millions of lives - which the Soviet leaders were willing to sacrifice rather than to risk the credit of the USSR and another embargo which might cut the USSR completely off from access to world markets. That exports and imports were maintained even at such levels in 1933 and 1934 in the face of domestic starvation and very adverse terms of trade is somewhat surprising.

The sequel: moderate trade expansion in 1935-1938

By the beginning of 1935, two important policy goals had been more or less achieved. First, the structure of the economy had been sufficiently developed so that growth and output in the essential fields could proceed without foreign trade if necessary.<sup>58</sup> Second, the Soviet foreign debt had been greatly reduced and the foreign reserve position of the USSR had improved sufficiently to allow the USSR to pay cash for all imports if necessary, so that they were no longer locked in to the availability of credit (which in the past had proven so expensive). In fact, by the end of 1934, the Soviet Union paid cash rather than asking for credits in the purchase of machinery in Great Britain.<sup>59</sup> This was thought to be of great significance in the nature of future foreign trade relations of the Soviet Union, first because there existed very few commodities or machinery which they could not produce themselves if they so desired, so that they would no longer be forced to trade under very unfavorable terms such as existed in the early 1930's and second, they were able to shop around for the best bargains in the goods they wished to import rather than being forced to buy where they could find credits as they had been forced to in the early 1930's.<sup>60</sup>

---

<sup>57</sup> Gerschenkron-45, p. 12.

<sup>58</sup> Rozengolts-34a, pp. 3-8.

<sup>59</sup> ERSU, Vol. X, No. 1 (January, 1935), p. 29.

<sup>60</sup> Rozengolts-35b, p. 79; Rozengolts-34a (pp. 10-11) emphasized that imports were not necessary for the 2nd FYP, but that imports might well be expanded under the proper credit and price conditions. ERSU (Vol. X, No. 3, (1935) pp. 77-78) emphasized the Soviet desire to expand imports if the price and credit terms were favorable and empha-

The new nature of the "Russian market" was reflected in the improvement in the terms and availability of low-cost long-term (five-year) credits which were offered to the USSR after 1935 by Germany, Great Britain, Czechoslovakia, and Sweden.<sup>61</sup> Furthermore, the terms of trade shifted in favor of the Soviet Union slightly (Table XIV.8). World trade was expanding. Shouldn't the USSR's trade also have expanded? It is not the purpose of this study to analyze Soviet foreign trade during this later period, but several trends and factors should be pointed out.

First, after the great bulk of the short-term debt had been paid off by the end of 1934, the Soviet balance of trade was no longer forced to such high surplus levels, and in 1936 was negligible and in 1938 in deficit (Table XIV.3). Second, imports rose somewhat in volume and in value - a trend realized largely at the cost of the trade surplus. Third, exports declined almost continuously in volume during 1935-1938, which I attribute to several factors including 1) domestic supply and demand problems for their major export products (timber, petroleum products, flax fiber, and animal products, 2) to the aggregate excess demand for raw material imports which existed under the system and which was not countered by any great pressure from the leadership to "force" exports at the cost of domestic production, 3) to the terms of trade which continued to be less favorable than in 1927/28 and, 4) the continuing system

---

sized that during the early years of the FYP the USSR "overpaid" for other imports.

<sup>61</sup> Gerschenkron-45, (p. 70) describes briefly these new types of long-term, low cost foreign credits.

of trade restrictions in particular with the Soviet's major trading partners, Great Britain and Germany. The trade pact signed with Great Britain in February, 1934, contained a clear restriction on the ratio of Soviet exports to Soviet imports, for the USSR traditionally ran large trade surpluses with Great Britain which the British government wished to reduce for balance of payment reasons; thus the treaty stipulated that the ratio of Soviet exports to Soviet imports in trade with Great Britain be reduced from 1.7 for 1934 to 1.1 in 1938 - such treaty provisions were not conducive to the expansion of Soviet exports.<sup>62</sup>

Trade and especially exports to Germany fell off sharply after 1934 after the repayment of the bulk of the short-term debt and this decline in exports also must be attributed at least in part to the autarkic policy pursued by Germany (rather than the USSR) during this period. Furthermore, political relations between these two countries had deteriorated greatly after Hitler's taking office in 1933.

Thus, the possibilities of expanding trade with the USSR's two major trading partners were artificially restricted.

Another important factor in the Soviet foreign trade policy was the desire of the Soviet government to accumulate large quantities of foreign reserves - a policy goal which undoubtedly was influenced by their very unstable relations with Germany and the increasing threat of war on both their eastern and western borders. And Soviet foreign reserves did in fact increase very rapidly during the period 1934-1938 (Table T-17).

---

<sup>62</sup> Handbook-36, p. 87.

Thus Soviet foreign trade more or less stabilized at fairly low levels - primarily because of continued difficulties in expanding exports. Imports, however, were permitted to increase somewhat after the extreme balance of payments crises of 1932-34 had been survived and the balance of trade surplus tended to decline in this period.

The Soviet leadership continually expressed their desire to expand trade - under the proper conditions - but they also emphasized that they were no longer forced to expand trade. Kuibyshev in 1932 expressed the future policy of the USSR with respect to foreign trade and the 2nd FYP - a policy which was echoed many times in subsequent years:

In the second Five Year Plan we shall undertake a very large task - the task of making our socialist economy completely independent economically from the capitalist world. This is indispensable if we are to preclude the possibility of the country of socialism falling under the economic sway of our capitalist antagonists. In the second five year period we must attain complete economic independence from the outside capitalist world at all costs, so that we need fear neither threats nor blockades.

But of course, this does not mean that our ideal is a shut-door economy. We shall extend our foreign trade connections. (emphasis added). But while doing so, it is necessary to realise definitely that the socialist state does not need connections of any sort of description with the capitalist world, but only such as help to strengthen socialist construction and are in consonance with the complete economic independence of the U.S.S.R.

Connections which will assist us in obtaining from abroad certain products, raw materials and machines as and when required, connections which will promote the marketing abroad of our excess products, we shall always be ready to develop. But we must be masters of the situation; if we want to, we sell; if not, not. We must be so situated that we ourselves shall be able to produce all the products needed in our Union, and shall therefore not be obliged under any circumstances to import anything. If we care to buy, we shall buy or vice versa, as it may suit us best. We must control the situation concerning our mutual relations with the capitalist world.<sup>63</sup>



Soviet goals and absolute autarky. The major point of this review of Soviet foreign trade from 1927/28 to 1938 is that the movement of the Soviet economy toward absolute autarky which occurred from 1932 to 1935 was not by design but was forced by a number of other events in the world and Soviet economy. And if an economy is forced to become absolutely more autarkic and therefore can not import the planned quantity of investment goods, then the only way to assure the economy a sufficient supply of investment goods to attain the desired investment levels to "get on the desired growth path" is to allocate additional resources to the domestic investment goods sector. Was this not the sequence of events in the USSR in 1929-1933?

---

<sup>63</sup> Quote of Kuibyshev from Kuibyshev-32a (pp. 21-22) see also Rozengolts-34a.

TABLE T-1

## USSR: ANNUAL FOREIGN TRADE PLANS DURING THE NEP 1922/23 - 1927/28

(millions of rubles in current prices)

Economic Year	Planning Agency	Export	Import	Trade Balance	Comments
1922/23	Actual	210.6	187.5	+23.1	European borders only.
	Plan	228.0	162.0	+66.0	European borders only?
	% fulfillment	92%	116%	35%	
1923/24	Actual	523.0	439.0	+84.0	
	Plan A	500.0	300-350	+150-200	As of January 1924.
	% fulfillment	104%	88-146%	42-56%	
	Plan B	428.7	334.3	+94.4	Final revised plan, June 2, 1924.
	% fulfillment	122%	132%	89%	
1924/25	Actual	558.8	723.4	-164.6	
	Plan A	507.0	577.0	-70.0	September 1924? or March 1925, may not be first plan.
	% fulfillment	110%	125%	235%	
	Plan B	504.0	659.0	-155.0	Final revised plan, June 17, 1925.
	% fulfillment	110.8	109.7	106%	
1925/26	Actual	677.0	756.0	-80.0	
	Plan A	1200.0	[1009.7]	[+190.0]	Gosplan's original projection for export.
	% fulfillment	56%	75%		
	Plan B	1105.2	1009.7	+95.5	Cited by Rykov, March 3, 1926 as original plan fig. (July 31, 1925).
	% fulfillment	61%	75%		

TABLE T-1 (continued)

Economic Year	Planning Agency	Export	Import	Trade Balance	Comments	
1925/26	Actual (continued)					
	Plan C	NKVT	1000.0	950.0	+50.0	EIKSSSR estimates
	% fulfillment		68%	80%		
	Plan D	NKT	750.0	700.0	+50.0	Preliminary est. of January revision?
	% fulfillment		90%	108%		
	Plan E	NKT	720.0	685.0	+ 35.0	"Final revision adopted in January"
	% fulfillment		94%	110%		
1926/27	Actual		779.4	713.5	+65.9	
	Plan A	Gosplan	820.0	745.0	+75.0	Original control figures (August?)
	% fulfillment		95%	95%	88%	
	Plan B	Gosplan	800.0	704.0	+96.0	Revised control figures (October?)
	% fulfillment		97%	101%	68%	
	Plan C	NKT	780.0	680.0	+ 100.0	Control figures by NKT October, 1926
	% fulfillment		99%	104%	66%	
	Plan D	NKT	762.9	699.0	+ 63.9	Final revised plan by NKT
	% fulfillment		102%	102%	104%	
1927/28	Actual		781.8	945.5	-163.7	
	Plan A	NKT?	754.0	(830-860)	-(76-106)	Data are estimates
	% fulfillment		103.7	(110-113)		

Source: Notes to Table T-1, Appendix C, pp. 787-788

TABLE T-2

USSR: VALUE OF EXPORTS, 1913, 1923/24 - 1927/28

(millions of rubles at current prices)

	1913	1923/24 <sup>b</sup>	1924/25	1925/26	1926/27	1927/28
TOTAL EXPORTS <sup>a</sup>	1505.9	522.6	558.8	676.7	779.4	781.8
Agricultural Exports	1114.5	364.4	338.1	430.6	476.8	399.7
A. <u>Crops</u>	797.5	[247.0]	161.0	248.3	265.4	106.4
<u>grain products<sup>c</sup></u>	595.8	192.0	52.3	159.1	208.1	40.5
wheat	225.2	.	16.4	76.4	126.2	11.5
rye	32.9	.	5.1	10.8	35.4	10.1
barley	186.2	.	15.6	50.4	17.6	0.4
oil seed	21.2	10.7	24.0	13.9	3.8	1.5
oil cake	38.8	20.8	26.5	24.0	22.7	16.9
flax	94.2	23.3	52.5	45.5	20.8	26.9
hemp	23.7	2.0	3.9	2.2	1.9	3.7
tobacco	6.6	.	1.2	1.0	4.4	4.9
B. <u>Animal products</u>	291.3	[45.4]	93.9	96.6	109.5	140.3
butter	71.6	26.5	27.6	30.9	34.2	39.2
eggs	90.7	13.4	25.7	23.6	29.0	40.5
meat	16.6	.	6.2	5.3	12.0	24.3
hides	47.7	.	1.6	5.0	5.7	4.5
horsehair	3.1	1.6	1.9	1.9	2.3	2.4
bristles	9.9	3.9	15.3	10.3	6.7	6.6
wool	10.6	.	5.0	1.4	0.7	0.9
C. <u>Furs and fish products<sup>d</sup></u>	15.1	[49.7]	80.9	82.4	96.3	132.1
fur	6.5	49.7	67.3	69.3	86.1	118.5
fur, raw	6.5	.	63.1	64.0	77.3	105.6
fish	8.6	.	13.6	13.1	10.2	13.6
caviar	4.2	.	6.7	5.9	3.9	6.2
D. <u>Other agricultural</u>	10.5	[20.4] <sup>b</sup>	1.3	2.3	5.6	10.4
Industrial Exports <sup>e</sup>	391.4	158.3	220.7	246.1	302.6	382.1
A. <u>Timber products</u>	166.0	70.4	72.8	58.5	80.4	94.8
unworked	62.8	.	25.4	20.3	23.2	32.5
sawn	96.4	.	40.8	32.4	49.7	52.3
plywood	0.0	.	1.4	1.4	2.9	4.6

TABLE T-2 (continued)

	1913	1923/24 <sup>b</sup>	1924/25	1925/26	1926/27	1927/28
B. <u>Mining products</u>	75.2	[51.7]	88.8	107.3	126.7	136.6
<u>oil products</u>	50.4	37.3	66.7	76.0	89.4	107.1
gasoline	8.3	.	25.9	35.7	40.1	46.5
kerosene	21.8	.	16.6	14.4	17.5	25.2
diesel and mazut	5.6	.	13.4	13.3	16.4	18.3
manganese ore	14.6	14.4	17.9	21.3	24.1	13.8
iron ore	3.1	.	1.7	1.4	4.2	4.5
C. <u>Food industry</u>	36.8	.	21.1	36.7	43.6	52.5
sugar	27.6	6.6	14.0	19.0	31.2	34.2
alcohol	5.2	.	0.1	0.0	0.0	0.5
D. <u>Textile industry</u>	49.9	.	8.5	19.5	25.3	60.6
cotton cloth	43.9	.	5.2	14.7	20.9	50.8
E. <u>Other industries</u>	63.5	.	29.5	24.1	26.6	37.6

Source and explanatory notes: Notes to Table T-2, Appendix C, pp. 788 ff.

TABLE T-3

USSR: QUANTITIES OF EXPORTS FOR SELECTED PRODUCTS,  
1913, 1923/24 - 1927/28

(1000's metric tons)

	1913	1923/24	1924/25	1925/26	1926/27	1927/28
Agricultural Exports						
A. <u>Crop exports</u>						
Grain products	10,331.00	2686.00	606.00	2082.00	2256.00	410.00
wheat	3329.43	554.61	167.41	737.15	1198.54	111.34
rye	646.53	1316.06	72.10	158.31	417.40	114.93
barley	3926.53	327.07	199.15	836.07	262.30	4.94
Oil seed	250.07	78.96	190.88	140.67	30.37	9.77
Oil cake	736.38	291.59	324.60	405.41	352.38	193.57
Flax	305.11	35.54	55.63	70.92	43.73	42.54
Hemp	67.96	4.36	7.58	6.57	8.02	13.59
Tobacco	12.83	2.62	1.55	1.43	3.93	5.06
B. <u>Animal products</u>						
Butter	78.02	22.53	24.49	27.25	30.30	32.85
Eggs	254.01	23.33	48.98	41.41	61.83	94.41
Meat	34.43	0.76	8.27	7.86	16.81	40.53
Rawhides	52.39	1.00	1.16	2.19	2.67	.
Horsehair	2.28	1.54	1.07	0.96	1.11	1.30
Bristles	2.60	0.77	1.69	1.55	1.19	1.36
Wool	17.49	0.98	7.00	2.19	1.59	1.82
Live animals	70.99	0.01	1.21	0.32	0.95	1.20
C. <u>Furs and Fish</u>						
Fur	2.71	1.61	1.81	2.05	2.78	3.42
raw	2.71	1.45	1.59	1.83	2.22	2.66
Caviar	3.33	1.56	2.73	3.71	2.22	2.26
Industrial Exports						
A. <u>Timber products</u>	7488.49	2041.26	2126.90	1913.47	2483.63	2979.92
Unworked	3799.27	1105.61	1174.41	1030.77	1196.50	1583.71
Sawn	3554.32	403.50	912.14	841.73	1232.57	1329.17
Plywood		8.76	8.92	8.73	18.28	30.33

TABLE T-3 (continued)

	1913	1923/24	1924/25	1925/26	1926/27	1927/28
<b>B. Mineral products</b>						
Oil products	952.55	711.66	1372.50	473.49	2086.14	2782.84
gasoline	152.15	134.30	277.45	388.03	612.68	760.32
kerosene	439.70	335.25	453.91	343.77	473.97	691.28
diesel and mazut	166.76	117.95	555.32	641.55	825.10	1144.27
Manganese ore	1193.80	493.83	526.91	672.99	784.69	498.88
Iron ore	469.69	7.08	189.35	149.75	407.69	428.43
<u>Products of other Industries</u>						
Sugar	147.34	15.42	26.17	45.48	121.98	133.10
Cotton cloth	17.20	0.26	1.14	3.17	5.36	12.48
Alcohol	36.10	1.71	0.54	0.12	0.15	2.90
Machinery	4.50	0.35	2.54	2.07	1.27	1.07

Source: Notes to Table T-3, Appendix C, p. 792.

TABLE T-4

USSR: STRUCTURE OF EXPORTS, 1913, 1923/24 - 1927/28

(percent of total exports)

	1913	1923/24	1924/25	1925/26	1926/27	1927/28
TOTAL EXPORTS	100.0	100.0	100.0	100.0	100.0	100.0
Agricultural Exports	74.0	69.7	60.5	63.6	61.2	51.1
A. <u>agricultural crops</u>	53.0	47.3	28.8	36.7	34.1	13.6
<u>grain products</u>	39.6	36.7	9.4	23.5	26.7	5.2
wheat	15.0	.	2.9	11.3	16.2	1.5
rye	2.2	.	0.9	1.6	4.5	1.3
barley	12.4	.	2.8	7.4	2.3	0.9
oil seed	1.4	2.0	4.3	2.1	0.5	0.2
oil cake	2.6	4.0	4.7	3.5	2.9	2.2
flax	6.3	4.5	9.4	6.7	2.7	3.4
hemp	1.6	0.4	0.7	0.3	0.2	0.5
tobacco	0.4	.	0.2	0.1	0.6	0.6
B. <u>animal products</u>	19.3	[8.7]	16.8	14.3	14.0	17.9
butter	4.8	5.1	4.9	4.6	4.4	5.0
eggs	6.0	2.6	4.6	3.5	3.7	5.2
meat	1.1	.	1.1	0.8	1.5	3.1
hides	3.2	.	0.3	0.7	0.7	0.6
horsehair	0.2	0.3	0.3	0.3	0.3	0.3
bristles	0.7	0.7	2.7	1.5	0.9	0.8
wool	0.7	.	0.9	0.2	0.1	0.1
C. <u>furs and fish products</u>	1.0	[9.5]	14.5	12.2	12.4	16.9
fur	0.4	9.5	12.0	10.2	11.0	15.2
furs, raw	0.4	.	11.3	9.5	9.9	13.5
fish	0.6	.	2.4	1.9	1.3	1.7
caviar	0.3	.	1.2	0.9	0.5	0.8
D. <u>other agricultural</u>	0.7	3.9	0.2	0.3	0.7	1.3



TABLE T-4 (continued)

	1913	1923/24 <sup>b</sup>	1924/25	1925/26	1926/27	1927/28
Industrial Exports	26.0	30.3	39.5	36.4	38.8	48.9
A. <u>timber products</u>	11.0	13.5	13.6	8.6	10.3	12.1
unworked	4.2	.	4.5	3.0	3.0	4.2
sawn	6.4	.	7.3	4.8	6.4	6.7
plywood	0.0	.	0.3	0.2	0.4	0.6
B. <u>mineral products</u>	5.0	9.9	15.9	15.9	16.3	17.5
oil products	3.3	7.1	11.9	11.2	11.5	13.7
gasoline	0.6	.	4.6	5.3	5.1	5.9
kerosene	1.4	.	3.0	2.1	2.2	3.2
diesel and mazut	0.4	.	2.4	2.0	2.1	2.3
manganese ore	1.0	2.8	3.2	3.1	3.1	1.8
iron ore	0.2	.	0.3	0.2	0.5	0.6
C. <u>food industry</u>	2.4	.	3.8	5.4	5.6	6.7
sugar	1.8	1.3	2.5	2.8	4.0	4.4
alcohol	0.3	.	0.0	0.0	0.0	0.1
D. <u>textile industry</u>	3.3	.	1.5	2.9	3.2	7.8
cotton cloth	2.9	.	0.9	2.2	2.7	6.5
E. <u>other industries</u>	4.2	.	5.3	3.6	3.4	4.8

Source: Notes to Table T-4, Appendix C, p. 792.

TABLE T-5

USSR: VALUE OF IMPORTS, 1913, 1923/24 - 1927/28

(millions of rubles at current prices)

	1913	1923/24	1924/25	1925/26	1926/27	1927/28
TOTAL IMPORTS	1374.03	434.16	723.50	756.33	712.69	944.70
I. Producer's goods	884.43	362.83	470.57	590.50	626.19	796.14
A. <u>machinery for industry and transportation</u>	172.36	53.91	71.37	107.57	152.84	255.83
B. <u>raw materials</u>	343.11	221.24	244.50	273.98	328.12	383.62
cotton	114.04	141.84	133.83	117.78	131.51	154.22
wool	60.11	43.88	47.48	41.41	51.12	62.05
leather, unwork'd	25.08	7.64	16.76	24.84	38.63	40.08
rubber	40.17	8.77	8.41	26.24	23.56	24.11
non-ferrous metals	56.11	14.43	18.78	20.66	45.44	57.70
ferrous metals	56.38	0.91	3.79	10.36	11.28	16.76
C. <u>semi-processed products</u>	212.41	69.91	112.11	145.83	101.85	117.10
paper and card-board	29.53	9.38	21.98	29.26	18.44	14.59
leather, worked	21.24	7.78	17.26	21.85	7.52	7.27
dyes	14.97	3.54	19.37	16.95	11.09	11.74
tanning mater.	7.72	13.59	8.82	11.45	12.25	15.72
D. <u>fuel</u>	91.22	6.33	0.84	3.72	5.59	0.62
E. <u>agric. producers' goods</u>	65.33	11.45	41.72	59.41	37.79	38.98
tractors	49.04	6.21	32.24	48.15	23.81	21.77
II. Consumers' goods	391.99	67.10	240.75	153.49	80.77	142.29
A. <u>foodstuffs</u>	261.27	46.06	204.86	70.41	63.52	114.97
tea	62.17	10.55	17.30	26.07	27.94	36.79
herring	24.33	3.72	9.86	2.05	3.16	2.50
fruit	38.75	6.91	14.63	13.38	10.08	16.57
sugar	0.03	4.60	40.39	6.15	0.66	0.58
grain products	39.49		112.06	11.18	17.25	43.26

TABLE T-5 (continued)

	1913	1923/24	1924/25	1925/26	1926/27	1927/28
B. <u>Manufactured Consumer goods</u>	130.72	21.04	35.89	83.08	17.25	28.07
<u>cloth</u>	37.10	1.65	12.09	41.05	1.50	0.76
III. Other	97.62	4.23	12.18	12.34	5.73	5.58

Source: Notes to Table T-5, Appendix C, p. 792.

TABLE T-6

USSR: QUANTITY OF IMPORTS FOR SELECTED  
COMMODITIES, 1913, 1923/24 - 1927/28

(thousands of metric tons)

	1913	1923/24	1924/25	1925/26	1926/27	1927/28
PRODUCER'S GOODS						
A. <u>machinery for industry and transportation</u>	not	avail-	able	in	sources	
B. <u>raw materials</u>						
cotton	197.17	100.31	107.09	103.16	162.68	145.18
wool	55.49	14.50	17.76	21.59	29.79	34.71
hides	59.34	9.45	18.52	36.68	54.40	46.04
rubber	12.76	2.79	4.89	7.26	10.96	14.71
non-ferrous metals	118.99	21.93	34.11	54.74	88.22	122.15
ferrous metals	199.44	23.93	34.80	92.12	147.99	271.79
C. <u>semi-processed goods</u>						
paper and cardboard	144.51	47.83	115.72	146.66	107.78	90.89
leather	7.44	1.38	2.64	5.03	1.38	1.45
D. <u>fuel (coal)</u>	7758.01	318.74	47.59	306.15	471.56	61.38
E. <u>agric. producer's goods</u>						
tractors and machinery	139.27	12.36	57.71	87.04	44.99	36.00
CONSUMER'S GOODS						
A. <u>foodstuffs</u>						
tea	75.81	7.06	11.92	22.07	22.55	28.13
herring	329.72	45.87	48.03	19.29	36.76	37.25
fruit	277.57	35.14	57.36	42.33	37.12	49.22
sugar	0.24	25.86	227.79	38.13	4.27	3.66
grain products	584.10	56.72	654.71	59.63	60.29	309.95

TABLE T-6 (continued)

	1913	1923/24	1924/25	1925/26	1926/27	1927/28
B. <u>manufactured consumer goods</u> cloth	6.87	0.49	3.69	11.40	0.36	0.21

Source: Notes to Table T-6, Appendix C, p. 793.

TABLE T-7

## USSR: STRUCTURE OF IMPORTS, 1913, 1923/24 - 1927/28

(% of total imports)

	1913	1923/24	1924/25	1925/26	1926/27	1927/28
TOTAL IMPORTS	100.00	100.00	100.00	100.00	100.00	100.00
I. Producer's Goods	64.36	83.57	65.03	78.07	87.86	84.27
A. <u>machinery for industry and transport</u>	12.54	12.42	9.86	14.22	21.44	27.08
B. <u>raw materials</u>	24.97	50.96	33.79	36.22	46.04	40.61
cotton	8.30	32.67	18.50	15.57	18.45	16.32
wool	4.37	10.11	6.50	5.47	7.17	6.57
leather, unworked	1.83	1.76	2.32	3.28	5.42	4.24
rubber	2.92	2.02	1.16	3.47	3.31	2.55
non-ferrous metal	4.08	3.32	2.60	2.73	6.38	6.11
ferrous metal	4.10	0.21	0.52	1.37	1.58	1.71
C. <u>semi-processed goods</u>	15.46	16.10	15.49	19.28	14.29	12.40
paper and cardboard	2.15	2.16	3.04	3.87	2.59	1.54
leather, worked	1.55	1.79	2.39	2.89	1.06	0.77
dyes	1.09	0.82	2.68	2.24	1.56	1.24
tanning mater.	0.56	3.13	1.22	1.51	1.72	1.66
D. <u>fuel</u>	6.64	1.46	0.12	0.49	0.78	0.07
E. <u>agric. producer's goods</u>	4.75	2.64	5.77	7.85	5.30	4.13
tractors	3.57	1.43	4.46	6.37	3.34	2.30
II. Consumer's Goods	28.53	15.45	33.27	20.29	11.33	15.06
A. <u>foodstuffs</u>	19.01	10.61	28.31	9.31	8.91	12.17
tea	4.52	2.43	2.39	3.45	3.92	3.89
herring	1.77	0.86	0.97	0.27	0.44	0.26
fruit	2.82	1.59	2.02	1.77	1.41	1.75

TABLE T-7 (continued)

	1913	1923/24	1924/25	1925/26	1926/27	1927/28
A. (continued)						
sugar	0.02	1.06	5.58	0.81	0.09	0.06
grain products	2.87		15.49	1.48	1.56	4.58
B. <u>manufactured con-</u> <u>sumer goods</u>	9.51	4.85	4.96	10.98	2.42	2.97
cloth	2.70	0.38	1.67	5.43	0.21	0.08
III. Other	7.10	0.97	1.68	1.63	0.80	0.59

Source: Notes to Table T-7, Appendix C, p. 793.

TABLE T-8

USSR: HARVEST, PROCUREMENTS AND EXPORTS OF GRAIN  
PRODUCTS<sup>a</sup> 1909-13, 1922 - 1930

(millions of metric tons)

Year of the harvest	Year of marketing and exports	Harvest		Agricultural Year			Economic Year	
		Gross Harvest	Net Harvest	Marketing		Exports of Grain Products	Procurem't by Planned Agencies	Exports of Grain Products
				Private <sup>b</sup> and Planned Agencies	Planned <sup>b</sup> Agencies (procurem'ts)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1909	1913	65 <sup>c</sup>	—	—	—	—	—	11.92 <sup>e</sup>
1909	1913	81.6 <sup>d</sup>	—	—	—	—	—	11.92 <sup>e</sup>
1913	1913/14	80.1 <sup>d</sup>	—	—	—	—	—	10.71 <sup>e</sup>
1922	1922/23	50.3	—	—	[7.00]	—	—	0.76
1923	1923/24	65.6	—	[9.98]	[6.50]	—	—	2.69
1924	1924/25	51.4	—	[8.6]	4.55	0.38	5.98	0.61
1925	1925/26	72.5	38.7	[12.2]	8.44	2.03	8.45	2.08
1926	1926/27	76.8	38.2	[13.4-13.9]	10.84	2.56	11.02	2.26
1927	1927/28	72.3	34.9	[12.2]	10.27	—	9.71	0.41
1928	1928/29	73.3	36.9	[10.8]	[8.48]	—	11.52	0.28
1929	1929/30	71.7	35.7	[15.5]	—	—	—	4.86
1930	1930/31	83.5	48.4	[22.5]	—	—	—	—

<sup>a</sup>See Appendix A, Technical Note 6 for definition of "grain product".<sup>b</sup>Estimates based on market shares.



TABLE T-8 (continued)

<sup>c</sup>Harvest estimate for Soviet territory, uncorrected for underestimation of crop.

<sup>d</sup>Harvest estimate for Soviet territory, corrected for underestimation of crop.

<sup>e</sup>Export data for Russian Empire.

<sup>f</sup>Export data for calendar year.

Source: Notes to Table T-8, Appendix C, p. 793.

TABLE T-9

USSR: EXPORTS OF GRAINS AND RELATED PRODUCTS  
1909-13 to 1928/29

(1000's metric tons)

	1909-13	1913	Economic Years (October 1 to September 30)					
			1922/23	1923/24	1924/25	1925/26	1926/27	1927/28
1. <u>Total export of grains in grain form</u>		9,182	728	2,576	569	2,016	2,099	288
2. including: four major grains	10,287	8,503	661	2,336	441	1,754	1,880	267
3. wheat	4,613	3,329	27	555	167	737	1,199	111
4. rye	832	647	518	1,316	72	158	417	114
5. barley	3,636	3,927	89	326	199	836	262	5
6. oats	1,206	600	27	139	3	23	2	37
7. <u>Total exports of grain products</u>	11,916	10,331	741	2,686	606	2,082	2,256	410
8. including: grains in grain form		9,182	728	2,576	569	2,016	2,099	288
9. bran	797	839	10	18	4	3	65	32
10. other (flour, etc.)		310	3	34	4	63	92	90
11. <u>Total exports of grains and related products</u>	12,803	11,647	881	3,056	1,122	2,628	2,638	614
12. including: grain products	11,916	10,662	741	2,686	606	2,082	2,256	410
13. oil seed	228	250	4	79	191	141	30	10
14. oil cake	659	735	136	291	324	405	352	194

Source: Notes to Table T-9, Appendix C, p. 795.

TABLE T-10

## USSR: PROCUREMENT AND EXPORTS OF GRAIN AND RELATED PRODUCTS QUARTERLY DATA 1924 - 1929

(1000's metric tons)

Year and quarter	Exports		Procurements by Planned Agencies <sup>a</sup>				
	Grain and related products	Grain products only	Grain products	Wheat	Rye	Oats	Barley
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1923 IV		1242					
1924 I		714					
II		542					
III		190	943	415	371		
IV		79	723	596	423		
1925 I		79	1195	395	352		
II		21	694	289	229		
III	606	428	2344	935	688	[876]	[551]
IV	878		2325	1172	387	[228]	[176]
1926 I	518		2436	1003	501	[298]	[188]
II	641		1341	665	278	[43]	[154]
III	637		2448	1561	479	[127]	[220]
IV	1176		4714	2663	946	476	205
1927 I	870		2617	1350	596	368	39
II	385		1062	582	276	96	13
III			2657	1665	678	142	59
IV			2437	1284	517	209	39
1928 I			4283	2101	1202	317	147
II			896	397	284	66	25
III			2090	1199	314	205	240
IV			3772	2024	368	686	128
1929 I			1585	724	189	399	81
II			1034	335	163	275	67
III			5134	1825	1005	987	1060
IV			7465	2203	1626	2055	694

<sup>a</sup>Planned agencies referred to "planned (or centrally-controlled) grain procurement agencies."

Source: Notes to Table T-10, Appendix C, p. 795.

TABLE T-11

USSR: EXPORTS OF GRAIN AND RELATED PRODUCTS  
VALUE AND QUANTITY, 1909-13, 1923/24 - 1927/28

Year <sup>a</sup>	VALUE			WEIGHT		
	Millions rubles in Current Prices			Thousand Metric Tons		
	grain products	oil seed oil cake	total grain & related prod.	grain products	oil seed oil cake	total grain and related prod.
Russia 1909-13 <sup>b</sup>	676.8	59.6	735.4	11,915	993	12,792
Sov. Ter. 1909-13 <sup>c</sup>			695.0			11,302
Russia 1913	595.9	60.0	655.9	9,485	985	10,472
<u>Soviet Exports</u>						
Actual 1923/24 <sup>a</sup>	192.0	31.5	223.5	2,692	370	3,062
Plan 1924/25	26.5	45.7	72.2			819
Actual 1924/25	52.5	50.4	102.9	606	515	1,122
Plan 1925/26			500.0	[6,200]	[500]	[6,700]
Actual 1925/26	160.1	38.0	198.1	2,082	546.1	2,628
Plan 1926/27			300.0			3,500
Actual 1926/27	208.1	26.5	234.6	2,256	383	2,638
Actual 1927/28	40.6	18.4	59.0	410	203	614

<sup>a</sup> Split years refer to the economic year.

<sup>b</sup> Yearly average.

<sup>c</sup> Does not include export of grain and related products from Soviet territory to separated territory.

Source: Notes to Table T-11, Appendix C, p. 796.

TABLE T-12

USSR: PER CAPITA OUTPUT OF GRAIN PRODUCTS,  
1913, 1924 - 1938

Harvest of	Gross Harvest		Total Population		Per Capita Output	
	millions m. t.	Index 1913 = 100	Jan. 1 of next year		kilograms	Index 1913 = 100
			millions	Index 1913 = 100		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1913	80.1	100.0	139.7	100.0	572.5	100.0
1924	51.4	64.2	140.0	100.0	367.1	64.1
1925	72.5	90.5	143.2	102.7	504.5	88.1
1926	76.8	95.6	147.0	105.1	522.4	91.2
1927	72.3	90.3	150.4	107.2	482.3	84.2
1928	73.3	91.5	153.1	109.4	478.7	83.7
1929	71.7	89.5	155.6	111.2	460.7	80.4
1930	83.5	104.2	158.1	113.0	528.1	92.2
1931	66.0	82.4	160.7	114.9	410.7	71.7
1932	63.0	78.7	160.6	114.8	392.3	68.5
1933	67.1	83.8	160.6	114.8	417.8	73.0
1934	67.3	84.0	160.5	114.7	419.3	73.2
1935	69.3	86.5	162.2	115.9	427.3	74.6
1936	60.0	74.9	164.1	117.3	365.6	63.9
1937	91.9	114.4	167.3	119.6	547.5	95.6
1938	70.7	88.4	170.6	121.9	414.4	72.4

Source: Notes to Table T-12, Appendix C, p. 796.

TABLE T -13

USSR: FOREIGN TRADE IN CURRENT AND 1913 PRICES  
1909-13 to 1927/28

(millions of rubles)

Year	Borders	Current Prices			1913 Prices		
		Exports <sup>a</sup>	Imports	Balance of Trade	Exports <sup>a</sup>	Imports	Balance of Trade
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
annual aver. 1909-13	Russia Sov. Ter.	1487.2 1321.0	1140.6	347.0	[1487.2]	[1140.6]	[347.0]
1913	Russia Sov. Ter.	1505.9 1305.0	1375.0 1007.0	130.9 298.0	1505.9 1291.0	1375.0 1007.0	130.9 284.0
1922/23	Sov. Ter. <sup>b</sup>	[210.6]	[187.5]	[23.1]	133.2	148.6	-15.4
1923/24	Sov. Ter.	[522.6]	[439.4]	[83.2]	369.9	240.7	129.2
1924/25	Sov. Ter.	558.8	723.4	-163.6	365.4	411.3	-46.0
1925/26	Sov. Ter.	676.7	756.3	-79.7	464.5	464.5	0.0
1926/27	Sov. Ter.	779.4	713.5	65.9	566.5	505.5	61.0
1927/28	Sov. Ter.	781.8	945.5	-163.7	592.1	668.2	-76.1
1928/29	Sov. Ter.	877.6	836.3	41.3	709.4	576.8	132.6

<sup>a</sup>Data exclude platinum.<sup>b</sup>Data for trade across European borders only and exclude charitable famine relief imports.

Source: Notes to Table T-13, Appendix C, p. 797.

TABLE T-14

USSR: ESTIMATES OF SOVIET BALANCE OF PAYMENTS: 1924/25 - 1930/31

(millions of rubles)

	1924/25	1925/26	1926/27	1927/28	1928/29	1929/30	1930/31
CURRENT ACCOUNT - Debit (-)							
1. Import - cif (official data - merchandise)	724	756	714	946	836	1068	1044
2. Postal parcels imports - commercial	3	9	2			6	6
3. Contraband imports	27	30	35	29	35	35	35
4. Brokerage commissions	11	12	14	14	16	18	16
5. Interest payments on credits	6	9	13	17	25	30	35
6. Other administrative expenses abroad	30	23	30	35	42	50	50
7. Foreign labor and technical assistance	3	5	5	10	15	18	38
8. Non-commercial transactions	8	26	25	21	6	25	30
9. <u>Total debit items on Current Account</u>	812	870	838	1072	975	1250	1254
CURRENT ACCOUNT - Credit (+)							
10. Export - fob (official figures)	559	677	780	778	878	1002	890
11. Interest on short-term deposits	7	5	5	6	6	5	4
12. Profits, dividends, etc. (of Soviet firms)	8	7	5	6	6	5	6
13. "Non-commercial" remittances, tourism	43	43	43	35	32	43	55
14. <u>Total credit items on Current Account</u>	617	732	833	825	922	1055	955
15. BALANCE OF TRADE (Exports-Imports)	-165	-79	-66	-168	+42	-66	-154
16. BALANCE ON CURRENT ACCOUNT ITEMS (Credits - Debits)	-195	-138	- 5	-247	-53	-195	-299

TABLE T-14 (continued)

	1924/25	1925/26	1926/27	1927/28	1928/29	1929/30	1930/31
CAPITAL FLOWS Credit (+), Debit (-)							
17. Net change in foreign debt	69	62	41	120	45	210	230
18. BALANCE OF CAPITAL FLOWS AND CURRENT ACCOUNT	-126	-76	+36	-127	- 8	-15	-69
PRECIOUS METALS, AND FOREIGN CURRENCY							
19. Increase in foreign currency (-)			33		27		
20. Decrease in foreign currency (+)	62	15					
21. Precious metal imports (-)	-46	9	15		3	1	
22. Precious metal exports (+)	+70	81	49	155	70	9	110
23. Net precious metals movement	+24	+72	+34	+155	+67	+ 8	+110
24. BALANCE OF PRECIOUS METALS AND FOREIGN CURRENCY FLOWS	+86	+87	+ 1	+155	+40	+ 8	+110
25. STATISTICAL DISCREPANCY (Row 18 plus Row 24)	-40	+11	+37	+28	+32	- 7	+41

Source: Notes to Table T-14, Appendix C, pp. 798-800.



TABLE T-15

## USSR: ESTIMATES OF FOREIGN DEBT 1923-1936

(millions of rubles)

Date	Shenkman Data							Soviet estimates of foreign debt
	Real Debt				Contingent	Liabilities	Grand	
	Acceptance and other bank credits for imports	Export credits	Firm credits	Total real debt	Bank credits secured by warehoused goods	Liabilities for orders in process	Total	
Oct. 1, 1923								
Oct. 1, 1924	9	15	54	78	20	58	156	
Oct. 1, 1925	27	23	98	148	30	35	213	
Oct. 1, 1926	53	25	131	209	45	51	305	
Oct. 1, 1927	61	30	161	252	50	90	392	
Oct. 1, 1928	55	60	255	370	60	55	485	
Oct. 1, 1929	86	69	260	415	90	110	615	
Oct. 1, 1930	115	80	430	625	101	139	865	
Oct. 1, 1931	95	62	698	855	125	315	1,295	
July, 1932	85	60	830	975	100	260	1,335	
Jan. 1, 1932								1400
End of 1933								450
Feb. 1935								141
Oct. 1935								139
Nov. 1935								170
July 1936								85

Source: Notes to Table T-15, Appendix C, p. 800.

TABLE T-16

USSR: ESTIMATES OF EXPORTS AND IMPORTS OF  
PRECIOUS METALS: 1925 - 1938

(millions of gold rubles)

Part A. Calendar Year							
	Net Exports (net imports denoted by minus sign)						
	Net total exports of precious metals	by metal			Net metal exports as % of total exports	Net metal exports as % of total imports	Net platinum exports as % of total exports
		gold	silver	platinum			
1923	1.6	0.0	-	1.6	0.5	0.9	0.5
1924	-41.8	-18.1	-30.8	7.1	-8.8	-8.5	1.5
1925	53.4	42.2	- 4.6	15.8	8.8	6.5	2.6
1926	64.6	35.6	0.1	28.9	8.9	9.4	4.0
1927	32.1	6.7	0.0	25.4	4.3	4.2	3.4
1928	206.1	196.6	- 1.8	11.3	25.7	21.6	1.4
1929	10.6	0.0	- 3.4	14.0	1.4	1.2	1.5
1930	5.2	0.0	- 0.8	6.0	0.5	0.5	0.6
1931	120.0	114.6	[0.0]	5.4	14.8	10.9	0.7
1932	102.9	89.4	7.5	6.0	17.9	14.6	1.0
1933	110.6	77.9	26.5	6.2	23.5	31.8	1.3
1934	119.0	93.8	22.3	2.9	28.4	51.1	0.7
1935	44.3	28.9	13.9	6.5	13.4	20.4	1.8
1936	18.5	12.9	0.7	4.9	6.0	6.0	1.6
1937	238.5	230.2	[0.0]	8.3	63.4	81.8	2.2
1938	138.6	133.4	[0.0]	5.2	47.3	44.3	1.8

TABLE T-16 (continued)

Part B. Economic Year							
	Net export of precious metals	Gross Exports			Gross Imports		
		gross export of precious metals	gross gold export (estimate)	gross platinum export	gross import of precious metals	gross gold import (estimate)	gross silver import
1924/25	24	70	(51)	19.0	46	(8.5)	37.5
1925/26	72	81	(54)	26.6	9	0	9
1926/27	34	49	22	26.6	15	(13)	2
1927/28	155	155	145	9.8			
1928/29	67	70	(58)	12.1	3		3
1929/30	8	9	(0)	9	1		1
1930/31	110	110			0		

Source: Notes to Table T-16, Appendix C, p. 801.

TABLE T-17

USSR: ESTIMATES OF SOVIET FOREIGN RESERVES  
1924 - 1930

(millions of rubles)

As of January 1st	Gold Stock	Non-gold foreign reserves		Total foreign reserves of USSR	
		minimum estimates	maximum estimates	minimum estimates	maximum estimates
1923	281	10.0	24.0	291	305
1924	290	70.4	125.1	360	415
1925	330	115.4	209.7	445	540
1926	314	84.4	100.1	398	414
1927	314	93.6	138.6	408	453
1928	347	96.9	107.8	444	455
1929	187	125.6	141.6	313	329
1930	243	105.4	117.1	348	360
1931	312	77.4	78.6	389	391
1932	289	69.2	.	358	.
1933	304	48.4	.	352	.
1934	372	54.2	.	426	.
1935	478	42.2	.	520	.
1936	701	.	.	.	.
1937	993	.	.	.	.
1938	1075-80	.	.	.	.

Source: Notes to Table T-17, Appendix C, p. 801.

TABLE T-18

USSR: CONSUMER-ORIENTED IMPORTS 1913, 1923/24 - 1927/28

Year	Soviet Definition of Consumer's Goods Imports	Adjusted Definition				
		Foodstuffs Mfg. Consumer Goods	Column (2) plus Fibers, Hides Dyes and Tanning Materials	Column (3) plus Paper and Cardboard	Column (4) + Other Raw Materials for Cons.	Column (5) plus Rubber Aluminum
	(1)	(2)	(3)	(4)	(5)	(6)
Millions of rubles in current prices						
1913	[489.6]	428.3	729.7	771.2	777.9	819.4
1922/23	.	38.2	68.2	74.0	74.3	82.2
1923/24	.	43.6	131.2	145.4	148.0	157.3
1924/25	240.8	235.6	496.1	525.4	533.0	543.5
1925/26	153.5	138.4	415.7	452.9	460.3	488.6
1926/27	80.8	77.4	360.3	387.1	392.0	418.3
1927/28	142.3	133.0	467.6	488.1	495.0	524.9
Percent of total imports						
1913	[35.6]	31.2	53.8	56.1	56.7	59.6
1922/23	.	25.8	45.9	49.8	50.0	55.3
1923/24	.	18.7	56.2	62.3	63.4	67.4
1924/25	33.3	32.6	68.6	72.6	73.7	75.1
1925/26	20.3	18.3	55.0	59.9	60.8	64.6
1926/27	11.3	10.9	50.5	54.3	54.9	58.6
1927/28	15.1	14.1	49.5	52.6	52.4	55.5

Source: Notes to Table T-18, Appendix C, p. 802.

TABLE T-19

USSR: EXPORTS CLASSIFIED BY PRODUCING SECTOR  
1913, 1923/24 - 1927/28

	Revised Classification				
	Agricult. related products	Fur and fish products	Timber and mining products	Miscellaneous industrial products	Total exports
	(1)	(2)	(3)	(4)	(5)
	millions of rubles in current prices				
1913	1132.1	15.2	241.2	117.4	1505.9
1923/24	229.9	25.1	101.2	15.1	371.3
1924/25	274.2	84.7	161.6	38.3	558.8
1925/26	377.4	89.8	165.8	43.7	676.7
1926/27	415.5	104.5	207.1	52.3	779.4
1927/28	305.2	138.8	231.3	106.5	781.8
	% of total exports				
1913	75.2	1.0	16.0	7.8	100.0
1923/24	61.9	6.8	27.3	4.1	100.0
1924/25	49.1	15.1	28.9	6.9	100.0
1925/26	55.8	13.3	24.5	6.5	100.0
1926/27	53.3	13.4	26.6	6.7	100.0
1927/28	39.0	17.8	29.6	13.6	100.0

Source: Notes to Table T-19, Appendix C, p. 803.

TABLE T-20

USSR: RATIO OF EXPORTS TO OUTPUT, MARKETING OR PROCUREMENTS FOR  
SELECTED COMMODITIES 1909-13, 1913, 1924/25 - 1927/28

(percent)

	1909-13	1913	1924/25	1925/26	1926/27	1927/28
Agricultural Exports						
<u>Grain products</u>						
1. gross exports/output (EY)	14.6	13.4	1.1	2.9	3.0	0.6
2. gross exports/total marketing (AY)	.	.	4.7	16.4	19.4	.
3. gross exports/procurements (AY)	.	.	8.7	23.8	24.1	.
4. gross exports/ procurements (AY)	.	.	10.0	24.7	20.9	4.1
<u>Wheat</u>						
5. gross exports/output	18.1	14.3	1.3	3.6	5.0	0.6
6. net export/output <sup>c</sup>	.	13.7	-2.4	3.6	5.0	- 0.5
7. net exports/procurements <sup>c</sup>	.	.	-18.8	19.5	19.2	- 2.2
<u>Rye</u>						
8. gross exports/output	3.6	3.6		0.8	1.8	0.5
9. gross exports/procurements	.	.	5.1	8.7	16.8	5.2
<u>Barley</u>						
10. gross exports/output	31.0	36.4	1.8	14.3	8.5	0.1
11. gross exports/procurements	.	.	111.1	78.5	81.3	0.0
<u>Corn</u>						
12. gross exports/output	27.7	48.5	7.7	5.6	9.6	7.3

TABLE T-20 (continued)

	1909-13	1913	1924/25	1925/26	1926/27	1927/28
<u>Oats</u>						
13. gross exports/output	7.2	3.9	0.0	0.1	0.4	0.2
<u>Oil seed</u>						
14. exports of seed/output	.	9.5	9.0	6.2	2.6	.
15. exports of all oil seed prod. /output	.	44.3	24.5	14.0	14.7	.
16. exports of all oil seed prod. /procurements	.	.	41.9	54.4	39.6	19.8
<u>Flax</u>						
17. exports of fiber and combing/output	(80.5)	.	22.5	23.6	12.9	.
18. exports of fiber/output		59.8	18.7	19.0	11.8	9.6
19. exports of all flax prod. /output		67.7	23.3	24.0	16.3	17.9
20. exports of all flax prod. /procurements	(74.3) <sup>a</sup>	b	44.8	40.0	35.2	35.2
<u>Eggs</u>						
21. exports/output	31.1	(33.6)	9.9	7.5	9.6	(13.71)
22. exports/procurement	.	[54.6]	60.2	58.3	49.2	59.1
<u>Butter</u>						
23. exports/output of large factories	.	38.2	49.4	48.1	51.4	40.1
24. exports/marketing	.	54.9	.	.	.	16.0
25. exports/procurements	.	.	57.5	55.9	40.2	44.1
<u>Hemp</u>						
26. exports/output	15.6	.	1.2	1.4	1.1	.



TABLE T-20 (continued)

	1909-13	1913	1924/25	1925/26	1926/27	1927/28
<u>Industrial Exports</u>						
<u>Timber</u>						
27. exports of all timber prod./indust. timber hauled	[25.]	58.0	23.0	14.0	20.0	17.0
28. exports of sawn lumber/output of sawn lumber	.	29.8	12.3	8.6	11.3	10.2
29. exports of plywood/output of plywood	.	.	16.0	10.5	19.0	23.4
<u>Oil products</u>						
30. export/output (Kaufman data)	10.2	.	16.8	17.7	21.8	.
31. export of all oil prod./crude oil output	.	10.8	19.6	17.9	20.5	24.2
32. export of gasoline, naptha/output	.	97.3	.	65.7	92.4	86.2
33. export of kerosene/output	.	28.9	.	28.7	29.7	36.2
<u>Manganese ore</u>						
34.	[97.6]	95.9	77.9	65.4	93.0	71.0
<u>Iron ore</u>						
35.	5.1	3.5	7.9	4.4	8.5	7.5
<u>Chromite ore</u>						
36.	0.0	0.0	0.0	0.0	12.1	11.8
<u>Zinc - lead ore</u>						
37.	.	19.7	0.0	2.2	8.3	21.9
<u>Asbestos</u>						
38.	(71)	48.8	48.1	39.2	46.4	41.9
<u>Coal</u>						
39. net exports/output <sup>c</sup>	.	-23.6	2.1	0.6	-0.2	1.4

TABLE T-20 (continued)

	1909-13	1913	1924/25	1925/26	1926/27	1927/28
<u>Sugar</u>						
40. gross exports/output	9.2	[11.4]	6.4	4.8	14.1	.
41. net exports/output <sup>c</sup>	.	9.9	-30.9	0.7	13.5	10.1
<u>Cotton Cloth</u>						
42. net exports/output <sup>c</sup>	.	7.2	-1.6	-3.7	2.1	0.5

<sup>a</sup>Soviet territory.

<sup>b</sup>Exports exceeded "marketing."

<sup>c</sup>Minus sign (-) denotes net import as % of total supply (imports plus output).

Source: Notes to Table T-20, Appendix C, pp. 803 - 811.

TABLE T-21

USSR: RATIO OF IMPORTS TO TOTAL SUPPLY OF SELECTED  
COMMODITIES DURING NEP(imports as % of total supply)<sup>a</sup>

	1909-13	1913 <sup>b</sup>	1924/25	1925/26	1926/27	1927/28
1. <u>Cotton</u> imports/consumption	.	45.2	57.7	38.5	45.1	41.0
2. <u>Wool</u> gross imports/net output	.	33.6	12.6	14.4	18.1	20.9
3. imports/net imports and procurements	.	.	49.4	53.1	51.2	47.2
4. <u>Copper</u> imports/supply	[29.1]	19.8	10.7	36.8	44.7	49.3
5. <u>Lead</u> imports/supply	.	97.4	93.6	94.4	95.4	95.5
6. <u>Zinc</u> imports/supply	.	59.3 <sup>c</sup>	89.1	89.0	92.9	93.2
7. <u>Nickel, tin, aluminum</u>	100.0	100.0	100.0	100.0	100.0	100.0
8. <u>Rolled ferrous products</u>	.	2.4	0.4	2.0	0.8	2.8
9. <u>Steel pipe</u>	.	8.6	6.9	11.5	18.6	30.0
10. <u>Pig iron</u> imports/supply	.	0.3	0.2	0.3	0.9	0.0
11. <u>Paper products</u> imports/supply	.	59.8	62.4	58.0	53.0	45.1
12. <u>Pulp</u> imports/supply	.	21.8	43.8	36.5	36.8	30.1
13. <u>Tanning materials</u>	.	.	70.5	70.6	72.3	60.8
14. <u>Rubber</u>	100.0	100.0	100.0	100.0	100.0	100.0
15. <u>Tea</u>	100.0	100.0	100.0	100.0	100.0	100.0

<sup>a</sup>For most commodities, where total supply equals imports plus output.<sup>b</sup>For Russian Empire.<sup>c</sup>For Soviet territory alone, assuming all imports into Soviet territory, the percentage is 90.5%.

Source: Notes to Table T-21, Appendix C, pp. 811-814.

TABLE T - 22

USSR: IMPORT -SUPPLY RATIOS FOR SELECTED TYPES OF MACHINERY DURING NEP

(% of total supply)

Type of machinery	Basis of comparison	pre-1914	1924/25	1925/26	1926/27	1927/28
1. Industrial and electrical equipment	value	.	.	25.0	35.0	40.0
2. Internal combustion engines	value	.	.	7.2	11.4	9.4
3. Electrical machinery	value	[27.0] <sup>a</sup>	24.7	44.3	47.4	.
4. Steam turbines	value	.	.	20.1	33.3	52.6
5. Metal-working machinery	value	[67.0] <sup>a</sup>	.	71.2	70.6	67.1
6. Metal-cutting tools	units	75.6 <sup>b</sup>	.	67.8 <sup>c</sup>	.	66.4 <sup>d</sup>
7. Textile machinery	value	[23.0]	.	36.7	33.8	27.7
8. Automobiles and trucks	units	100.0	.	.	.	68.9
9. Tractors	units	100.0	93.1	94.4	88.4	74.5
10. Tractors	horsepower	100.0	93.3	94.7	88.7	75.4
11. Agricultural machinery	value	45.0	.	34.7	17.5	12.3
12. Railroad equipment	value	10.0	0.0	0.0	0.0	0.0

<sup>a</sup>1913<sup>b</sup>1908-13<sup>c</sup>1923-27<sup>d</sup>1928

Source: Notes to Table T-22, Appendix C, p. 814.

TABLE T-23

USSR: INVESTMENT AND MACHINERY SUPPLY TO INDUSTRY  
AND ELECTRIC POWER INSTALLATIONS

(millions of rubles in current prices)

	1925/26	1926/27	1927/28	1928/29	1929/30 [Plan]
1. Industrial investment connected with the demand for machinery	969	1,414	1,754	2,128	3,586
2. Total expenditures on machinery in industry, etc.	318	476	672	840	1,476
3. Expenditures on machinery as % of total expenditures	33%	34%	38%	39%	41%
4. Domestic production of machinery for industry	226	310	401	610	945
5. Imports of machinery for industry (with tariff)	92	166	271	230	338
6. Imports of machinery as % of total expenditures on machinery	25%	35%	40%	27%	23%

Source: Notes to Table T-23, Appendix C, p. 816.

TABLE T -24

USSR: VOLUME INDEXES FOR EXPORTS,  
1913, 1922/23 - 1927/28

(1913 = 100)

Year	Exports of Russian Empire in 1913 = 100			Soviet Estimates of Exports in 1913 from Soviet Territory = 100		
	Price Weights			Price Weights		
	1913	1926/27	1927/28	1913	1926/27	1927/28
	(1)	(2)	(3)	(4)	(5)	(6)
1913	100.0	100.0	100.0	100.0	100.0	100.0
1922/23	8.8	11.0	11.8	10.2	12.8	13.8
1923/24	23.8	25.1	24.5	27.7	29.3	28.5
1924/25	21.9	22.3	21.7	25.5	26.0	25.3
1925/26	29.2	29.4	29.2	34.0	34.2	34.1
1926/27	34.3	34.6	32.9	40.0	40.3	38.3
1927/28	35.4	34.5	32.0	41.3	40.2	37.3

Source: Notes to Table T-24, Appendix C, p. 816.

TABLE T-25

USSR: VOLUME INDEXES FOR IMPORTS,  
1913, 1922/23 - 1927/28

(1913 = 100)

Year	Imports into Russian Empire in 1913 = 100			Soviet Estimates of Imports in 1913 into Soviet Territory = 100		
	Price Weights			Price Weights		
	1913	1926/27	1927/28	1913	1926/27	1927/28
	(1)	(2)	(3)	(4)	(5)	(6)
1913	100.0	100.0	100.0	100.0	100.0	100.0
1922/23	11.0	10.0	10.0	15.0	13.7	13.7
1923/24	20.8	19.0	20.0	28.3	25.9	27.3
1924/25	38.7	36.8	37.2	52.8	50.2	50.7
1925/26	48.4	45.9	46.8	66.0	62.7	63.8
1926/27	51.8	47.9	49.1	70.6	65.3	67.0
1927/28	65.5	60.0	59.0	89.4	81.3	80.5

Source: Notes to Table T-25, Appendix C, p. 817.

TABLE T-26

USSR: VOLUME OF EXPORTS OF SELECTED COMMODITY  
GROUPS 1913, 1924/25 - 1929

(1927/28 = 100)

	1927/28 Price Weights					
	1913	1924/25	1925/26	1926/27	1927/28	1929
1. All exports	312.3	67.9	91.3	102.7	100.0	129.0
2. Grain products <sup>a</sup>	2192.8	130.1	457.3	550.9	100.0	69.1
3. Oil seed prod.	487.6	280.0	283.4	200.1	100.0	158.0
4. Fibers	835.4	140.6	176.7	106.4	100.0	212.3
5. Animal products	272.5	62.7	60.7	75.3	100.0	91.4
6. Timber	247.8	68.4	63.1	85.7	100.0	180.3
7. Oil products	39.2	47.0	53.0	76.6	100.0	135.5
8. Mining prod. (excl. oil)	168.5	82.5	102.1	125.7	100.0	195.0
9. Fur products	[75.7]	80.2	77.7	81.8	100.0	99.7

<sup>a</sup>1926/27 price weights

Source: Notes to Table T-26, Appendix C, p. 817.



TABLE T -27

USSR: VOLUME OF IMPORTS OF SELECTED COMMODITY  
GROUPS, 1913, 1924/25 - 1929

(1927/28 = 100)

	1927/28 price weights					
	1913	1924/25	1925/26	1926/27	1927/28	1929
1. All Imports	169.5	63.0	79.3	83.3	100.0	99.3
2. Machinery	133.0	31.1	70.2	71.6	100.0	114.5
3. Raw Materials	141.5	51.1	62.1	95.2	100.0	103.5
4. Semi-processed	302.7	110.3	183.4	93.1	100.0	76.5
5. Non-ferrous Metals	79.4	26.0	40.6	68.7	100.0	98.3
6. Tropical products	224.8	47.7	67.8	83.3	100.0	103.6

Source: Notes to Table T-27, Appendix C, p. 818.

TABLE T-28

USSR: EXPORT PRICE INDEXES, IMPORT PRICE INDEXES  
AND COMMODITY TERMS OF TRADE, 1913, 1924/25-1931

(1927/28 = 100)

Year	1913 Weights			1926/27 Weights			1927/28 Weights		
	Export Price Index	Import Price Index	Commodity Terms of Trade	Export Price Index	Import Price Index	Commodity Terms of Trade	Export Price Index	Import Price Index	Commodity Terms of Trade
1913	63.5	69.0	92.0	67.2	71.0	94.6	71.8	75.4	95.2
1924/25	108.5	116.5	92.9	108.5	112.6	96.4	114.0	113.7	100.3
1925/26	96.5	107.1	90.1	101.5	107.5	94.4	108.0	109.3	98.8
1926/27	92.2	96.0	96.0	97.0	93.0	104.3	99.5	96.4	103.2
1927/28	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1929	90.2	94.4	95.6	94.0	95.7	98.2	95.6	97.3	98.3
1930	64.3	86.7	74.2	72.1	89.0	81.0	81.8	91.1	89.8
1931	46.6	75.1	62.1	51.9	74.7	69.5	60.4	75.8	79.7

Source: Notes to Table T-28, Appendix C, p. 819.

TABLE T-29

USSR: EXPORT PRICE INDEXES OF SELECTED COMMODITY  
GROUPS, 1913, 1924/25 - 1929

(1927/28 = 100)

	1927/28 Quantity Weights					
	1913	1924/25	1925/26	1926/27	1927/28	1929
1. All exports	71.8	114.0	108.0	99.5	100.0	95.6
2. Grain products <sup>a</sup>	63.3	94.7	91.6	98.4	100.0	94.3
3. Oil seed products	60.9	93.6	68.2	74.1	100.0	95.2
4. Fibers	51.7	132.4	92.3	72.9	100.0	85.3
5. Animal products	73.8	113.0	118.1	108.7	100.0	108.2
6. Timber	76.2	112.4	98.4	99.6	100.0	90.1
7. Oil products	126.5	138.8	134.5	109.1	100.0	96.2
8. Mining products (excluding oil)	56.7	114.2	108.4	109.7	100.0	86.3
9. Fur products	30.0	[74.2]	81.3	89.6	100.0	91.5

<sup>a</sup>1926/27 quantity weights

Source: Notes to Table T-29, Appendix C, p. 819.

TABLE T-30

USSR: IMPORT PRICE INDEXES OF SELECTED COMMODITY  
GROUPS, 1913, 1924/25 - 1929

(1927/28 = 100)

	1927/28 Quantity Weights					
	1913	1924/25	1925/26	1926/27	1927/28	1929
1. All imports	75.4	113.7	109.3	96.4	100.0	97.3
2. Machinery	77.5	97.0	97.5	97.1	100.0	102.4
3. Raw materials	68.8	123.2	115.5	91.8	100.0	92.4
4. Semi-processed	93.0	118.7	123.4	105.6	100.0	93.3
5. Non-ferrous metals	93.0	117.7	120.6	111.2	100.0	105.7
6. Tropical pro- ducts	100.3	100.7	132.0	105.0	100.0	73.9

Source: Notes to Table T-30, Appendix C, p. 819.

TABLE T - 31

## USSR: WHOLESALE PRICE INDEX BY GOSPLAN

(1913 = 100)

1st day of	Agricultural Price Index	Industrial Price Index	Total Price Index	1st day of	Agricultural Price Index	Industrial Price Index	Total Price Index
<u>1923</u>				<u>1925</u>			
Jan.	77	120	96	July	186.2	189.8	189.0
Feb.			104	Aug.	161.0	190.3	175.1
Mar.			116	Sept.	154.8	192.7	172.7
Apr.	83	158	115	Oct.	155.6	194.9	174.2
May			109	Nov.	156.3	196.4	175.3
June			126	Dec.	162.6	197.6	179.3
July	102	207	145	<u>1926</u>			
Aug.			158	Jan.	169.4	198.2	183.3
Sept.			157	Feb.	181.3	199.6	190.2
Oct.	89	276	157	Mar.	187.8	200.1	193.9
Nov.			149	Apr.			
Dec.			157	May	190.4	203.3	196.8
<u>1924</u>				June	175.9	203.5	189.3
Jan.	124.5	229.3	168.9	July	164.3	203.9	183.1
Feb.	153.3	226.9	186.6	Aug.	161.8	203.5	181.5
Mar.	170.3	218.7	193.1	Sept.	158.9	203.7	179.9
Apr.	156.5	208.9	180.8	Oct.	156.6	204.1	178.8
May	150.9	203.4	175.2	Nov.	158.8	203.7	178.2
June	136.8	201.3	165.8	Dec.	155.0	203.9	177.8
July	141.4	202.1	169.0	<u>1927</u>			
Aug.	151.3	203.2	175.4	Jan.	154.5	203.2	177.2
Sept.	148.1	200.9	172.4	Feb.	157.3	202.8	178.6
Oct.	136.0	198.6	164.2	Mar.	159.5	200.5	178.8
Nov.	135.2	198.2	163.6	Apr.	160.3	196.1	177.3
Dec.	144.8	195.2	168.2	May	158.1	194.3	175.2
<u>1925</u>				June	157.4	192.6	174.1
Jan.	152.5	193.9	172.0	July	156.9	191.3	173.2
Feb.	164.4	192.6	178.0	Aug.	155.6	188.6	171.3
Mar.	176.3	190.6	183.3	Sept.	153.9	188.2	170.2
Apr.	197.9	190.6	194.4	Oct.	154.3	188.1	170.4
May	202.5	190.8	196.6	Nov.	154.0	187.8	170.1
June	193.1	189.8	191.4	Dec.	154.4	187.9	170.3

TABLE T-31 (continued)

1st day of	Agricultural Price Index	Industrial Price Index	Total Price Index
<u>1928</u>			
Jan.	155.7	188.0	171.1
Feb.	155.8	188.0	171.1
Mar.	155.7	187.7	170.9
Apr.	155.5	187.6	170.8
May	155.6	187.4	170.7
June	157.0	187.3	171.5
July	157.4	187.3	171.7
Aug.	159.8	187.5	173.1
Sept.	160.1	187.5	173.2
Oct.	165.5	187.3	176.1
Nov.	166.1	187.3	176.4
Dec.			

Source: Notes to Table T-31, Appendix C, p. 820.

TABLE T-32

USSR: RETAIL PRICE INDEX FOR GOODS SOLD IN THE  
PRIVATE TRADE: OLD SERIES, 1924 - 1927

1st day of	Agric. price index	Manufactured consumer's goods price index	Total price index	1st day of	Agric. price index	Manufactured consumer's goods price index	Total price index
<u>1924</u>				<u>1926</u>			
Jan.	134	239	180	Jan.	204	248	226
Feb.	159	253	201	Feb.	213	248	230
Mar.	159	255	203	Mar.	219	249	234
Apr.	172	242	207	Apr.	221	262	241
May	187	238	213	May	230	271	250
June	173	243	206	June	218	268	243
July	179	245	210	July	209	266	236
Aug.	183	248	225	Aug.	206	264	234
Sept.	192	248	219	Sept.	201	263	231
Oct.	172	243	206	Oct.	199	264	230
Nov.	167	244	203	Nov.	205	266	234
Dec.	174	240	205	Dec.	205	268	235
<u>1925</u>				<u>1927</u>			
Jan.	177	235	205	Jan.	203	270	235
Feb.	185	232	208	Feb.	207	267	236
Mar.	193	229	211	Mar.	209	268	237
Apr.	207	226	217	Apr.	210	268	238
May	217	225	221	May	209	240	226
June	217	222	219	June	210	235	224
July	217	219	218	July	220	235	229
Aug.	217	221	210	Aug.	220	262	239
Sept.	190	227	208	Sept.	216	260	237
Oct.	192	239	215	Oct.	.	.	.
Nov.	191	245	217	Nov.	228	264	245
Dec.	199	251	224	Dec.	233	266	248

Source: Notes to Table T-32, Appendix C, p. 821.

TABLE T - 33

USSR: RETAIL PRICE INDEX FOR GOODS SOLD IN THE PRIVATE TRADE:  
NEW SERIES, 1927 - 1928

(1913 = 100)

1st day of	Agricultural goods				Manufactured consumers goods				All goods (total price index)			
	Private Trade	Coop Trade	State Trade	Average	Private Trade	Coop Trade	State Trade	Average	Private Trade	Coop Trade	State Trade	Average
<u>1927</u>												
Jan.	198	182	179	188	251	209	204	221	227	197	198	208
Feb.	203	181	180	190	247	208	203	219	227	196	198	208
Mar.	205	180	173	189	246	205	198	216	227	194	194	205
Apr.	208	176	178	188	242	200	196	212	227	189	191	203
May	209	175	173	188	240	198	194	210	226	188	189	201
June	210	172	168	187	235	194	192	206	224	184	186	199
July	220	172	167	190	235	193	190	205	229	184	185	199
Aug.	217	171	167	189	236	192	198	205	228	183	184	199
Sept.	214	172	167	188	235	191	188	204	226	183	188	198
Oct.	214	—	173 —	189	236	—	188 —	203	226	—	183 —	198
Nov.	216	175	169	190	238	189	187	204	228	183	183	199
Dec.	222	176	169	193	240	189	186	204	232	183	183	200



TABLE T-33 (continued)

1st day of	Agricultural goods				Manufactured consumers goods				All goods (total price index)			
	Private Trade	Coop Trade	State Trade	Average	Private Trade	Coop Trade	State Trade	Average	Private Trade	Coop Trade	State Trade	Average
1928												
Jan.	225	176	171	195	240	189	187	204	234	184	183	200
Feb.	226	—178—		197	241	—189—		205	233	—185—		202
Mar.	231	—178—		199	242	—189—		205	237	—185—		203
Apr.	233	178	177	199	242	189	188	205	239	184	185	203
May	249	178	178	205	242	188	188	205	245	184	185	205
June	260	179	178	209	242	189	188	205	250	184	185	206
July	293	—180—		221	243	—188—		205	264	—185—		211
Aug.	287	—180—		219	244	—188—		205	262	—185—		210
Sept.	285	—179—		217	245	—188—		206	262	—185—		210
Oct.	285	—180—		218	247	—188—		206	263	—185—		211
Nov.	289	—183—		222	250	—189—		208	266	—187—		213
Dec.												

Source: Notes to Table T-33, Appendix C, p. 821.

TABLE T-34

USSR: AGRICULTURAL PROCUREMENT PRICES INDEX FOR AGRICULTURAL PRODUCTS  
PURCHASED BY CENTRALLY PLANNED PROCUREMENT AGENCIES 1924/25 1928/29

(average prices 1909-13 = 100)

Part A. INDEXES FOR COMMODITY GROUPS									
	Grain	Oil seed	Fibers, sugar bts tobacco, etc.	Meat Eggs Butter	Leather Wool	Crops (cols 1-3)	Animal Products (cols 4-5)	All agricultural products	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1909-13	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
1924/25-1926/27 Constant Weights	1924/25 <sup>a</sup>	124.4	86.5	148.1	140.3	141.1	128.8	140.8	131.1
	1925 IV	121.9	91.2	142.9	177.5	159.0	126.0	168.3	134.3
	1926 I	140.7	104.4	137.8	165.6	160.4	136.6	163.1	141.8
	II	125.2	103.6	137.0	138.9	166.3	127.2	152.5	132.1
	III	106.8	93.4	134.9	160.4	166.2	114.7	163.3	124.2
	IV	104.2	96.7	136.0	184.9	166.4	113.9	175.8	126.1
	1927 I	103.9	108.0	137.5	194.5	169.2	115.3	182.0	128.3
	II	106.4	113.3	139.9	174.0	171.4	117.9	172.7	128.7
	III	115.8	109.6	140.1	169.1	174.5	123.2	171.8	132.7
	IV	109.4	111.0	140.4	188.8	174.6	119.7	181.8	131.9
	1927 IV <sup>b</sup>	109.8	113.0	139.6	186.1	177.7	121.5	182.9	142.8
	1927/28 Weights	1928 I	112.1	119.6	140.0	187.5	177.8	123.4	183.8
II		111.1	124.0	140.3	174.2	178.0	123.3	175.7	140.8
III		139.9	124.8	143.1	177.0	178.0	140.0	177.4	152.3

TABLE T-34 (continued)

Part A.		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Weights not stated	1928 IV <sup>c</sup>	138.2	128.2	144.6	184.9	177.8	139.5	182.4	155.9
	1929 I	138.2	129.1	145.1	193.2	177.8	140.0	187.6	158.0
	II	137.5	129.3	145.2	193.0	177.8	139.7	187.5	157.7
	III	147.3	129.7	145.1	194.7	177.8	145.0	188.5	161.4
Part B. INDEXES FOR SELECTED COMMODITIES									
	Rye	Wheat	Barley	Sunflower Seed	Flax	Butter	Eggs	Meat	
1909-13	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1924/25	112.9	128.8	133.8	84.0	185.7	136.9	150.4	126.5	
1925 IV	109.3	130.1	102.0	83.8	164.5	166.4	211.0	152.1	
1926 I	140.2	141.2	112.6	98.1	140.8	134.2	217.8	171.4	
II	121.3	127.9	98.1	97.3	137.0	126.7	126.0	200.3	
III	95.8	114.4	83.4	91.5	137.4	137.7	109.3	178.6	
IV	96.9	107.9	87.4	97.1	139.1	156.4	247.3	163.3	
1927 I	97.2	107.9	105.7	111.6	149.5	180.3	225.4	182.1	
II	100.4	109.3	108.3	114.0	161.2	167.8	176.3	188.9	
III	103.8	122.2	120.7	112.5	161.2	155.0	187.3	180.5	
IV	100.5	110.7	121.4	113.3	161.2	177.0	217.7	174.4	
1927 IV	100.2	110.9	121.5	114.7	161.2	177.0	217.7	174.4	
1928 I	103.0	112.4	135.3	122.9	161.2	178.0	229.3	169.7	
II	100.3	112.1	134.1	127.3	161.2	165.4	184.1	175.4	
III	123.4	145.1	161.2	128.0	183.6	166.8	192.2	176.1	

TABLE T-34 (continued)

Part B.	Rye	Wheat	Barley	Sunflower Seed	Flax	Butter	Eggs	Meat
1928 IV	129.7	140.7	151.7	127.6	186.4	198.7	239.4	165.3
1929 I	131.2	139.4	153.4	128.2	186.4	209.1	258.0	170.5
II	129.7	139.2	151.5	129.0	186.4	196.7	211.6	186.0
III	141.7	150.3	150.9	128.0	186.4	196.8	232.9	183.4

<sup>a</sup>Constant weights using average value 1924/25 - 1926/27.

<sup>b</sup>1927/28 weights.

<sup>c</sup>Weights not stated.

Source: Notes to Table T-34, Appendix C, p. 822.

TABLE T-35

USSR: PURCHASING POWER OF AGRICULTURAL PRODUCTS IN TERMS OF MANUFACTURED  
CONSUMER GOODS SOLD IN THE PRIVATE TRADE 1913 = 100

		Price Index of Mfg. Consumer Goods in Private Trade 1913 = 100	Purchasing Power in Terms of Manufactured Consumer Goods Sold in the Private Trade 1913 = 100 or 1909/13 = 100					
			Agricultural goods sold at			Grain sold at Procurement Prices <sup>a</sup>	Wheat sold at Procurement Prices	Rye sold at Procurement Prices
			Retail prices	Wholesale prices	Procurement prices Var. Wt.			
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1924	Oct.	226	73	60	45		49.0	37.2
	Nov.	222	77	52	48		57.0	39.9
	Dec.	217	80	70	52		52.0	42.4
		215	84	76	55		63.0	47.2
1925	Jan.	212	89	83	62	58.5	78.0	58.3
	Feb.	209	97	95	72		95.3	58.3
	Mar.	208	102	97	78		110.1	58.3
	April	205	104	94	76		109.9	58.3
	May	203	105	92	70		100.6	58.3
	June	204	104	79	67		78.4	86.3
	July	210	89	74	58		73.7	70.3
	Aug.	221	85	70	56		73.4	62.3
	Sept.	227	82	69	50		54.9	53.8
	Oct.	232	84	70	53		65.7	54.0
	Nov.	229	87	74	55	66.0	57.5	
	Dec.					53.2		

TABLE T-35 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1926 Jan.	229	91	79	57	} 60.4	70.3	65.0
Feb.	230	93	82	60		72.1	72.4
Mar.	242	90	.	59		67.6	70.1
April	251	90	76	53	} 50.5	64.6	63.5
May	248	86	71	51		63.7	57.3
June	246	83	67	.		52.7	49.2
July	244	83	66	.	} 44.0	51.5	42.9
Aug.	243	81	65	.		54.3	44.5
Sept.	244	80	64	.		54.5	45.9
Oct.	246	82	65	53	} 42.0	51.5	45.5
Nov.	248	81	63	50		50.2	45.1
Dec.	251	79	62	50		48.3	44.3
1927 Jan.	247	82	64	50	41.7	49.4	44.8
Feb.	246	83	65	52	42.8	49.6	45.9
Mar.	242	86	66	55	44.9	51.4	47.2
April	240	87	66	58	43.5	51.8	47.4
May	235	89	67	65	47.6	56.3	49.7
June	235	94	67	64	46.1	51.4	44.7
July	236	92	66	63	46.9	54.2	51.3
Aug.	235	91	65	60	52.0	60.9	51.6
Sept.	236	91	64	56	49.9	59.2	51.6
Oct.	238	91	.	58	47.6	54.6	49.0
Nov.	240	93	64	59	45.1	53.8	48.2
Dec.	240	94	65	60	44.3	52.7	48.3

TABLE T-35 (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1928 Jan.	241	94	65	55	46.3	55.0	48.6
Feb.	242	95	64	52	45.1	53.1	49.2
Mar.	242	96	64	56	44.9	53.1	49.4
April	242	103	64	67	44.9	53.4	44.5
May	242	107	65	69	45.5	55.9	48.4
June	243	121	65	67	44.0	52.3	49.7
July	244	117	65	70	47.3	56.9	48.5
Aug.	245	116	65	67	59.9	70.2	59.7
Sept.	247	115	67	62	57.3	68.4	58.2
Oct.	250	116	66	57	53.2	66.0	60.3
Nov.	.	.	.	.	.	.	.
Dec.	.	.	.	.	.	.	.
1929 Jan.	257	120	66	61	51.2	63.3	58.8
Feb.	261	125	.	61	50.3	62.5	58.3
Mar.	268	142	.	62	50.2	60.4	56.6

<sup>a</sup>1909-13 = 100

Source: Notes to Table T-35, Appendix C, p. 823.

TABLE T-36

USSR: PRICES PAID BY PRIVATE TRADERS AND PLANNED AGENCIES  
FOR FOUR MAJOR GRAINS 1925/26 - 1928/29

(kopecks per pood)

	1925/26	1926/27	1927/28	1928/29
<u>Rye</u>				
General procurement price	99	78	79	93
Price of planned agency	93	72	76	87
Price of private traders	118	110	115	
Difference between private and planned agency prices	25	38	39	
<u>Wheat</u>				
General procurement price	134	107	112	124
Price of planned agency	129	104	109	117
Price of private traders	147	128	137	
Difference between private and planned agency prices	18	24	28	
<u>Oats</u>				
General procurement price	101	73	82	90
Price of planned agency	88	61	68	75
Price of private traders	119	105	113	
Difference between private and planned agency prices	31	44	45	
<u>Barley</u>				
General procurement price	73	60	86	94
Price of planned agency	71	53	85	91
Price of private traders	92	81	101	
Difference between private and planned agency prices	21	28	16	

Source: Notes to Table T-36, Appendix C, p. 824.



TABLE T-37

 WHOLESale PRICE INDEXES FOR SELECTED TRADING  
 PARTNERS OF THE USSR<sup>a</sup>

(1913 = 100)

	USSR Gosplan Series	Germany Statist. Reichsamt Series	Great Britain Board of Trade Series	Netherland Central Bur. v. d. Stat. Series	USA Bureau of Labor series
	(1)	(2)	(3)	(4)	(5)
1913	100.0	100.0	100.0	100.0	100.0
1922					
1923	[135.0]			[150.0]	[152.0]
1924	170.2	137.0	166.0	156.0	140.0
1925	179.2	142.0	159.0	155.0	148.0
1926	185.6	134.4	148.1	145.0	143.3
1927	175.5	137.6	141.6	148.0	136.7
1928	171.5	140.0	140.3	149.0	138.5
1929	177.3	137.2	136.5	142.0	136.5
1930		124.6	119.5	117.0	123.8
1931		110.9	97.0	97.0	104.6
1932		96.5	73.2	79.0	93.0
1933		93.3	68.7	74.0	75.2
1934		98.4	64.3	78.0	64.0
1935		101.8	63.4	76.0	68.0
1936		104.1	68.3	75.0	68.7
1937		105.9	78.4	78.9	73.4
1938		105.6	74.9	76.1	67.2

<sup>a</sup> Adjusted for devaluation of currency.

Source: Notes to Table T-37, Appendix C, p. 824.

TABLE T-38

## PRICE OF WHEAT ON USSR AND FOREIGN MARKETS

(kopecks per hundred kilograms)

Date	USSR Markets			Foreign Markets	
	Wholesale Price in Surplus Region	Average Domestic Procurement Price (Khlebprod)	Average Procurement Price of Exported Grain	Price of Soviet Wheat on Foreign Markets	Price of Manitoba Wheat c. i. f. London
	(1)	(2)	(3)	(4)	(5)
1909-13 Av.		(565) <sup>a</sup>			
1913 Av.		(493) <sup>a</sup>			
1923 Oct.		(378)			
1924 Jan.		(659)			
Mar.		(818)			
Apr.		(757)			
July		670			
Aug.		726			
Sept.		592			
Oct.		543			
Nov.	854	619			
Dec.	996	561			
1925 Jan.	1067	672			
Feb.	1293	812			
Mar.	1502	982			
Apr.	1707	1129			
May	1668	1111			
June	1381	1007			
July	1325	788	726	1135	1294 <sup>c</sup>
Aug.	862	763	775	1178	1386
Sept.	921	800	800	1068	1190
Oct.	947	726	763	1038	1074
Nov.	1004	751	830	1105	1197
Dec.	1056	745	800	1245	1349

TABLE T-38 (continued)

Date	USSR Markets			Foreign Markets	
	Wholesale Price in Surplus Region	Average Domestic Procurement Price (khlebprod)	Average Procurement Price of Exported Grain	Price of Soviet Wheat on Foreign Markets	Price of Manitoba Wheat c. i. f. London
	(1)	(2)	(3)	(4)	(5)
1926 Jan.	1098	794	806	1227	1349
Feb.	1117	818	861	1221	1306
Mar.	1114	806	855	1142	1245
Apr.	1086	799	836	1184	1288
May	1032	779	775	1178	1288
June	822	638	684	<u>1197</u>	1294
July	833	619	654	1245	1313
Aug.	805	650	671	1190	1263
Sept.	769	656	669	1153	1202
Oct.	744	624	652	1217	1263
Nov.	749	614	629	1228	1269
Dec.	738	597	602	1175	1216
1927 Jan.	738	601	601	1140	1198
Feb.	745	602	589	1148	1230
Mar.	759	623	559	1138	1239
Apr.	764	613	581	1141	1219
May	745	652	550	1184	
June	750	595	<u>532</u> <sub>b</sub>	1194	
July	779	631	(716)	1170	
Aug.	776	705	(740)	1192	1288
Sept.	753	689	(702)	1123	<u>1228</u> <sub>d</sub>
Oct.		<u>646</u> <sub>b</sub>	691	1104	
Nov.		637	682	1161	1077
Dec.		623	681	1191	1087
1928 Jan.		653	681	1189	1080
Feb.		633	677	1183	1071
Mar.		634	678	1204	1112
Apr.		637	680	1245	1173
May		667	692	1242	1169

TABLE T-38 (continued)

Date	USSR Markets			Foreign Markets	
	Wholesale Price in Surplus Region	Average Domestic Procurement Price (khlebprod)	Average Procurement Price of Exported Grain	Price of Soviet Wheat on Foreign Markets	Price of Manitoba Wheat c. i. f. London
	(1)	(2)	(3)	(4)	(5)
1928 June		627	675	1132	1080
July		684	729		1036
Aug.		848	843		921
Sept.		833 <sup>b</sup>	838		912 <sup>e</sup>
Oct.		814 <sup>b</sup>			1017 <sup>e</sup>
Nov.		798			1021
Dec.		798			1024
1929 Jan.		802			1034
Feb.		804			1067
Mar.		798			1052
Apr.		798			1011
May		800			943
June		801			1012
July		795			1122
Aug.		876			1226
Sept.		861			1176

<sup>a</sup> See Table Notes for method of estimating these prices.

<sup>b</sup> The bar indicates a change in the sources or type of data which limits somewhat the comparability of the data before and after the bar. The Table Notes should be consulted in each case.

<sup>c</sup> Manitoba No. 1.

<sup>d</sup> Manitoba No. 3.

<sup>e</sup> Manitoba No. 2. Prices for July, August and September were 1,179, 995, 952 kopecks per 100 kilograms.

Source: Notes to Table T-38, Appendix C, p. 825.

TABLE T-39

## PRICE OF RYE ON USSR AND FOREIGN MARKETS

(kopecks per hundred kilograms)

Date	USSR Markets			Foreign Markets	
	Wholesale Price in Surplus Region	Average Domestic Procurement Price (khlebprod)	Average Procurement Price of Exported Grain	Price of Soviet Rye on Foreign Markets	Western No. 2 c. i. f. Hamburg
1909-13 Av.		(446) <sup>a</sup>			
1913 Av.		(385) <sub>b</sub>			
1923 Oct.		(214)		(684)	
1924 Jan.		(385)		(775)	
Mar.		(440)		(725)	
Apr.		(415)		(696) <sub>b</sub>	
July					
Aug.					
Sept.					
Oct.		<u>324</u> <sup>b</sup>			
Nov.	543	341			
Dec.	659	354			
1925 Jan.	714	391	.	.	.
Feb.	810	476	.	.	.
Mar.	963	.	.	.	.
Apr.	1157	.	.	.	.
May	1265	.	.	.	.
June	1167	.	.	.	.
July	1111	678	629	897	873
Aug.	657	568	556	861	879
Sept.	616	530	531	757	781
Oct.	626	470	464	690	733
Nov.	676	482	531	739	763
Dec.	717	507	574	806	.

TABLE T-39 (continued)

Date	USSR Markets			Foreign Markets	
	Wholesale Price in Surplus Region	Average Domestic Procurement Price (khlebprod)	Average Procurement Price of Exported Grain	Price of Soviet Rye on Foreign Markets	Western No. 2 c. i. f. Hamburg
	(1)	(2)	(3)	(4)	(5)
1926 Jan.	771	574	604	818	.
Feb.	875	641	543	751	.
Mar.	869	653	464	818	.
Apr.	851	514	.	855	.
May	786	547	501	824	.
June	644	466	421	<u>836</u>	.
July	592	403	398	<u>849</u>	910
Aug.	557	416	419	832	891
Sept.	545	431	432	891	897
Oct.	505	431	436	933	938
Nov.	515	431	435	940	943
Dec.	519	428	432	906	906
1927 Jan.	522	426	441	943	944
Feb.	523	435	442	977	981
Mar.	532	440	429	944	947
Apr.	519	438	439	943	952
May	523	450	419	1025	1012
June	522	456	<u>419</u> <sub>b</sub>	1004	984
July	539	466	.	904	893
Aug.	545	<u>467</u> <sub>b</sub>	478	876	862
Sept.	533	.	466	919	897
Oct.	.	449	459	905	877
Nov.	.	445	457	955	923
Dec.	.	446	462	987	956
1928 Jan.	.	451	477	986	964
Feb.	.	458	.	997	976
Mar.	.	460	482	1068	1049
Apr.	.	415	455	1136	1119
May	.	451	462	1161	1142
June	.	465	454	1063	1048

TABLE T-39 (continued)

Date	USSR Markets			Foreign Markets	
	Wholesale Price in Surplus Region	Average Domestic Procurement Price (khlebprod)	Average Procurement Price of Exported Grain	Price of Soviet Rye on Foreign Markets	Western No. 2 c. i. f. Hamburg
1928 July		456	456	978	966
Aug.		563	594	906	903
Sept.		553	587	869	853
Oct.		580 <sup>b</sup>		934	919
Nov.		569		929	913
Dec.		580		940	926
1929 Jan.		582		947	934
Feb.		586		949	940
Mar.		584		927	927
Apr.		559		882	881

<sup>a</sup>See Table Notes for method of estimating price for 1909-13 and 1913.

<sup>b</sup>The bar indicates a change in the sources or type of data which limits somewhat the comparability of the data before and after the bar. The table notes should be consulted in each case.

Source: Notes to Table T-39, Appendix C, p. 827.

TABLE T-40

## PRICE OF BARLEY ON USSR AND FOREIGN MARKETS

(kopecks per hundred kilograms)

Date	USSR Market	Foreign Market	
	Procurement Price of Exported Barley	Average Price of Russian Barley	Canadian Barley c. i. f. London
	(1)	(2)	(3)
1909-13	(375) <sup>a</sup>		
1913	(344) <sup>a</sup>		
1925			
July	446	885	940
Aug.	476	867	904
Sept.	464	714	763
Oct.	378	696	751
Nov.	341	684	739
Dec.	347	726	763
1926			
Jan.	385	690	732
Feb.	397	665	
Mar.	391	653	684
Apr.	391	739	739
May	354	714	733
June	<u>305</u> <sup>b</sup>	<u>726</u> <sup>b</sup>	
July	279 <sup>c</sup>	714 <sup>b</sup>	745
Aug.	304	695	726
Sept.	317	732	756
Oct.	318	777	793
Nov.	323	806	857
Dec.	344	803	817
1927			
Jan.	360	854	846
Feb.	359	859	854
Mar.	372	850	855
Apr.		914	899
May		960	958
June		963	1012



TABLE T-40 (continued)

Date	USSR Market	Foreign Market	
	Procurement Price of Exported Barley	Average Price of Russian Barley	Canadian Barley c. i. f. London
	(1)	(2)	(3)
1927			
July		885	886
Aug.	445	889	<u>887</u> <sup>b</sup>
Sept.	448	880	907 <sup>b</sup>
Oct.	455	884	
Nov.		909	
Dec.		930	
1928			
Jan.		938	
Feb.		945	
Mar.		980	927
Apr.	480	975	
May	456	992	
June	486	963	
July	570	866	852
Aug.	600	785	783
Sept.	602	754	754
Oct.			831
Nov.			803
Dec.			803

<sup>a</sup>See Table Notes for method of estimating these prices.

<sup>b</sup>The bar indicates a change in the sources or type of data which limits somewhat the comparability of the data before and after the bar. The Table Notes should be consulted in each case.

<sup>c</sup>Procurement price of all barley.

Source: Notes to Table T-40, Appendix C, p. 828.

TABLE T -41

## PRICES OF FLAX ON USSR AND FOREIGN MARKETS

(rubles and kopecks per 100 kilograms)

Date	USSR Market Group IV 1 Sort	Foreign Markets Dundee c. i. f.		Feifets Data "Foreign Price"
		Russian BKKU	Baltic Shwanenburg	
	(1)	(2)	(3)	(4)
1909-13	(29.41)			
1913	<u>(29.23)</u>			
1924				
Jan.	(52.50)			83.60
May	(50.10)			109.90
Aug.	(53.70)			112.90
Oct.	(59.80)			115.40
1925				
Jan.	(53.70)			120.90
May	(58.00)			89.80
Aug.	(56.20)			92.80
Oct.	(54.30)	88.10	86.08	92.80
1926				
Jan.	(43.40)	75.82	79.42	79.40
May	(38.50)	(73.93) <sup>a</sup>	(71.73) <sup>a</sup>	79.40
Aug.	<u>(39.70)</u>			73.20
Oct.	40.87	61.89	63.85	67.20
Nov.	40.87	61.26	59.22	
Dec.	40.87	60.08	57.99	
1927				
Jan.	42.74	60.39	62.15	67.20
Feb.	47.74	67.51	71.87	
Mar.	47.62	79.53	87.61	
Apr.	47.62	77.99	86.46	
May	47.62	83.95	91.86	
June	47.62	102.00	105.98	
July	47.62	105.88	111.28	
Aug.	47.62	106.07	109.79	
Sept.	47.62	110.00	110.59	

TABLE T-41 (continued)

Date	USSR Market Group IV 1 Sort	Foreign Markets Dundee c. i. f.	
		Russian BKKU	Baltic Shwanenburg
	(1)	(2)	(3)
1927			
Oct.	48.00	112.29	110.62
Nov.	48.00	103.17	102.42
Dec.	48.00	92.37	92.37
1928			
Jan.	48.00	99.35	99.81
Feb.	48.00	109.03	108.94
Mar.	48.00	108.66	107.08
Apr.	48.00	105.87	106.33
May	48.00	104.74	105.41
June	48.00	103.54	103.99
July	48.00	101.67	102.34
Aug.	55.00	101.21	100.41
Sept.	62.00	95.99	95.64
Oct.		88.64	89.67
Nov.		86.04	89.48
Dec.		88.64	96.37

<sup>a</sup>June 1926.

<sup>b</sup>The bar indicates a change in the sources or type of data which limits somewhat the comparability of the data before and after the bar. The table notes should be consulted in each case.

Source: Notes to Table T-41, Appendix C, p. 828.

TABLE T-42

## PRICES OF BUTTER AND EGGS ON USSR AND FOREIGN MARKETS

	Butter (rubles per 100 kg)			Eggs (rubles per box)		
	USSR Market Procurem't Prices in Export Regions	Foreign Markets		USSR Market Procurem't Prices in Export Regions	Foreign Markets	
		London, c. i. f. Quoted Prices			Quoted Prices London, c. i. f.	
		Russian (Siberian)	New Zealand or Danish		Russian	Danish
(1)	(2)	(3)	(4)	(5)	(6)	
1909-13	(77.79)			(23.25)		
1913	(79.01)			(24.57)		
1925						
Oct.		167.88	210.43 <sup>a</sup>			
Nov.	128.30	158.11	201.58	48.63		
Dec.		138.64	178.08			
1926						
Jan.		134.12	167.33			
Feb.	97.2	142.55	181.37	50.17		
Mar.		147.86	177.41		66.83	106.47
Apr.		147.43	168.92			
May	97.5	138.52	163.66	29.04		
June		142.06	163.91			
July		134.18	163.24			
Aug.	102.1	131.25	165.56	43.25		
Sept.		124.17	168.12			
Oct.		118.43 <sup>c</sup>	137.28 <sup>b</sup>	52.92 <sup>c</sup>	70.94 <sup>c</sup>	115.12 <sup>c</sup>
Nov.	119.4	119.91	135.78	67.58	80.90	141.70
Dec.		139.91	155.35	67.69	81.74	151.80
1927						
Jan.		151.38	159.72	54.64	75.93	109.88
Feb.	131.90 <sup>c</sup>	151.38	159.56	62.77		98.22
Mar.	132.30		143.11	49.98		72.06
Apr.	131.26	140.39	142.06	43.86		69.00
May	122.10	141.72	148.14	40.34	47.09	71.93
June	120.57	143.55	151.55	38.77	47.02	73.53
July	117.58	131.09	148.39	37.82	47.32	75.24
Aug.	120.78	132.65	155.54	42.35	50.76	82.77
Sept.	123.13	148.85	167.17		57.73	99.72
Oct.	132.20	144.88	165.09	49.55	63.85	110.55

TABLE T-42 (continued)

	Butter (rubles per 100 kg)			Eggs (rubles per box)		
	USSR Markets Procurem't Prices in Export Regions	Foreign Markets		USSR Markets Procurem't Prices in Export Regions	Foreign Markets	
		London, c. i. f. Quoted Prices			Quoted Prices London, c. i. f.	
		Russian (Siberian)	New Zealand		Russian	Danish
(1)	(2)	(3)	(4)	(5)	(6)	
1927						
Nov.	135.90	145.63	161.64	52.12	71.52	146.73
Dec.	138.80	142.27	151.95	61.02	80.17	150.48
1928						
Jan.	140.10	140.83	148.23	72.68		141.36
Feb.	137.03	145.49	154.19	60.97		94.22
Mar.	134.70	155.03	161.00	49.42		73.61
Apr.	131.40	147.76	157.55	47.87	54.64	71.52
May	130.94	142.47	155.31	42.01	48.24	73.84
June	125.25	142.47	160.89	39.84	43.70	71.84
July	123.17	144.80	167.63	38.72	41.43	73.03
Aug.	129.40	147.14	170.61	42.92	55.20	89.91
Sept.		149.19	170.80	48.61	61.99	92.09
Oct.		148.23	170.11		67.55	103.08
Nov.		152.51	159.78		69.82	139.34
Dec.		163.41	168.81		72.98	135.08
1929						
Jan.		168.22	171.60		66.13	116.50
Feb.			165.16		68.12	106.06
Mar.			155.59			82.30
Apr.		144.02	152.42			72.23
May		144.34	154.65			72.74

<sup>a</sup>Danish butter.

<sup>b</sup>New Zealand butter.

<sup>c</sup>The bar indicates a change in the sources or type of data which limits somewhat the comparability of the data before and after the bar. The table notes should be consulted in each case.

Source: Notes to Table T-42, Appendix C, 829.

TABLE T -43

USSR: ESTIMATES OF PROFITABILITY OF GRAIN EXPORTS  
(ALL GRAINS) 1923/24 - 1926/27

(kopecks per 100 kilograms)

	1923/24	1924/25	1925/26	1926/27
Average foreign price	812	1007	916	977
Domestic price	324	549	629	537
Marketing costs	457	418	384	366
Total cost of grain marketed abroad	781	967	1013	903
Profit (+) or loss (-) on sale of grain abroad	+31	+40	-97	+74
Total marketing costs	457	418	384	366
Incurred from purchase to f.o.b.	.	.	.	243
Incurred from f.o.b. to sale abroad	.	.	.	123
Difference between foreign price and domestic price	488	458	287	440

Source: Notes to Table T-43, Appendix C, p. 829.

TABLE T -44

## USSR: ESTIMATES OF PROFITABILITY OF FLAX EXPORTS

(rubles per 100 kilograms)

	1924	1925	1926
Average foreign price	100.73	97.68	76.31
Domestic price	51.89	54.95	40.90
Marketing costs	47.01	24.05	21.98
Total cost of flax marketed abroad	98.90	78.99	62.88
Profit (+) or loss (-) on sale of flax abroad	+1.83	+18.68	+13.43
Total marketing costs	47.01	24.05	21.98
Incurred from purchase to f. o. b.	.	17.88	15.57
Incurred from f. o. b. to sale abroad	.	6.16	6.41
Difference between foreign price and domestic price	48.84	42.73	35.41
Export duty on flax	.	.	3.11

Source: Notes to Table T-44, Appendix C, p. 830.

TABLE T -45

## USSR: ESTIMATES OF PROFITABILITY OF BUTTER EXPORTS

(rubles per 100 kilograms)

	1913	1923/24	1924/25	1925/26
Average foreign price	106.70	138.41	151.72	138.16
Domestic price	87.23	84.68	109.80	97.60
Marketing costs	14.03	34.34	37.76	34.77
Total cost of butter marketed abroad	101.26	119.02	147.56	132.37
Profit (+) or loss (-) on sale of butter abroad	+5.44	+19.89	+4.16	+5.79
Total marketing costs	14.03	34.34	37.76	34.77
Incurred from purchase to f. o. b.	10.26	24.41	26.86	22.77
Incurred from f. o. b. to sale abroad		9.93	10.90	12.00
Difference between foreign price and domestic price		54.23	41.92	40.56

Source: Notes to Table T-45, Appendix C, p. 830.

TABLE T -46

## USSR: ESTIMATES OF PROFITABILITY OF EGGS EXPORTS

(rubles per box of 1440 eggs)

	1925	1926
Average foreign price	58.00	69.00
Domestic price	32.00	42.00
Marketing costs	27.74	30.68
Total cost of eggs marketed abroad	59.74	72.68
Profit (+) or loss (-) on sale of eggs abroad	-1.74	-3.68
Total marketing costs	27.74	30.68
Incurred from purchase to f. o. b.	20.04	23.00
Incurred from f. o. b. to sale	7.70	7.68
Difference between foreign price and domestic price	26.00	27.00

Source: Notes to Table T-46, Appendix C, p. 830.

TABLE T-47

IMPORT TARIFFS FOR RUSSIA AND THE USSR ENACTED  
IN 1903, 1922, 1924, 1927

(rubles)

	method of assessing tariff	1903	1922	1924	1927
<u>Luxury Articles</u>					
Cosmetic preparations	kilogram	1.45-3.20	7.30-12.20	7.40-13	70-175
Toilet soap	100 kg	73.0	122	122	750
Clothing from silk	kilogram	36.90	97.60	122	175
Leather suitcases, briefcases	kilogram	2.55	7.30	7.50	25
Various haberdashery	kilogram	1.10-7.30	3.65-24.40	3.70-25	30-100
<u>Foodstuffs</u>					
Grain, potatoes	100 kg	d. f. <sup>a</sup>	0.03-0.12	d. f. <sup>a</sup>	d. f. <sup>a</sup>
Rice	100 kg	6.40	6.10	6.0	6.0
Tea	100 kg	69-192	97.60-244	67-148	70-200
Coffee	100 kg	36-55	73.20-109.80	37-74	240-285
Spices	kilogram	0.43-1.98	1.22-12.20	1.20-12	0.40-100
Fruit and citrus fruit	100 kg	9.60-11	24.40-61	12-74	36-100
Tobacco	kilogram	2.10-17.55	1.80-24.40	2.44-30	2.25-30
Sugar	100 kg	27.50-36.60	15.25-24.40	18-27.50	10-18
Herring, dried cod	100 kg	3.70	3.05	3.00	9.00
Wine	100 kg	55-153	73.20-305	122-670	550-800
Liquor	100 kg	153-183	183-305	214-335	550-800



TABLE T-47 (continued)

	method of assessing tariff	1903	1922	1924	1927
<u>Consumers' Goods, Household Articles</u>					
Cotton cloth	100 kg	239-624	341.60-1012.60	470-1850	220-2000
Woolen cloth	100 kg	549	732-976	650-850	1000-1300
Footwear	kilogram	4.76 9.52	3.63-8.55	5-9.80	25-50
Eyeglasses, binoculars	kilogram	1.83	2.45	2.50	75
Pencils, pens	kilogram	1.60	0.60	0.60	3
Knives, tableware, razors	kilogram	1.46-3.66	1.67-4.88	2.44-5.49	10-100
Iron (cooking) utensils	100 kg	9.15	9.15	12	30
Glassware	100 kg	5.50-101	9.15-366	9-366	12-360
Porcelain goods	100 kg	58-231	61-723	61-750	100-700
<u>Transport Equipment</u>					
Rail	100 kg	3.50	0.30	6	6
Locomotives	100 kg	22.30	19.50	29	50
Railway cars <sup>b</sup>	100 kg	--	--	--	22-75
Automobiles <sup>b, c</sup>	100 kg	--	--	--	12-50% <sup>c</sup>
<u>Raw Materials</u>					
Coal	100 kg	0.36	0.12	0.45	0.60
Iron in ingots	100 kg	5.50	0.12	6	6
Steel and sheet steel	100 kg	5.50-9.15	3.05-6.70	7.50-13.70	8
Copper, aluminum, nickel	100 kg.	30.50-43.30	3.05-1980	37-61	37-72
Rubber and guttapercha	100 kg	48.80-122	9.15-122	6-170	30-200
Paper pulp	100 kg	1.10-3.60	1.10-3.05	1.50-12	1-6
Paper	100 kg	36.60	12.20-79.30	12-40	12.50-40

TABLE T-47 (continued)

	method of assessing tariff	1903	1922	1924	1927
<u>Raw Materials (continued)</u>					
Cotton	100 kg	24.40	24.40	6	21
Cotton Yarn	100 kg	50-186	61.345-25	39-475	52-455
Wool (combed, spun)	100 kg	5031-14.30	94.55-244	61-238	130-340
Hides and leather	100 kg	2.40-137.20	0.60-366	0.0-488	6-800
<u>Production Equipment</u>					
Machines and apparatus	100 kg	15.50-55	12.80-42.70	20.74	6-110
Hand tools	100 kg	12.80-16.80	9.15	19.25	75-150
<u>Electrical Equipment</u>					
Dynamos, electrical motors	100 kg	51.80	61	91	180
Transformers	100 kg	51.80	61	12-110	12-110
Copper wire	100 kg	44.80-72.30	18.30-42.70	61-110	65-115
<u>Producers' Goods for Agriculture</u>					
Agricultural machinery <sup>d</sup>	100 kg	6.40	1.53-4-56	4.50	7
Agricultural implements	100 kg	12.80-18.30	9.15	9-18	14-17
Fertilizer	100 kg	0.18-0.46	0.015-0.43	d. f.	0.25-3.50
<u>Chemicals</u>					
Boric acid, borax	100 kg	11-21-95	11-18-30	28	45
Ammonia compounds	100 kg	5-13-60	2.44-18.30	2.50-25	3-40
Soda	100 kg	5.50	5.50	5.50	4
Calcium chloride	100 kg	7.10	4.27	23	23
Sulfuric acid	100 kg	2.20-10	1.83-3.66	2.50-5.20	2-10

TABLE T-47 (continued)

	method of assessing tariff	1903	1922	1924	1927
<u>Chemicals</u> (continued)					
Chloroform	100 kg	100.60	122	122	400
Aniline	100 kg	24.40	48.80	85	140
Synthetic dyes	100 kg	155.50	244-305	244-305	300-400

Source: Notes to Table T-47, Appendix C, p. 830.

TABLE T-48

USSR: POPULATION, TOTAL, URBAN, RURAL 1913 - 1939

Part A. Soviet Estimates						
	Borders	Date	Population (millions)			Per cent
			Total	Urban	Rural	Urban
1.	Russia	(1913)	165.7	.	.	.
2.	Sov. Terr.	"1913"	139.3	24.7	114.6	17.7
3.	Sov. Terr.	Jan. 1, 1914	139.7	25.8	113.9	18.5
4.	Sov. Terr.	Jan. 1, 1924	137.0	22.1	114.9	16.1
5.	Sov. Terr.	Jan. 1, 1925	140.0	23.2	116.8	16.6
6.	Sov. Terr.	Jan. 1, 1926	143.2	24.5	118.7	17.1
7.	Sov. Terr.	Dec. 17	147.0	26.3	120.7	17.9
8.	Sov. Terr.	Jan. 1, 1927	(147.2)	(26.4)	(120.8)	(17.9)
9.	Sov. Terr.	Jan. 1, 1928	(150.4)	(27.5)	(122.9)	(18.3)
10.	Sov. Terr.	Apr. 1, 1928	151.3	27.9	123.4	18.4
11.	Sov. Terr.	Jan. 1, 1929	(153.9)	(28.7)	(125.1)	(18.6)
12.	Sov. Terr.	Apr. 1, 1929	154.8	29.0	125.8	18.7
Part B. "Western Estimates" by W. Eason						
	Sov. Terr.	Jan. 1, 1910	130.1	18.6	111.8	
	Sov. Terr.	Jan. 1, 1914	139.9	20.4	119.5	14.6
	Sov. Terr.	Mar. 15, 1923	133.5	21.4	112.0	16.1
	Sov. Terr.	Dec. 17, 1926	147.0	26.3	120.7	17.9
	Sov. Terr.	Jan. 1, 1928	149.9	27.6	122.3	18.4
	Sov. Terr.	Jan. 1, 1929	153.1	29.2	123.9	19.1
	Sov. Terr.	Jan. 1, 1930	155.6	30.9	124.7	19.9
	Sov. Terr.	Jan. 1, 1931	158.1	32.0	126.0	20.2
	Sov. Terr.	Jan. 1, 1932	160.7	36.3	124.4	22.6
	Sov. Terr.	Jan. 1, 1933	160.6	39.7	120.9	24.7
	Sov. Terr.	Jan. 1, 1934	160.6	41.0	119.5	25.6
	Sov. Terr.	Jan. 1, 1935	160.5	.	.	.
	Sov. Terr.	Jan. 1, 1936	162.2	47.0	115.2	29.0
	Sov. Terr.	Jan. 1, 1937	164.1	.	.	.
	Sov. Terr.	Jan. 1, 1938	167.3	.	.	.
	Sov. Terr.	Jan. 1, 1939	170.6	56.1	114.4	32.9

Source: Notes to Table T-48, Appendix C, p. 831.

TABLE T-49  
 USSR: ESTIMATES OF LIVESTOCK  
 (millions of head)

June- July census	Horses	Cattle including cows	Cows	Swine	Sheep Goats
1916	35.8	60.6	26.0	20.9	121.2
1921	29.6	50.8	27.2	19.4	110.9
1922	24.1	45.8	24.8	12.1	91.1
1923	24.6	52.9	26.1	12.9	95.3
1924	25.7	59.0	27.1	22.2	109.0
1925	27.1	62.1	28.6	21.8	122.9
1926	29.2	65.5	29.7	21.6	132.5
1927	31.6	68.0	29.9	23.2	139.7
1928	33.5	70.5	30.7	26.2	146.7
1929	34.6	67.1	30.4	20.4	147.0
1930	30.2	52.5	26.7	13.6	108.8
1931	26.2	47.9	24.4	14.4	77.7
1932	19.6	40.7	21.0	11.6	52.1
1933	19.6	38.4	19.6	12.1	50.2
1934	15.7	42.4	19.5	17.4	51.9
1935	15.9	49.2	20.1	22.5	61.1
1936	16.6	56.7	22.1	30.5	73.7
1937	16.7	57.0	23.3	22.8	81.3
1938	17.5	63.2	25.2	30.6	102.5

Source: Notes to Table T-49, Appendix C, p. 831.

TABLE T-50

USSR: GROSS CAPITAL INVESTMENT IN FIXED CAPITAL  
IN THE SOCIALIST SECTOR 1923/24 - 1938

(billions of rubles in prices of current year)

Part A. Investment Including "Non-Productive Investment" <sup>a</sup>								
	Economic Sectors						Social Cultural Administrative	All Sectors
	By Sector					Total Economic Sectors		
	Industry	Agriculture	Transport	Communications	Trade			
1923/24								
1924/25	0.416	0.068	0.272	0.019	0.040	0.815	0.395	1.210
1925/26	0.846	0.120	0.523	0.021	0.051	1.561	0.577	2.138
1926/27	1.553	0.201	0.860	0.043	0.078	2.735	0.928	3.663
1928	1.687	0.364	0.905	0.054	0.065	3.075	1.014	4.089
1929	2.308	0.808	1.179	0.070	0.099	4.464	1.341	5.805
1930	3.507	2.309	1.660	0.123	0.174	7.773	1.892	9.665
1931	6.341	3.353	2.694	0.184	0.260	12.832	2.669	15.501
1932	8.794	3.466	3.472	0.186	0.351	16.269	3.598	19.867
1933	8.207	3.503	2.825	0.189	0.217	14.941	4.603	19.544
1934	9.921	4.254	3.982	0.261	0.443	18.861	6.136	24.997
1935	11.305	4.783	4.948	0.281	0.522	21.839	7.461	29.300
1936	13.701	6.336	6.398	0.294	0.957	27.686	10.414	38.100
1937	12.880	7.088	5.341	0.228	0.835	26.372	9.928	36.300
1938 <sup>b</sup>	14.650	7.218	6.126	0.356	0.698	29.048	10.552	39.600

TABLE T-50 (continued)

Part B. Investment Excluding "Non-Productive Investment"								
	Economic Sectors						Social Cultural Administrative	All Sectors
	By Sector					Total Economic Sectors		
	Industry	Agriculture	Transport	Communications	Trade			
1923/24	0.355	0.056	0.214					0.861
1924/25	0.481	0.071	0.272	0.019	0.040	0.883	0.327	1.210
1925/26	0.972	0.126	0.523	0.021	0.051	1.693	0.445	2.138
1926/27	1.760	0.213	0.860	0.043	0.078	2.954	0.709	3.663
1928	1.880	0.384	0.905	0.054	0.065	3.288	0.801	4.089
1929	2.165	0.804	1.179	0.070	0.099	4.803	1.002	5.805
1930	4.114	2.590	1.660	0.123	0.174	8.661	1.004	9.665
1931	7.407	3.645	2.694	0.184	0.260	14.190	1.311	15.501
1932	10.431	3.821	3.472	0.186	0.351	18.261	1.606	19.867
1933	9.890	3.795	3.015	0.202	0.238	17.140	2.404	19.544
1934	11.868	4.672	4.250	0.278	0.486	21.554	3.443	24.997
1935	13.024	5.093	5.455	0.300	0.562	24.434	4.866	29.300
1936	15.969	6.484	6.917	0.310	1.046	30.726	7.374	38.100
1937	15.012	7.246	5.774	0.246	0.913	29.191	7.109	36.300
1938	17.075	7.349	6.623	0.376	0.763	32.186	7.414	39.600

<sup>a</sup>"Non-productive investment" refers to housing, club houses, etc.

<sup>b</sup>1938 investment evaluated at 1936/37 prices.

Source: Notes to Table T-50, Appendix C, p. 832.

TABLE T-51

USSR: EXPORT, OUTPUT, PROCUREMENTS AND MARKETING  
OF SELECTED AGRICULTURAL PRODUCTS:  
1909-13, 1913, 1924/25 - 1927/28

	1909-13	1913	1924/25	1925/26	1926/27	1927/28
<u>Grain</u>						
(millions of m. t.)						
1. gross harvest	81.6 <sup>a</sup>	80.1 <sup>a</sup>	51.4	72.5	76.8	72.3
2. total market (AY)	.	.	8.6	12.2	13.4	12.2
3. procurements (AY)	.	.	4.6	8.4	10.8	10.3
4. procurements (EY)	.	.	6.0	8.5	11.0	9.7
5. exports (AY)	.	.	0.4	2.0	2.6	.
6. exports (EY)	11.9 <sup>b</sup>	10.7 <sup>b</sup>	0.6	2.1	2.3	0.4
<u>Wheat</u>						
(millions of m. t.)						
7. gross harvest	26.4 <sup>b</sup>	26.2 <sup>a</sup>	13.1	20.7	24.4	21.6
8. procurements	.	.	1.7	3.8	6.3	4.9
9. gross exports	4.77 <sup>b</sup>	3.74 <sup>b</sup>	0.17	0.75	1.21	0.14
10. gross imports	.	0.14 <sup>b</sup>	0.49	0.01	0.00	0.25
<u>Rye</u>						
(millions of m. t.)						
11. gross harvest	27.9	21.3	18.8	22.8	23.7	24.2
12. procurements	.	.	1.37	1.83	2.50	2.32
13. gross exports	0.77	0.77	0.07	0.16	0.42	0.12
<u>Barley</u>						
(millions of m. t.)						
14. gross harvest	13.1	10.8	4.4	6.6	5.5	4.5
15. procurements	.	.	0.18	1.07	0.32	0.43
16. gross exports	3.72	3.93	0.20	0.84	0.26	0.00
<u>Oil seed</u>						
(millions of m. t.)						
17. gross harvest	.	2.24	2.12	3.99	2.58	.
18. procurements <sup>c</sup>	.	.	(1.24)	(1.03)	(0.96)	(1.06)
19. exports of oil seed	.	0.21	0.19	0.25	0.07	0.01
20. exports of oil seed and prod.	.	0.99	0.52	0.56	0.38	0.21



TABLE T-51 (continued)

	1909-13	1913	1924/25	1925/26	1926/27	1927/28
<u>Flax</u>						
(thousands m. t.)						
21. gross harvest	.	454	240	300	270	240
22. procurements	.	(246)	(125)	(180)	(125)	122
23. exports-flax only	.	272	45	57	32	23
24. exports-all flax products	.	307	56	72	44	43
<u>Eggs</u>						
(billions of eggs)						
25. net output	.	10.97	8.79	9.63	9.65	9.91
26. procurements	.	[6.70] <sup>d</sup>	1.18	1.03	1.81	2.30
27. exports	.	3.66	0.71	0.60	0.89	1.36
<u>Butter</u>						
(thousands of m. t.)						
28. factory output	.	134 <sup>b</sup>	[49.6]	[56.7]	[58.9]	[82.1]
29. market	.	142 <sup>b</sup>	.	.	.	206
30. procurements	.	.	42.6	48.8	75.1	74.6
31. exports	68.1	78.0 <sup>b</sup>	24.5	27.3	30.3	32.9
<u>Cotton (unginned)</u>						
(thousands of m. t.)						
32. output <sup>e</sup>	.	740	340	540	540	720
33. procurements	.	.	359	572	522	637
<u>Wool</u>						
(thousands of m. t.)						
34. procurements	.	.	15	17	27	39
<u>Sugar beets</u>						
(thousands of m. t.)						
35. procurements	.	.	2916	7438	6123	9870
<u>Hides (large)</u>						
(thousands of hides)						
36. procurements	.	.	6904	4957	7270	10,598
<u>Skins (small)</u>						
(thousands of skins)						
37. procurements	.	.	13,909	15,332	16,500	24,012

<sup>a</sup>Soviet territory.

TABLE T-51 (continued)

<sup>b</sup>Russian Empire.

<sup>c</sup>Definition of oil seed changes.

<sup>d</sup>Total marketing.

<sup>e</sup>First year of split-year.

Source: Notes to Table T-51, Appendix C, p. 833.

## APPENDIX A

TECHNICAL NOTE ONE: SOURCES OF SOVIET  
FOREIGN TRADE STATISTICS

In Technical Note 1 we outline (1) the meaning of "rubles" as used in Soviet foreign trade statistics and how it affects the use of various sources of Soviet foreign trade statistics and (2) the major sources of Soviet foreign trade statistics and their differences.

Ruble valuation in Soviet foreign  
trade statistics

Soviet foreign trade statistics for the inter-war period were recorded and published in rubles by the Soviet Customs Department. The ruble value was based on the invoices for customs declaration and was calculated with reference to the value of the export (f. o. b.) or import (c. i. f.) in foreign currency rather than domestic ruble values. The ruble value of Soviet foreign trade statistics was calculated by converting the value in foreign currency into rubles at the "official exchange rate." The official exchange rate (since late 1924) was based on the gold content of the ruble relative to the gold content of other

currencies convertible to gold at the official parity rates or on the cross-exchange rate of a fluctuating currency to a convertible currency such as the dollar (to 1933) and franc (from 1933 to 1936) and again the dollar after 1937.<sup>1</sup>

The Soviet ruble attained limited convertibility during the mid-1920's, and was even quoted on several foreign exchanges, but for all practical purposes the ruble was an inconvertible currency because of the foreign trade monopoly and the foreign exchange monopoly of the State Bank.<sup>2</sup> Thus, the rubles used in official Soviet international transactions were essentially units of account based on gold and were used to convert transactions denominated in various foreign currencies into a common denominator -- the ruble of a specific gold content. Hence, some non-Soviet writers described the ruble used to record international transactions as the "foreign trade ruble."<sup>3</sup>

The gold content of the ruble was changed several times after 1922 so that the official exchange rate of the ruble also changed, and ruble valuations of international transactions changed even though the original foreign currency values and physical quantities remained

---

<sup>1</sup> See Notes to Table A. 1a.

<sup>2</sup> Aizenberg-62, p. 31, and Table VIII.3.

<sup>3</sup> E.g., Birmingham-32a, p. 4. According to Aizenberg-62 (p. 31), some Soviet economists considered the ruble as purely an "internal currency."

unchanged (Table A.1a and Notes to Table A.1a).<sup>4</sup>

The Soviet foreign trade statistics published during any period usually used the ruble values based on the contemporary gold content of the ruble; time series of Soviet foreign trade involving data from periods with different gold contents of the ruble were adjusted by a conversion coefficient of the ratio of the prevailing gold content to the past gold content, so that the ruble value in most Soviet publications of Soviet foreign trade refers to rubles of a specific gold content; this procedure eliminates changes in the measured value of Soviet foreign trade due to changes in exchange rates but not due to prices.

Ruble values in this study and conversion coefficients.

In this study, references to ruble valuation refer to rubles of the gold content prevailing between 1922 and 1936 (and also in the Tsarist period), that is, to the so-called gold ruble. Any values originally cited in source materials in terms of rubles with a gold content different than the gold ruble have been converted to (gold) rubles on the

---

<sup>4</sup> The legal gold content of the new chervonets ruble issued by the State Bank in late 1922 was identical to the gold content of the ruble of Tsarist Russia between 1897 and 1914 (Holzman-60, pp. 427-428, Arnold-36, pp. 146 ff., and Aizenberg-62). The gold content of the rubles was changed either legally or de facto in 1936, 1937, 1950 and 1960 (Table A.1a). The devaluations of 1936 and 1937 were de facto and not "legal," for the "official parity" with other currencies was changed (pegged to the franc and their dollar again) but the "legal" gold content of the ruble was not changed.

Fluctuations of the franc (used for cross-exchange rates on ruble) against the stable devalued dollar resulted in some fluctuation in the actual gold content of the ruble during late 1936 and early 1937 (Notes to Table A.1a).

TABLE A. 1a

## USSR: FOREIGN TRADE RUBLES AND CONVERSION COEFFICIENTS

Designation of ruble	Gold Content	Dates Used	Coefficient to Convert to				
	grams per ruble		gold ruble	1936 FTR	1937 FTR	1950 FTR	1961 FTR
gold ruble	. 77423	Dec. 1, 1922 - April 1, 1936	—	4. 3800	4. 6178	3. 4851	. 78410
1936 FTR	. 176765	April 1, 1936 - July 1, 1937	. 22831	—	1. 0543	. 7957	. 23122
1937 FTR	. 167692	July 19, 1937 - March 1, 1950	. 21659	. 94849	—	. 75472	. 21935
1950 FTR	. 222168	March 1, 1950 - Jan. 1, 1961	. 28695	1. 2568	1. 3250	—	. 2250
1961 FTR	(old) . 0987412 (new) . 987412	Jan. 1, 1961	1. 2753	5. 58617	5. 8882	4. 4444	—

Notes to Table A. 1a follow on pp. 705-707.

Notes to Table A.1a

Comments on use of table

1) The conversion coefficients are used to convert Soviet trade data reported in a ruble based on a specific gold content into rubles of different specific gold content. For example, to convert data recorded in 1936 FTR into gold rubles:

Trade data in		conversion coefficient		trade data in
1936 FTR	X	of 1936 FTR into gold	=	"gold rubles"
		rubles (.22831)		

2) The term "1936 foreign trade ruble," etc., refers to the gold content of the ruble used to evaluate foreign trade in the particular set of trade statistics rather than a price level or a set of constant prices. The year refers to the year in which the gold content of the ruble was fixed.

3) Until April 1936, the terms "ruble," "gold ruble" and "chervonetz ruble" were used interchangeably in discussing Soviet foreign trade and referred to a ruble with a "gold content" of 0.77423 grams per ruble, i. e., to a "ruble" with the identical gold content of the pre-1914 ruble of Tsarist Russia.

Sources

Gold Ruble. Pre-1914 gold ruble contained 17.424 dolias (0.77423 grams) per ruble (Arnold-36, p. 14 n. 12). The Council of People's Commissars decreed on October 11, 1922 that Gosbank had the right to issue banknotes in the denominations of 1, 2, 3, 5, 10, 25 and 50 chervontsy, where one chervonetz was "equal to ten rubles of the former Russian coinage," that is, to 7.7423 grams of gold (Arnold-36, p. 148). The chervonetz was not convertible legally to gold at the time of issue, but it was stipulated that the government could make the chervonetz convertible to gold at some later date (Arnold-36, p. 148). When referring to "ruble transactions" carried out in chervontsy during 1922-24, these rubles were referred to as "chervontsy-rubles" (Arnold-36, p. 176), and one chervontsy-ruble legally contained 0.77423 grams of gold (even though it was not convertible). For the "free Moscow market" exchange rate for the new (ten ruble) chervonetz in terms of old Tsarist gold ruble coin during 1923-1924, see Arnold-36, pp. 162-163 and Aizenberg-62, p. 235. Finally, in the spring of 1924 "State

treasury notes" were issued in denominations of one, three, and five "gold" rubles, and silver coins were minted in various denominations which were exchanged at par with the chervonets, so the gold parity of the "ruble" became that of the "chervontsy ruble," i. e., 0.77423 grams of gold (Arnold-36, pp. 200-215). Up until April 1, 1924, the chervonets rate for the dollar, as quoted by the "Securities Department of the Moscow Produce Exchange," fluctuated above the parity exchange rate of one dollar = 1.934 rubles (Arnold-36, p. 232); see Table VII.<sup>2</sup> of this study and Aizenberg-62, p. 235). But after April 1, 1924, the official exchange quotations (Moscow Commodity Exchange) of the chervonets-dollar rate were close to parity and the chervonets rate for other currency was calculated usually at a cross-exchange rate of the currency in question to the dollar. For a brief period, the exchange rate of the chervonets for both gold and for the dollar were quoted at near parity on the "free Moscow market" (black bourse) largely because of intervention by the State Bank (Table VIII.2, Arnold-36, p. 232 and STAT-25, p. 683).

When the dollar left the gold standard in early 1933, the exchange rate of the ruble to other currencies was set on the basis of a cross-exchange rate of the currency in question to the French franc, with one ruble = 13.1 francs (Aizenberg-62, p. 237) so that the legal gold content of the ruble (and hence the parity exchange rates) were maintained on the basis of one ruble = 0.77423 grams of gold.

### 1936 FTR

In November 1935, the selling rate of the ruble for non-trade transactions (i. e., for tourists) was set at one ruble = 3 francs, and by a decree of February 1936, all foreign exchange transactions after April 1, 1936, were made at this rate, so that the de facto gold content of the ruble based on its official exchange rate with the franc became 0.176765 grams per ruble (League-37a, p. 90, Aizenberg-62, pp. 113-116, and Arnold-36, p. 448). Aizenberg-62 (p. 227) noted that the legal gold content of the ruble was not changed in 1936 or 1937. Thus, the exchange rate became one dollar = 5.08 rubles or one ruble = \$0.197 (Arnold-36, p. 448). The ruble exchange rates were based on the franc until it devalued on October 29, 1936. Then the State Bank changed the exchange rate to one ruble = 4.25 francs, thereby maintaining roughly the new "de facto gold parity" of 0.176765 grams per ruble, although in fact, the fluctuations in the rate of the franc on the now stable dollar made the actual gold content of the ruble fluctuate from 0.1645 grams per ruble to 0.1875 grams per ruble (based on Arnold-36, p. 448, and Aizenberg-62, p. 114).



1937 FTR

No exchange rate quotations were available from July 1 to July 19, 1937. On July 19, 1937, the ruble exchange rate was based on the dollar (at \$35 per troy ounce) at the rate of one dollar = 5 rubles, 30 kopecks (one ruble = \$0.1887). Thus, the de facto gold content of the ruble declined further to 0.167692 grams per ruble (Aizenberg-62, p. 114).

1950 FTR

(Aizenberg-62, p. 127). This was an "official devaluation of the ruble" to a new official gold content of 0.222168 grams per ruble, which was 32.5% above the de facto gold content of the 1937 ruble.

1961 FTR

VTSSSR-65, pp. 5-6. See also Aizenberg-62, p. 144. From April 1957 to the end of 1960, tourists could buy ten rubles per dollar -- again a partial devaluation (Aizenberg-62, p. 131). In the 1961 devaluation, the ruble was redefined as one ruble equalled 0.987412 grams gold (one dollar = 90 kopecks), but internally old rubles were exchanged at the rate of 10 old rubles for one new ruble, and all prices were reduced by a factor of ten (Aizenberg-62, pp. 138-139).

Conversion coefficient

Based on relative gold contents.

basis of the conversion coefficients cited in Table A.1a. The terms 1936 FTR, 1937 FTR, 1950 FTR, and 1961 FTR refer to rubles with the gold content prevailing in 1936, 1937, etc. The conversion coefficients, for example, of 1936 FTR into gold rubles, is merely the ratio of the gold contents, that is, of the gold content of the 1936 FTR to the gold content of the gold ruble; data in 1936 FTR are converted to gold rubles by multiplying the ruble valuation in 1936 FTR by the resultant conversion coefficients (Note to Table A.1a). Similar conversion coefficients were used by the compilers of the major statistical source for this study (VTSSSR-60).

Major source of Soviet foreign trade statistics for this study.

Unless otherwise noted, the statistics for Soviet foreign trade between 1918 and 1940 are from VTSSSR-60. Since the ruble values for the entire period 1918-40 (during which the gold content changed several times) have been converted to 1950 FTR in this volume (i.e., gold content of ruble in 1950), all the ruble values have been "reconverted" to gold rubles by the coefficient 0.28695 (see Table A.1a).

VTSSSR-60 has at least three idiosyncrasies. First, it did not contain country summaries of Soviet trade with Latvia, Estonia or Lithuania. This caused no problems for this study because the aggregate data for all trade and by products did include trade with these Baltic states.

Second, VTSSSR-60 was inconsistent in its inclusion or exclusion of trade in precious metals and especially platinum. Thus the aggregate data used from VTSSSR-60 has been adjusted to exclude trade in all precious metals in unworked or industrial form by subtracting SOVTC 28 "Precious Metals" from the totals as explained in Appendix A, Technical Note 2. (The term "SOVTC" is explained below.) Platinum and precious metal trade are discussed in Appendix D.

Third, Soviet foreign trade by product was classified by the "unified trade classification system" in effect in 1960, rather than the systems used in the 1920's and 1930's. This classification system is described briefly in Appendix A, Technical Note 5. Data from VTSSSR-60 on specific commodity groups, products, etc., are referred to by the term "SOVTC" (for Soviet trade classification) and the identifying commodity group number, product number, etc.

Other sources used in this study. Because sources and classification systems differed from period to period, other statistical sources were also used in this study. The more important of these include Vissarionov-28, Kutusov-28, VTSSSR-33, and VTSSSR-39. Other sources occasionally used included the SUYB series and Stat-36. The differences between these sources are discussed in Appendix A, Technical Note 3. The trade classification system used for Vissarionov-28 and Kutusov-28 is described in Appendix A, Technical Note 4.

All these sources except VTSSSR-39 recorded the value of trade in current prices in gold rubles. VTSSSR-39 recorded trade in 1936 FTR and did not adjust for further devaluation in 1937 (Appendix A, Technical Note 3). VTSSSR-33 included all but the last few days for the year 1932 so that the data for this year differed from other sources (VTSSSR-33, p. v.). In these sources, the treatment of platinum and silver trade was also inconsistent, and data used from these sources have been adjusted to exclude trade in silver and platinum.

Quarterly and monthly Soviet foreign trade statistics. There are no long time series of monthly or quarterly data published, although the monthly and quarterly data for several months or quarters were published in ST, VT, or SUA from these and other sources. I have compiled quarterly and monthly data for the period from the early 1920's to the mid-1930's. Quarterly and monthly data for Soviet exports and imports and their sources or methods of estimation are in Table A. 1b (quarterly data) and A. 1c (monthly data), and the accompanying table notes.

## TECHNICAL NOTE 2: RELIABILITY AND RELATED PROBLEMS IN USING SOVIET FOREIGN TRADE STATISTICS

In Technical Note 2 we describe the basic statistical procedures used to compile Soviet foreign trade statistics during the inter-war period, and discuss special problems in using these statistics including

TABLE A.1b

USSR: EXPORTS, IMPORTS, AND BALANCE OF TRADE ACROSS  
ALL BORDERS: QUARTERLY DATA 1924 - 1938

(current prices, millions of rubles)

	Export	Import	Trade Balance		Export	Import	Trade Balance
1924 I	130.5	.	.	1931 I	196.0	251.0	-55.0
II	105.1	.	.	II	179.0	266.0	-87.0
III	130.5	.	.	III	227.0	287.0	-60.0
IV	131.0	115.0	+16.0	IV	209.0	301.0	-92.0
1925 I	126.0	154.0	-28.0	1932 I	144.5	192.1	-47.6
II	138.0	244.0	-106.0	II	130.5	213.1	-82.6
III	181.0	207.0	-26.0	III	135.7	147.6	-11.9
IV	[182.0]	219.0	-37.0	IV	153.0	145.8	+ 7.2
1926 I	153.0	194.0	-41.0	1933 I	112.1	88.4	+23.7
II	158.0	172.0	-14.0	II	112.5	102.5	+10.0
III	175.0	171.0	+ 4.0	III	142.8	83.0	+59.8
IV	229.1	151.2	+78.9	IV	128.3	74.3	+54.0
1927 I	185.1	136.9	+48.2	1934 I	84.6	49.5	+35.1
II	162.7	218.3	-55.6	II	96.9	61.1	+35.8
III	190.9	205.9	-14.7	III	120.6	60.5	+60.1
IV	194.7	195.4	- 0.7	IV	117.8	61.3	+56.5
1928 I	[172.4]	[225.0]	[-52.6]	1935 I	68.1	49.0	+19.1
II	[188.6]	[224.6]	[-56.0]	II	81.9	62.9	+19.0
III	218.2	273.8	-55.6	III	108.7	42.3	+66.4
IV	216.5	203.3	+13.3	IV	108.7	67.2	+41.5
1929 I	197.8	175.9	+21.9	1936 I	51.1	61.6	-10.5
II	207.8	215.7	- 7.9	II	78.2	89.4	-11.2
III	255.5	241.4	+14.1	III	100.2	79.4	+20.8
IV	262.6	247.6	+15.0	IV	81.3	78.4	+ 2.9
1930 I	236.8	273.7	-36.9	1937 I	58.5	76.3	-17.8
II	227.6	282.0	-54.4	II	86.5	77.5	+ 9.0
III	275.4	265.5	+ 9.9	III	133.3	77.4	+55.9
IV	296.7	237.7	+59.0	IV	98.0	60.3	+37.7

TABLE A. 1c

USSR: EXPORTS, IMPORTS AND BALANCE OF TRADE,  
MONTHLY DATA

(millions rubles, current prices)

	European Borders			Total Trade		
	Export	Import	Trade Balance	Export	Import	Trade Balance
1924						
Jan.						
Feb.						
Mar.						
Apr.						
May						
June						
July						
Aug.						
Sept.						
Oct.	42.0	36.8	+ 5.2			
Nov.	32.8	27.9	+ 4.9			
Dec.	44.6	36.4	+ 8.2			
1925						
Jan.	41.0	31.8	+ 9.2			
Feb.	37.8	45.3	- 7.5			
Mar.	32.9	54.9	-22.1			
Apr.	29.7	62.8	-33.1			
May	38.6	87.8	-49.2			
June	50.8	60.9	-10.1			
July	36.1	66.7	-30.5			
Aug.	51.7	45.7	+ 6.0			
Sept.	70.1	76.3	- 6.2			
Oct.	76.5	82.5	- 6.0			
Nov.	53.9	66.6	-11.2			
Dec.	42.4	56.0	-13.6			
1926						
Jan.	34.8	61.2	-26.4			
Feb.	43.2	53.6	-10.4			
Mar.	57.4	57.0	+ 0.4			
Apr.	48.7	62.9	-14.2			

TABLE A. 1c (continued)

	European Borders			Total Trade		
	Export	Import	Trade Balance	Export	Import	Trade Balance
1926						
May	38.3	41.5	- 3.2			
June	51.8	40.7	+ 1.1			
July	45.9	49.6	- 3.7			
Aug.	49.3	52.1	- 2.9			
Sept.	54.7	50.8	+ 3.9			
Oct.	65.5	58.1	+ 7.4	72.4	64.9	+ 7.5
Nov.	66.2	39.0	+27.2	73.2	47.2	+25.9
Dec.	76.6	34.8	+41.8	83.5	39.0	+44.5
1927						
Jan.	55.1	38.5	+16.6	63.3	46.5	+16.7
Feb.	49.1	37.3	+11.8	56.1	43.7	+12.3
Mar.	57.5	40.6	+16.9	66.2	47.0	+19.2
Apr.	51.4	49.1	+ 2.4	57.6	56.8	+ 0.8
May	50.1	73.0	-22.9	56.8	78.5	-21.7
June	42.8	73.6	-30.8	48.8	81.6	-32.8
July	55.6	52.8	+ 2.8	64.2	61.2	+ 3.0
Aug.	49.4	63.9	-14.5	58.4	72.8	-14.4
Sept.	58.1	62.6	- 4.5	40.1	73.3	- 3.2
Oct.	65.1	57.1	+ 7.9	73.9	69.2	+ 4.7
Nov.	50.5	45.6	+ 4.9	59.3	56.9	+ 2.4
Dec.	49.4	57.5	- 8.1	61.6	69.6	- 8.0
1928						
Jan.	43.9	58.2	-14.3	54.8	68.0	-13.2
Feb.	41.9	62.9	-21.0	53.8	74.5	-20.7
Mar.	50.2	71.6	-21.4	64.7	81.0	-17.0
Apr.	45.4	59.5	-14.1	57.2	75.3	-18.1
May	50.3	84.4	-34.1	58.8	94.6	-35.8
June	59.9	72.6	-12.6	71.5	81.5	-10.0
July	62.3	87.7	-25.4	76.7	96.6	-19.9
Aug.	62.1	95.4	-33.3	77.1	105.8	-28.7
Sept.	54.8	60.5	- 5.7	68.4	71.8	- 3.4
Oct.	67.1	57.3	+ 9.8	78.8	70.0	+ 8.8
Nov.	46.7	61.6	-14.9	60.3	73.5	-13.2
Dec.	65.6	47.9	-17.6	77.4	59.8	+17.6

TABLE A. 1c (continued)

	European Borders			Total Trade		
	Export	Import	Balance	Export	Import	Balance
1929						
Jan.	52.3	52.0	+ 0.3	66.0	62.8	+ 3.1
Feb.	48.6	37.8	+10.7	60.0	47.8	+12.2
Mar.	60.5	54.4	+ 6.1	71.4	65.6	+ 5.8
Apr.	57.8	59.8	- 2.0	69.5	70.6	- 1.2
May	50.3	61.0	-10.6	60.4	73.0	-12.6
June	67.8	63.6	+ 4.0	78.2	71.6	+ 6.6
July	69.8	63.0	+ 6.8	79.8	72.4	+ 7.4
Aug.	67.7	68.4	- 0.7	83.3	80.0	+ 3.3
Sept.	67.5	72.2	- 4.7	92.6	89.1	+ 3.4
Oct.	75.6	69.4	+ 6.2	95.3	84.5	+10.8
Nov.	69.4	64.2	+ 5.2	79.2	77.4	+ 1.8
Dec.	78.5	70.6	+ 7.9	90.2	83.9	+ 6.3

	Total Trade				Total Trade		
	Export	Import	Balance		Export	Import	Balance
1930				1931			
Jan.	80.3	81.3	- 1.0	June	56.8	75.6	-18.8
Feb.	74.0	88.5	-14.5	July	.	.	.
Mar.	82.4	106.1	-23.6	Aug.	70.9	111.3	-40.4
Apr.	68.2	112.0	-43.8	Sept.	.	.	.
May	75.9	87.9	-12.0	Oct.	80.2	116.3	-36.1
June	83.3	82.0	+ 1.3	Nov.	63.1	99.2	-36.1
July	.	.	.	Dec.	65.7	85.5	-19.8
Aug.	84.7	90.2	- 5.5	1932			
Sept.	.	.	.	Jan.	58.9	80.1	-21.2
Oct.	125.5	93.0	+32.5	Feb.	40.1	52.5	-12.4
Nov.	92.6	79.7	+12.6	Mar.	45.5	59.4	-13.9
Dec.	78.6	65.0	+13.6	Apr.	43.9	65.7	-21.8
1931				May	47.3	78.0	-30.7
Jan.	60.1	61.5	- 1.4	June	[39.3]	[69.4]	-30.6
Feb.	68.1	62.9	+ 5.2	July	36.0	47.4	-11.4
Mar.	67.7	126.7	-59.1	Aug.	47.9	53.9	- 6.0
Apr.	55.2	89.1	-33.9	Sept.	51.8	46.3	+ 5.5
May	58.2	101.2	-43.1	Oct.	50.5	44.2	+ 6.3



TABLE A. 1c (continued)

	Total Trade				Total Trade		
	Export	Import	Balance		Export	Import	Balance
1932				1935			
Nov.	49.7	50.7	- 1.0	July	36.9	19.7	+17.2
Dec.	52.8	50.9	+ 1.9	Aug.	33.3	23.7	+ 9.6
1933				Sept.	38.5	19.0	+19.5
Jan.	45.9	41.6	+ 4.3	Oct.	41.2	23.4	+17.8
Feb.	35.1	24.3	+10.8	Nov.	31.1	18.4	+12.7
Mar.	31.1	22.5	+ 8.6	Dec.	[36.3]	[25.4]	+10.9
Apr.	43.9	39.2	+ 4.7	1936			
May	32.0	41.5	- 9.5	Jan.	14.3	17.7	- 3.4
June	36.5	21.8	+14.7	Feb.	16.4	17.5	- 1.1
July	38.0	30.3	+ 7.6	Mar.	20.4	26.4	- 6.0
Aug.	53.0	25.5	+27.5	Apr.	18.7	37.0	-18.3
Sept.	51.9	27.2	+24.7	May	26.9	27.7	- 0.8
Oct.	53.9	22.4	+31.5	June	32.6	24.7	+ 8.0
Nov.	39.4	20.7	+18.8	July	36.5	22.8	+13.6
Dec.	[34.8]	[31.2]	+ 3.6	Aug.	32.1	31.4	+ 0.7
1934				Sept.	31.6	25.2	+ 6.4
Jan.	33.6	16.9	+16.7	Oct.	28.3	27.7	+ 0.6
Feb.	21.3	14.6	+ 6.7	Nov.	25.1	19.8	+ 5.3
Mar.	29.7	18.0	+11.6	Dec.	27.9	30.9	- 3.0
Apr.	27.7	17.9	+ 4.7	1937			
May	31.7	23.1	+ 8.6	Jan.	18.4	24.2	- 5.8
June	37.4	20.1	+17.3	Feb.	14.9	20.0	- 5.2
July	40.9	18.4	+22.6	Mar.	25.2	32.1	- 6.9
Aug.	44.3	21.9	+22.4	April	18.3	27.8	- 9.5
Sept.	35.4	20.2	+15.2	May	27.8	29.0	- 1.2
Oct.	41.8	18.7	+23.1	June	40.4	20.7	+19.7
Nov.	34.7	16.9	+17.8	July	44.1	28.0	+16.1
Dec.	41.3	25.7	+14.6	Aug.	43.1	26.5	+16.6
1935				Sept.	46.1	22.9	+23.2
Jan.	23.4	14.7	+ 8.7	Oct.	} (98.0)	} (60.3)	} ( 37.7)
Feb.	20.1	13.6	+ 6.5	Nov.			
Mar.	24.6	20.6	+ 4.0	Dec.			
Apr.	20.3	20.1	+ 0.2				
May	28.8	17.8	+11.1				
June	32.9	25.0	+ 7.9				

Notes to Table A. 1b

Quarter data for Soviet foreign trade across all borders was pieced together from many sources. The basic sources were SUA (various issues), ERSU (various issues), and ST (various issues). Frequently, quarterly data were the sum of the monthly data as presented in Table A. 1c. Estimates or residuals (annual data minus data for three quarters) are bracketed. Other sources included Kon-26 (p. 125), Badmas-32 (p. 59), VTSSSR-60. Silver exports were included in data for 1933.

Notes to Table A. 1cEuropean borders only: monthly data - 1924-1926

Data from October 1924 to September 1926 were available only for Soviet trade across European borders. These data are from EIKSSSR, p. 47 and Sobolev-26b, p. 33. Estimates of some months were calculated as a residual by subtracting data for two months from quarterly data.

Post-1926

Data from October 1926 to December 1929 from ERSU (various issues) and League-32b. Data for post-1929 from SUA (various issues). Some estimates for total trade were calculated as the sum of trade across European and Asian borders. Estimates of some data were calculated as a residual by subtracting data for two months from quarterly data. Data for some months were not available. Separate data for Soviet trade across European borders alone were not available after 1929.

(1) the special characteristics of Soviet foreign trade statistics from 1918 to 1924, (2) the treatment of Soviet trade in precious metals, and (3) the problems of interpreting the Soviet valuation of current exports (due to warehousing abroad).

Basic procedures used in recording  
Soviet foreign trade statistics<sup>5</sup>

Value. The value of goods was entered in the following way: imports by the value C.I.F. or franco border USSR and exports by F.O.B. or franco border USSR. The value of goods are entered in current prices and are expressed in rubles at the current exchange rate. Only for the period 1918-1923/24 are the values not in current prices but in the average prices of 1913 and are of a "conditional character" not reflecting the actual value of trade.

Commodities included in accounts. Imports included all commodities released from Customs for domestic use (VTSSSR-60). Thus, we are not certain if goods imported and then re-exported on a commercial basis are included or excluded from Soviet foreign trade statistics. Examination of Soviet foreign trade statistics suggests that goods imported for commercial re-export (especially from the Eastern border) were in fact included, so that Soviet imports are not strictly

---

<sup>5</sup> Based on VTSSSR-60, pp. 7-10, VTSSSR-33, pp. v-viii, and Vissarionov-28.

"special trade" which would exclude imports for re-export. The quantities involved, however, appear to be negligible. Recorded imports specifically excluded imports not having commercial significance such as goods of foreign representatives, passenger baggage, parcels for consumption, returned exports, and other non-commercial freight.

Recorded exports included the exports of domestic origin or the commercial re-export of goods of foreign origin (VTSSSR-60, pp. 8-9). Export statistics did not include passenger baggage, parcel post, returned imports, etc. Precious metals (especially platinum) were in theory not included, but see below. Transit trade was not included in imports and exports.

Moment of recording of exports and imports. Exports were recorded according to the moment the exported commodity crossed the border or the ship departed from port. This procedure greatly complicates the estimating of current export receipts, because some Soviet goods were exported to warehouses abroad to be sold at a later date. This problem is discussed below.

Imports were recorded according to the moment of release from Customs to the addressee from 1923 through 1932, and after 1932, according to the moment of the crossing of the Soviet border.

Borders. Beginning with 1923/24, figures include trade across all Soviet borders. The period 1918-1922/23 is discussed below.

Weight, designation of country of export and import. See introduction to VTSSSR-60 for discussion of these subjects. Before 1930, the weight was recorded as net or gross weight, depending on the way the tariff was assessed (for goods subject to duty), or according to the way it was shipped. After 1930, all goods were entered as net weight.

Special peculiarities of Soviet foreign trade statistics 1918-1924.

Soviet foreign trade statistics for the period 1918-1924 are recorded in gold rubles at 1913 prices. The borders over which trade was recorded vary during this period.

For the period 1918-19, figures are given for the trade of the Soviet Republic including all European territory on which there existed an established Soviet power. For 1920-23 information is provided on foreign trade of the Soviet Republic across the European frontier including Novrossiisk, Astrakhan, and Makhach-Kala but not including the coast of the Black Sea in the Caucasus (Batum, Pot, etc.).<sup>6</sup>

There were also slight differences in the moment of registering imports during this period.

Estimates of 1922/23 and 1923/24 trade in current prices.

Several estimates of Soviet foreign trade in current prices have been made for the years 1922/23 and 1923/24 (in millions of rubles):

---

<sup>6</sup> VTSSSR-60, p. 8.

	<u>1913 Prices</u>		<u>Current Prices</u>		<u>Source</u>
	Export	Import	Export	Import	
1922/23	133.19	148.54	210.60 210.61	187.5 187.4	Kaufman-29d, p. 7 Krasin-28, p. 143
1923/24	371.27	233.51	522.6	439.4	Kaufman-29d, p. 7

Precious metals in Soviet foreign trade statistics

Platinum. The Soviet government considered platinum and silver to be a monetary reserve metal to be used as part of the monetary base for domestic currency issue and to be used in international payments; after 1929 data for platinum production and exports apparently became a state secret and no official data have been found. Estimates of platinum export and production after 1928/29 have been based on indirect information (recipient countries' trade statistics). Similarly for silver.

The treatment of platinum exports in the official Soviet trade statistics was inconsistent so that these data must be adjusted in order to compare trade data over time for the same source and among sources. In the major statistical source for this study, VTSSSR-60, platinum and silver exports and imports were handled in an inconsistent manner; platinum exports were included for 1922/23-1927/28 and omitted for the years 1918-1921/22 and October-December 1928 to 1940. Trade in precious metals, if reported at all in VTSSSR-60, was reported under the classification SOVTC 28 (Precious metals and articles from precious

TABLE A.2a

USSR: EXPORTS AND IMPORTS OF PRECIOUS METALS  
 REPORTED IN VTSSSR-60 FOR THE COMMODITY  
 GROUP SOVTC 28 "PRECIOUS METALS"

	Exports		Imports	
	metric tons	1000's rubles	metric tons	1000's rubles
1913	6 <sup>a</sup>	14,117		
1918				
1919				
1920				
1921				
1921/22				
1922/23	3	676	2.0	91.0
1923/24	1	1,896	0.3	53.9
1924/25	3	19,011	0.1	32.1
1925/26	4	26,640	0.1	54.5
1926/27	5	26,570	0.3	74.9
1927/28	2	9,821	0.1	58.3
1928 <sup>b</sup>			0.0	3.4
1929			0.1	28.1
1930			0.1	34.1
1931			0.0	1.1
1932				
1933	1,536	26,022	0.0	8.0
1934				
1935	0	0.3		
1936			0.0	0.0
1937	0	1.4		
1938				

Source: VTSSSR-60, Values in 1950 FTR converted to gold rubles.

<sup>a</sup>A blank entry indicates that no trade was recorded for that year.

<sup>b</sup>October - December 1928.

metals for production purposes).<sup>7</sup> Thus, SOVTC 28 (Precious Metals) as presented in Table A.2a was subtracted from the total value of exports and of imports reported in VTSSSR-60 in order to derive the time series for Soviet trade which specifically excluded precious metals (Table A.3a, cols. 3-4). Although it is possible that the value of total exports included platinum for the years other than 1922/23-1927/28, but did not specifically separate it out in the commodity classification, indirect evidence suggests that platinum exports were not included in any official custom statistics published during the inter-war years. ARCC-36 (p. 344) stated that platinum exports are not included in the custom statistics; the value of total exports in Mishustin-38b (p. 11) is identical to the VTSSSR-60 series adjusted to exclude SOVTC 28 (Precious Metals) for all the years except 1933 and 1937.<sup>8</sup> Platinum exports are specifically excluded from exports in VTSSSR-33 (p. vi). Platinum exports are discussed in Appendix D.

Silver. The USSR imported large amounts of silver in the mid-1920's and exported large quantities of silver in the mid-1930's (Table D.3); most of these transactions are incompletely reported in official Soviet foreign trade statistics. The isolated instance of reporting

---

<sup>7</sup> See Appendix A, Technical Note 5 for description of SOVTC system.

<sup>8</sup> For 1933, see "Silver" below; for 1937, see Notes to Table A.3a.



large silver exports in 1933 made the data on the value of exports and imports inconsistent. I concluded that silver was included in SOVTC 28 (Precious Metals) in 1933 for several reasons (Table A.2a). First, STAT-36 (p. 679), whose export data agree with VTSSSR-60, specifically stated that exports of silver and precious metals waste were not included in 1934 and 1935, implying that they were included in 1933. Second, the quantity and value recorded in SOVTC 28 for 1933 far exceeded known platinum exports for 1933 (Tables D.4 and D.5). Third, the unit value of SOVTC 28 (Precious Metals) in 1933 approximates the average annual silver prices in London. Fourth, the importing countries' statistics (Table D.3) recorded almost the identical value of silver imports from the USSR (26,500,000 rubles) as stated under SOVTC 28 (Precious Metals) in 1933 in VTSSSR-60 (26,020,000 rubles). Thus I concluded that the precious metal exports reported for 1933 in VTSSSR-60 included just silver. The other large Soviet silver exports in 1932, 1934-36 were not reported in Soviet foreign trade statistics (Table D.3).

The large quantities of silver imported in 1923-25 and 1928-30 for monetary purposes (coinage) were not reported in VTSSSR-60 under SOVTC 28 (Precious Metals), which is where they would be reported under normal circumstances (other than in a special bullion account). The value of imports reported in this category during this period is negligible both with respect to the total imports and known imports of

These negligible amounts possibly refer to imports of precious metals for production; nevertheless, SOVTC 28 was also subtracted from the total value of imports reported in VTSSSR-60. League-28a (p. 699) and League-31a (p. 258) specifically noted that specie and bullion movements were not published, although nothing is noted in the foreword to the important sources of Soviet foreign trade statistics (VTSSSR-60, VTSSSR-39, and VTSSSR-33). In VTSSSR-33 (p. vi) it was noted that data on platinum exports and gold and coin were specifically excluded from the reported statistics, but no mention was made of silver.

Gold. Gold exports and imports were not reported in Soviet foreign trade statistics.

#### Problems in valuation of exports and imports

Exports.<sup>9</sup> The basic problem in accurately estimating the value of exports that crossed the border at a specific time is that a substantial share of Soviet exports (especially oil, timber, furs, flax) were shipped from the USSR on consignment. These exports were frequently shipped to a warehouse abroad (often to serve as security for credits from foreign banks) from which they were sold at some later date or these exports were sold "from the ship" after leaving port. Thus, the valuation of these exports on custom documents was not based on the

---

<sup>9</sup> See Birmingham-32a, p. 18 ff and Shanin-26a, p. 39, for discussion of inventories of Soviet exports warehoused abroad and balance of payments estimates.

value of a sales contract, but rather on the estimated sales value made by the exporting agency. VTSSSR-33 described the method of valuation for goods exported on consignment as being recorded at the time of shipment and valued " . . . at the average sales price of the previous month, minus all expenses incurred abroad in the sale as recorded by the exporting organization . . . in the latter case export on consignment the value of goods necessarily bears an approximate character."<sup>10</sup>

The above procedure distorts exports statistics (and balance of trade and payments statistics) in two important ways -- the time distribution of export receipts in any given year and the actual amount of receipts eventually received in foreign exchange.

Accumulation of stock in the warehouse during any period means that current receipts from exports were being overestimated so that the recorded "balance of trade" -- and the pressure on the balance of payments -- was underestimated. Stocks of warehoused goods abroad increased during the 1920's and early 1930's. Indirect evidence is that the value of bank credits secured by Soviet export goods warehoused abroad rose continually during 1924-1931 (Table T-15). Part of the rise might have resulted from a larger share of the warehoused goods being used as security; this must be counterbalanced by the decline in prices for major warehoused goods -- especially in the late 1920's and early 1930's.

---

<sup>10</sup> VTSSSR-33, p. viii.

Estimates of goods warehoused abroad during the mid-1920's are the following (prices unknown):

Date	Value (millions of rubles)	Source
October 1, 1923	38	Krasin-28, p. 179
October ?, 1924	45.9	Krasin-28, p. 179
October 1, 1924	58.7	Engeev-27a, p. 67
July 1, 1925	32	Krasin-28, p. 179
October 1, 1925	72.3	Engeev-27a, p. 67
October 1, 1925	80	<u>Ekon. Zhisn</u> , 9/1/26
July 1, 1926	98	<u>Ekon. Zhisn</u> , 9/1/26

Thus, the balance of trade in terms of export receipts was overstated during the 1920's; the effect of accumulation of warehoused goods abroad on the total quantity of foreign exchange available for foreign payments was partly offset by increased bank credits secured by these warehoused goods.

The process of warehousing of Soviet goods abroad probably resulted in a permanent overstatement of export receipts received from exports during the inter-war period in Soviet foreign trade statistics (even if all the warehoused stocks were sold). The major source of permanent overstatement was that stocks of goods warehoused abroad were generally sold in a declining market and almost completely liquidated in the depth of the Depression, so that the average sale price of a warehoused good was less than the Customs valuation at the time of shipment. Second, the cost of warehousing and deterioration of goods

in the warehouse reduced the net receipts from warehoused goods in the long run.<sup>11</sup>

TECHNICAL NOTE 3: DIFFERENCES IN RECORDED AGGREGATE  
STATISTICS OF SOVIET FOREIGN TRADE

In Technical Note 3 we present the various time series for total exports and total imports of the USSR published in the sources cited in Technical Note 1, point out the differences between the various series, and explain the reasons for these differences where possible. In Table A.3a data on total exports and imports are presented from VTSSSR-60, STAT-34, SUYB-30, STAT-36, VTSSSR-39, Vissarionov-28, and Kutusov-28.

The benchmark series of data against which all other data are compared is the VTSSSR-60 data for total exports and imports, converted to gold rubles by the conversion coefficient 0.28695. Three series based on VTSSSR-60 data are presented in Table A.3a. In columns 1 and 2 the original data are presented without any adjustment for partial inclusion of precious metals; in columns 3 and 4 the same data

---

<sup>11</sup> Birmingham-32a (p. 2) attributed the overvaluation to four causes: deliberate overvaluation of exports by Moscow as a means of exerting control over the trade agencies abroad, inadequate market information in Moscow, badly packed non-seasonal shipments, which remained in storage too long, and the policy of underselling. Birmingham-32a (p. 18) estimated that for the period 1924-31 reported export values "permanently overstated actual export receipts by 2 to 5 % of total exports and 10-15% in the case of individual commodities.

are presented excluding any recorded trade in precious metals (see Table A.2a); in column 5 we have added estimated value of platinum exports to the export series in column 3 (which specifically excluded recorded exports of precious metals). The platinum export series is from Table D.5. Silver imports and exports have not been included in the VTSSSR-60 based data in column 5. Most differences between published Soviet trade data occurred for exports during 1913, NEP and 1933 and were due to the erratic treatment of platinum and silver exports in the original series.

The STAT-34 and STAT-36 series presented in columns 6 and 7 are virtually identical to the original VTSSSR-60 data presented in columns 1 and 2 and hence suffer the same defect, namely the erratic treatment of precious metal imports and exports.

The export series of SUYB-30 in column 8 differed several times from both the VTSSSR-60 exports series including platinum and the VTSSSR-60 export series excluding platinum (especially 1926/27 and 1927/28) and is inconsistent in its treatment of platinum exports. The explanation for the low export figures in 1926/27 in both this SUYB-30 series and in the Kutusov-28 series (column 13) is not known.

The VTSSSR-39 series in columns 10-11 was virtually identical to the VTSSSR-60 series excluding precious metals except for 1933 when VTSSSR-39 included silver exports (compare columns 3 and 10). The difference for 1937 is the result of a mistake by the compiler of

TABLE A. 3a

USSR: DATA FOR TOTAL EXPORTS AND TOTAL IMPORTS  
 REPORTED IN SELECTED SOURCES, 1913, 1920 - 1930

(millions of gold rubles)

	VTSSSR - 60 DATA					STAT - 34	
	Original Series		Without Precious Metals		inc. Plat. metals	STAT - 36	
	Export	Import	Export	Import	Exports	Export	Import
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1913	1520	1375	1505.9	1375.0	1520	1520.1	1375.0
1920 <sup>a, b</sup>	1.4	29				1.4	28.7
1921 <sup>a, b</sup>	20	211				20.2	210.7
1921/22 <sup>a, b</sup>	63	271	63.45	271.11		63.4	271.1
1922/23 <sup>a, b</sup>	134	149	133.19	148.54		133.9	148.6
1923/24 <sup>a</sup>	373	234	371.27	233.51		373.2	233.5
1924/25	578	723	558.78	723.41	577.8	577.8	723.4
1925/26	703	756	676.65	756.32	703.3	703.3	756.3
1926/27	807	714	779.41	713.52	806.0	806.8	713.6
1927/28	792	946	781.79	945.52	791.6	791.6	945.5
1928/29						877.6	836.3
1929	924	881	923.75	880.65	937.7	923.7	880.6
1930	1036	1059	1036.42	1058.84	1042.4	1036.4	1058.8
1931	811	1105	811.25	1105.09	816.7	811.2	1105.0
1932	575	704	574.97	704.07	580.9	574.9	704.0
1933	496	348	469.66	348.23	475.9	495.6	348.2
1934	418	232	418.34	232.44	421.2	<sup>a</sup> 418.3	232.4
1935	367	241	367.43	241.39	373.9	<sup>a</sup> 367.4	241.4
1936	310	309	310.32	308.82	315.2		
1937	376	291.5	376.34	291.50	384.7		
1938	293	312.8	293.09	312.78	298.3		

TABLE A. 3a (continued)

	S U Y B - 3 0		V T S S S R - 3 9		Visario- nov	Kutusov - 28	
	Export (8)	Import (9)	Exports (10)	Imports (11)	Exports (12)	Export (13)	Import (14)
1913	1520.1	1374.0	1506.0	1375.0	1520.1		
1920 <sup>a, b</sup>	1.4	29.3	1.3	28.6			
1921 <sup>a, b</sup>	20.2	210.0	9.9	158.1			
1921/22 <sup>a, b</sup>			63.4	271.0	81.6	63.9	270.9
1922/23 <sup>a, b</sup>			133.1	148.6	212.7	133.2	249.9
1923/24 <sup>a</sup>			371.2	233.4	569.2	369.2	233.5
1924/25	575.3	719.9	558.7	723.4	575.3	558.6	723.5
1925/26	676.6	756.4	676.6	756.3	676.6	676.6	756.3
1926/27	770.5	713.7	780.2	713.6		770.5	712.7
1927/28	777.8	945.5	781.7	945.5			
1928/29	877.6	836.3					
1929			923.7	880.5			
1930			1036.3	1058.7			
1931			811.2	1105.0			
1932			574.9	703.9			
1933			494.8	348.1			
1934			418.3	232.4			
1935			367.4	241.3			
1936			310.2	308.7			
1937			394.6	306.2			
1938							

<sup>a</sup> Valued in average 1913 prices.      <sup>c</sup> 1922.      <sup>d</sup> 1923.

<sup>b</sup> See Appendix A, Technical Note B for border coverage from 1920 to 1922/23.



Notes to Table A.3aVTSSSR Data

Original series: VTSSSR-60, p. 13. Converted to gold rubles.

Excluding precious metals: Original series minus SOVTC 28. Converted to gold rubles.

Including platinum metals: Exports excluding precious metals plus platinum exports from Table D.5. Converted to gold rubles.

STAT-34, -36 Data

STAT-34, pp. 377-380 for all years except 1929, 1934, 1935.

STAT-36, p. 679 for 1929, 1934, 1935. Identical data for all other years except 1933. STAT-36 gives 494.9 million rubles for 1933. Note to table specifically noted that exports of silver and slag of precious metals were not included in 1934 and 1935.

SUYB-30 Data. Data from SUYB-30, p. 286. Typographical error corrected for 1928/29.

VTSSSR-39 Data

VTSSSR-39, p. 11. Converted from 1936 FTR by dividing by 4.38, the coefficient cited in VTSSSR-39, p. 7. The original entry for 1937 was obviously erroneous when compared to other available data; converting, the original entry recorded, presumably in 1936 FTR into gold rubles by the above coefficient, gives us 394.5 million rubles for exports and 306.2 million rubles for imports. These figures are too high, if compared with the VTSSSR-60 series. The compilers of VTSSSR-39 failed to adjust the 1937 foreign trade returns for the further devaluation which occurred in 1937. Converting VTSSSR-39's figures for 1937 by the conversion coefficient for 1937 FTR (4.6178) gives us the correct figures, namely 374.5 million rubles for exports and 290.3 million rubles for imports (conversion coefficient of 1937 FTR into gold rubles from Table A.1a). Failure to note the further devaluation of the ruble in 1937 misleads the user as to the actual volume and behavior of trade in 1937.

Vissarionov Data

Data from Vissarionov-28, pp. 494-495.

Kutusov-28 Data

Data from Kutusov-28, pp. 298-299.

the VTSSSR-39 volume in estimating the ruble value in 1936 FTR  
(Notes to Table A.3a).

Import series differed very little.

TECHNICAL NOTE 4: CLASSIFICATION SYSTEM USED TO  
RECORD AND PLAN SOVIET FOREIGN TRADE DURING THE  
1920's AND EARLY 1930's

The classification system used in published Soviet foreign trade statistics and foreign trade planning during the 1920's and early 1930's differed considerably from the so-called "unified commodity classification systems" for Soviet foreign trade systems adopted on January 1, 1934, and in 1954 and 1963.<sup>12</sup> The basic source of Soviet foreign trade statistics used in this study, VTSSSR-60, classified commodity trade according to the classification system adopted in 1954; this latter classification system is outlined in Appendix A, Technical Note 5. The relationship between the various classifications used during the 1920's and the unified commodity classification adopted in 1954 is described

---

<sup>12</sup> For discussion of shortcomings of the trade classification system used until January 1, 1934, and for a brief description of major classifications of the "unified commodity classifications for the accounts of foreign trade of the USSR," see S. Bakulin, "O novoi edinoi tovarnoi nomenklature dlia ucheta vneshnei trgovli SSSR," VT, Vol. IV, No. 8 (1934), pp. 13-14. A new system was adopted in 1954 (Edinaia tovarnaia nomenklatura vneshnei trgovli. Moscow: Vneshtorgizdat, 1954) and was modified slightly in 1962 (Edinaia tovarnaia nomenklatura vneshnei trgovli. Moscow: Vneshtorgizdat, 1962).

in "Notes to Table T-2" and "Notes to T-5" (pp. 791 and 792 ).

The difficulties encountered in working with the trade classification system used during the 1920's were the following. First, exports were classified in a different manner than imports. Second, the classification systems used by various governmental agencies and various authors differed occasionally. Third, the classification of various items (oil cake, flour, etc.) varied over time; the tendency was to shift items in the export classification from "agricultural exports" to "industrial exports." The "Notes to Table A.4a and A.4b" describe in detail the various differences in the classification system used during the 1920's.

Classification of exports. In the 1920's, Soviet exports were usually classified as either agricultural exports or industrial exports. Agricultural exports were in turn classified into three groups: agricultural crops, animal products and products of the fur and fishing industries. Occasionally, the first group -- agricultural crops -- would be restricted to the major exports of field crops (denoted by an asterisk in Table A.4a) while the remaining agricultural crop products would be classified as a separate fourth group, "other agricultural exports." The Soviet term "industrial exports" was not synonymous with the term "manufactured product exports"; "industrial exports according to the Soviet definition included raw materials produced in the mineral and

timber "industries," as well as semi-processed and manufactured products. The bulk of Soviet "industrial export" during the inter-war period consisted of raw materials and semi-processed goods.

The major peculiarities of this export commodity classification system were (1) the classification of fur and fish product exports as "agricultural exports, (2) the classification of sugar, vegetable oil and canned foods as industrial exports, and (3) the occasional classification of oil cake, flour, and combed flax as industrial products. The differences between the American and the Soviet definition of "agricultural exports" is discussed in "Notes to Table T-19" in Appendix C, pp. 803.

Classification of Imports. In the 1920's Soviet imports were classified into three basic groups: producers' goods, consumers' goods and other. "Producers' goods" were in turn classified into five sub-groups: (1) machinery for industry and transportation, (2) raw materials, (3) semi-processed products, (4) solid fuels, and (5) agricultural producers' goods. Consumers' goods were classified as consumers' goods for mass consumption (subdivided into foodstuffs and manufactured consumer goods), articles for public health and articles for cultural use. The category "other" was undefined and it was essentially a residual of imports which could not be placed into one of the above categories (such as luxury goods); the value of "other" imports varied greatly from source to source.

TABLE A. 4a

USSR: BASIC COMMODITY CLASSIFICATION FOR SOVIET  
EXPORTS USED DURING THE 1920's AND EARLY 1930's

## I. AGRICULTURAL PRODUCT EXPORTS

A. agricultural crops<sup>a</sup>\* grain products<sup>b</sup>

wheat	corn	herbs
rye	millet	seeds (excluding oil seeds)
barley	buckwheat	fruits in various forms <sup>f</sup>
oats	legumes	vegetables in various forms <sup>f</sup>
flour <sup>c</sup>	bran <sup>d</sup>	honey
* oil seed		nuts
* oil cake <sup>e</sup>		cotton
* flax in various forms		spices
* hemp in various forms		tea
* tobacco		

B. animal products

eggs	hides
butter <sup>f</sup>	bristles
meats	horsehair
poultry, dead or alive	guts, hoofs, horns
livestock	feathers and down
silkworms and cocoons	animal fat
milk products	wool
(other than butter)	

C. products of fur and fishing industries

fur, raw and processed<sup>f</sup>  
fish in various forms<sup>f</sup>

D. other agricultural products<sup>g</sup>

Table A. 4a (continued)

## II. INDUSTRIAL PRODUCT EXPORTS

A. <u>timber products</u> <sup>h</sup>	
raw timber (round)	plywood
sawn timber	staves and manufactured wood products
B. <u>mineral industry products</u>	
petroleum, crude	asbestos
petroleum products, refined	apatite ore
manganese ore	coal
zinc-lead ore	other ores, metallic
chromite ore	other minerals, non-metallic
C. <u>food-processing industry</u> <sup>d, e, f</sup>	
sugar	margarine
canned goods of all types	macaroni
corn starch products	confectionery
vegetable oil	beverages
tobacco products	(oil cake and bran) <sup>d, e</sup>
flour <sup>f</sup>	
D. <u>textile industry</u>	
cotton fabric	yarn of various fibers
linen fabric	cotton down <sup>i</sup>
industrial textiles	combed flax <sup>i</sup>
E. <u>chemical industry</u>	
matches	industrial chemicals
fertilizers	products of wood distillation <sup>h</sup>
rubber goods	coke by-products
F. <u>other industries</u>	
porcelain products	handicraft products
metal and metal products	rags
machinery	
electric lamps	

Notes to Table A.4aSource: Export Commodity Classification

This table was drawn up on the basis of several publications including Vissarionov-28, STAT-32 (pp. 388-393), VTSSSR-33, and Kutusov-28, pp. 317-318.

The commodities classified as "agricultural exports" are based on commodities listed under "agricultural exports" in both Kutusov-28, pp. 317-318 and STAT-32, pp. 388-393, and Vissarionov-28. The subclassification of agricultural products was done partly on the basis of the order of listing in Vissarionov-28, partly on the nature of the product, and partly on the detailed listing of products in VTSSSR-33. The significant difference between VTSSSR-33 and the other sources is that VTSSSR-33 (and other publications of Soviet export statistics after 1933, such as STAT-34, STAT-35, and STAT-36) classified oil cake, flour, and bran as "industrial exports" of the food industry; and the difference in classification accounts for almost the entire difference between the various estimates of "agricultural exports" and "industrial exports" reported in various sources or by various government agencies. VTSSSR-33 gave the most detailed list of items in each commodity group. This table is not a complete listing but is intended to give the reader a general idea of the classification system used during the 1920's.

Explanatory notes to Table A.4a

Item a. "Agricultural crop" occasionally included the more important exports of field crop products (identified by the asterisk), while the remaining products were placed in a fourth category, "other agricultural exports." The treatment of hemp and related products and tobacco was inconsistent in this respect and was on occasion considered a "major agricultural crop export."

Item b. "Grain products" as defined in Appendix A, Technical Notes 6, but see below for the inconsistent treatment of flour and bran.

Item c. "Flour" was usually classified as a "grain product" export during the 1920's, and as product of "food industry" after 1933 and for some planning purposes for foreign trade plans during the First FYP.

Item d. "Bran" was usually classified as a "grain product" export. See Item c above.



## Notes to Table A.4a (continued)

Item e. "Oil cake" was usually classified as an "agricultural product export and frequently as a "grain export" along with oil seed. See Appendix A, Technical Notes 6 for analysis of the Russian term khlebprodukt (grain products) as used in Soviet export statistics.

Item f. Excluding any of these products in canned form.

Item g. See above, "Item a."

Item h. "Products of the wood distillation industry" were occasionally included as exports of the "timber industry" rather than as exports of the "chemical industry."

TABLE A.4b

USSR: BASIC COMMODITY CLASSIFICATION FOR SOVIET  
IMPORTS USED DURING THE 1920's AND EARLY 1930's

## I. PRODUCERS' GOODS

A. <u>machinery and fittings</u> <sup>a</sup>		
industrial machinery		ferrous metal articles
transport equipment		cable
electrical equipment		metal storehouses
pipes and cylinders		rubber articles for
wire articles		industrial purposes
		electric lamps
B. <u>raw materials</u> <sup>a</sup>		
cotton	non-ferrous metals	rolled steels
wool	cork	raw timber
silk	wood pulp	industrial fats
hides	pig iron and scrap	copra, palm seeds, etc.
rubber	ferro-alloys	metallic and non-metallic
	steel ingots	ores
C. <u>semi-processed materials</u> <sup>a</sup>		
leather		articles from wood for industry
chemicals, explosives,		building materials
film		vegetable oils
dyestuffs and tanning		cotton yarn
materials		woolen yarn
paper and cardboard		
wire		
D. <u>solid fuels (excludes oil products)</u> <sup>a</sup>		
coal	wood	
E. <u>agricultural producers' goods</u> <sup>a</sup>		
agricultural machinery	seeds	insecticides
tractors	feed	binding twine
implements	animals	fishnet
fertilizers	silkworms	

Table A. 4b (continued)

## II. CONSUMERS' GOODS FOR MASS CONSUMPTION

A. foodstuffs<sup>a</sup>

grain products	spices	fruits, etc.
oil-seed	sugar	beverages
coffee	fish	tobacco, etc.
tea	meat	

B. manufactured consumer goods, non-food

cloth and clothing	artisan instruments
shoes and haberdashery	furs, worked
stationery, writing implements	
household wares	
matches	

C. goods for public health

medical instruments, medicinal raw materials, medicine

D. cultural goods

books, etc.	musical instruments
films	film projectors

## III. OTHER

luxury goods

Notes to Table A.4b

Source: Import Commodity Classification

This table was drawn up on the basis of several publications of Soviet imports including STAT-32, p. 395 and Kutusov-28, pp. 329-333.

The classification of imports in VTSSSR-33 was based on the classification system used by the Chief Customs Administration and differed significantly from classification system presented in Table A.4b and used during the 1920's for analyzing and planning the composition of imports. The classification of imports in Table A.4b into various sub-groups was based largely on Kaufman-29a, p. 86 and the grouping of

Table A.4b (continued)

commodities in Kutusov-28, pp. 329-333. Apparently, the classification of imports varied more from government agency to government agency than the classification of exports. Since the detailed list of commodities in each subgroup was not available, some commodities were classified according to the nature of the commodity rather than direct information.

Explanatory notes to Table A.4b

Item a. Based on commodities listed together in Kutusov-28, pp. 329-332.

Item b. "Wire" was listed within a group of semi-processed materials, but it would be more logically placed with "machinery and fittings" or possibly raw materials.

TECHNICAL NOTE 5: UNIFIED CLASSIFICATION SYSTEM  
FOR SOVIET FOREIGN TRADE STATISTICS USED IN VTSSSR-60

The commodity classification of Soviet foreign trade statistics from 1918-1940 published in VTSSSR-60 was according to the "Uniform Commodity Nomenclature for Foreign Trade" adopted in 1954 (VTSSSR-60, p. 9). Commodities are listed and identified in the following way: "In front of the commodity is a number for indicating its nomenclature. The first number indicates the division; the first two numbers together indicate the commodity group; the first three numbers, the sub-group; the fourth and fifth numbers the commodity item, and the sixth number, the sub-item. Items having fewer digits include the subsequent items with a greater number of digits" (VTSSSR-60, p. 10).

Table A.5 lists all division and commodity groups and also all sub-groups, items and sub-items cited in this study.

TECHNICAL NOTE 6: USAGE OF THE EXPRESSION "KHLEBNYE  
EKSPORT" (GRAIN EXPORT) IN SOVIET AND RUSSIAN  
FOREIGN TRADE STATISTICS

The Russian expression khlebnye eksport is loosely translated into English as grain export and into German as Getreideexport. Similarly, the Russian expression khlebnye produkt is translated loosely as grain products. The Russian expression khlebnye eksport usually

TABLE A. 5

SUMMARY OF UNIFORM COMMODITY NOMENCLATURE  
USED IN VTSSSR-60

- 
- 
1. Machinery and equipment
    - 10 metal-working equipment
    - 11 power and electro-technical equipment
    - 12 mining, metallurgical and petroleum industry equipment
    - 13 hoisting and transporting equipment
    - 14 equipment for food-processing and light industry
    - 15 equipment for chemical, woodpulp-paper, construction, etc.
    - 16 equipment and materials of completely equipped enterprises
    - 17 apparatus, laboratory and medical equipment, bearings, instruments, abrasives
    - 18 tractors and agricultural machinery
    - 19 transport equipment
  
  2. Fuels, minerals, metals and related industrial products
    - 20 coal and other solid fuels
      - 20000 bituminous coal
      - 20001 anthracite
    - 21 crude oil
    - 22 petroleum products
      - 220 gasoline, naptha, etc.
      - 223 kerosene
      - 224 diesel oil
      - 225 mazut
      - 226 lubricating oils
      - 227 greases
    - 23 natural gas and electrical power
    - 24 metallic ores and concentrates
      - 24000 iron ore
      - 24001 manganese ore
      - 24204 tungsten concentrate
    - 25 non-metallic minerals
      - 25000 asbestos
    - 26 ferrous metals and related industrial products
      - 260 pig iron
      - 261 ferro-alloys
        - 26101 ferro silicone
        - 26102 ferro chrome

TABLE A. 5 (continued)

---



---

	26103	ferro vanadium
	26104	ferro tungsten
262		iron scrap
264		rolled cast iron products
	26406	beams, channel bars
	26407	structural steel
	26410	steel plate
265		products for further conversion of common and quality rolled stock
	26503	tin plate
266		tubes and pipes
268		metal articles
	26800	wire
	26806	nails
	26812	cables
27		non-ferrous metals and alloys
	27000	copper
	27003	zinc
	27004	lead
	27005	tin
	27006	nickel
	27007	aluminum
28		precious metals for industrial use
29		cable and electric wire including bare and insulated wire
3.		<u>Chemicals and related products</u>
30		chemicals
	30100	caustic soda
	30101	soda ash
	30315	coal, tar, pitch
	30500	ethyl alcohol
31		dyestuff, paint, varnish and tanning materials
32		explosives and pyrotechnical products
33		photographic materials
34		fertilizers and pesticides for agriculture
	34000	apatite concentrate
	34004	superphosphate
	34005	phosphorite
	34200	ammonia sulfate
35		rubber and rubber-asbestos products
	35000	natural rubber

TABLE A. 5 (continued)

---



---

4.	<u>Construction materials</u>	
	40	building materials
	41	pre-fabricated materials
	42	metal warehouses, etc.
5.	<u>Industrial materials</u>	
	50	forest products and cellulose-paper articles
	500	raw timber
		50100 sawn timber, softwood
		50101 sawn timber, hardwood
		50102-07 other sawn materials
		50108 boxes
	502	veneer products
		50200 plywood
	503	staves and other wood articles
		50307 staves
	504	cork, bark, etc.
	505	wood pulp and cellulose
		50500 wood pulp
		50502 cellulose
	506	paper
	51	textile raw materials and intermediate products
		51000 cotton
		51003 flax fiber
		51004 flax tow
		51006 hemp
		51008 hemp tow
		51009 jute
		51010 sisal
		51013 hemp combings
		51014 rags
		511 wool
		512 silk
		51200 natural raw silk
		514000 cotton thread
		514001 flax yarn
		514004 woolen yarn
		51401 woolen tops
	52	furs
		520 furs, raw
		521 furs, dressed, natural



TABLE A. 5 (continued)

---



---

	522	furs, dressed, dyed
53		hides, skins, leather
	530000	hides of long-horned cattle
	530011	sheep skins
	530012	calf skins
	530013	goat skins
	53100	leather for soles
	53101	leather for uppers
54		raw tobacco
	54000	raw tobacco
55		seeds and planting material
56		essential oils, exotic resins, gums, medicinal, etc.
	56322	licorice root
57		fats and oils, industrial
58		feeds, concentrated and bulky
	580	oil cake
59		animal and agricultural materials not included elsewhere
	59000	down feathers
	59001	horsehair
	59006	down
	59008	guts
6.		<u>Animals, not for food</u>
7.		<u>Unprocessed foodstuffs</u>
	70	grains
	70000	wheat
	70001	rye
	70002	barley
	70003	oats
	70004	corn
	70104	rice
	71	livestock for slaughter
	71000	cattle, long-horned
	71001	cattle, short-horned
	72	oil seeds and other unprocessed foodstuffs
	72001	soya beans
	72003	flax seed
	72004	sunflower seed
	72007	copra
	72100	natural coffee beans

TABLE A. 5 (continued)

---

---

	72101	cocoa beans
	72103	tea
8.	<u>Foodstuffs, processed</u>	
	80	meat, dairy, and poultry products
		80001 poultry
		800036 bacon
		80100 butter
		803 eggs
	81	fish and fish products
		810 fish, fresh and frozen
		811 salted fish
		811022 salted herring
		813 fish, canned
		81500 crabmeat, canned
		81600 black caviar
		81601 red caviar
	82	products of the flour and bean milling industry
		82000 wheat flour
		82003 hulled grains
		82101 peas
		82102 lentils
	83	vegetables, fruits, berries and produce
	84	agricultural products, not elsewhere specified
		84000 sugar
		84107 olive oil
		84108 sunflower seed oil
9.	<u>Manufactured consumers' goods</u>	
	90	cloth excluding cloth for industrial purposes
		900 cotton cloth
		901 woolen cloth
		903 linen cloth
		904 carpeting
	91	clothing
	92	haberdashery
	93	footwear
		931 footwear, rubber
	94	household utensils and tableware
		941000 porcelain tableware
		942 glass tableware

TABLE A. 5 (continued).

---

---

95	furniture
96	medicine, sanitary and hygienic articles, cosmetics
97	cultural and household appliances
98	miscellaneous manufactured consumers' goods
98207	matches

encompasses more types of products than the English and German equivalents, and this difference in definition can be misleading in interpreting Soviet foreign trade statistics. The broadest definition of khlebnye eksport includes not only grains in the traditional sense but also beans, peas, lentils, flour, bran, oil cake, oil seed, and occasionally other types of seeds (sugar beets). Thus, for the purpose of this study we have adopted the following terms and define precisely the types of products included in each term.

<u>bread grains</u> <sup>13</sup> :	wheat, rye, barley, oats, buckwheat, rice, corn, sorghum, and millet
<u>grain products</u> :	<u>bread grains</u> plus peas, haricot beans, beans, lentils, flours of bread grains and bran
<u>grains and related products</u> :	<u>grain products</u> plus oil seed and oil cake
<u>oil seeds</u> :	sunflower seed, lin seed (flax seed), cotton seed, rape seed, peanuts, mustard seeds, castor-oil seeds, colza, soyabeans, tung oil

The usual distinction in Soviet trade statistics, if any is made, is between grain products and grains and related products, i. e., the inclusion or exclusion of oil seed and oil cake.

---

<sup>13</sup> R. A. Smith, A Russian-English Dictionary of Social Science Terms (London: Butterworths, 1962).

## APPENDIX B

## NOTES TO TABLES IN CHAPTERS I TO XIV

Notes to Table III. 1

Foreign trade data. Pasvolsky-24, p. 27. Figures for 1887-1891 are annual average exports.

Grain export data. Pokrovskii-47, pp. 348-349. Data covered only "grain products" (see Appendix A, Technical Note 6) and excluded exports of oil seeds, oil cake, and possibly legumes so that this series was lower than the series for exports of "grain and related products" in Table III. 6.

Value of non-grain exports. Col. 1 minus Col. 5.

Notes to Table III. 2

Export data. Adapted from Vissarionov-28, pp. 494-497. Exports over all borders at current prices in gold rubles. Platinum exports are excluded and account for the difference between value of total exports cited in Table III. 1 and Table III. 2.

Explanatory notes

Item a. "Agricultural exports" and "industrial exports" were classified according to the system used by Soviet economists in the 1920's (see Appendix A, Technical Note 4) with the following exceptions: vegetable oils, oil cake, all meat and fish (including canned meat and fish) were classified as "agricultural exports."

Item b. "Crops" included grains, oil seed, oil cake, all other seeds, flax, hemp, tobacco, medicinal herbs and licorice root, fruits, vegetables and potatoes.

Item c. "Grains" excluded oil seed, oil cake and include beans, legumes and flour. See Appendix A, Technical Note 6.

Item d. "Flax and hemp" included fiber, tow and combings.

Item e. "Other crops" included non-oil seed seeds, medicinal herbs, licorice root, fruits, vegetables and potatoes.

Item f. "Animal products" included butter, eggs, meat, raw hides, horsehair, bristles, wool, dead poultry, guts, horns and hooves, down and feathers, silkworm grains, cocoons, and wool.

Item g. "Other agricultural products" were calculated as the residual of total agricultural exports minus crops, animal products, furs and fish. It includes live animals (consisting mostly of horses, pigs and geese) and vegetable oil.

Item h. "Industrial exports" as stated in Vissarionov-28 adjusted for platinum exports.

Item i. "Other mining" was the sum of cement, asbestos, coal and coke, and unworked metal and scrap. It most likely understated total exports of mining products.

Item j. "Other industrial exports" equalled total industrial exports adjusted for platinum minus total forest and mining exports.

#### Notes to Table III. 3

Source. Calculated from Table III. 2.

#### Notes to Table III. 4

Source. Vissarionov-28, pp. 494-477.

Item a. See Appendix A, Technical Note 6 for description and varying usage of term "grain exports."

#### Notes to Table III. 5

Source. Groman-28, p. 223, accompanied by the following methodological note.

"1) On the basis of figures from "Materialov k prodoval'-stvennomu planu. Proizvodstvo, perevozki i potreblenie khlebov v Rossii" [Material for the Foodstuffs Plan.

Production, Shipment and Consumption of Grains in Russia published by the Ministry of Agriculture.

- 2) A correction of 19% in the gross harvest figure, consisting of a 9% underestimate of the yield per desiatin (according to Ivantsov) and a 9% correction for underestimation of sown area (according to estimates of the Stat. -Econ. Section of Gosplan).
- 3) Flour converted into grain according to the following estimates: 1 pood rye flour = 100/90 pood grain, 1 pood of millet = 100/60 pood of grain, 1 pood of wheat flour = 100/75 pood of grain, 1 pood of hulled buckwheat = 100/80 pood of grain. [ pood = 16.3805 kilograms ].

Notes to Table III. 6

Col. 1. Exports. Liashchenko-28, p. 204, except for 1912, which is from Vissarionov-28, p. 494.

Col. 2. Per cent of total grain exports by weight. Exports of various grains divided by total grain export.

Col. 3. Per cent of harvest exported. Liashchenko-28, p. 205. Number of guberniia covered varies: 1891-1895, 50 guberniias; 1896-1910, 53 gub.; 1911-1913, unspecified, presumably entire Russian Empire (excluding Finland) or possibly only 53 guberniias.

Col. 4. Harvest. Timoshenko-32, p. 524. Harvest for 72 European and Asiatic provinces. Exports lag harvest because of the slow purchasing and shipment of grain in Russia. Hence, the decline in wheat exports due to the poor 1911 harvest shows up largely in 1912, while wheat exports in 1911 are dominated by an extremely high harvest in 1910.

Col. 5. Total railway shipments. Liashchenko-28, p. 202. Freight loadings of various grains destined for export and domestic markets. Sum of railway shipment to domestic and foreign markets.

Col. 6. Per cent of railway shipments destined for export.

Col. 7. Total grain exports. Wheat, rye, barley, oats, buckwheat, corn, peas, beans, lentils, millet, bran, but not oil seed or oil cake.

Notes to Table III. 7

Source. Timoshenko-32, pp. 524 and 552. Harvest of 72 European and Asiatic provinces uncorrected for understatement of yield and sown area.

Notes to Table III. 81909-13

All data from Pokrovski-47, pp.

Item a. Denotes data from Mishustin-35a, p. 8.

Item b. Denotes data from Prozorovskii-32, pp. 129-130.

Item c. Equipment. Several figures were stated for equipment. Mishustin-35a, stated the "machinery and equipment" equalled 14.6% of annual average imports from 1909-1913 (that is 166.7 million rubles). Prozorovskii-32, p. 129 stated that equipment imports were 226.0 million for the same period. The lesser of these two figures was chosen as being consistent with the definition in this table. See Appendix A, Technical Note 4.

Item d. Raw materials. Sum of nine items listed under heading and probably understates total value of raw materials imports because of omission of less important raw materials.

Item e. Semi-processed. Sum of six items under heading. Dyes and tanning materials not included in sum because they are already included most likely in chemical. This estimate probably understates total value of semi-processed materials imports because of omission of less important semi-processed materials.

Item f. Foodstuffs. Calculated as a residual of total imports minus equipment, raw materials, semi-processed materials, fuels, and manufactured consumers' goods.

Item g. Manufactured consumers' goods. Prozorovskii-32, p. 129. "Objects of Consumption" (predmety potrebleniia) assumed to include only manufactured products for consumption.

Comment. The averages for these categories for 1909-1913 agree more or less with similar categories calculated for 1906-1910 and 1911-1913.

1913

All data from Tables T-5 and T-7, and VTSSSR-60.



Notes to Table III. 9

Source. Adapted from Kaufman-29d, p. 3. Note the "Producers' goods" were estimated as the remainder of total imports minus consumers' goods imports.

Notes to Table III. 10Row 1. Cotton

Col. 1. Ioffe-38, p. 54.

Cols 2-3. Mishustin-38, p. 202. Assumed to be for Russian Empire.

Col. 5. This rough calculation is intended to estimate the import requirements of the cotton textile industry remaining within the USSR territory if producing at 1913 levels using all of the cotton produced within the territory and covering the balance with imports. According to NBER-56a, Series 1208.6, 271,000 m. t. of yarn was spun in 1913 in the territory comprising the USSR in 1925, and 365,800 metric tons in the Russian Empire. Thus, it was assumed that 71% of the total fiber supply in 1913 was used in the USSR territory, and 71% of the total fiber supply to the Russian Empire (420,000 m. t.) was 298,200 metric tons, of which 223,000 m. t. was domestically produced. Therefore, 75,000 m. t. would be imported, or about 25% of total supply to firms on USSR territory. Cotton fabric output of the USSR territory would be 29% less than in the Russian Empire.

Row 2. Wool

Col. 1. Ioffe, p. 54.

Cols 2-3. Holzman-63, p. 299. Presumably for the Russian Empire, adjusted for exports.

Col. 6. Includes yarn imports in total wool imports and total wool supply.

Comments

Note 1. Considerable spinning and weaving capacity was located in Poland and the Baltic states. See Tables III.20 and III.21 on territorial adjustments.

Note 2. Large-scale woollen yarn spinning was based extensively on imported high-quality wool. See text and Table III.10.

Row 3. Silk

Col. 1. In 1912, silk winding of domestic cocoons yielded 10,332 m. t. of raw silk thread; imports of raw silk (grege) were 26,617 m. t. giving a supply of 36,949 m. t. (EIKSSSR, p. 453). One half of domestically produced cocoons were exported because of the inadequate silk-winding

capacity; raw silk thread (grege) was then "reimported" to be spun into silk yarn for weaving (EIKSSSR, pp. 451-453). Silk wadding and waste were also imported.

Col. 6. Pokrovskii-47, p. 353.

Row 4. Copper

Col. 1. EIKSSSR, p. 365. Assumed to be for Russian Empire.

Col. 2. Holzman-63, p. 299. Assumed to be for Russian Empire, apparently for electrolytic copper.

Col. 3. "Notes to Table T-20, row 4. Copper," and is based on adjusted blister output and imports of rolled and ingot copper and excluded copper wire, etc. Blister output included scrap, which, however, was not an important factor.

Col. 5. Table T-21, Table Notes.

Comment. Ioffe-38 (p. 55) stated that 68% of demand in 1913 was covered by imports; this seems too high.

Row 5. Zinc

Col. 1. EIKSSSR, p. 369.

Col. 3. Table T-21, row 6. Zinc imports included slabs and rolled zinc.

Col. 4. EIKSSSR, p. 369.

Col. 5. "Notes to Table T-21, row 6."

Comment. Holzman-63, p. 299 stated 100% import dependence for zinc, but this is clearly in error.

Row 6. Lead

Col. 1. EIKSSSR, p. 367.

Col. 2. Holzman-63 (p. 299). Presumed to be Russian Empire, but no or little lead was produced in separated territory.

Cols 3 and 5. Table T-22, row 5. Imports included ingot and rolled lead.

Row 7. Aluminum

All columns. Mishustin-38a, p. 192 and many other sources.

Row 8. Nickel

All columns. Mishustin-38a, p. 192, etc.

Row 9. Aluminum

All columns. Mishustin-38a, p. 192, etc.

Row 10. Pig iron

Col. 3. From Table T-21, row 10.

Row 11. Rolled ferrous metals

Col. 3. From Table T-21, row 8. See Notes to Table T-21, row 8 for method of estimating share.

Row 12. Pipes and tubes

Col. 3. From Table T-21, row 9. See Notes to Table T-21, row 9 for method of estimating share.

Row 13. Paper and cardboard consumption dependent on imports including imports of wood pulp

Cols 3 and 5. Table T-21, row 11. See "Notes to Table T-21, row 11" for method of estimating.

Rows 14-16. Paper, newsprint, wrapping paper.

Col. 5. EIKSSSR, p. 533.

Note 1. About 35% of Russian papermaking capacity was separated from Russia into Poland, and the Baltic states, according to EIKSSSR, p. 533.

Row 17. All cardboard

Col. 5. EIKSSSR, p. 535.

Row 18. Wood pulp

Col. 3. EIKSSSR, p. 537. Does not include cellulose. Before World War I, 98,300 m. t. of cellulose were consumed within the territory comprising the USSR; 57,300 m. t. of this was obtained from the "Border" states.

Row 19. Cellulose and wood pulp. Ioffe-38, p. 55.

Row 20. Rubber. Mishustin-38, p. 200

Row 21. Leather. Many sources including SUYB-29

Row 22. All chemicals by value

Col. 3. EIKSSSR, p. 487. "Chemicals" undefined.

Row 23. All chemicals by weight. See Row 23.

Row 24. Acids, alkaloids, salts

Col. 3. EIKSSSR, p. 487. "So-called basic chemicals, i. e., in the branch producing acids, alkaloids, salts."

Note 1. EIKSSSR, p. 487, implied that rapid relative import substitution was occurring in the field of basic chemicals, with output growing

rapidly and imports growing slowly.

Row 25. Individual chemicals

All trade data from VTSSSR 18-40. Assumed "pure chemicals imports."

Item a. Sulfuric acid. Imports; SOVTC 30000. Output; NBER-56a, Series 401.3, "100%  $H_2SO_4$ ."

Item b. Hydrochloric acid. Imports; SOVTC 30001. Output; NBER-56a, Series 403.5 "100% HCl; -18° Baume."

Item c. Soda ash. Imports; SOVTC 30101. Output; NBER-56a, Series 406.1. Soda ash 95%.

Item d. Copper sulphate. Imports; SOVTC 30242 Copper sulphate. Output; NBER-56a, Series 419.5.

Item e. Aluminum sulphate. Imports; SOVTC 30200 Aluminum sulphate. Output; NBER-56a, Series 427.5.

Item f. Borax. Imports; SOVTC 30265 (Bura). Output; NBER-56a, Series 429.5 Borax. Borax output for 1913 thought to be insignificant at least in USSR, because only 1 - 6 m. t. was produced (from Crimean mines) in 1926 and almost all was imported (Shimkin-52, p. 253).

Item g. Super phosphate 14%  $P_2O_5$ . Imports; SOVTC 34004. Super phosphate. Assumed to be 19% and hence raised by 35.7% to make it equivalent to domestically produced super phosphate. Output; NBER-56a, Series 409.3.

Item h. Ground Phosphate rock and Thomas slag. Imports; SOVTC 34005, Phosphorite including Thomas slag. Output of Thomas slag in 1913 (Shimkin-52, p. 256) was 32,800 m. t. Output of ground Phosphate rock in USSR territory was 8,000 m. t. These two figures are simply summed and used as an order of magnitude. Thomas slag came from Polish Russia. Phosphate fertilizers were used largely in Baltic and Western provinces of Russia (Shimkin-52, p. 256).

Item i. Potash fertilizer. Imports; SOVTC 341, Potash fertilizer. Output; NBER-56a, Series 412.4. First produced from sylvinite in 1913. Sylvinite output; NBER-56a, Series 412.4.

Row 26. Dyes. EIKSSSR, p. 493. "Before the war no independent dye industry existed in Russia. The production of aniline dyes was concentrated in the hands of concerns organized by foreigners, which actually were the branches of German and Swiss firms. These factories manufactured dyes from semi-processed products imported principally from Germany. Thus the dye industry in Russia worked upon imported raw materials." The only intermediate product

produced in Russia was aniline.

Rows 27 and 28. Aniline and aniline salts. Imports and output; EIKSSSR, p. 493. Output in 1913 was 1000 tons of aniline and 748 of aniline salts, and imports of aniline and aniline salts were 1000 tons, of which we know that aniline alone equalled 258 m. t. (VTSSSR - 60, p. 218).

Row 29. Pigments varnishes. All data for 1912. All data from EIKSSSR, p. 497.

Row 30. Coal tar. EIKSSSR, p. 501.

Row 31. Rosin (kanifol, garpus). EIKSSSR, p. 503.

Row 32. Chemical-pharmaceutical products. EIKSSSR, p. 511. "Pre-war" probably 1913. Some factories detached in Poland and Baltic states. Iodine, quinine, caffeine, semi-alkaloids of opium and derivatives of salicylic acid.

Rows 33 and 34. Soap and glycerine. EIKSSSR, p. 477-479. The soap industry, however, depended on imported copra, palm oil, and, to a lesser extent, animal fat.

Row 35. Tea. Ioffe-38, p. 54.

Row 36. Cotton yarn. EIKSSSR, p. 443, "Cotton yarn before the war used to be imported . . . to an extent of 12 - 13% of Russian production."

Row 37. Coffee. EIKSSSR, p. 545.

Row 38. Cocoa. EIKSSSR, p. 551. In form of finished product

Row 39. Jute. EIKSSSR, p. 445. Jute was apparently entirely imported, but in some cases it was mixed with flax.

Row 40. Copra and palm oil. EIKSSSR, p. 483. Apparently entirely imported.

Row 41. Animal fat. EIKSSSR, p. 481.

Row 42. Coal. Pasvolsky-24, p. 120 citing Narodnoe Khoziastvo, 1913, pp. 303-305. "Pre-war" ratio was for 1910-1913 and equalled sum of imports divided by the sum of imports and production.

Notes to Table III. 111876-1895

Pokrovskii-47, p. 354.

1913Net exports of cotton cloth, linen cloth, sugar, oil for Table T-20 or VTSSSR-60. Data for pig iron, steel and copper from Table T-21.Notes to Table III. 12Prokrovskii data. Prokrovskii-47, p. 352.SUA data. SUA, Vol. 5, No. 20 (1926), p. 27.Pasvolsky data. Pasvolsky-24, p. 116.Notes to Table III. 13Col. 1. EIKSSSR, p. 447; 1912 estimated from partial data on page 449.Col. 2. Nutter-62, p. 415. Datum for 1909 is arithmetic average of 1908 and 1910 (70.2 and 73.8 thousand metric tons). Woolen yarn output in 1913 in territory making up the USSR in 1925: 46,500 metric tons (Nutter-62, p. 457). See also EIKSSSR, p. 451.Col. 3. Col. 1 minus col. 2.Col. 4. Col. 1 divided by col. 2.Notes to Table III. 14

A.1 Pokrovskii-47, p. 358. "Total value of production of all types of machines reached 101.9 million rubles in 1910, 123.3 million rubles in 1911, and 136.7 million rubles in 1912. In these same years the import of machines was 113.4, 147.2 and 150.5 million rubles." The definition of "machines" is not clear. Using this value data we obtain the following percentage of import in total machinery supply: 52.7%, 54.4%, 52.4%.

B.1 Pokrovskii-47, p. 358. Apparently on value.

B.2 Rozenfeld-61, p. 105. Apparently on value. Unofficial value of

metal-working equipment output in 1913 was 5.5 million rubles, while imports of metal-working equipment (VTSSSR-60, SOVTC 10) equalled 12.8 million rubles or 70% of total supply.

- B.3 EIKSSSR, p. 377. "Output in 1913 . . . amounted to about 5 million rubles."

C Electrical:

Rows 1 through 9. EIKSSSR, p. 417.

Comments: Share of foreign capital in public power stations was 51% and in electrical technical enterprise "up to 70%." In tramway concerns 93% of capital was Belgian, while in telephone enterprises Swedish capital amounted to 62% and Danish about 25% (EIKSSSR, p. 417). The distinctive feature about the pre-war electrical industry was the dependence upon foreign electrical enterprises . . . home production . . . confined merely to simple and heavy machinery parts, the more important and complex parts being imported from abroad and then assembled in Russia into finished articles . . . no scientific research . . . required number of drawings imported from abroad" (EIKSSSR, p. 417). Tariff and government purchase policy stimulated domestic production or assembly from parts, but lack of experienced technical personnel and skilled workers, and supporting industries hindered development of domestic industries. Foreign engineers and specialists occupied "responsible administrative posts" (EIKSSSR, p. 419). "Ninety percent of entire imports of electrical materials came from Germany" (EIKSSSR, p. 431).

- D.1 Woodworking machinery and saw frames. EIKSSSR, p. 379. Domestic output in 1912 was about 1,269,000 rubles.
- D.2 Textile machinery. EIKSSSR, p. 379. Sum of value of imports in 1913 plus value of output in Russian Empire in 1913. Ratio of imports for Russian Empire to output and supply in 1913 in the Soviet borders of 1925 is much higher (32%). Imports in previous years were much higher (1908 - 3.64 million rubles, 1910 - 2.57 million rubles, 1913 - 1.36 million rubles) so that the import supply ratios were much higher in previous years. If we assume domestic output in 1908 to be equal to 1913, then the import supply ratio was 44%.
- D.3 Papermaking machines. EIKSSSR, p. 379. Value of imports in 1913 and by value of output in 1912.

- D. 4 Printing machinery. EIKSSSR, p. 381. Value of 1913 imports divided by sum of output in 1912 and imports in 1913.
- D. 5 Precise mechanics (watches, microscopes, eye glasses, cameras, etc.). EIKSSSR, p. 397. High value for USSR boundaries (EIKSSSR, p. 399).
- D. 6 Automobiles. EIKSSSR, p. 519. Automobiles were assembled in Riga from imported parts (Rozenfeld-61). Based on 1913 imports and 1912 output, imports supplied 96.5% of imported finished automobiles. 1913 imports of 17.4 million rubles, of which 15.9 million rubles were for passenger autos, 1.45 million rubles for trucks and 0.0 million rubles for auto-buses.
- D. 7 Motorcycles. EIKSSSR, p. 519. Based on 1913 imports and 1912 output.
- D. 8 Bicycles. EIKSSSR, p. 519. Based on 1913 imports and 1912 output.
- D. 9 Tractors (excluding garden tractors). NBER-56a, Series 902.6 lists "zero" tractor output.
- D.10 Combines. NBER-56a, Series 905.2 lists zero combine output.
- D.11 Chemical equipment. Gwyer-55b, p. 10, citing the Soviet trade journal Khimicheskoe Mashinostroenie, Nos. 2-3, 1933, p. 1, and No. 8, 1933, p. 1.
- D.12 Railroad equipment. Ioffe-38, p. 55.
- E. 1 Metal rope and rigging. EIKSSSR, p. 383. Based on 1913 imports and 1912 production in Russian Empire (low figure) and boundaries of USSR (high figure).
- E. 2 Cotton cards. EIKSSSR, p. 383.

Notes to Table III.15

Source. Bogdanov-28, p. 22. Presumably current prices.



Notes to Table III. 16

Source. Elchibegoff-55a, pp. 16-17, citing Znabzhenie krest'ianskogo naseleniia sel-kh. mashinami i orudiiami (1925), pp. 12-17.

Notes to Table III. 17

Row 1. NBER-55a, Series 902.6. Tractors (excluding garden tractors) units.

Row 2. NBER-55a, Series 905.2. Combines (grain combines) units.

Row 3. NBER-55a, Series 1015.4. Water wheels and turbines.

Row 4. NBER-55a, Series 1017.5. Coal cutting machines (units).

Row 5. NBER-55a, Series 1022.2. Excavators units. But 25 steam excavating shovels, weighing 70 tons each, on railroad tracks, with scoop capacities of 2.29 cubic meters were produced before 1915 (Gwyer-55b, p. 7).

Row 6. NBER-55a, Series 1307.2. Phonographs.

Row 7 and 8. Rozenfeld-61, p. 190. Steam turbines.

Pre-war	1250 kwt max.
1922/23	2000 kwt max.
1925/26	10,000 kwt max.
1926	22,000 kwt max. (two)
1926/27	first high pressure turbines (30 atmospheres)

Row 9. Rozenfeld-61, p. 192. Metal working ('new types of machines').

Row 10. Rozenfeld-61, p. 192. Looms, etc., not produced before World War I.

Row 11. Rozenfeld-61, p. 193. Turbogenerators, etc.

Row 12. Rozenfeld-61, p. 193. Complex parts for telephone exchange.

Row 13. Rozenfeld-61, p. 193.

Row 14. Rozenfeld-61, p. 194.

Row 15. Rozenfeld-61, p. 194. Trucks.

Row 16. Rozenfeld-61, p. 224. Machine tools. Ten new types of machines produced in 1932.

Row 17. Rozenfeld-61, p. 228. Turbo-blower.

Row 18. Rozenfeld-61, pp. 225-226.

Row 19. Ibid.

Row 20. Gwyer-55a, p. 5. "Blooming mill, first ever built in USSR."

Row 21. STAT-35, p. 52.

Notes to Table III. 18

Source. Engeev-28b, p. 82. Cited in Liashchenko-49, p. 718.

Notes to Table III. 19

Paper rubles. Foreign trade in current prices. Data for 1909-1913 to 1913 from SUYB-27, p. 221.

Gold rubles. Foreign trade in 1913 prices. Data for 1913-1917 from Kustusov-28, p. 10, who cited Groman-23, p. 39. Data for 1918-1924 from SUYB-27, p. 220.

Notes to Table III. 20

Based on NBER-56a. Series number given in left hand side. "% loss" is calculated by dividing 1913 output in Soviet territory 1925 by 1913 in Russian Empire and subtracting from one hundred.

Notes to Table III. 21

Additional comments on sources: Statistical adjustment

12. "Value of home production . . . about 70 million rubles [context implied Russian Empire] . . . gross output of finished articles . . . in 1913 (within the boundaries of the USSR) . . . 60,000,000 rubles" (EIKSSSR, p. 421).
13. Based on total number of spindles, hand and mechanical, available in 1912 (EIKSSSR, p. 447). For mechanical spindles alone the figure is 67.8%.
14. Based on total number of looms, hand and mechanical, available in 1912 (EIKSSSR, p. 447). For mechanical looms alone the figure is 61%.

Notes to Table III.22

Sown area. Johnson-60, pp. 228-229.

Output and livestock. Johnson-60, pp. 230-235.

Notes to Table III.23

Item a. Mikoian-28a, pp. 17-18. Grain (khlebprodukt) includes oil seed and oil cake as implied in comparison of other grain statistics for USSR cited in same sentence.

Item b. Includes oil cake and oil seed. Mikoian-28a, pp. 17-18.

Item c. Mikoian-28a, p. 17. For a discussion of pre-1914 flax and hemp exports, see EIKSSSR, pp. 219-227. Marketing of flax excluding Baltic states equalled 311,000 metric tons per year during 1909-1913 (Mikoian-28a, p. 17).

Item d. From Table III.2. Assumes identical definition of term "sel'skokhoziaistvennyi eksport."

Item e. From Table III.2. Sum of yearly averages for 1909-1913 of flax, butter, eggs and furs.

Item f. Residual.

Item g. Assumed to be for period 1909-1913.

Item h. From Table III.2.

Item i. EIKSSSR, pp. 243-247.

Notes to Table III.24

Source. League-30c, p. 262.

Notes to Table IV.1

Cols 1 - 3. SUYB-26, pp. 58-59. Col. 1 included agriculture and forestry.

Col. 3. "Output of registered industry."

Cols 4 - 5. League-28a, p. 694. Data in 1913 prices.

Notes to Table V.1

Source. Adapted from Krasin, p. 176.

Notes to Table V.2

Source. Krasin-28, p. 175. Converted from poods. "Timber" (lec) substituted for "flax" (len) in the original table. It was apparently a typographical error. "Output" possibly refers to "net output." Export as % of output (col. 6) calculated from cols 1 and 4.

Notes to Table VI.1

Planned and actual exports 1923/24 - 1927/28. Data from Baksht-28a, p. 25. No information was given about prices, but presumably these prices were current prices rather than pre-1914, so that the unit values for planned exports are indicative of the planners' price expectations.

Actual exports 1909-1913 (annual average). Vissarionov-28. "Grain products" in plan assumed to include those items defined by the term "grain and related products" as used in this study (see Appendix A, Technical Note 6).

Notes to Table VI.2

Total imports. Data for actual total imports from 1923/24 - 1927/28 from Table T-1 and include the grain and manufactured goods imports as part of the program of "goods intervention 1924/25 - 1925/26." The plan figures for 1923/24 - 1927/28 for total imports did not project any such grain or "purposeful imports" for this period. Thus, Baksht compared actual total imports excluding these imports for the "goods intervention" to the planned total imports (in row two).

Total imports (excluding special imports of grain and consumer goods). Baksht-28a, p. 26.

Producers' Imports and Consumer Goods Imports. Baksht-28a, p. 26. Baksht's figures for planned and actual consumer goods imports do not include "purposeful imports" of "consumer goods for the goods intervention" during 1924/25 and 1925/26. Total imports of manufactured consumer goods and foodstuffs (including "purposeful imports") from

1923/24 to 1927/28 were about 684 million rubles (Table T-5) or about 390% of the projected imports of these products (Table VI. 2); Baksh recorded only 430 million rubles (excluding purposeful imports) of foodstuffs and manufactured goods from 1923/24 - 1927/28 (Table VI.2).

Average annual imports 1911-1913. Kaufman-29d. "Agricultural machinery and fertilizers" included only agricultural machinery for 1911-1913.

#### Notes to Table VII.1

Col. 1. Planned Exports Across European Borders 1924/25. Figures for the value from Krasin-28, p. 177. Figures for quantity and for the value of total agricultural exports and secondary exports from Kaufman-26c, pp. 11-15. "Other Industrial" is a residual.

Col. 2. Planned Exports for 1924/25 as a % of Actual Exports in 1923/24. Comparison of figures in column 1 with figures for 1923/24 in current prices from Kutusov-28, p. 34.

Col. 3. Structure of 1924/25 Export Plan. Value of planned exports for individual groups as percentage of total value of planned exports.

Col. 4. Exports in 1924/25. Figures from Kutusov-28, pp. 42-43.

Col. 5. Exports in 1924/25 as a percentage of 1923/24 Exports. Figures from Kutusov-25, pp. 42-43.

Col. 6. Structure of 1924/25 Exports. Value of exports for individual groups as percentage of total value of exports 1924/25.

Col. 7. Fulfillment of Plan. Column 4 divided by column 1.

#### Notes to Table VIII.1

The figures are in millions of rubles at current prices. Plan figures for 1925/26 most likely refer to the foreign trade plan presented as "orientation figures" in July 1925 by NKVT.

#### Exports

Col. 1. Exports in 1924/25. Figures from Kutusov-28, p. 42 and Table T-2. "Other Agricultural Products" derived as a residual by subtracting "Grain and Related Products, Fur and Non-canned Fish, and Animal and Poultry Products" from "Total Agricultural Exports" cited in Kutusov-28, p. 42. "Timber products" were subtracted from

"Total Industrial Exports" to get "Other (Industrial) Exports." See Appendix A, Technical Note 4 for description of classification.

Col. 2. Planned Exports in 1925/26. Figures for export plan from Sobolev-26a, p. 72, except that "Other Industrial Exports" derived as residual by subtracting the plan figures for other groups from "1925/26 Plan B Export Plan" in Table T-1. These figures are approximations.

Col. 3. Exports in 1925/26. Figures from Kutusov-28, p. 49. Procedure similar to that in Col. 1.

Col. 4. Fulfillment of 1925/26 Export Plan. Col. 3 as a percentage of Col. 2.

Col. 5. Percentage Change of Exports in 1925/26 Compared to Exports in 1924/25

Imports (Similar to Exports)

Cols 1 - 3. Imports. Figures from Kutusov-28, pp. 45 and 51.

Col. 2. Planned Imports in 1925/26. Figures for imports plan from Sobolev-26a, p. 72. He also stated that "Consumer Goods" imports planned for 1925/26 were 19% of total planned imports; Plan B 1925/26 in Table T-1 was used for total imports.

#### Notes to Table VIII. 2

Source. Adapted from Aizenberg-62, p. 235.

#### Notes to Table VIII. 3

Exchange rate of chervonetz on foreign exchanges. High and low quotations during period from October 1, 1924 to October 1, 1925 from Aizenberg-62, p. 235.

Monthly data from 1926 and 1927. Data from Economic Survey (in English) published by the State Bank of the USSR in Moscow. Since March 1927, no data were published on the exchange rate of chervonetz on these "free" markets abroad. The export of chervonetz was prohibited by a decree of July 9, 1926 and the import of chervonetz was prohibited by a decree of March 21, 1928 (Economic Survey, Vol. IV, No. 27-28 [July 31, 1929], pp. 1-2, published by the State Bank of the USSR in Moscow). These decrees were intended to reduce the financing of contraband trade and especially illegal imports. The

chervonetz continued to be quoted on the "black markets" abroad, but after July 1926 the State Bank ceased to support the exchange rate through purchases of chervonetz on foreign exchanges. The decree prohibiting the import of chervonetz was intended to prevent tourists and other persons who might be able to make payments in chervonetz-ruble from purchasing the chervonetz at below parity rates (as well as to further reduce the demand for chervonetz on foreign money markets).

#### Notes to Figure VIII. 1

Price of Soviet wheat on foreign markets. Col. 4 of Table T-38.

Average domestic procurement price of wheat purchased by Khlebprodukt. Col. 2 of Table T-38.

Wheat procurements by planned procurement agencies. As cited in SUA, various issues (1926-1928).

#### Notes to Figure VIII. 2

Price of Soviet rye on foreign markets. Col. 4 of Table T-39.

Average domestic procurement price of rye purchased by Khlebprodukt. Col. 2 of Table T-39.

Rye procurements by planned procurement agencies. As cited in SUA various issues (1926-1928).

#### Notes to Figure VIII. 3

Price of Soviet barley on foreign markets. Col. 2 of Table T-40.

Procurement price on domestic markets of exported barley. Col. 1 of Table T-40.

Barley procurements by planned procurement agencies. As cited in SUA, various issues (1926-1928), and ERSU, various issues (1926-1929), and Stat. Oboz. (1927-1929).

#### Notes to Table IX. 1

Plan 1926/27. Based on plan fulfillment figures and export data cited in Kaufman-28c, pp. 104-106. Industrial export plan is residual based

on agricultural export plan and the assumption that Kaufman is referring to the final revised export plan (Plan D, 1926/27 in Table T-1). For estimate of grain export plan, see text,

Actual Exports 1925/26 and 1926/27. Kaufman-28c, pp. 104-106 and Tables T-2 and T-3.

#### Notes to Figure X.1

Source. Table T-34, Part A.

#### Notes to Table XI.1

Row 1. Gross harvest. Data from Table T-8. This series corresponds roughly with the "low series" cited by Karcz-67 (p. 408).

Row 2. Decline (or increase) in harvest from 1913 levels. Figure for 1913 subtracted from data for other years.

Rows 3 and 4. Total and rural population from Table T-48, Part A, except that the figure for 1909-13 is a rough average of 1910-1914 figures from Table T-48, Part B, centered on mid-1912.

Rows 5 and 6. Row 1 divided by row 3 and row 4.

Row 7. Additional grain required by rural population to maintain per capita levels. Figure for 1913 in row 6 subtracted from other data in row 6.

Row 8. Sum of figures in rows 2 and 7.

#### Notes to Table XII.1

Indexes based on indexes cited in Tables T-24 and T-25, and data in current prices cited in Tables III.23, III.24, T-2 and T-5. See notes to these tables for description of territorial adjustment.

#### Notes to Table XIII.1

Source. Geller-28a, p. 41. Probably in current prices.

#### Notes to Table XIII.2

Source. Geller-28a, p. 41. Probably in current prices.



Notes to Table XIII. 3Copper

Rows 1 - 3. Data for 1913, 1927/28 and 1932/33 Plan from Geller-28a, p. 42. Output projected by VSNKh. Figures for 1932 and 1933 from corresponding columns in rows 4, 5 and 6 of this table.

Rows 4 - 6. Data for 1913, 1927/28, 1932 and 1933 from Table XIV.11 under heading "Copper." Output is difference between supply and imports. Other Soviet sources cited different shares for imported copper in 1927/28 (Anders-29a, p. 13 cited 42%; Gosplan-30b, p. 210 cited 49.9%). Plan - 1932/33 figure from Kaufman-29a, p. 91, and Gosplan-30b, p. 210, which stated that imported copper would satisfy 41.0% of total consumption; the target for copper output in the optimal variant was 84,700 m. t. (Zaleski-62, p. 303), which implied projected copper imports of 55,800 m. t. Anders-29a (p. 13) stated that domestic copper output was to cover 73% of demand in 1932/33.

Row 7. Row 5 divided by row 6.

Zinc

Rows 8 - 9. Data for 1913, 1927/28 and 1932/33 Plan from Geller-28a, p. 42. Output projected by VSNKh. Figures for 1932 and 1933 from corresponding columns of rows 10 and 13 of this table.

Rows 10 - 12. Actual data (1913, 1927/28, 1932 and 1933) from Table XIV.11 under heading "Zinc." Output is difference between supply and imports. Planned figures for 1932/33 Plan from Kaufman-29a (p. 91), and Gosplan-30b (p. 210) which stated that imported zinc would satisfy 20.5% of total consumption. Output target in optimal variant for 1932/33 was 77,400 m. t. (Zaleski-62, p. 32), which implied imports of 19,900 m. t. Output targets for 1932/33 for the basic variant was 38,000 m. t. (Zaleski-62, p. 32).

Row 13. Row 11 divided by row 12.

Lead

Rows 14 - 16. Data for 1913, 1927/28, 1932 and 1933 from Table XIV.11 under heading "Lead," and is basically from Mishustin-38a, p. 195. Output is difference between total supply and imports. Planned figures for 1932/33 - plan from Gosplan-30b (p. 210), which reported a planned share of imports of 61.0% and planned output of 38,500 m. t. in 1933.

Row 17. Row 15 divided by row 16.

Aluminum

Rows 18 - 20. Data for 1932 and 1933 from Mishustin-38a, p. 196. No

output in 1913 and 1927/28, so that total supply comprised of imports (VTSSSR-60). Plan - 1932/33 data is from following sources. No output target for aluminum was originally planned for the FYP; it was later set by a decree on August 2, 1929 (cited in Direktivny KPSS . . . Vol. II, p. 91 as cited in Zaleski-62, p. 318; also cited in Gosplan-30b, p. 58).

Row 21. Row 19 divided by row 20.

#### Nickel

Row 22. Data for 1913, 1927/28, 1932 and 1933 from Table XIV.11. No output targets were given in the FYP for 1932/33 according to Zaleski-62, p. 303. This contradicts the estimate that imports were to supply only 44.4% of demand in 1932/33 as cited in Gosplan-30b, p. 210.

#### Cotton

Rows 23 - 25. Data for 1913, 1927/28, 1932 and 1933 from Table XIV.11; see Notes to Table XIV.11 for discussion of data sources. Plan target for 1932/33 from following sources. Output of cotton fiber for 1932/33 Plan from Zaleski-62, p. 305. Zaleski-62 (p. 309) cited a target output figure for seed cotton of 1,907,000 m.t. for 1932/33, of which 1,870,000 m.t. were to be marketed. The ratio of ginned cotton to seed cotton is about 30 - 32% of weight of seed cotton. Several targets for shares of imported cotton fiber in 1932/33 supply have been cited including 19.5% (Kaufman-29a, p. 91), "about 10%" (Gosplan-30b, p.211) and 25% (Anders-29a, p. 13). Kaufman's estimate is used here; this implied a total supply of 684,700 m.t. and imports of 78,700 m.t.

#### Fine wool

Row 27. Geller-28a, p. 42.

#### Wool

Row 28. Figure for 1927/28 from Kaufman-29a (p. 91); figure for share of imports in total industrial supply. Anders-29a (p. 13) and SUA (Vol. VIII, No. 13 [1929]) stated that wool supplied 80% and 90% of total consumption in 1927/28. Planned output of wool for 1932/33 - Plan was 220,000 m.t. in optimal variant and only slightly lower in the basic variant (Zaleski-62, p. 309). Planned imports of wool for 1932/33 - Plan were to be 36.1% of total supply (Kaufman-29a, p. 91) implying a total supply target of 297,700 m.t. and an import target of 77,700 m.t.

#### Leather

Row 29. Geller-28a, p. 42.

Industrial machinery

Row 30. Kaufman-29b, pp. 17-18. Estimates based on value. See also Table XIII. 4 and table on p. 534.

Agricultural machinery and tractors

Rows 31 - 32. Based on data cited in Kaufman-29b (pp. 17-19), and SUA (Vol. VIII, No. 13 [1929], p. 33).

Notes to Table XIII. 4

Data for 1909-13. Average annual exports excluding platinum, from Table III. 2. Average annual imports from Table III. 8. Classification for imports for 1909-13 are approximate estimates for these categories. See notes to Tables III. 2 and III. 8. See Appendix A, Technical Note 4 for description of goods included in each classification.

Data for 1926/27 and 1927/28. Export data from Table T-2. Agricultural exports plus industrial exports do not add to total exports because of small amounts of unallocated exports. Import data from Table T-5. Kaufman-29, p. cited slightly different figures for exports for 1927/28: total exports were, according to this source, 773.9 million rubles, of which 382.3 million rubles were "agricultural exports," and 391.6 million rubles were "industrial exports."

Data for annual targets for foreign trade during the FYP and for total foreign trade during FYP.

Total annual exports plan. Derived by using an annual index of foreign trade projected in the FYP and Torgplan's projection for export in 1932/33 of 2047.5 million rubles, both from Kaufman-29a, pp. 90, 93. Kaufman's index is presented below:

	"Dynamics of Exports and Imports" (1928/29 = 100)				
	1928/29	1929/30	1930/31	1931/32	1932/33
Exports	100	118.5	139.8	192.7	225.0
Imports	100	125.9	161.7	205.4	225.9

The reliability of this index was checked by summing the annual figures calculated on the basis of this index and checking against the sums for the entire FYP cited in the same article. Figures for 1932/33 and for the entire FYP are directly from Kaufman-29a.

Agricultural and industrial exports. Data for 1932/33 and FYP cited in Kaufman-29a, p. 89, but see notes to Table XIII. 7 for discussion of Kaufman data. Data for 1928/29 - 1932/33 calculated from structural coefficients for share of agricultural and industrial exports cited in Table XIII. 7.

Total annual imports planned for first FYP. Data for planned annual imports based on Kaufman's index "Dynamics of Export and Import" cited above in this note and Torgplan's projections for imports in 1932/33 of 1705 million rubles (this figure for total planned imports for 1932/33 was cited in numerous sources including Anders-29a, p. 7, SUA, Vol. VIII, No. 13 (1929), p. 10, and Vop. Torg., (May, 1929), p. 101. The estimates for annual planned imports summed to value of total imports planned for the entire first FYP cited in Kaufman-29a, p. 93 and Vop. Torg., (May, 1929), p. 101. Annual plan data has been rounded to nearest million.

Producers' goods and consumers' goods planned for first FYP. Figures for planned imports for 1932/33 and planned imports for entire FYP from Vop. Torg. (May, 1929), p. 101. Similar data cited in SUA, Vol. VIII, No. 13 (1929), p. 31, and Kaufman-29a, p. 91. No data for annual import plans for 1928/29-1931/32 for reasons discussed below for "All other imports."

Annual imports of industrial and transportation equipment planned for first FYP (excluding agricultural equipment). Figure for 1932/33 from SUA, Vol. VIII, No. 13 (May 1929), p. 31. Imports planned for 1928/29-1931/32 based on index labeled "Imports of industrial and transport equipment and agricultural equipment 1928/29 - 1932/33" (cited in Anders-29a, p. 13) and the above noted figure for planned imports of industrial and transportation (but not agricultural equipment). Summing the annual plan figures so derived yields 1784 million rubles for the FYP, which is exactly the total planned imports for the entire FYP for industrial and transport equipment alone. Two conclusions are possible: 1) projected imports of agricultural machinery was to grow as fast as industrial and transport machinery, or 2) the table was most likely mislabeled.

Annual imports of raw materials planned for first FYP. Figure for planned raw material imports for 1932/33 from SUA, Vol. VIII, No. 13 (May, 1929), p. 31. Figures for raw material imports planned for 1928/29 - 1931/32 based on annual index of raw materials for 1928/29 - 1932/33 (cited in Anders-29a, p. 13) with the value of raw material imports planned for 1932/33 (cited in Kaufman-29a, p. 91). Summing the annual plan figures for 1928/29 to 1932/33 so derived

gives us 2046.4 million rubles, the figure cited as total imports of raw materials planned for the entire first FYP (in Kaufman-29a, p. 91). VSNKh had projected raw material imports for 1932/33 at 577 million rubles as compared to Torgplan's projection of 523.3 million rubles (Kaufman-29a, p. 91).

Annual imports of "all other goods" (which includes "semi-processed materials, " fuels, agricultural producers' goods, consumers' goods and "other imports") planned for first FYP. Figure for 1932/33 based on sum of individual components (listed in parentheses) from data in Table XIII.10. Figures for 1928/29 - 1931/32 derived as a residual from planned total annual imports minus planned annual imports of "machinery" and "raw material." No data has been located on the annual imports planned for these years of the FYP for these particular import classifications. See notes to Table XIII.10 for discussion of the large sum allocated to the "other" component of this group as compared with previous years.

#### Notes to Table XIII. 5

Data for index numbers for 1913 in current prices (Foreign trade for Russia). Index for exports based on data in Table T-2. Total exports in 1913 were 1505.9 million rubles (excluding platinum) of which 1014.2 million rubles were "agricultural exports" and 383.9 million rubles were "industrial exports." Total imports (from Table T-5) in 1913 were 1374.0 million rubles, of which 884.4 million rubles were producers' goods (including 172.4 million rubles of industrial and transportation equipment, 343.1 million rubles of raw materials, 212.4 of semi-processed materials, 91.3 million rubles of fuel and 6.54 million rubles of agricultural producers' equipment). 392.0 million rubles were consumers' goods and 97.6 million rubles were "other" (unclassified). Using Soviet adjustments of foreign trade in 1913 for territorial loss (from Table III.24), total exports were 1305.0 million rubles, total imports were 1007.0 million rubles and the corresponding indexes are (1927/28 = 100) 166.9 and 106.6 (current prices).

Data for index numbers for 1913 foreign trade in constant prices. Index numbers (1927/28 = 100) for total exports and total imports in 1913 unadjusted for territorial loss are from Tables T-25 and T-26.

<u>Price Weights</u>	<u>1913 Russian Empire</u>		<u>1913 Soviet Territory</u>	
	<u>Exports</u>	<u>Imports</u>	<u>Exports</u>	<u>Imports</u>
1913	282.3	152.6	241.4	113.4
1926/27	289.6	167.8	247.6	124.7
1927/28	312.3	169.5	267.0	125.9

Index number (1927/28 = 100) for total exports and total imports in 1913 using Soviet adjustment of 1913 foreign trade for territorial loss based on 14.5% reduction of exports in 1913 and 26.7% reduction of imports in 1913 (Table III. 24), but see text, pp. 157 ff for relevance of such adjustment.

Data for 1926/27 and for planned annual trade 1928/29 - 1932/33.  
Based on Table XII. 4.

#### Notes to Table XIII. 6

Average Annual growth rates 1900 - 1913. Based on values in current prices of total exports and total imports cited in Table III.1. See text for discussion of long-term growth rates of imports and exports, pp. 94-97.

Average annual growth rates 1923/24 - 1927/28. Based on values in current prices for total exports and total imports cited in Table T-1.

Remaining figures for annual growth rates based on Table XIII. 5.

#### Notes to Table XIII. 7

Source. Based on Table XIII. 4 with following exception. Targeted shares for 1928/29 - 1932/33 from Anders-29a, p. 10 and p. 13.

#### Notes to Table XIII. 8

Data for rows 1, 2, 4, 5, 6, 9, 10. From Table XIII. 4.

Data for row 3. Grain exports. Actual exports of grain and related products for 1927/28 from Table T-11. Value of grain exports planned for 1932/33 based on Kaufman-29a (p. 88), which stated that

grain exports would be 21.4% of total exports in 1932/33 and 11.6% for the entire 1st FYP. Total exports planned for 1932/33 were 2048 million rubles and total exports planned for entire 1st FYP were 6971 million rubles (Table XIII.4). Thus, the value of grain exports planned for 1932/33 was 438 million rubles and for the entire 1st FYP was 809 million rubles. We used these estimates based on Kaufman-29a for this table. Vop. Torg. (May, 1929, p. 92), however, stated that grain exports for 1932/33 would be 24.7% of total exports planned for 1932/33; this implies a higher figure for grain exports planned for 1932/33 -- 506 million rubles -- but this figure of Vop. Torg. was higher than an estimate of grain exports planned for 1932/33 which can be estimated indirectly from data in the same article in Vop. Torg. and which is almost identical to the estimates based on Kaufman's data. This discrepancy in estimates of grain exports planned for 1932/33 might result from different definitions of "grain export" or reference to different grain export plans.

The distribution of planned grain exports over the 1st FYP is based on the following information. We know that grain exports planned for 1932/33 were about 440 million rubles (see above). Izvestia (June 6, 1929) stated that no grain exports were planned for the first two years of the 1st FYP, so we have assumed that planned grain exports were zero for 1928/29 and 1929/30; since the definition of khlebeksport was imprecise (Appendix A, Technical Note 6) some exports of "grain and related products" (which included oil seed and oil cake and bran) were expected, but these probably were not large enough to affect the basic trends portrayed in this table. The restoration of grain exports was projected for the third year of the FYP in the maximum variant and in the fourth year of the FYP in the basic variant (Gosplan-29b, p. 99). Anders-29a (p. 10) reported that grain exports would again be substantial in volume in 1931/32 and 1932/33, and only moderate grain exports were to be undertaken in 1930/31. Of the 809 million rubles of grain exports planned for the 1st FYP, 440 million rubles were planned for 1932/33, so that 369 million rubles of grain were to be exported during 1930/31 and 1931/32. Anders-29a suggested that the bulk of this 369 million rubles of grain exports were planned for 1931/32. I have arbitrarily allocated 20% of this amount to 1930/31 and 80% to 1931/32.

Row 7. Exports excluding projected grain exports. Row 1 minus row 3.

Row 8. Agricultural exports excluding projected grain exports. Row 2 minus row 3.

Row 11. Balance of trade excluding projected grain exports. Row 7

minus row 10.

Notes to Table XIII. 9

Explanatory Notes

\*"Secondary agricultural exports." See source note below.

\*\*"Secondary industrial exports." See source note below.

a) Data for actual exports in 1927/28 by commodity group and for total exports are from Vop. Torg. (May, 1929), p. 94 and from Kaufman-29a, and therefore differ slightly from totals cited in Table XIII. 4 and elsewhere in this study.

b) "Grains" includes grains, oil seed and oil cake, seeds, legumes, and bran, i. e., "grain and related products."

c) Flax, combed and tow, and flax waste. Does not include pressed flax.

d) Excluding canned fish, which is an "industrial export."

e) Izvestia (June 4, 1929) stated that the industrial exports in 1932/33 were to be 1,200 million rubles which is 185.5 million rubles higher than NKVT's estimate of 1014.5 million rubles submitted in March or April. It may be Gosplan's version of the plan or an upward revision of NKVT's plan; since it is 58.1% of total exports. It implies a total export of 2065 million rubles, which is only 18 million rubles higher; this could be explained by a lowering of agricultural export targets and/or a switch in the classification of certain goods (such as oil cake, flour).

Sources

Agricultural Exports. A. 1-4 and B. 1-3 from Vop. Torg. (May 1929) p. 94. A. 1a (Grain) from Table XIII. 8.

Flax (I. A. 1b) included flax, combed, and "tow," and "flax waste" but excluded other flax products, also denoted by "flax, combed" and also "flax, yarn." The second "flax, combed" is more processed and is classified under "industrial exports"; the first is crudely combed by the peasants (SUYB-30, pp. 306-311). The estimate for projected flax exports in 1932/33 was derived by multiplying the flax exports in 1927/28 (24.2 million rubles, according to SUYB-30, p. 306) by a ratio (2.739) of the projected Soviet market share in world flax exports in 1932/33 (40%) to the 1927/28 market share (14.6%), both cited in Kaufman-29a, p. 90. This gave us 66.3 million rubles. This estimate for projected flax exports was indirectly corroborated



by subtracting the sum of all the other commodities included under the "major crop" category from the total projected exports of major crops; the remainder thus would be the value of projected flax exports. All other commodities under major crops were estimated independently. And indeed, the remainder equals 66.5 million rubles almost identical to the estimate for flax exports based on the increase in market shares.

Data for bacon, eggs, and butter export in 1927/28 from VTSSSR-60.

"Secondary agricultural exports". Denoted by asterisk were obtained from the following: actual figures for 1927/28 from VTSSSR-60; projected figures for 1932/33, 2343 calculated by multiplying the structural coefficients for secondary agricultural exports cited in Vop. Torg. (May 1929) p. 94 by the total projected value of secondary agricultural exports (166.5 million rubles) cited in Kaufman-29a, p. 89. Since secondary agricultural exports in 1927/28 must have been 90 million rubles, the consistency of the data cited for the plan by Kaufman (op. cit.) and Vop. Torg. (op. cit.) was unexpectedly confirmed by summing the specifically denoted secondary agricultural exports for 1927/28 (from VTSSSR-60) and subtracting from the implied total of secondary agricultural exports in 1927/28 (90 million rubles) leaves a remainder of 19.9 million rubles; the projected residual "other" of secondary agricultural exports in 1932/33 was 40.0 million rubles. These two estimates are almost identical to the figures cited for the major subheading "Other agricultural exports" (Row A. 4 in our table), so that it is assumed that the category "other" under secondary agricultural exports is identical to the category "other" in the basic export groups. The other secondary exports are listed under the appropriate subheading.

Industrial Exports. Forest and mining, food industry, and other (B. 3) from Vop. Torg. (May 1929), p. 95. A plan for secondary industrial exports was published also in Vop. Torg. (May 1929), p. 95 which enabled us to calculate indirectly the value for several other commodities. The plan for secondary export is presented below:

	(millions of rubles)	
<u>Exports of the:</u>	<u>Actual</u> <u>1927/28</u>	<u>Planned</u> <u>1932/33</u>
Food processing industry (excluding sugar)	14.3	60.8
Mining industry (excluding oil and ores)	17.0	46.5
Chemical industry	21.4	70.5
Textile industry (excluding cloth)	13.5	40.5
Other industries	<u>28.2</u>	<u>45.6</u>
	94.4	263.8

Thus, we calculate planned sugar exports (B. 2a) as the difference between the planned export of the food processing industry with and without sugar. From Izvestia (June 4, 1929) we find that the oil seed pressing industry (B. 2b) and the canning industry (B. 2c) will export 24.4 and 25% of total processed food products in 1932/33. Other processed food exports (B. 2d) is a residual of total food product exports minus the above three. Figures for these industries for 1927/28 from SUYB-30. Mining - other (B. 1d), chemical industry, textiles (without cloth) and other miscellaneous are chemicals, and other miscellaneous from the group "Other" (B. 3) (which is made up of only those three industries). Value of lumber, oil, and ores in industrial exports was found by subtracting B. 1d from B. 1 (sum of forest and mining). B. 1d (other mining excluding oil and ores) was determined from the table above. A check of this data against trade statistic data indicates that the only ore excluded was manganese ore while the definition of forest exports excludes wood distillation products (which are chemical exports). (Checked against data in SUYB-30.)

Totals for FYP. Total exports, total agricultural and total industrial exports for FYP: Table XIII. 4. Total wood and oil exports for FYP: Kaufman-29a, p. 88 stated that total wood and oil exports would be 32.4% of total exports during the FYP. Total grain exports for FYP: Kaufman-29a, p. 88, "share of grain products will achieve 11.6% in total exports for the entire FYP."

Notes to Table XIII.10Total Imports. Table XIII. 4

A. Producers' Goods. SUA, Vol. VIII, No. 13 (1929), p. 30. Machinery for industry alone for the entire FYP will equal 1390 million rubles, while machinery for transportation, municipal and other non-industrial purposes will equal 394 million rubles. SUA, Vol. VIII, No. 13 (1929), pp. 33-34.

Kaufman-29b, p. 19, stated that agricultural producers' imports in 1932/33 would equal 173 million rubles and would total 622.3 million rubles for the FYP.

B. Consumer Goods. SUA, Vol. VIII, No. 13 (1929), p. 30.

C. Diverse Goods. SUA, Vol. VIII, No. 13 (1929), p. 30.

Notes to Table XIII. 11

Source. Table XIII. 4 and Gosplan-30b, pp. 230-233.

Notes to Table XIV. 1

Plan. Values from Table XIII. 8. Quantity estimate of grain exports in the optimal variant of the foreign trade plan from Kaufman-28f, p. 9.

Actual. Data for 1927/28 and 1930-34 from VTSSSR-60 and includes SOVTC 70 (grains), 58202 (bran, etc.) and 82 (flour and legumes). See Appendix A, Technical Note 6 for discussion of definition of grain products. Data for 1928/29 and 1929/30 from ERSU, Vol. VI, No. 3 (February 1, 1931), p. 56. Exports in 1928/29 were mostly legumes (Ibid.). Grain exports in 1930 were 4.86 million m. t. valued at 210 million rubles in 1927/28 prices.

The value in 1927/28 prices is very rough and based on values of Soviet grain exports in current prices deflated by a price index of 1927/28 = 100 constructed using 1926/27 quantity weights of Soviet grain exports.

Price index of Soviet grain exports. See Appendix F. Grains included in index listed in Notes to Table T-26, row 2, and used 1926/27 quantity weights.

Gross harvest. From Johnson-60, p. 231.

Notes to Table XIV. 2

Row 1. From Table XIII. 4. Figure for 1927/28 is actual imports.

Row 2. Figure for 1927/28 from Table T-5. Figure for 1928/29 from STAT-34, p. 381. Figure for 1929/30 from ERSU, Vol. VI, No. 3 (1931), p. 57. Sum of "Industrial, Agricultural and Automotive Equipment" minus all agricultural-related equipment plus manufactures of copper, iron and steel, wire and tin. (See Appendix A, Technical Note 4, for Soviet definition of "Machinery and Transport Equipment.") Value of machinery and transportation equipment import in 1930 was 440 million rubles according to STAT-36, p. 571. Figures for 1931, 1932, 1933 from STAT-36, p. 571.

Row 3. From Row 1. May also be interpreted as a volume index if the Soviet planners assumed little price change.

Row 4. From Row 2.

Row 5. Row 2 divided by Row 6.

Row 6. Price index of German industrial machinery excluding agricultural and automotive equipment, from STATJAHR.

Row 7. Value in Row 2 divided by total imports in their respective sources.

Notes to Table XIV. 3

Source. Based on Table A. 3a, III. 23, III. 24. Data for 1922/23 and 1923/24 in current prices are approximate.

Notes to Table XIV. 4

Source. See Appendix F for description of indexes and statistical methods.

Notes to Table XIV. 5

Source. See Appendix F for description of indexes and statistical methods.

Notes to Table XIV. 6

Source. See Appendix F for description of indexes and statistical methods.

Notes to Table XIV. 7

Source. See Appendix F for description of indexes and statistical methods.

Notes to Table XIV. 8

Source. Based on Tables XIV. 6 and XIV. 7. Export price indexes divided by import price indexes.

Notes to Table XIV. 9

Source. See Notes to Table T-26, Appendix C, p. 817.

Notes to Table XIV. 10

Source. See Notes to Table T-27 and Notes to Table T-18 for items included in each category. Statistical methods are discussed in Appendix F.

Notes to Table XIV. 11

Cotton Fiber. Data from Mishustin-38a, p. 202. Figures for 1924/25 - 1932 are identical to and presumably based on STAT-34, p. 136, Table 8. STAT-34 noted that 1) figures for consumption (of fiber) included consumption by all textile industry, 2) figures were based on shipments plus change in inventory (i. e., actual consumption rather than supply), 3) figures for consumption contained element of double-counting because of inter-plant shipments of cotton fiber and would therefore exceed factual consumption.

Mishustin's figures for imports differs from that series cited in VTSSSR-60, and does not include yarn or Soviet cotton fiber exports:

	Mishustin's Data	Gross Fiber Imports: VTSSSR-60		Net Fiber and Yarn Imports: VTSSSR-60
		Fiber	Yarn	Fiber and Yarn
1913	197.0	197.2	4.7	201.3
1923/24	-	100.3	0.1	160.4
1924/25	122.0	107.1	1.1	108.2
1925/26	102.6	103.2	7.7	100.8
1926/27	138.2	162.7	0.8	163.4
1927/28	145.0	145.2	0.3	145.5
1929	*126.8	*123.0	0.6	123.6
1930	* 62.7	57.9	0.5	48.0
1931	47.6	53.8	0.4	14.0
1932	21.0	24.3	-	6.4
1933	10.5	22.6	-	22.0
1934	24.0	24.9	-	17.9
1935	44.0	44.2	-	44.0
1936	15.0	16.7	-	16.6
1937		22.0	-	-19.6 (net exports)
1938		16.5	-	- 3.7 (net exports)

Paper and Cardboard. Share of imports of paper and paper produced with imported pulp, in total supply of paper (paper included both paper and cardboard. Imports of paper (SOVTC 506), cardboard (SOVTC 507) and industrial paper (SOVTC 508) from VTSSSR-60 except 1928/29 which is from SUYB-30, p. 335. Domestic output of paper and cardboard from Nutter-62, p. 426. Total supply of paper and cardboard is sum of import of paper, etc., plus domestic output.

Large quantities of wood pulp were imported into Russia and the USSR, so that the paper supply was more dependent on imports than indicated by only the imports of paper, etc. Imports of woodpulp and cellulose (SOVTC 505) from VTSSSR-60, except for 1928/29, which is from SUYB-30, p. 335. Domestic output of woodpulp and cellulose from NBER-56a, No.451.5 "All woodpulp." Total supply of woodpulp to domestic papermaking industry is sum of domestic output and imports, and we have assumed that the weight of paper produced from a unit of weight of cellulose and of woodpulp, imported or domestically produced, is identical, and that all woodpulp and cellulose was used by paper industry. "Cellulose" actually refers to "chemical woodpulp." Then, fraction of domestic paper, etc., produced from imported pulp was assumed to be the ratio of the weight of imported pulp to total supply of pulp. The weight of the domestic paper output produced with imported pulp was estimated by multiplying total domestic paper output by the fraction of imported pulp to total pulp.

The total supply of paper based directly or indirectly on imports equalled the sum of 1) imports of paper, etc., and 2) the domestic paper output produced with imported pulp. The fraction of the domestic paper supply dependent on imports was estimated by dividing the supply of paper based directly or indirectly on imports by the total supply of paper, etc.

Tanning Materials. Data cited in de Tchikatchef-55a, p. 126, from Soviet sources.

Wool. Net supply to state industry. Net imports of fiber and yarn plus state (planned procurements). Net imports of wool in fiber and yarn equal net imports (imports minus exports) of fiber (SOVTC 511) plus imports of yarn (SOVTC 514004) from VTSSSR-60. Planned procurements by the state agencies for 1926/27 and 1927/28 from SUYB-29 (p. 239). Data for state procurement for 1928 - 1938 from Nimitz-54, p. 35. Procurement data is in unwashed equivalents, import data in washed equivalents -- they differ by about 5%.

Copper. Imports as share of total supply of electrolytic copper to economy. Copper imports from VTSSSR-60 and include copper (SOVTC 27000) and rolled copper (SOVTC 27200). Imports do not include copper wire, etc. Output of blister copper from Nutter-62, p. 420 reduced 5% for loss in converting blister copper into electrolytic as estimated in Turgeon-53, p. 33.

Lead. Imports as share of total supply to economy. Total supply equal output plus imports. Imports of lead (SOVTC 27004) from VTSSSR-60. Output of lead from NBER-56a, No.209.1. Data for 1929 and 1930 interpolated and basis of data for 1928/29, 1929/30, 1931 in same series.

Zinc. Imports as share of total supply to economy. Total supply equals output plus imports. Imports of zinc (SOVTC 27003 and SOVTC 27206 rolled zinc) from VTSSSR-60; does not include zinc imported in galvanized objects, babbitt, paint, bronze, brass. Output of zinc from NBER-56a, No. 210. 1. Data for 1929 and 1930 interpolated on basis of data for 1928/29, 1929/30, 1931 in same series.

Nickel. Share of imports of unalloyed nickel to nickel supply in unalloyed form (i. e., excludes nickel imported in stainless steel and other alloys as well as nickel content of naturally alloyed ore used domestically. Imports from VTSSSR-60 include unworked nickel (SOVTC 27006) and rolled nickel (SOVTC 27208). Output from Shimkin-52, p. 74.

Tin Imports. VTSSSR-60. Includes only tin in raw form (SOVTC 27005) and does not include tin imports in other forms such as

tinplate, bronze, chemicals, etc.

Rolled Ferrous Metals. Imports of rolled steel and allied products (pipe, metal articles) as percent of total supply of total rolled steel and pipe and imported ferrous metal articles (metizy). Imports from VTSSSR-60 and include rolled steel (SOVTC 264), ferrous metal for further processing and quality steel (SOVTC 265), pipes and cylinders (SOVTC 266-267), and metal articles (metizy) (SOVTC 268-269). Output data from Gerschenkron-53a, p. 19, p. 31 and NBER-56a, No. 108. 1. Sum of "total rolled steel including forgings and pipe from ingot" and "cast iron pipe." Data for total rolled steel for 1929 and 1930 from STAT-60, p. 254; estimates for cast pipe in 1929 and 1930 roughly interpolated from data for 1928/29 and 1929/30.

Notes to Table XIV. 12

Source. See Notes to Table T-18, Appendix C.



## APPENDIX C

## NOTES TO TABLES IN TABULAR SECTION

Notes to Table T-1Actual foreign trade data

1922/23 and 1923/24. Kaufman-29d, p. 7. Estimates of trade in current prices based on revaluation of official data recorded in 1913 prices. See Appendix A, Technical Note 2, p. 710.

1924/25 - 1927/28. Export data from Table T-2. Import data from Table T-4.

Foreign trade plans

1922/23 Plan. See text, p. 181-182.

1923/24 Plan A. Export and import plan from a report made by Krasin in January, 1924, as cited in Krasin-28, pp. 141-142. Krasin stated that exports would be "greater than one-half billion rubles" and the import would be "hardly greater than 300-350 million rubles."

1923/24 Plan B. Export and import plan from Sobolev-26a, p. 72. Sobolev-26a (p. 66) reported that the original plan was confirmed on September 7, 1923, and that subsequent revisions were confirmed on February 15, 1924 and again on June 2, 1924.

1924/25 Plan A. Export and import plan from EIKSSSR, p. 45. No date was given, but apparently the date was September, 1924.

1924/25 Plan B. Export and import plan in final revised version from Sobolev-26a, p. 72. Sobolev-26a (p. 66) stated that the original plan was confirmed on September 29, 1924, the first revision was confirmed in March, 1925, and the final revision was confirmed on June 17, 1925.

1925/26 Plan A. Gosplan's original control figures for exports and assuming Plan B's figures for imports. Gosplan's estimates cited in EIKSSSR, p. 57.

1925/26 Plan B. Import and export plan cited in Rykov-26a, p. 9. These figures are probably the orientation figures presented by NKVT and confirmed on July 31, 1925 according to Sobolev-26a, p. 72. The figures cited by Rykov-26a (p. 9) are more or less confirmed by Sobolev-26a (p. 72), who described the export plan as being higher than one billion rubles and the import plan as being somewhat less (than one billion rubles?).

1925/26 Plan C. Import and export plan cited in EIKSSSR, p. 57. These estimates are significantly lower than the plans cited above and may be an intermediate revision made in the fall of 1925 before the January revisions discussed below. Sokolnikov still counted on a total export of the value of 800 million rubles at the end of November 1925 (as cited by Carr-58, p. 445 from G. Sokolnikov, Finansovaia Politika Revoliutsii, Vol. III (1928), p. 231).

1925/26 Plan D. Sobolev-26a, p. 73. This version is probably a preliminary estimate of the final revised plan adopted in January, 1926.

1925/26 Plan E. Sobolev-26b, p. 30. Also reported in Rykov-26a, p. 9 and Ekon. Zhisn', September 1, 1926, p. 1.

1926/27 Plan A. Sobolev-26b, p. 27, citing Gosplan-26 (original control figures for 1926/27). No page reference for Gosplan-26.

1926/27 Plan B. Gosplan's revised control figures for foreign trade cited Sobolev-26b, p. 32.

1926/27 Plan C. NKT's original plan as reported in Kaufman-26b (cited by Sobolev-26b, p. 32). The Commissariat of Finance projected even lower figures for exports (Sobolev-26b, p. 32).

1926/27 Plan D. NKT's final revised plan (?) reported by Baksht-27a, p. 43.

1927/28 Plan. Little is known about the 1927/28 foreign trade plan. These estimates are probably projections of imports and exports made some time after the beginning of the economic year. See text, pp. 396-398 for the basis of these rough estimates.

#### Notes to Table T-2

The basic source for Table T-2 was the reclassification of Soviet export data from VTSSSR-60 to make it conform more or less with the export classification during the 1920's as described in Appendix A, Technical Notes 4, Table A.4a. Since no data in current prices were

available for 1923/24, we have used the rough breakdown presented in Kutusov-28, p. 34; the structure of 1923/24 exports in 1913 prices is presented in an explanatory note below (Item 6 on p. 791.)

Commodities in VTSSSR-60 were classified according to the SOVTC system described in Appendix A, Technical Note 5, Table A.5. Thus, exports in VTSSSR-60 had to be reclassified into the following groups according to the distribution of commodities listed in the table below. The SOVTC numbers are listed after a short descriptive title of commodity groups.

Reclassification of VTSSSR-60 Data for Soviet Exports  
to Conform with Export Classification System Used During the 1920's<sup>a</sup>

## I. AGRICULTURAL EXPORTS<sup>b</sup>

### A. agricultural crops

grains 70	flax and hemp 51003, 004, 006,
oil seed 720	008, 013
legumes 821	tobacco 54
bran 581	other seeds 55
oil cake 580	herbs and medicinal crops 56
flour 820	

### B. animal products

butter 80100	animals not for food 60
animal lard and fats 80101	wool 511
milk products, other 802	silk 512
eggs 803	hides and skins (53-531) <sup>d</sup>
poultry, bacon, other	other inedible animal products
meats (800-80005) <sup>d</sup>	(59-591-592) <sup>d</sup>
animals for slaughter 71	

### C. fur and fish

fur 52	fish, non-canned (81-813-81500) <sup>d</sup>
--------	--

### D. agricultural - other

fats and oils, industrial 57	raw materials - edible other
tea 72103	726
spices 722	vegetables, not canned
	(83-834) <sup>d</sup>

## II. INDUSTRIAL

A. forestry

forest products 50

B. mining products

solid fuels 20

crude oil 21

oil products 22

metallic ores 24

non-metallic ores 25

C. food industry

corn starch 723

margarine 725

canned products 834, 80005,  
813, 81500

sugar, etc. 840

edible vegetable oils  
841, 842

processed fruit, etc. 843

alcoholic products 844

tobacco 846

flavoring and foodstuffs 847

D. other industries1. textile industry

cloth 90

clothing and linen 91

yarns 514

industrial textiles 592

cotton down 51001

rags 51014

2. metallurgical and metal-working

machinery 1

ferrous metals 26

non-ferrous metals 27

wire 29

3. chemical industry

chemicals 3

matches 98207

4. other

building materials 4

leather 53100, 53101

manufactures not elsewhere  
specified (9-90-91-98207)<sup>d</sup>


---

<sup>a</sup> See Table A.4a.

<sup>b</sup> Commodities listed in groups A-D make up "agricultural exports."

<sup>c</sup> Included SOVTC numbers 70, 581, 820, 821, and therefore included some manufactured macaroni products.

Table Notes (continued)

<sup>d</sup> Minus sign (-) indicates that the value was derived by subtracting selected commodities (identified by SOVTC number) from a more aggregate group of commodities.

The resulting reclassification fitted fairly well with the classification presented in Kutusov-28, pp. 317-319 (millions of rubles).

	1913	1923/24	1924/25	1925/26	1926/27
<u>Agricultural exports</u>					
VTSSSR-60 reclass'd	1114.5	250.7	338.1	430.6	476.8
Kutusov-28	1121.9	248.4	342.4	429.1	471.7
<u>Industrial exports</u>					
VTSSSR-60 reclass'd	391.4	120.9	220.7	246.1	302.6
Kutusov-28	384.0	120.8	216.2	247.5	298.8

The discrepancy in 1926/27 was due largely to the lower figure for total exports cited by Kutusov. The discrepancy between these series and the series cited in STAT-34 was due largely to the classification of flour, oil cake, and bran as "industrial exports."

Explanatory notes to Table T-2

Item a. Total exports from Table A-3a, col. 3, in Appendix A, Technical Note 3a, pp. 728 ff. except export figures in current prices for 1923/24, is from Kutusov-28, p. 34.

Item b. The classification of exports in 1923/24 is based on partial data in current prices available in Kutusov-28, p. 34. "Agricultural exports" and "industrial exports" are taken directly from Kutusov-28, p. 34. "Agricultural crops" is sum of khlebprodukt, len i kudel', and pen'ka i paklia. "Animal products" included maslo, iaitsa, shetina, and konvolos. "Fur and fish products" included only pushnina. There was a substantial sum included in "other" under agricultural products, which implied that the above three categories were understated. "Oil seed" included all seeds. "Mining products" included only oil products and manganese ore.

The data for 1923/24 in VTSSSR-60 were recorded only in 1913 prices, but were also reclassified according to the same system described above. The results of this reclassification are the following (in millions of rubles in 1913 prices and percentage of total exports):

<u>Total exports</u>	371.3	100%	<u>Industrial</u>	120.9	32.6%
<u>Agricultural</u>	250.7	67.5%	<u>exports</u>		
<u>exports</u>			Timber	48.3	13.0%
Crops	184.9	49.8%	Mining	52.8	14.2%
Animal products	39.5	10.6%	Food	4.7	1.3%
Fur and fish	25.4	6.8%	Textiles	2.4	0.6%
Other agricultural	0.9	0.0%			

Item c. "Grain products" included SOVTC numbers: 70, 820, 581 (essentially grains, flour, and bran). See Appendix A, Technical Note 6.

Item d. Raw furs from VTSSSR-60, SOVTC 520. Caviar from VTSSSR-60, SOVTC 81600, 81601.

Item e. "Industrial exports" shown in Table T-2 were calculated as a residual by subtracting "agricultural exports" from "total exports" and differ slightly from the value of exports.

#### Notes to Table T-3

Source: Data for the quantities of individual commodities exported were taken from VTSSSR-60. Entries for some commodities may include more than one SOVTC classification (for example, for flax), in which case, the SOVTC classifications included for any single commodity are listed in the table in Notes to Table T-2. "Grain products" included SOVTC numbers 70, 580, 820, and 821; data are from Table T-9.

#### Notes to Table T-4

Source: Based on Table T-2. See Notes to Table T-2 for meaning of brackets in series for 1923/24.

#### Notes to Table T-5

Source: All data from Kaufman-29a, p. 86, with the following exceptions. Figures for the following commodities were taken from VTSSSR-60 as identified by their SOVTC number: rubber (35000), fruit (83), cloth (90), non-ferrous metals for 1913 (27), grain products (70 plus 820 plus 821).

Explanatory note: See Table A.4b for detailed description of commodities classified under each heading.

Notes to Table T-6

Source: All data taken from VTSSSR-60. Each commodity is identified by the SOVTC number.

cotton, 51000	coal, 200
wool, 511	tractors and agricultural
hides, 530	machinery, 18
rubber, 35000	
non-ferrous metals, 27	
ferrous metals, 26	
paper, 506, 507, 508	tea, 72103
leather, 531	herring, 811022
	fruit, 83
	sugar, 84000
	grain products, 70, 820, 821
	cloth, 90

Notes to Table T-7

Source: Based on Table T-5.

Notes to Table T-8

Col. 1: Year of harvest.

Col. 2: Split-year refers to either the agricultural year running from July 1 to June 30th, or economic year running from October 1 to September 30th, as may be indicated in the column.

Col. 3: Gross harvest: figures for Sov. Terr. 1909-1930 from Diamond-55, pp. 27-30, which cited Gosplan-29a, p. 414 for adjusted pre-1914 production figures. Pre-revolutionary production figures were adjusted upward by 19% for a 9% underestimate in acreage and a 9% underestimate in grain yields. See Diamond-55, p 4 and Jasny-49, pp. 725-726. Diamond-55 took data for 1922-1930 from STAT-35, p. 301 and STAT-36, p. 343.

Col. 4: Net harvest: Johnson-60, p. 234. Net harvest is basically gross harvest minus grain required for seed and feed.

Col. 5: Estimates for all years except 1923/24 based on estimated share of planned agencies in total grain purchases and data for grain procurements cited in Timoshenko-32, p. 464, where he compares these figures to Gosplan's estimates of grain delivery to cities:

Timoshenko Data (millions of metric tons)				
	Procurements by planned a- gencies as fraction total marketings	Procure- ment by planned agencies	Derived estimate for total marketing	Gosplan's estimates of deliveries to cities
1924/25	55%	4.6	8.0	.
1925/26	65%	8.4	12.2	9.4
1926/27	75-80%	10.8	13.4-13.9	9.8
1927/28	85%	10.3	12.2	8.3
1928/29	.	.	10.8	8.3

Data for 1923/24 from Balaban-28, p. 211. Balaban's figures for 1924/25 are similar but slightly higher than those derived from Timoshenko's data. Balaban's cited purchases by planned agencies at 4.6 million tons, and total grain marketing by peasants at 8.68 million tons, purchases by planned agencies comprised 53% of the crop.

Col. 6: Data for 1922/23 - 1927/28 from Timoshenko-32, pp. 462-463, 550, 551. Figures for 1922/23 and 1923/24 included payments of taxes in kind. Data for 1924/25 - 1927/28 were adjusted to include organizations, which were later added to list of planned grain procurement agencies. Data for 1928/29 were summed from quarterly data in Table T-10.

Col. 7: Exports of grain products in agricultural year. Figure for 1924/25 from Balaban-28, p. 213. Oil seed and oil cake exports were 492,000 m.t. in 1924/25. Figures for 1925/26 were from Balaban-28, p. 216. Oil seed and oil cake were 619,000 m.t. in 1925/26. Figures for 1926/27 from Kovner-27a, p. 7.

"Export of grain and related products" in agricultural years were 2,985,200 m.t. in 1923/24 (AY), 885,300 m.t. in 1924/25 (AY), 2,643,000 m.t. in 1925/26 (AY), and 3,068,000 m.t. in 1926/27 (AY). Data were from Kutusov-28, p. 65.



Col. 8: Sum of quarterly data from Table T-10. Similar data cited for 1924/25 and 1925/26 from SUA, Vol. V, No. 22 (1926), p. 9, for 1926/27 to 1928/29 from SUYB-30, p. 269.

Col. 9: Figures for 1913, 1922/23 - 1927/28, 1929, 1930 from VTSSSR-60. Sum of SOVTC 70, 581, 82. Figure for 1909-1913 from Table III.4.

Notes to Table T-9

<u>Years 1914, 1922/23 to 1927/28</u>			Figures from VTSSSR-60		
Row	Item	SOVTC	Row	Item	SOVTC
1	grain	70	8	from row 1	
3	wheat	70000	9	bran	581
4	rye	70001	10	other(flour)	820
5	barley	70002	11	sum of rows 12-14	
6	oats	70003	12	from row 7	
7	sum of rows 8-10		13	oil seed	720
			14	oil cake	580

See Appendix A, Technical Note 6 for definition of grain, grain products and grain and related products.

Year 1909-1913 figures from Table III.4.

Notes to Table T-10

Col. 1: Data for third quarter 1925 to second quarter 1927 from Kovner-27a, p. 7.

Col. 2: Data for fourth quarter 1923 to third quarter 1925 from Kutusov-28, p. 40.

Cols. 3-5: Data for 1924-3 to 1928-2 from Timoshenko-32, p. 551, and are adjusted for changes in the definition "planned organization." Data for 1928-3 to 1929-4 from SUYB-30, p. 271, under "Purchases of grain products by principal planning and purchasing organizations." For overlapping dates these data coincided closely with data cited by Timoshenko.

Cols. 6-7: Data for third quarter 1925 to third quarter 1926 from Vinogradski-27, p. 10, and SUA, Vol. VI, No. 9 (1927), p. 34. Second quarter estimated by subtracting from totals. Data for fourth quarter 1926 to fourth quarter 1929 from SUYB-30, p. 271.

Notes to Table T-11

Actual exports

1909-13 yearly average. Data for value and quantity for Russia from Vissarionov-28 (see Table III.2 and III.4). Data for Soviet territory from Table III.23. See Appendix A, Technical Note 6 for definition of "grain products" and "grain and related products."

1913, 1923/24 - 1927/28. All data from VTSSSR-60. "Grain products" included SOVTC classifications 70, 581, 820, 821. "Grain and related products" included "grain products," oil cake (SOVTC 580) and oil seed (SOVTC 720). Values in current prices for 1923/24 are from Kutusov-28, p. 34.

Planned exports

1924/25. Table VII-1 (for European borders only).

1925/26. See text, p. 263 and Table VIII.1.

1926/27. Table IX.1.

Notes to Table T-12

Col. 2: Data for 1913-1930 from Table T-8. Data for 1931-38 from Johnson-60, p. 231.

Col. 3: Index based on "1913 equals 100" for data in col. 1.

Col. 4: Data for 1913, 1925-1928 from Table T-48, Part A. Data for 1929-1938 are estimates by Eason-63 (pp. 72-73), which are presented in Part B of Table T-48.

Col. 5: Index based on "1913 equals 100" for data in col. 4.

Col. 6: Col. 1 divided by col. 4.

Col. 7: Index based on "1913 equals 100" for data in col. 6.

Explanatory Note: Timoshenko-32 (p. 411) cited a similar series based on Gosplan-29a (pp. 408-412) and Gosplan's Control Figures for 1929/30.

	<u>Harvest</u>		<u>Population</u>	<u>Per Capita Harvest</u>	
	million m. t.	1913=100	millions	kilograms	1913=100
1913	81.6	100.0	140.0	584.1	100.0
1925	74.7	91.3	144.5	518.5	88.8
1926	78.4	96.0	147.9	532.3	91.1
1927	73.6	90.2	151.3	489.6	83.8
1928	72.7	89.1	154.8	469.4	80.4

Notes to Table T-13

1909-13. Foreign trade of Russian Empire in current prices and 1913 prices assumed to be identical. Annual average exports for 1909-13 from Vissarionov-28, pp. 494-497. Annual average imports from Prozorovskii in Varga-32, p. 129.

1909-13. Exports from Soviet territory in 1909-13 from III. 23.

1913 Foreign trade of Russia. Data from VTSSSR-60 excluding platinum exports. See Appendix A, Technical Note C.

1913 Foreign trade of Russia in 1913 from future Soviet territory of 1925. Estimates of foreign trade in 1913 from III. 24. Assumed all platinum exports from Soviet territory. For other estimates, see League-28, p. 684.

In current prices

1922/23 and 1923/24. Estimates from Kaufman-29d, p. 7.

1924/25 - 1927/28. VTSSSR-60, adjusted to exclude platinum exports. See Appendix A, Technical Notes 2 and 3.

1928/29. League-32b, p. 259.

In constant prices

1922/23 (European borders) and 1923/24 - 25/26. Data from League-28a, p. 694.

1926/27 - 1928/29. Data from SUYB-30, p. 286.

Notes to Table T-14

Row 1. Imports of merchandise, c. i. f. Official data for 1924/25-1927/28 are from column 4 of Table A. 3a. Official data for 1928/29-1930/31 are based on quarterly data in Table A. 1b. The import data are identical to the import data cited in Shenkman-32a, p. 539.

Row 2-6. Data from Shenkman-32a, p. 539.

Row 7-8. Data from Shenkman-32a, p. 553.

Row 9. Total debit items on current account. Sum of rows 1 through 8.

Row 10. Exports of merchandise, f. o. b. Official data for 1924/25-1927/28 from column 3 of Table A. 3a. Official data for 1928/29-1930/31 are based on quarterly data in Table A. 1b. These export figures are based on official data and are not revised downward for possible over-valuation which might have been caused by exports of commodities to warehouses abroad. Shenkman-32a (pp. 536-538) and Birmingham-32a (pp. 2-3, 18) considered the official valuation of Soviet exports to be too high because large quantities of goods were shipped abroad unsold and then sold at lower prices than recorded on the export invoice. (Appendix A, Technical Note 2 (pp. 710 ff. ) discussed the problem of valuing exports which were warehoused abroad.) Shenkman-32 and Birmingham-32a therefore revalued Soviet exports (according to a procedure described in Birmingham-32a, p. 18); these estimates are compared with the official data below. Both sets of data are from Birmingham-32a (p. 3).

Soviet Exports  
(millions rubles)

	24/25	<u>24/25</u>	<u>25/26</u>	<u>26/27</u>	<u>27/28</u>	<u>28/29</u>	<u>29/30</u>	<u>30/31</u>
Revised data	530	530	650	735	743	840	965	836
Official data	559	559	677	780	778	878	1002	890
Difference	-29	-29	-27	-45	-35	-38	-37	-54

In estimating the Soviet balance of payments, Shenkman-32a (p. 539) and Birmingham-32a (p. 5) used these revised (lower) export data, so that their estimates of the Soviet balance of trade and Soviet balance on current account would show larger deficits (smaller surpluses) than indicated in Rows 15 and 16 of Table T-14. These differences are illustrated below:

Balance of Trade (Surplus +, Deficit - )  
(millions of rubles)

	1924/25	25/26	26/27	27/28	28/29	29/30	30/31
Table T-14 <sup>a</sup>	-165	- 79	+66	-168	+42	- 66	-154
Shenkman-32a <sup>b</sup>	-194	-106	+21	-203	+ 4	-103	-208

Balance on Current Account (Surplus +, Deficit - )  
(millions of rubles)

	1924/25	25/26	26/27	27/28	28/29	29/30	30/31
Table T-14 <sup>c</sup>	-195	-138	- 5	-247	-53	-195	-299
Shenkman-32 <sup>d</sup>	-224	-165	-50	-282	-91	-232	-353

<sup>a</sup> Row 15 of Table T-14.

<sup>b</sup> "Revidierte Zahlen, Warenausfuhr" minus "Wareneinfuhr" in Shenkman-32a, p. 539.

<sup>c</sup> Row 16 of Table T-14.

<sup>d</sup> Row 16 of Table T-14 plus difference between "official data" and "Shenkman's revised data" for Soviet exports as shown above.

Thus, the estimates of the balance of trade and balance of payments in Table T-14 are conservative compared to Birmingham-32a and Shenkman-32a. Our estimates also omitted "smuggled exports" because the receipts were not accessible to the official authorities for making international payments; smuggled imports are included in our accounts because of the net expenditure of foreign exchange (especially in the mid-1920's) to support the exchange-rate of the ruble on domestic and foreign markets.

Row 11-13. From Birmingham-32a, p. 13, items II. 3, II. 4, and III.

Row 14. Total credit items on current account sum of rows 10 through 13.

Row 15. Balance of trade. Row 10 minus row 1.

Row 16. Balance of current accounts. Row 14 minus row 9.

Row 17. Net change in outstanding Soviet foreign debt from October 1 to September 30 (increases in foreign debt are a credit [+]). Birmingham-32a, p. 13, item II.1 under "Incomes".

Row 18. Balance of net capital flow and current accounts. Row 16 plus row 17.

Row 19. Increase in foreign currency reserves. Birmingham-32a, p. 13.

Row 20. Decrease in foreign currency reserves. Birmingham-32a, p. 13.

Row 21. Precious metal imports including silver and gold (debit [-]). Birmingham-32a, p. 13. See also Table T-16 and Appendix D.

Row 22. Precious metal exports including gold, platinum, and silver (credit [+]). Birmingham-32a, p. 13. See also Table T-16 and Appendix D.

Row 23. Net precious metal movement. Net exports are denoted by a plus sign (+). Sum of rows 21 and 22.

Row 24. Net balance of precious metal movement and changes in Soviet foreign currency reserves. Sum of rows 19, 20 and 23. These figures represent the net expenditure of foreign reserve holdings to cover that portion of the deficit on current account, which was not financed by increases in Soviet foreign debt (as indicated in Row 18).

Row 25. "Statistical discrepancy." Sum of row 18 and row 24. This item is analogous to the item IV. "Items not accounted for under above headings" in Birmingham-32a, p. 13, and to "Sonstige Posten" in Shenkman-32a, p. 553. The differences between these estimates and the "Statistical Discrepancy" listed in Row 25 of Table T-14 are accounted for by the different (official) export figures used for Table T-14 and by the omission of "smuggled exports."

#### Notes to Table T-15

Shenkman Data. All data from Shenkman-32a, p. 547.

Real Debt. "Real debt" referred to 1) acceptance and other bank credits for import financing (for imports already delivered) including credits granted to the Soviet "Cooperative Wholesale Society" and to Soviet banks in foreign countries, 2) bank and broker's advances for exports, and 3) bills drawn by foreign suppliers of imports (for imports already delivered).

Contingent liabilities. "Contingent liabilities" referred to 1) credits extended to the USSR and secured by commodities warehoused abroad, 2) liabilities incurred in connection with orders placed but not delivered.

The implied difference between "real debt" and contingent debt" is that increases in "real debt" reflected a capital movement to cover a balance of payments deficit (estimated in the traditional manner) while contingent liability reflects 1) credits extended against Soviet commodities already exported (and, hence, cannot be considered available to finance the balance-of-payments deficit, and 2) credits granted to the Soviet importers, for commodities and machinery on order but not delivered. In fact, however, if such credits against goods were not received, and foreign firms required a deposit for goods "on order," the pressure on the Soviet balance of payment would be even worse than indicated in Table T-14.

Soviet estimates of Soviet foreign debt

January 1, 1932. Rozengolz-35a, p. 9.

January 1, 1933. ARCC-36, p. 343.

February 1935. New York Times, February 21, 1935.

October 1, 1935. Rozengolz-35a, p. 9.

November 1, 1935. Rozengolz-36a.

July 1, 1936. Rozengolz-36a.

Notes to Table T-16

Part A. Appendix D, Table D. 8, pp. 851 ff.

Part B. Appendix D, Table D. 9, pp. 852ff.

Notes to Table T-17

See Notes to Table E. 3, pp. 869 ff.

Notes to Table T-18

Col. 1: Soviet definition of consumer goods imports. From Table T-5. Figures for 1913 included "other" which probably consisted of unallocated consumer goods. Consumers' goods imports alone equalled 392.0 million rubles and 28.5% of total imports in 1913.

Col. 2: Commodities imported for consumption without any or little additional processing. This category included the following commodities identified by SOVTC number (all data from VTSSSR-60).

54 tobacco	92 haberdashery
70 grain	93 footwear
71 livestock for slaughter	94 housewares
72 other edible vegetable prod. (tea)	95 furniture
8 foodstuffs	96 medicines
90 cloth	97 appliances (except 971, electric lamps)
91 clothing	98 miscellaneous consumer goods

Col. 3: Imports of commodities for direct consumption (col. 2) plus raw and semi-processed materials used to produce manufactured consumer goods.

510 natural crop fibers	53 hides, skins and leather
511 wool	310 dyestuffs
512 silk	312 tanning materials
514 thread, yarn, etc.	313 tanning extracts

Col. 4: Imports of commodities for direct consumption and imports of raw materials and semi-processed materials for manufactured goods (col. 3) plus paper and related products.

505 pulp	507 cardboard
506 paper	508 other paper products

Col. 5: Above listed imports for consumption (col. 4) plus other raw material which are used to produce consumer goods.

560 natural aromatic prin- ciples	571 fish oil
561 artificial aromatic principles	590 bristles, animal hair, etc.
563 medicinal raw materials	307 intermediate products for aniline dye industry
570 animal fats, industrial (soap)	23 photographic materials



Col. 6: Above list imports (col. 5) plus rubber (SOVTC 35000) and aluminum (SOVTC 27007) which were used extensively for producing consumers' goods in 1913 and during the NEP. See Marbury-55, p. 31 and Zec-55, p. 72 for uses of rubber and aluminum for producing consumers' goods.

#### Notes to Table T-19

Soviet exports during NEP have been reclassified into more precisely defined "producing sectors" to aid in analyzing the problems of restoring Soviet exports to pre-1914 levels. The Soviet definition of agricultural exports was peculiar in that it included fur and fish exports and excluded sugar and vegetable oil and (at various times) flour, bran, and oil cake.

Col. 1: Agricultural exports and exports of products produced directly from agricultural produce. The definition of "agricultural exports" is based on the Soviet definition of "agricultural exports" (as described in Table A. 4a in Technical Note 4 of Appendix A) with the following exceptions. Fur (SOVTC 52) and fish (SOVTC 81) exports were excluded and exports of sugar (SOVTC 84000-001), vegetable oil (SOVTC 841), flour (SOVTC 820), bran (SOVTC 581) and oil cake (SOVTC 580) were included. The last three items were also included in the data for "agricultural exports" in Table T-2. The data for col. 1 is based on the data for agricultural exports in Table T-2 minus SOVTC 52 and 81 and plus SOVTC 84000-001 and 841.

Col. 2: Fur and fish. From VTSSSR-60 and included SOVTC 52 (Furs) and SOVTC 81 (Fish).

Col. 3: Timber and mining products. Figures from Table T-2.

Col. 4: Miscellaneous industrial products (includes cloth, machines, chemicals). Col. 5 minus sum of col. 1, col. 2, and col. 3.

Col. 5: Total exports. From Table T-2.

#### Notes to Table T-20

General comments. This table, unless otherwise specified, shows

gross exports of selected products as a % of gross output marketing or "procurements by centrally controlled planned procurement agencies (during the NEP)." Percentages, unless otherwise specified, were calculated on the basis of annual averages for 1909-13, the calendar year 1913, and the economic years 1924/25-1927/28. Economic years are denoted by EY and agricultural years, when used as the basis of calculation, are denoted by AY.

Basic source for export-output ratios. Unless otherwise noted in notes for individual products, data for 1909-1913, 1924/25, 1925/26, 1926/27 from M. Kaufman, "Eksport i narodnoe khoiaistvo," Voprosy Torgovli No. 1, 1928 as cited in Mikoain-28a, p. 19 and is cited elsewhere in this study as Kaufman-28f. Some of Kaufman-28f's yearly average export data do not coincide with the averages calculated from Vissarionov-28. It is not known if these ratios refer to Russia or to Soviet territory of Russia in 1909-13 and 1913.

#### Grain products

Row 1. Exports of grain products as % of gross harvest in economic year. Data based on rows 1 and 6 of Table T-51.

Row 2. Exports of grain products as % of "total marketing" in agricultural year. Data based on rows 2 and 5 of Table T-51. Page 265, n. 50 discusses concept of gross, total and net marketing. No data is available for pre-1914 period. See Table III.5 for exports as fraction of "shipments on domestic transportation."

Row 3. Exports of grain products as % of "procurements by planned agencies," in agricultural year. Data based on rows 3 and 5 of Table T-51. No data available for 1909-13, 1913, 1927/28.

Row 4. Exports of grain products as % of "procurements by planned agencies" in economic year. Data based on rows 4 and 6 of Table T-51.

#### Wheat

Row 5. Gross exports as % of gross output. Data based on rows 7 and 9 of Table T-51. Figure for 1909-13 for Russian Empire. Mishustin-38b (p. 94) cited 17.4% for 1909-13. Figure for 1913 based on output of Soviet territory and exports of Russian Empire and would normally tend to overstate the export-output ratio; recall that the separated territories were probably large net importers of wheat from the rest of Russia.

Row 6. Net exports as % of gross output. Data based on row 7

divided into the remainder of row 9 minus row 10 in Table T-51. See comments for Row 5.

Row 7. Net exports as % of "procurements by centrally planned agencies." Data from row 8 and the remainder of row 9 minus row 10 in Table T-51. No comparable data exists for pre-1914 years. Gross exports of wheat as a % of shipments of wheat on domestic transport was 34.5% in 1909-13 (Table III. 5). A minus sign indicates net imports and is imports as a percentage of the procurements by centrally planned agencies.

### Rye

Row 8. Gross exports as % of gross output. Data for 1909-13 and 1924/25-1926/27 from Kaufman-28f. Mishustin-38b (p. 94) cited 2.8% for 1909-13. Figure for 1913 compared rye exports from Russian Empire to output of Soviet territory; the separated territories were large exporters of rye. Data for 1913 and 1927/28 are based on rows 11 and 13 of Table T-51.

Row 9. Gross exports as % of procurements. Gross exports as % of shipments of rye on domestic transport was 18.2% during 1909-13 (Table III. 5). Percentages for 1924/25 are based on rows 12 and 13 of Table T-51.

### Barley

Row 10. Gross exports as % of gross output. Data for 1909-13 and 1924/25-1926/27 from Kaufman-28f. Mishustin-38b (p. 94) cited a figure of 34.0% for 1909-13. Data for 1913 and 1927/28 based on rows 14 and 16 of Table T-51. Figure for 1913 compared barley exports from Russian Empire to output of Soviet territory; the separated territories were significant producers and exports of barley (Groman-28a).

Row 11. Gross exports as % of procurements. Percentages for 1924/25-1927/28 are based on rows 15 and 16 of Table T-51. Gross exports of barley exceeded shipments of barley on domestic transport during 1909-13 (Table III. 5).

### Corn

Row 12. Gross export as a % of gross output. Data from Kaufman-28f. Mishustin-38b (p. 94) cited a figure of 48.3% for 1909-13. Figure for 1913 and 1927/28 based on data from Diamond-55 (p. 62) and VTSSSR-60 (figure for 1913 compared exports of Russian Empire to output of Soviet territory).

Oats

Row 13. Gross exports as % of gross output. Data from Kaufman-28f. Mishustin-38b (p. 94) cited a figure of 6.7% for 1909-13. Figures for 1913 and 1927/28 based on data from Diamond-55 (p. 57) and VTSSSR-60 (figure for 1913 compared exports of Russian Empire to output of Soviet territory).

Oil seed

Row 14. Exports of oil seed as a % of gross output. Data from Kaufman-28f. Definition of "oil seed" not given.

Row 15. Export of all oil seed products including oil seed, oil cake, and vegetable oil as % of gross output. Data from rows 17 and 20 of Table T-51. EIKSSSR (pp. 337-343) cited 67% and 70% as share of exports of oil seed and oil cake in total output of flax seed and sunflower seed in 1912.

Row 16. Export of all oil seed products including oil seed, oil cake and vegetable oil as % of procurements. Data from rows 18 and 20 of Table T-51.

Flax

Row 17. Export of flax fiber and combing as % of output. Data from Kaufman-28f. Kaufman's data for share of flax crop exported (80.5% during 1909-13) differed from an estimate of 67.4% based on data cited in EIKSSSR (p. 221), which stated that average annual output was 419,200 m. t. and average annual exports were 282,800 m. t. during 1909-13. Pasvolsky-24 (p. 98) cited pre-1914 flax exports about 1/3 - 1/2 of crop.

Row 18. Exports of flax fiber as % of gross output. Data from rows 21 and 23 of Table T-51.

Row 19. Exports of all flax product including fiber, tow, combings, yarn and cloth as a % of gross output. Data from row 21 and row 24 of Table T-51.

Row 20. Exports of all flax products including fiber, tow, combings, yarn and cloth as a % of procurements by planned agencies. Figure for 1909-13 for Soviet territory based on "marketing" and export data cited in Mikoian-28a (p. 17); data are only for len (flax) and do not include kudel (combings).

Eggs

Row 21. Exports as % of output. Figures for 1909-13 and 1924/25-

1926/27 from Kaufman-28f. Data for 1913 and 1927/28 based on net output figures of eggs in billions cited in Johnson-60 (p. 235) in calendar year and export of eggs in weight from VTSSSR-60, converted into billions (number) of eggs by the coefficient, 1 m. t. of eggs equals 14,400 eggs (cited in SUA, Vol. IX, No. 3/4 (1930), p. 58). Figure for 1913 for Russia. Other estimate calculated by the same method are 8.0% for 1924/25, 6.2% for 1925/26, 9.2% for 1926/27.

Row 22. Exports as % of procurements. Data from rows 26 and 27 of Table T-51.

### Butter

Row 23. Exports as % of factory output (does not include output of small factories or individual peasants). Data from rows 28 and 31 of Table T-51.

Row 24. Exports as % of marketing. Data from rows 29 and 31 of Table T-51.

Row 25. Exports as % of procurements by state and cooperative agencies. Data from rows 30 and 31 of Table T-51.

### Hemp

Row 26. Exports as % of output. Data from Kaufman-28f.

### Timber

Row 27. Exports in cubic meters as % of "industrial timber hauled in cubic meters." Figure for 1909-13 is from a different source than the other figures in row 27; the figure of 25% for 1909-13 was cited in Pasvolsky-24 (p. 100) from H. Kasperowicz, Forestry: Russia, its Trade and Commerce (in Russian?), 1918.

### Method and sources of estimates of exports and output (industrial timber hauled) in units of "solid cubic meters."

Output. Output of industrial timber (excluding firewood) is reported in cubic meters (m<sup>3</sup>). A series for "industrial timber hauled from State Forest Reserve" was used as our basic time series (NBER-56a, Series 701.1) which is identical to the data for "Hauling of Timber, Commercial Timber (mill. solid cubic meters)" in STAT-60, p. 312. Thus we presume that the adjustment of volume for airspaces and stacking of round logs had been made.

Exports. Exports of all types of wood were reported by weight. Some

series were also reported on the basis of volume (cubic meters). The relationship of volume to weight for all forms of soft wood (based on data in 1930-1934 in VTSSSR-60, p. 139) was 1.667 cubic meters per metric ton ( $m^3/m.t.$ ). For sawn hardwood it was 1.243  $m^3/m.t.$  in 1926/27, 1.255  $m^3/m.t.$  in 1927/28, 1.267  $m^3/m.t.$  in 1932, 1.249  $m^3/m.t.$  in 1933, 1.247  $m^3/m.t.$  in 1934. We have used 1.24 as the coefficient for converting sawn hardwood into cubic meters.

Plywood was about 1.43  $m^3/m.t.$  for glued plywood for the years 1930-1934. We assumed that veneer (SOVTC 502) was made from softwood and staves and other wood products (SOVTC 503) were made from hardwoods. A problem in comparing the output of "industrial timber hauled" and export of timber products is that the production of sawn wood and wood articles resulted in the loss of some part of the timber. "The conversion rate from saw logs to sawn wood is assumed to have been 1.55 to 1 in all years" (Powell-59, p. 29). We use the same ratio here to convert sawn wood and all wood products such as veneer, plywood, and staves into saw log equivalents.

Roundwood. SOVTC 500. We assumed that all roundwood was soft wood. By the conversion coefficient we know that most was soft wood.

Sawn wood. Export data were given in thousands of cubic feet for all categories (SOVTC 50100, 50101, 50102-07 and 50108 [boxes]). Sum of SOVTC 50100, 50101, 50102-07, and 50108, were converted to round wood equivalents by coefficient 1.55 (see above).

Plywood. Export data (SOVTC 502) for plywood were given by weight and were assumed to be all soft wood. They were converted to cubic meters by the coefficient 1.43 and to round wood equivalents by the coefficient 1.55. See above for sources.

Other wood articles for productive purposes (excludes paper and pulp). Articles in this category (SOVTC 503) are usually made from hard woods (barrel staves, bobbins, etc.); the export data were converted to cubic meters by coefficient 1.25 and to round wood equivalents by coefficient 1.55.

The sum of timber exports converted to solid cubic meters of round wood were divided by the figures for "industrial timber hauled."

Row 28. Exports of sawn timber as a % of sawn timber output. Output data are for "large-scale industry; figure for 1913 is from NBER-56a, Series 703.1 and is for Soviet territory of 1925. Data for 1924/25-1927/28 are from SUYB-29, p. 149 and are the sum of the output of "sawn timber" and "sawn wood" by State trusts; these figures approximate the figures for large-scale industry cited in NBER-56a, Series 703.1. Output data for 1913, 1924/25-1927/28 (in millions of cubic meters) were 11.9, 7.40, 9.77, 10.89, 13.07 (all for Soviet territory).

Gross exports of sawn timber in millions of cubic meters were 3.44 in 1913 (Russian Empire), 0.91 in 1924/25, 0.84 in 1925/26, 1.23 in 1926/27 and 1.33 in 1927/28 (VTSSSR-66, SOVTC 501). Mishustin-38b (p. 94) cited an export-output ratio of 30.2% for 1913.

#### Plywood

Row 29. Exports as % of output of large-scale factory output. Exports of plywood (SOVTC 502) from VTSSSR-60 were converted into cubic meters by 1.43 (see notes to row 27 of this table) which implicitly assumed that plywood and veneer were soft wood. Output in cubic meters from NBER-56a, Series 702.1, col. 5.

#### Oil Products

Row 30. Export as a % of output ratios. The data for export-output ratios were incorrect as cited in Kaufman-28f if they were based on weight as cited: they were recalculated using Kaufman's data for exports and for output.

Row 31. Gross oil product exports as a % of crude oil output. Gross oil product exports (SOVTC 21 and 22) from VTSSSR-60. Output data for crude oil for 1913 from ST, Vol. II, No. 43 (1927), p. 60. Output data for crude oil for 1923/24-1927/28 from SUYB-30, p. 147.

Row 32. Exports of gasoline and naphtha as % of output. Figure for 1913 from Mishustin-38b (p. 94). Export data for 1925/26-1927/28 is from VTSSSR-60 (SOVTC 220). Output data for 1925/26, 1926/27 for three major trusts from ERSU Vol. III, No. 14-15 (August 1, 1928), p. 259. Output figure for 1927/28 from Gerschenkron-52, p. 8.

Row 33. Exports of kerosene as % of output. See notes to row 32 for source of output data. Export data from VTSSSR-60 (SOVTC 223). Figure for 1913 from Mishustin-38b (p. 94).

#### Manganese ore

Row 34. Exports as % of output. Data for 1913, 1924/25-1927/28 from VTSSSR-60 (SOVTC 24001) and NBER-56a, Series 212.3. Kaufman-28f's data for 1924/25-1926/27 were similar: 84.1%, 69.4%, 94.0%. Figure 1909-13 from Kaufman-28f.

#### Iron ore

Row 35. Net exports as % of output. Output data from NBER-56a, Series 101.3. Export data from VTSSSR-60 (SOVTC 24000).

Chromite Ore

Row 36. Gross exports as % of output. Output data from NBER-56a, Series 602.3. Export data from VTSSSR-60.

Zinc-Lead Ore

Row 37. Gross exports as % of output. Output data from NBER-56a, Series 211.6. Export data from VTSSSR-60 (SOVTC 24101 and 241071).

Asbestos

Row 38. Gross exports as % of output. Figures for 1909-13 from data of 15,840 m. t. average yearly production during 1909-13 and average annual exports of 11,319 m. t. during 1909-13 (EIKSSSR, p. 323). Figures for 1913, 1924/25-1927/28 based on output data from NBER-56a, Series 731.3 and export data from VTSSSR-60 (SOVTC 250001).

Coal

Row 39. Net exports as % of output or net imports as % of total supply. Output data from NBER-56a, Series 303.1. Net export or net import data is sum of SOVTC 20000, 20001, 201, 20002 for imports (-) and exports (+) from VTSSSR-60. The relevant figure for 1913 is in question. Should the large net coal imports (largely for the Baltic region) be compared to output of Russian Empire or Soviet territory of 1925? Output in 1913 was (in millions of m. t.) 36.0 for Russian Empire and 28.0 for Soviet territory. Net imports into "Russian Empire" were 8.6 million m. t. in 1913; the corresponding ratios of net imports as a % of total supply was 19.3% (Russian Empire) and 23.6% (Soviet territory).

Sugar

Row 40. Gross exports as a fraction of output. Figure for 1913 from Mishustin-38b (p. 94), possibly only for Soviet territory. Figures for 1909-13, 1924/25-1927/28 from Kaufman-28f.

Row 41. Net exports as % of output or net imports as % of total supply. Export and import data from VTSSSR-60 (SOVTC 84000 and 84001). Figures for granulated sugar output from NBER-56a, Series 1116.1. Note that there were net sugar imports in 1924/25.

Cotton Cloth

Row 42. Net exports as % of output or net imports as % of total supply. Figure for 1913 from Mishustin-38b (p. 94) possibly only for Soviet territory. Figures for 1924/25-1927/28 based on output data from



NBER-56a, Series 1205.1 for "large-scale industry" (in millions of meters): 2,224 (Soviet territory) and 2,667 (Russian Empire) in 1913, 1,524 in 1924/25, 2,065 in 1925/26, 2,370 in 1926/27 and 2,607. Net exports or imports are the difference between exports and imports of cotton cloth (SOVTC 900 in VTSSSR-60). Meters of cotton cloth exports in 1913 measurement was based on conversion coefficients of one m. t. equal to 10,000 meters (based on conversion coefficients in later years implicit in data in VTSSSR-60).

The export-output ratios in 1913 using exports of Russian Empire (including large textile mills in Polish territory) and total output of Russian Empire and Soviet territory was 5.0% and 6.0%. These figures are lower than those cited in this table.

#### Notes to Table T-21

The percentages in Table T-21 are usually calculated on the basis of imports (net) as a % of total supply, which is defined as output plus imports. Quality differences between imported commodities and domestically produced commodity (such as for cotton) mean that the import-supply ratios tend to understate the importance of imports in maintaining both volume and quality of output. Accumulation or depletion of stocks would tend to overstate or understate the importance of imports in total consumption in any given year because of the method of calculating imports-supply on the basis of output and imports rather than import and consumption.

#### Cotton

Row 1. Imports as a % of consumption of fiber. Figures from Mishustin-38a, p. 202; Mishustin 38a apparently based his estimates on figures cited in STAT-34, p. 136, Table 8, in which it was noted that 1) figures for consumption of fiber included consumption by entire textile industry, 2) figures were based on shipments plus change in inventory and 3) figures for consumption contained an element of double counting because of inter-plant shipments of cotton fiber (i. e., these ratios would tend to understate importance of imported fiber in the total cotton supply).

My estimates (which included imports of cotton yarn as well as fiber) were slightly high for 1913 but almost identical for other years. Other estimates of the import-supply ratios for cotton fiber can be found in Holzman-63 (p. 299), STAT-36 (p. 193, Table 158), SUA (Vol. V, No. 20 (1926), p. 27).

Wool

Row 2. Gross imports as a % of net output of fiber (washed basis). The basis of comparison is difficult to choose in this case because the USSR both imported and exported wool during 1913 and the NEP.

	(1000 m. t.)				
	<u>1913</u>	<u>1924/25</u>	<u>1925/26</u>	<u>1926/27</u>	<u>1927/28</u>
Imports of wool fiber and yarn (SOVTC 511 and 514004)	61.9	18.4	22.6	30.4	36.5
Exports of wool (SOVTC 511)	17.5	7.0	2.2	1.6	1.8
Net imports of wool fiber and yarn	44.4	11.4	20.4	28.8	34.6

Total imports of wool fiber and yarn (which were of higher quality) for the economic years 1924/25-1927/28 were compared to the net output of wool for the calendar year corresponding to the latter part of the split-year. Figure for 1913 is for Russian Empire. Output data from Johnson-60, p. 235. Import and export data from VTSSSR-60 (SOVTC 511 and 514004).

Row 3. Net imports as a % of net imports plus procurements by state agencies. Import data from VTSSSR-60. Procurement data for state agencies in 1924/25 and 1925/26 from SUA, Vol. V, No. 22 (1926), p. 9, for 1926/27 and 1927/28 from SUYB-29, p. 239. This ratio is indicative of the dependence of large-scale industry on imported wool.

Copper

Row 4. Imports of ingot and rolled copper as a % of the total supply including imports and output of blister copper adjusted for 5% loss in further (electrolytic) refining. Figure for 1909-13 from Holzman-63, pp. 299 and 331. The original data for Holzman's estimate were from Shimkin-53 and VTSSSR-60; no definition of "copper" was given. Figures for 1913, 1924/25-1927/28 based on output data cited in Nutter-62, p. 420 (reduced 5% for loss in converting blister copper into electrolytic copper (Turgeon-53, p. 33). Import data from VTSSSR-60 (SOVTC 27000, 27200). Method assumed that all imports of copper were into Soviet territory so that the figure in the table for 1913 is based on these imports plus output on Soviet territory (29,700 m. t.). The import-

supply ratio in 1913 based on total output of Russian Empire (33,100 m. t.) is 18.2% (output figure for 1913 from NBER-56a, Series 205.6).

#### Lead

Row 5. Imports as a % of total supply. Import data is from VTSSSR-60 (SOVTC 27004) and output data from NBER-56a, Series 209.1. Small amounts of lead were produced in the separated territories. Method of comparison assumes comparable quality of imported and domestic lead.

#### Zinc

Row 6. Imports as a % of total supply. Import data are from VTSSSR-60 (SOVTC 27003 and 272006) and does not include zinc imported in galvanized objects, babbitt, paint, bronze or brass. Output data are from NBER-56a, Series 210.1; most zinc was produced in separated territory. In 1913, 19,360 m. t. of zinc were produced in Russian Empire, of which 2,947 m. t. were produced in the Soviet territory of 1925.

#### Nickel, Tin, Aluminum

Row 7. Imports supplied all domestic needs before 1914 and during the NEP. See Shimkin-52.

#### Rolled ferrous metals

Row 8. Imports as a % of total supply of rolled ferrous metals (including pipe and metal articles). See Notes to Table XV.11 for discussion of sources. The important point of this series is that Russia and the USSR during NEP were almost entirely independent of imports for ferrous metals.

#### Steel tubing and pipes

Row 9. Import data from VTSSSR-60 (SOVTC 266-267) assumes that all imported pipe was steel pipe (i. e., no cast iron pipe was imported). Output data from STAT-36, p. 133 and is assumed to include only steel pipe (see also Clark-56, p. 11). The output figure for 1913 does not specify if it was for the entire Russian Empire or for Soviet territory; a large fraction of capacity for welded pipe and for drawn pipe was located in Poland (35% and 90%, see Table III.21). About 56% of welded and drawn pipe (57,000 m. t.) was produced in 1912 in the Soviet territory of 1925 (EIKSSSR, p. 385). The figure for 1913 in the table is estimated for the Russian Empire on the basis of an estimate of output, in which it was assumed that 77,700 m. t. were produced on Soviet territory in 1913, and equalled 56% of the output of the Russian Empire. If

we assumed that all pipe was imported into the Soviet territory and compare imports with supply of pipe based on the estimated output of the Soviet territory, then the import-supply ratio in 1913 was 14.4%.

#### Pig iron

Row 10. Imports as % of total supply of pig iron. Output data from NBER-56a, Series 102.1. About 10% of pig iron in 1913 was produced in the separated territory, but this does not change significantly the import-supply ratio for 1913 because imports were relatively small. Import data are from VTSSSR-60 (SOVTC 260).

#### Paper products

Row 11. Imports of paper and paper produced from imported pulp as a % of total paper supply. See "Notes to Table XIV.11, pp. 784-785. "Paper and cardboard" for sources and methodology.

#### Pulp

Row 12. Imports of pulp as % of total supply of pulp. For sources, see "Notes to Table XIV.11, pp. 784-785.

#### Tanning materials

Row 13. Data cited in de Tchihacheff-55a, p. 125 from Soviet sources. Based on content of tannin.

#### Tea and rubber

Row 14-15. Before 1914 and during the NEP, the USSR imported virtually their entire supply of tea and rubber. Some portion of rubber was supplied through "reclaimed rubber" (Marbury-55a, p. 15). The domestic tea growing industry was still insignificant in the total supply of tea despite the publicity given to domestic tea growing (ERSU, Vol. IX, No. 11, (1934), pp. 238-239).

#### Notes to Table T-22

This table is incomplete in the sense that it does not include many types of machinery not produced at all in pre-1914 Russia or the USSR during the NEP (or produced only in experimental quantities), such as metallurgical, chemical and paper-making equipment and airplanes.

Import-supply ratios based on value tend to understate the share of imports in total machinery supply because Russian prices were 7-10% higher in the pre-1914 period and as much as 25 to 30% higher during the NEP (Gosplan-29a, p. 396). Industrial goods prices accounted for most of the price differential (Ibid.).

Row 1. Machinery for industry and electric power industry. Imports valued at current prices (with tariff) as a % of total expenditure on machinery in current prices. Since prices of imported machinery even including tariff were often less than the price of similar domestic machinery, this type of comparison tends to understate importance of imported machinery in total machinery supply. Figures from Row 6 of Table T-23.

Row 2. Internal combustion engines. The value of imports as a % of the total value of supply at current prices. Figures from Gosplan-29a, p. 395. Source noted that figures for 1927/28 based on actual imports for first half of 1927/28 and 50% of the production plan for 1927/28. Value in current prices, but no indication is given about the inclusion or exclusion of the tariff in valuation of imports.

Row 3. Electrical machinery. The value of imports as a % of the total value of supply at pre-1914 prices (with no information about the treatment of tariffs or relative prices). Figures for 1924/25-1926/27 from Gosplan-29a, p. 395. Figure for 1913 from Table III.14.

Row 4. Steam turbines. See notes to row 2 of this table.

Row 5. Metalworking machinery. See notes to row 2 of this table for source for 1924/25-1927/28. Figure for 1913 from Table III.14.

Row 6. Metal-cutting tools. Percentages based on number of units and takes no explicit account of differences in quality and capacity of imported machinery as compared to domestic machinery. Data from STAT-35, p. 72.

Row 7. Textile machinery. See notes to row 2 of this table. Figure for 1913 from Table III.14.

Row 8. Automobiles and trucks. Number of units imported as % of total supply. Adapted from Mishustin-38a, p. 178.

Row 9-10. Tractors. Imports as % of total supply based on units and horsepower. Adapted from data presented in STAT-35, p. 303.

Row 11. Agricultural machinery. Value of imported machinery to value of total supply. Figure for 1913 from Table III.16. Figures for 1925/26-1927/28 from Gosplan-29, p. 395. See notes to row 2 of this table.

Row 12. Railroad equipment. Figure for 1913 based on value and is from Table III.14. Little railroad equipment was imported during the period 1924/25-1927/28 (VTSSSR-60).

#### Notes to Table T-23

All figures from Paskov-30, pp. 46-47.

Row 1. The figure for investment is limited to "investment connected with a demand for machinery and equipment" in industry and regional power plant for "new construction, reconstruction, and capital repairs." It excluded expenditures for living quarters, agriculture, transport, etc.

Row 2. "Expenditure for machinery, instruments, and equipment" at prices adjusted for transport, installment expenses, i. e., f.o.b. factory. Corrected for typographical error.

Row 3. Row 1 divided by row 2.

Row 4. Domestic production included production of machinery, construction apparatus, instruments, precise equipment, etc., for industry and regional power stations by the machinery-building industry planned by VSNKh and by other miscellaneous producers of machinery.

Row 5. Imports of machinery, apparatus, precise instrument and equipment (including electric machines) at prices c. i. f. border, including tariff.

Row 6. Row 5 divided by row 2.

#### Notes to Table T-24

Cols 1-3: From Table XV.2 and Appendix F.

Cols 4-6: Estimates of recovery of exports on Soviet territory based

on volume indices on left with the base year (1913) reduced according to the Soviet estimates of the percentage reduction in exports (14.2%), which would be necessary for territorial loss (see Table III.24). See Chapter III, pp. 157 ff for discussion of the problems in interpreting Soviet adjustments; these adjustments tended to overstate the reduction in export capacity.

#### Notes to Table T-25

Cols 1-3: From Table XV.2 and Appendix F.

Cols 4-6: Estimates of recovery of imports on Soviet territory based on volume indices on left with the base year (1913) reduced according to the Soviet estimates for the percentage reduction (26.7%) in the value of imports, which would be necessary to adjust for territorial loss (see Table III.24). See Chapter III, pp.157 ff for discussion of the problems in interpreting Soviet adjustments, which tended to overstate the reduction in import requirements.

#### Notes to Table T-26

Row 1. From Table XV.4. See Appendix F for method.

Row 2. Volume index of exports of grain products using 1926/27 price (unit-value) weights. Volume index is type described in Appendix F, p. 873 based on data from VTSSSR-60 and including the following commodities (identified by SOVTC number): 70000, 70001, 70002, 70003, 70004, 82000, 82101, 82102. This volume index is not adjusted for changes in coverage, but the major export grains are represented.

The unit-value weights for 1926/27 were used for the volume index (as well as 1926/27 quantity weights for the price index) because relatively large grain exports during 1926/27 made the unit-values more representative of the true relative price structure in 1926/27 than the unit-values based on the meager 1927/28 grain exports would be of 1927/28 relative price structure. Similarly for quantity weights.

Row 3. Oil seed products. See notes to Row 2 of this table. Volume index used 1927/28 unit-values and included the following commodities: SOVTC 72001, 72003, 72004, 580.

Row 4. Fibers. Volume index of crop fibers (excluding wool and silk) included the following commodities: SOVTC 51000, 51003, 51004, 51006,

51008, 51013. Flax was the most important fiber export during NEP.

Row 5. Products of animal husbandry. Volume index of animal products included the three major animal product exports, butter, eggs and bacon (SOVTC 800030, 80100, 803) and several minor animal product exports (SOVTC 511, 53000, 530011, 530012, 530013, 59000, 59001, 59006, 59008, 80001. No adjustment was made for changes in coverage of all animal product exports.

Row 6. Timber. Volume index of timber exports included the following commodities: SOVTC 500, 50100, 50200, 50307. Not adjusted for changes in coverage of all timber products exports.

Row 7. Oil products. Volume index of oil product exports included the following commodities: SOVTC 21, 220, 223, 224, 225, 226. These items covered all significant exports of oil products.

Row 8. Mining products (excluding oil products). Volume index of mining product includes the following commodities: SOVTC 20000, 20001, 24000, 24001, 25000. Changes in coverage of mining product exports not adjusted for in this index.

Row 9. Fur products. See Table F. 14, p. 914

#### Notes to Table T-27

Row 1. Total imports adjusted for changes in coverage. From Table XIV.5. See Appendix F for method.

Row 2. Machinery. From Table F.18, col. 3. See Appendix F, for explanation of method used in computing this index. This index used German machinery prices as the deflator for the major component. The definition of machinery used for this index is limited to SOVTC 1 as described in Table A. 5, Appendix A, Technical Note 5, and does not include products included in the Soviet definition of machinery as described in Table A. 4b, Appendix A, Technical Note 4

Row 3. Raw materials. Index is the normal type described in Appendix F, p. 873 and uses 1927/28 unit-value weights and quantity data based on import data from VTSSSR-60. The volume index for raw materials included the following commodities (by SOVTC number): 24204, 26101, 26102, 26103, 26104, 26406, 26407, 26410, 26503, 27000, 27003, 27004, 27005, 27006, 27007, 35000, 504, 51000, 51009, 51010, 51014, 51200, 51401, 530000, 530011, 72007. This list covers most of the commodities listed in Table A. 4b under "raw materials."



Row 4. Semi-processed commodities. See notes to row 3 of this table for general comments. The coverage of this index leaves much to be desired and included only paper and pulp, leather, and yarns. The index did not include chemicals (especially tanning and dyeing materials). The specific commodities in this index are (by SOVTC number): 50500, 50504, 506, 514000, 514004, 53100, 53101.

Row 5. Non-ferrous metals. See notes to row 3 of this table for general comments. Commodities in this index included (by SOVTC number): 27000, 27003, 27004, 27005, 27006, 27007.

Row 6. Tropical products. See notes to row 3 of this table for general comments. Commodities in this index (by SOVTC number) are: 35000 (rubber), 504 (cork), 51009 (jute), 51010 (sisal), 70104 (rice), 72007 (copra), 72100 (coffee), 72101 (cocoa beans), 72103 (tea).

#### Notes to Table T-28

Export price indexes are from Table XIV.6. Import price indexes are from Table XIV.7. Commodity terms of trade are simply the export price index divided by the import price index and are also found in Table XIV.8.

#### Notes to Table T-29

Export price indexes are based on unit-value of Soviet exports as described in Appendix F, p. 873 . Index for all exports is from Table XIV.6. Indexes for selected commodity groupings in rows 2-9 are simple price indexes weighted by exported quantities in 1927/28 (1926/27 for grain products) of the commodities listed for each group (see Notes to Table T-26 for these commodities listed by SOVTC number).

#### Notes to Table T-30

Import price indexes are based on unit-values of Soviet imports as described in Appendix F, p. 873 . Index for all imports from Table XIV.7. Indexes for selected commodity groups in rows 2-6 are simple price indexes weighted by imported quantities in 1927/28 of commodities listed for each group (see Notes to Table T-27 for these

commodities listed by SOVTC number).

Notes to Table T-31

Gosplan's indices of wholesale prices were calculated on the basis of price quotations in 62 towns and included 69 commodities with an aggregate weight of 10,000 units distributed as follows:

Produce of forestry, fisheries and hunting. . . .	565
Produce of agriculture . . . . .	5000
rye . . . . .	675
wheat . . . . .	640
beef. . . . .	690
Industrial goods . . . . .	4435

This last group also included processed agricultural commodities such as sugar, vegetable oil and tobacco. The index underwent several revisions. (Birmingham Bureau of Research on Russian Economic Conditions Memorandum No. 7, iii, Indices of Wholesale Prices. Birmingham: Russian Department, University of Birmingham, October, 1932, pp. 13-15.)

Jan. 1923 to Dec. 1923. Data for total wholesale price index cited by Arnold-36 (p. 168) from Economic Bulletin of the Institute for the Study of Economic Conditions (N. D. Kondratiev, ed., (Moscow) Commissariat of Finance, No. 1, 1925, pp. 4-5 [in Russian]). Data for agricultural and industrial price index cited by Arnold-36 (p. 173) from L. N. Yurovsky (ed.), Nashe denezhnoe obrashchenie: sbornik materialov po istorii denezhnogo obrashchenia v 1914-1925 gg (Moscow: Commissariat of Finance, 1926).

Jan. 1924 to Dec. 1925. Data cited by Arnold-36 (p. 230) from Yurovsky Nashe denezhnoe obrashchenie . . . (see above), pp. 250-252.

Jan. 1926 to Dec. 1928. Data taken from statistical section of SUA (various issues) under heading "Grosshandels index der Staatplankommission (Am Monatsersten). According to SUA (Vol. VI, No. 4/5 [1927] p. 29) the responsibility for estimating the wholesale price index was transferred from Gosplan to the Central Statistical Administration in early 1927. Many other sources (ERSU and Ekon. Oboz.) also reported Gosplan's wholesale price index.

Notes to Table T-32

Two series of retail price indexes were calculated during 1923-1927. The Konjunkturinstitut under the Commissariat of Finance and headed by Kondratiev calculated the "All-union retail price index." This index was a weighted index of the prices in private trade for 35 commodities; "industrial goods" made up 51% of the composition of the goods in the index (ERSU, Vol. II, No. 15 [August 1, 1927] pp. 3-4). This index was the most widely cited index and is presented in Table T-32. This is the so-called "old retail price index."

The TsSU (Central Statistical Administration) also calculated a "budget retail price index," the composition of which varied considerably because of varying coverage (Birmingham Bureau of Research on Russian Economic Conditions. Memorandum No. 6, Wages of Industrial Workers in the USSR, Birmingham: Russian Department, University of Birmingham, July 1932, pp. 20-24). This index is not shown here.

Jan. 1924 to Jan. 1926. Cited in Arnold-36 (p. 230) from Yurovsky, Nashe denezhnoe obrashchenie . . . (see Notes to Table 31), pp. 250, 252.

Jan. 1926 to Dec. 1927. Data from SUA (various issues in 1926, 1927, 1928) from Table "Konjunktur der Volkswirtschaft." In early 1927, the Konjunktur institut changed its method and composition of the retail price index (as described in Notes to Table T-33). The index after April 1927 is based on the private trade component of the new retail price index. In the overlapping months, this private trade component in the new retail price index was lower than the old price index (based on private trade alone). Compare figures for January-April 1927 in Tables T-32 and T-33.

Notes to Table T-33

The Konjunkturinstitut revised the basis of calculating the retail price index in early 1927. The basic reason for changing the index was to make the new index reflect the movement of prices in state and cooperative retail stores, where the prices were lower and controlled by the government. Thus, decreed lowering of retail prices in the state and cooperative stores would result in a decline in the retail price index even though demand was not satisfied at those prices.

The "new retail index" was a weighted average of retail prices in state, cooperative and private trade. The new index was based on

43 commodities divided into 19 groups as against 35 products previously used. The industrial goods component was assigned the weight of 69 and the agricultural goods component was assigned the weight of 31 as compared to the weights of 51 and 49 respectively for the old index. Furthermore, some pre-1914 prices were "corrected." The new price index was about 15% lower than the old price index based on private trade alone (ERSU, Vol. II, No. 14 [August 1, 1927], p. 3).

Jan. 1927 to Sept. 1927. Buchter-27, p. 64.

Oct. 1927 to Nov. 1928. All data from SUA (various issues).

#### Notes to Table T-34

##### Sources for Part A and Part B

###### 1924/25-1926/27

Indexes of procurement prices of planned agencies based on prices for the five years, 1909-1913. Constant weights based on values of commodities procured during 1924/25-1926/27. Data for Part A and Part B from ST, Vol. III, No. 11, p. 36. See also article on the methods used in constructing these indexes by G. Popov entitled "Indeks planovyykh zagotovitel'nykh tsen Narkomtorga" (Index of Planned Procurement Prices of Narkomtorg) in ST, Vol. III, No. 11, pp. 10-12. Grain included rye, wheat, oats, barley, corn, hulled grains, pulses. Oil seeds included sunflower seeds, flax seed, hemp seed. Technical crops included flax and flax tow, hemp, cotton, sugar beets, tobacco, makhorka. Edible animal products included butter, eggs and meat. Raw materials from livestock included large hides, small hides (skins), and spring wool.

###### 1927/28

Weights based on the value of 1927/28 procurements. Data for Part A and Part B from ST, Vol. III, No. 45/46, p. 67. Same comments apply as for 1924/25-1926/27.

###### 1928/29

Weights not stated, but most likely the weights are based on the value of 1928/29 procurements. These indexes differed from the above in the following manner: pulses not included in grain index; hemp seed not included in oil seed index; fall wool is added to raw materials from livestock index. Similar for total indexes. Data for Part A and Part B from ST, Vol. IV, No. 45/46, p. 62.

Comment

See article by G. Popov, "Index planovykh zagotovitel'nykh tsen Narkomtorga," ST, Vol. III, No. 11 (1928), pp. 10-12, in which the statistical procedures and weights are described.

Notes to Table T-35

Col. 1. Price index of manufactured consumer goods in private trade, 1913 = 100. This time series is based on two price indexes for manufactured consumer goods sold in the private trade as calculated by the Konjunkturinstitut of the Commissariat of Finance. The figures for October, 1924 to December 1926 are based on the manufactured consumer goods component of the "old" retail price index (Table T-32); the original figures were reduced by 7.5% to adjust for the average difference between the higher figures for the "old" index and the lower figures for the "new revised index" in the first three months of 1927, when both indexes were calculated.

Retail price index of manufactured consumer goods  
sold in private trade

1913 = 100

	Dec. 1, 1926	Jan. 1, 1927	Feb. 1927	Mar. 1, 1927
"Old index"	268	270	247	268
"New revised index"	—	251	247	246

In Table T-35, the entry for a given month refers to the price index as of the first day of the following month.

The figures for January, 1927 to November, 1928 are the price index of manufactured consumer goods sold in the private trade as shown in Table T-33.

Col. 2. Purchasing power of agricultural goods sold at retail by private trading establishments in terms of manufactured consumer goods sold by private retail stores. The index of agricultural prices in private retail trade is based on the "old" and the "new revised" retail price indexes calculated by the Konjunkturinstitut. See Tables T-32 and T-33 and note to col. 1. The two indexes were linked on the basis of the average difference between the two indexes in January - March 1927: the "old retail price index for agricultural goods sold in private trade" (October, 1924 - December, 1926) was reduced by 2%. This index was divided by col. 1.

Col. 3. Purchasing power of agricultural goods sold at wholesale in terms of manufactured consumer goods sold by private retail stores. Wholesale price index for agricultural goods as calculated by Gosplan (Table T-31) divided by col. 1 of this table.

Col. 4. Purchasing power of agricultural goods sold at procurement prices in terms of manufactured consumer goods sold by private retail stores.

Oct. 1924 - May 1926. Preliminary figures for price index of procurements; "pre-war prices" = 100. Weights are most likely variable (i. e., from month to month). Procurement index (cited by Oganovskii-26, p. 5) divided by col. 1.

Oct. 1926 - Oct. 1928. Data from SUA (various years). 1909-13 = 100

Col. 5. Purchasing power of "grain products" sold at procurement prices in terms of manufactured consumer goods sold by private retail stores (1909-13 = 100).

Annual and quarterly data 1924/25-1926. Figures in col. 1 of Table T-34 divided by arithmetic averages of figures in col. 1 of Table T-35.

Monthly data 1927-1928. Data for "Beschaffungspreise - Getreide 1909-13 100" from SUA (1928-1929).

Col. 6. Purchasing power of wheat sold at procurement prices in terms of manufactured consumer goods sold by private retail stores. Col. 2 of Table T-38 divided by col. 1 of this table and converted to an index. See Table T-38 for discussion of sources for monthly data of wheat prices; the data up to November 1927 are not strictly comparable to the data after November 1927.

Col. 7. Purchasing power of rye sold at procurement prices in terms of manufactured consumer goods sold by private retail stores. Col. 2 of Table T-39 divided by col. 1 of this table and converted to an index. See Table T-39 for discussion of sources for monthly data of rye prices. The data up to November 1927 are not strictly comparable to the data after November 1927.

#### Notes to Table T-36

Source: Gosplan-29a, pp. 504-505.

#### Notes to Table T-37

General comment. 1. All indexes adjusted for devaluation or

depreciation of currency on basis of gold parity in base year (as stated in STATJAHR).

2. Index data from STATJAHR-29, 35, 38; data for 1938 are average for first seven months.

Col. 1. USSR. Wholesale price index calculated by Gosplan. Data for economic year ending in year stated in side tab (e. g., 1924 = 1923/24). Data for 1923/24 - 1928/29 from SUYB-30, p. 267. No data available after 1928/29. Figure for 1923 from Aizenberg-62, p. 244; which also cited 174 for 1924, 182 for 1925, 177 for 1926 (with 1913 = 100).

Col. 2. Germany. Wholesale price index calculated by Statistisches Reichsamt. Data from STATJAHR, "Internationale Uebersichten" (various years).

Col. 3. Great Britain. Wholesale price index calculated by Board of Trade. Data from STATJAHR, "Internationale Uebersichten" (various years).

Col. 4. Netherlands. Wholesale price index calculated by Central. Bur. v.d. STAT. Data from STATJAHR, "Internationale Uebersichten" (various years).

Col. 5. USA. Wholesale price index calculated by Bureau of Labor Statistics. Data from STATJAHR, "Internationale Uebersichten" (various years).

#### Notes to Table T-38

Col. 1. Data from SUA (various issues during 1926-28) from the series "Grosshandelspreise der Ueberschusszone: Weizen" appearing in the section "Wirtschaftliche Umschau, Die Konjunktur der Volkswirtschaft im . . ." Series no longer published after September 1927.

Col. 2. Data for 1909-13 and 1913 are derived by using quarterly average grain prices for 1927 and the quarterly index of wheat prices published in ST, Vol. III, No. 11 (1928) pp. 36-37. According to an article by G. Popov ("Indeks planovykh zagotovitel'nykh tsen Narkomtorga," ST, Vol. III, No. 11 (1928), p. 11), the grain prices used for the 1909-13 and the 1913 prices were autumn grain prices, when grain prices were normally low. This procedure tended to make Soviet grain prices appear relatively better than if average annual grain prices had been used as the base price of the index. Thus, the price for wheat for 1909-13 and

1913 is actually the autumn price of wheat in these years. The 1909-13 and 1913 prices were based on this price index and the "average domestic procurement prices of wheat purchased by Khlebproduct" (col. 2 of this table) for the first, second, and third quarters of 1927: the resultant implied 1909-13 prices were 552, 567, and 564 kopecks per hundred kilograms and the implied 1913 prices were 476, 493 and 493 kopecks per hundred kilograms.

Data for October 1923 to April 1924 are from Aizenberg-62, p. 243.

Data for July 1924 to October 1927 are from SUA (various issues during 1926-28) from the series "Durchschnittl. Beschaffungspreis des 'Chleboprodukt'" appearing in the section "Wirtschaftliche Umschau. Die Konjunktur der Volkswirtschaft im . . ." Series no longer published after October 1927.

Data for November, 1927 to September, 1929 are approximate and were estimated using an index of all-union wheat procurement price based on 1909-1913 wheat prices and linked at October, 1927 on the average domestic procurement price paid for wheat by Khlebprodukt for 100 kilograms (col. 2 of this table) in October 1927. The all-union wheat price index from October 1927 to September 1928 was weighted with 1927/28 quantity weights and is from ST, Vol. IV, No. 45/46, p. 62. Thus, price changes within those three periods are comparable but comparisons between these three periods must be considered approximations.

Col. 3. Procurement prices of grain loaded for export. Data for July 1925 to June 1927 from ST, Vol. I, No. 11 (1926), p. 64 and ST, Vol. II, No. 43 (1927), p. 71. Data from July 1927 to September 1928 from ST, Vol. III, No. 45/46 (1928), pp. 70-71; this series specified only that it was the procurement price of wheat on the domestic market and not that it was the procurement price of wheat purchase for export (of which there was very little in 1927/28). Thus, that data after July 1927 is not strictly comparable to the data before that date. In fact, the data for the two overlapping months (July and August) differ slightly in the two sources (ST, 1927 and ST, 1928) cited above.

Col. 4. Data for July 1925 to June 1926 are the weighted average sale price of Eksportkhleb (the Soviet grain export agency) and is from ST, Vol. I, No. 11 (1926), p. 64. Data for July 1926 to September 1927 are the arithmetic average of quotes for Russian wheat, c. i. f. Hamburg for "Russian, 78/79 kgr." and are from ST, Vol. III, No. 45-46 (1928), p. 71 and are for "Russian Nikolaevskaia, c. i. f., Hamburg."



Col. 5. Data for July 1925 to September 1927 are for Manitoba, No. 1, c. i. f., London and are from ST, Vol. I, No. 11 (1926), p. 64 and ST, Vol. II, No. 43 (1927), p. 71. Data for October 1927 to September 1928 are for Manitoba, No. 3, c. i. f., London and are from ST, Vol. III, No. 45-46 (1928), p. 71. Data from October 1928 to September 1929 for Manitoba, No. 2, c. i. f., London, and are from ST, Vol. IV, No. 45-46 (1929), p. 62-63.

#### Notes to Table T-39

General comments. The sources for each column and individual dates as well as the basic methodology and general comments for Table T-39 are identical to those cited from analogous column in Table T-38 and are not repeated here. The reader is referred to Table T-38 for these references. We have noted here only those comments specifically applicable to time series for rye prices.

Col. 1. Data from SUA (various issues) from the series "Grosshandelpreise der Ueberschusszone: Roggen."

Col. 2. Data for 1909-13 and 1913 derived by method described in Notes to Table T-38, col. 2. The implicit price for 1909-13 and 1913 were identical using either first or second quarter data and index numbers for 1927.

Data from October, 1923 to August, 1927 are for sources cited for similar period for col. 2 from Table T-38.

Data from October, 1927 to April, 1929 computed using the procurement price index in ST, Vol. III, No. 45/46 (1928), p. 67, and ST, Vol. IV, No. 45/46 (1929), p. 62 and the estimated price for 1909-13.

Col. 3. See Notes to Table T-38 for col. 3.

Col. 4. Weighted average sale price of Eksportkhele for July 1925 to June 1926 from ST, Vol. I, No. 11 (1926), p. 64. Data for July 1926 to April 1929 are from sources cited in Table T-38 for wheat. Data is for arithmetic average of quotas for Russian rye, c. i. f., Hamburg. No quotes are available for May - September 1929.

Col. 5. Quotes are for "Western No. 2, c. i. f. Hamburg." See Table T-38 for source notes to col. 5.

Notes to Table T-40

Col. 1. Estimates for 1909-13 and 1913 based on indexes of procurement prices for barley published in ST, Vol. III, No. 11 (1928), pp. 36-37. See comments about this method in Notes to Table T-38, col. 2. Estimates used these indexes and average quarterly price of barley purchased for export in the third quarter of 1926. Using prices of procured grain in the fourth quarter of 1926 and the price index results in implicit price of 350 in 1909-13 and 330 in 1913 as compared to 375 and 344 (kopeck per hundred kilograms) using third quarter 1926 prices.

Data for July 1925 to June 1926 from ST, Vol. I, No. 11 (1926) p. 64 and are the procurement prices weighted by loading for export.

Data for July 1926 to September, 1928 from ST, Vol. II, No. 43 (1927), p. 71 and ST, Vol. III, No. 45/46 (1928), p. 71. These data do not necessarily reflect the procurement price of exported barley and were merely cited as export prices.

Col. 2. Data for July 1925 to June 1926 from ST, Vol. I, No. 11 (1926), p. 64 and are the "weighted average sales price of barley sold by Eksportkhub." Data for July 1926 to September, 1928 from ST, Vol. II, No. 43 (1927), p. 71 and ST, Vol. III, No. 45-46 (1928), p. 71 and are for "Russian barley, c. i. f., Hamburg."

Col. 3. Sources are identical to those for col. 2. "Canadian barley c. i. f., London" was cited from July 1925 to August 1927. "Danubian barley, c. i. f., London" was cited from September 1927 to December 1928. For the two overlapping months in July and August the comparative prices of Danubian barley and Canadian barley were 864 and 886 in July and 928 and 887 in August (kopecks per 100 kilograms).

Notes to Table T-41

General comments. Deriving an internally consistent price series and comparing domestic and foreign flax prices are made more difficult because of the large number of different grades and standards used to grade flax. It is thought that Group IV, 1 Sort (domestic) and the "Russian BKKU" are more or less similar types or grades of flax fiber.

Col. 1. Data for 1909-13 and 1913 based on third and fourth quarters procurement prices for Group IV, Number 1 Sort (col. 1 of this table) and the price index for "flax and combing" (len i kudel) from ST, Vol. I, No. 11 (1926), p. 36 and 37. The representativeness of these estimates

for the grade "Group IV, 1 Sort" in 1913 and 1909-13 depends on the construction of the index for flax and the movement of prices for other grades of flax.

Data for January, 1924 to August, 1926 for "flax" (len) as cited in Feifets-28a, pp. 158-160.

Data for October, 1926 to September, 1928 from ST, Vol. II, No. 43 (1927), p. 71 and ST, Vol. III, No. 45-46 (1928), p. 70. Prices are the average prices of "Group IV, 1 Sort" flax, weighted by procurements.

Cols 2 and 3. Data for October 1925 to December 1928 from ST, Vol. II, No. 43 (1927), p. 48, ST, Vol. II, No. 43 (1927), p. 71, ST, Vol. III, No. 45-46 (1928), p. 70, and ST, Vol. IV, No. 45-46 (1929), p. 62.

#### Notes to Table T-42

##### Butter and Eggs

Data for 1909-13 and 1913 based on second or third quarter procurement prices in 1927 (col. 1 and col. 4 of this table) and price index for same quarter from ST, Vol. III, No. 11 (1928), pp. 36 and 37.

October, 1925 - December, 1926. Domestic procurement prices (col. 1) are prices for all butter procured in the RSFSR. All data for butter from ST, Vol. III, No. 43 (1928), p. 44. Data for eggs are from ST, Vol. III, No. 43 (1928), p. 46.

October 1926 - September 1927. Data from ST, Vol. II, No. 43 (1927), p. 71.

October 1927 - September 1928. Data from ST, Vol. III, No. 45-46 (1928), p. 62.

October 1928 - May 1929. Data for foreign market prices from ST, Vol. IV, No. 45-46 (1929), p. 70.

#### Notes to Table T-43

Source. Feifets-28a, pp. 153-154.

Comments. Data is average for all grains and is estimated for the agricultural years 1923/24 - 1926/27.

Data has been converted from kopecks per pood to kopecks per

100 kg. by coefficient 6.104. "Marketing costs" include all cost incurred from time of purchase from peasant to time of delivery to foreign buyer and involve a distribution of "overhead" of the trading organization as well as transportation, insurance, brokerage, etc.

Notes to Table T-44

Source. Feifets-28a, pp. 154-156.

Comments. Estimates are for BKKU flax (bezhetskii len) for calendar years 1924-1926. Note that these marketing costs include an export duty, which was reduced and then abolished. See Arvatov-28. See Notes to Table T-43 for further comments.

Notes to Table T-45

Source. Feifets-28a, pp. 158-159.

Comments. The type of butter was not specified, but presumably the butter was the so-called "export grade" of butter. The data are estimated for the economic years 1923/24 - 1925/26. See Notes to Table T-43 for further comments.

Notes to Table T-46

Source. Feifets-28a, p. 160. Data available only for 1925 and 1926.

Comments. See Table T-43 for comments about "marketing costs."

Notes to Table T-47

Source. Czechowicz-29a, p. 2213.

Comments. In rubles, unless otherwise noted, for 100 kg. gross weight on the basis of official publication of customs tariff and assessed in 1903 in pre-1914 rubles, in 1922 in "gold rubles", and in 1924 and 1927 in chervonetz rubles. Tariff for 1903 and 1922 was converted

from poods to kilograms at the ratio of 6.1 poods = 100 kilograms. If two figures are given, they are considered to be for the lowest and the highest category of that commodity group, so that equality of the group composition is preserved for all tariffs.

Explanatory Notes.

<sup>a</sup>Duty-free.

<sup>b</sup>Tariff duties not comparable due to changes in the basis of assessment.

<sup>c</sup>Ad valorem tariff.

<sup>d</sup>For 1913, these agricultural machines were specially listed and duty-free.

Notes to Table T-48

Part A: Soviet Estimates

Rows 1 and 2: Data for Russian Empire (excluding Finland) and for Soviet territory of pre-1939 borders in 1913 from STAT-60, p. 3, and p. 6.

Rows 4-7, 10, 12: Data from SUYB-30, p. 21. December 17, 1926 was the date of the census.

Row 8: Estimate based on quarterly compounded growth rate of roughly 7/12 % for total population, 1 3/16 % for urban population and 5/12 % for rural population assuming steady growth between December 17, 1926 and April 1, 1928.

Row 9: See Row 8.

Row 11: Estimates based on quarterly compounded growth rates of roughly 7/12 % for total population, 1% for urban population and 1/2% for rural population.

Part B: "Western estimates" by Warren Eason  
Eason-63, pp. 72-73.

Notes to Table T-49

Source. Diamond-55, pp. 140, 142, 144, 147, 149.

Notes to Table T-50

Part A. USSR: Gross Capital Investment in Fixed Capital in the Socialist Economy 1923/24-1938 (Including Non-productive Investment)

Source. All figures from Kaplan-51, p. 52, in which was noted the following:

The coverage of the sectors may be summarized as follows:

a. "Industry" includes mining, manufacturing, and most electric power stations. Municipal electric power stations are included in "Social-Cultural Services and Administration"; rural electric power stations are included in "Agriculture."

b. "Agriculture" includes state farms, collective farms, machine-tractor stations, and such generalized agricultural investments as irrigation and land improvement measures.

c. "Transport" includes railroad, water, land and air transportation. Urban trolley systems and subways are included in "social-cultural services and administration." The construction of nationally important roads is included in "transport"; the construction of local roads is included in "social-cultural services and administration."

d. "Communications" includes mail, telephone, telegraph, and radio.

e. "Trade and Procurement" includes retail trade and "wholesale" procurement organizations.

f. "Social-Cultural and "Administration" includes:

1. Housing;
2. Education and public health;
3. Municipal services, which in turn includes subways and trolley systems, municipal land transport, water supply, sewage systems, city sanitation, bath houses and laundries, municipal electric power stations, gas works, and local roads and bridges;
4. Administration and the military establishment.

Fixed capital according to Soviet definition includes: "(1) construction; (2) assembly of equipment; (3) purchase of equipment and implements; (4) design, geological, and prospecting work connected with a given object of construction; (5) land betterment, irrigation, and

drainage; (6) formation and replacement of draft and productive live-stock herds; and (7) certain expenditures not connected with an increase of fixed capital" (Kaplan-51, p. 1).

Economic enterprises often invest funds in "non-productive fixed capital." "Productive fixed capital" consists of the durable assets of industrial, agricultural, transport, communications, commercial and supply enterprises including the office, administrative and warehouse premises of these enterprises. "Non-productive fixed capital" consists of "housing, hospitals, schools, municipal services and other constructions which are devoted to the cultural and social needs and welfare of the population and to the needs of government administration" (Kaplan-51, p. 16).

Part B. USSR: (Gross) Capital Investment in Fixed Capital in the Socialist Economy 1923/24-1938 (Excluding Non-productive Investment)

Source. All figures from Kaplan-51, p. 58. See notes to Part A of this Table. See also Kaplan's discussion of non-productive investment in Kaplan-51, p. 53.

Notes to Table T-51

Grain. All data from Table T-8. The years 1909-13 and 1913 refer to calendar years.

Row 1. Gross output of grain products (excluding oil seed) from col. 3 of Table T-8. Data for 1909-13 and 1913 "adjusted" for underestimates in Tsarist data and change in boundaries. Harvest data for split years are for the fall of the first of the two years.

Row 2. "Total marketing of grain" from col. 3 of Table T-8.

Rows 3 and 4. Procurements of grain products by "planned procurement agencies" in agricultural year and in economic year. Data from Table T-8, cols. 6-7.

Rows 5 and 6. Gross exports of grain products in agricultural and economic years. Exports for 1909-13 and 1913 are exports of Russian Empire. Gross exports of grain from Soviet territory (to foreign countries and to separated territories) were larger than from the entire Russian Empire (11.2 - 11.7 million m. t. compared to 10.7 million m. t. in 1913) because the separated territories were net importers of grain (see above,

Wheat

Row 7. Gross harvest on Soviet territory. Diamond-55, p. 33. Average annual for Russian Empire for 1909-13 from Table III. 5.

Row 8. Procurements by planned procurement agencies. No equivalent data is possible for 1909-13 and 1913, and, unfortunately, no data is available for gross, total or net marketings of wheat during NEP. Data for wheat procurements based on Table T-10.

Row 9. Gross exports of wheat and wheat flour (adjusted to grain equivalents by the ratio 1.33 as cited in Groman-28a, p. 221. Data for 1909-1913 from Vissarionov-28a. Data for 1913, 1924/25 - 1927/28 from VTSSSR-60 (SOVTC 70000 and 82000).

Row 10. Gross imports of wheat and wheat flour (adjusted to grain equivalents by the ratio 1.33 as cited in Groman-28a, p. 221. Data for 1913, 1924/25 - 1927/28 from VTSSSR-60. Assumed that all flour imports were wheat flour.

Rye

Row 11. Gross harvest on Soviet territory from Diamond-55, p. 48 except that data for 1909-13 are annual averages for Russian Empire from Table III. 5 (adjusted for understatement in Tsarist statistics).

Row 12. Procurements by planned procurement agencies. No equivalent data is possible for 1909 and 1913. Data for rye procurements based on Table T-10.

Row 13. Gross exports of rye and rye flour (adjusted to grain equivalents by coefficient 1.11 cited in Groman-28a, p. 223). Data from VTSSSR-60 (SOVTC 70001 and 82001). Data for 1909-13 from Table III. 5.

Barley

Row 14. Gross harvest on Soviet territory from Diamond-55, p. 53 except that data for 1909-13 are annual averages for Russian Empire from Table III. 5.

Row 15. See note for Row 12.

Row 16. Gross exports of barley. Data from VTSSSR-60 and Table III. 5; data for years 1909-13 and 1913 are for Russian Empire.

Oil seed

Row 17. Gross harvest of oil seed from Kaufman-28f.

Row 18. Procurements by planned agencies. Data for 1926/27 and 1927/28 from SUYB-29, p. 238, for sunflower, flax and hemp. Data



for 1924/25 and 1925/26 for oil seed from SUA, Vol. 5, No. 22 (1926) p. 9.

Row 19. Gross exports of oil seeds from Kaufman-28f and VTSSSR-60. Exports of oil seed (SOVTC 720) in VTSSSR-60 differed from figures cited in Kaufman-28f, which cited 250 (in 1000's m. t.) in 1913, 191 in 1924/25, 141 in 1925/26, 30 in 1926/27.

Row 20. Gross exports of oil seed products including vegetable oil, oil cake and oil seed. Sum of SOVTC 720, 580 and 841 from VTSSSR-60.

### Flax

Row 21. Gross harvest of flax fiber. Data from Diamond-55, p. 85. Net output is about 5% lower (Johnson-60, p. 235). Figures for 1913 for present boundaries (which approximates the boundaries of the Russian Empire). Output in 1913 for Soviet territory of 1925 was 330,000 m. t.

Row 22. Procurements of flax by planned agencies. Data for 1924/25 and 1925/26 from SUA, Vol. V, No. 22 (1926), p. 19. Data for 1926/27 and 1927/28 from SUYB-29, p. 289 and includes flax and tow. Figure for 1913 was for "marketing" of Tsarist Russia; the figure is from Jasny-49 (p. 78) citing Socialist Agriculture USSR 1938, p. 89. The state monopsonized purchases of flax during the NEP. The figure cited by Jasny-49 (p. 73) for marketing of flax in 1927/28 was 120,000 m. t. (and excluded purchases by rural population).

Row 23. Export of flax fiber. Data from VTSSSR-60 and includes only SOVTC 51003.

Row 24. (Net) export of all flax products including flax fiber, tow, and combing and linen yarn and fabric. Figures from VTSSSR-60 and include SOVTC 51003, 51004, 51013, 514001 and 903.

### Eggs

Row 25. Net output in billions. Figures from Johnson-60, p. 235. Figure for 1913 cited in table was for post-World War II borders which closely approximates borders of Tsarist Russia. Output in 1913 for territory comprising the USSR in 1925 was 9.38 billion eggs.

Row 26. Procurement of eggs by planned agencies. Total marketing of eggs in 1913 (Russian Empire) and 1927/28 were 6.7 and 3.9 billion eggs. Procurements of eggs by centrally planned agencies for 1924/25 and 1925/26 from SUA, Vol. V, No. 22 (1926), p. 19. Data for 1926/27 and 1927/28 from SUYB-29, p. 239. Data converted from wagons and cases into units by the coefficients 129,600 and 1440 (coefficients given in SUA, Vol. IX, No. 3/4 (1930), p. 58).

Row 27. Egg exports. Data in weight as cited in VTSSSR-60 converted into units by coefficient "1 m. t. eggs = 14,400 eggs" (SUA, Vol. IX, No. 3/4 (1930), p. 58).

### Butter

Row 28. Output of butter in (state and cooperative) factories. Data from NBERa, Series 1105.1. Data are rough estimates and the entry for 1927/28 is for the calendar year 1928. According to SUYB-30 (pp. 116-117), Russia produced about 152,416 m. t. of butter in 1913-14 (AY?) and exported about one-half of output. Output of "marketable butter" was 43,550 m. t. in 1924, 64,500 m. t. in 1925, 70,000 m. t. in 1926, 114,200 m. t. in 1927 and 112,300 m. t. in 1928 (SUYB-30, p. 117).

Row 29. Total marketing of butter. Data for 1913 and 1927/28 from STAT-28, pp. 268-269.

Row 30. Procurements by planned procurement agencies. Data for 1924/25 and 1925/26 from SUA, Vol. V, No. 22 (1926), p. 9: purchases by state and cooperative agencies. Data for 1926/27 and 1927/28 from SUYB-29, p. 239.

Row 31. Exports of butter. Data for 1909-13 (average annual exports) from Table III. 4. Data for 1913, 1924/25 - 1927/28 from VTSSSR-60.

### Cotton

Row 32. Output of unginned cotton. Data from Diamond-55, p. 73.

Row 33. Procurement by centrally planned agencies. Data for 1924/25 and 1925/26 are from SUA, Vol. V, No. 22 (1926), p. 9. Output was less than marketing according to these data; the possible explanations are underestimates of output or reduction in stock. Data for 1926/27 and 1927/28 are from SUYB-29, p. 238.

### Wool, Sugar Beets, Hides, Skins

Rows 34-37. Procurements by centrally planned agencies. Data for 1924/25 and 1925/26 are from SUA, Vol. V, No. 22 (1926), p. 9. Data for 1926/27 and 1927/28 are from SUYB-29, p. 239.

APPENDIX D

ESTIMATES OF SOVIET FOREIGN TRADE IN  
GOLD, SILVER AND PLATINUM

The purpose of Appendix D is to present estimates of Soviet exports and imports of gold, silver and platinum, and to briefly describe the methodology and sources used for compiling these estimates. These estimates are (1) for determining the importance of platinum exports in inter-war Soviet foreign trade, (2) for determining the value of Soviet foreign reserve holdings and (3) for determining the precious metal component of the Soviet balance of payments. The tables and accompanying table notes for Appendix D are placed after the text to Appendix D on pp. 843 and 853.

Soviet gold exports and imports. Soviet gold exports financed a substantial share of Soviet imports and invisibles on current account during both the NEP and during the first two FYP's. Estimates of the quantity of gold exports in metric tons are presented in Table D.1 and estimates of the value of gold exports in gold rubles are presented in Table D.2.

Since all information on gold production and export was a state secret in the USSR (especially since 1926) the basic sources for all estimates of Soviet gold exports were the recipient countries' trade statistics, so that most non-Soviet estimates of Soviet gold exports are similar. The difference can usually be explained by country coverage (Golowatscheff's data are most complete) or by the failure to take into account the re-export of Soviet gold to the USSR or to a third country (as in the Davidoff series).

Data on Soviet gold exports from 1920 to 1924 are at best estimates and are discussed in Appendix E when discussing the initial stock of gold on January 1, 1923.

Soviet imports and exports of silver. Data on Soviet imports and exports of silver are based on the trade statistics of three countries -- Great Britain, United States, and Germany. The quantity and value of Soviet trade in silver from 1920 to 1937 are presented in Table D.3. The value in gold rubles of Soviet silver trade has been based on the value of the silver trade in the currency of the USSR's trading partner converted at the current exchange rate of that currency for gold rubles (Table D.7).

Much silver and silver coin were imported in the mid-1920's to supply coinage as part of the monetary reform and as a source of

revenue for the Treasury.<sup>1</sup> In 1932, however, the USSR began to export silver in much larger quantities than both current production and the sum of all past Soviet production. I suspect that the Soviet government melted down existing silver coins, including coins (especially Tsarist silver coinage) received through its system of foreign currency stores (Torgsin), and also coins withdrawn from circulation through normal banking operations. This suspicion is reenforced by the decree of February 27, 1932 which authorized the Commissariat of Finance to issue 10, 15 and 20 kopeck coins made of nickel.<sup>2</sup> Ostensibly the "nickel coin decree" was aimed at combatting the "small-change famine" which reached its peak in the summer of 1930 and which was attributed to "counter-revolutionary" hoarding by speculators. It was probably partly caused by hoarding due to inflation and the intrinsic value of silver coin (a phenomenon which also occurred during World

---

<sup>1</sup> Table D.3 and Spasskii-62, p. 212. Silver coins were commissioned in several British mints (Ibid., p. 212). Silver coins of one ruble and of fifty kopecks contained 90% pure silver which was worth about two-thirds of the nominal value. Silver coins of 10, 15, and 20 kopecks were 50% pure silver and were worth in 1926 about one-third of the nominal value. The coins were identical in all ways except design to pre-revolutionary coinage. Based on L. Jourowsky, "The Monetary System of the Soviet Union" in EIKSSSR, pp. 101-103.

<sup>2</sup> Arnold-36, p. 427.

War I).<sup>3</sup> By 1932, however, I suspect that the Soviet government also realized that the days of the circulating silver coin were numbered and decided to withdraw them from circulation and to replace them with token coin. The silver from the coin could then be exported to help meet the severe balance of payments crisis in 1931-33. During 1932, the "small-change famine" got so bad that "paper bons" had to be issued.<sup>4</sup> There is not definite proof, however, that the Soviet government smelted Tsarist and Soviet silver coinage for silver exports except for the above decrees and the extremely large silver exports in 1932-35.

Soviet platinum exports.<sup>5</sup> Platinum metals were considered to be a foreign reserve metal by the Soviet government and platinum exports were an important source of foreign exchange during the inter-war period and especially during the mid-1920's when annual platinum exports accounted for 3.0 - 3.8% of total exports (Table D.8).

Estimating the quantity and value of platinum exports was difficult both because of the secrecy which shrouded platinum exports in the 1930's and the problem of definition of platinum. "Platinum" can

<sup>3</sup> Arnold-36, pp. 425-427.

<sup>4</sup> Arnold-36, p. 427.

<sup>5</sup> Articles on Soviet platinum exports include the following: A.C. "Russkaia platina po mirovom rynke," Ekon. Oboz., Vol. VI, No. 1 (January, 1928), pp. 166-170; "Die Platin Industrie," SUA, Vol. VII, No. 4 (1928), pp. 31-33; Gustav Münzer, "Die Edelmetalle in der sowjetrussisch-deutschen Handelsbilanz," SUA, Vol. VIII, No. 14 (July, 1929), pp. 37-41.

be defined as the pure metal alone or as including all the allied platinum metals such as palladium, iridium, osmium, rhodium and ruthenium. Crude platinum usually contains some of these allied metals. Since we had no information on the Soviet definition of "platinum exports" (as reported, for example, in ERSU, Vol. IV, No. 9 (May 1, 1929), p. 178), and since we are interested in total contribution of platinum metals and all precious metals to the Soviet balance of payments, we assumed that the Soviet definition of "platinum exports" included all allied platinum metals in all forms (sponge, ingot, drawn, rolled) except jewelry. Occasionally, the weights of these allied platinum metals were not included separately in the recipient countries' foreign trade statistics, but omitting the weight of these secondary platinum metals did not greatly affect the weight totals because they were several orders of magnitude smaller (Table D.4). The source notes for each recipient country define the term "platinum" used for each country. The platinum export figures cited in ERSU are assumed to include allied metals (Tables D.4 and D.5).

Value of Soviet platinum exports. The value of Soviet platinum exports for the economic years during the NEP were Soviet estimates of the value of platinum exports and were accepted unchanged, although they probably overstated the final export receipts from the exported platinum because a large portion of this platinum was exported to Germany to a Soviet platinum marketing corporation in 1926 and was used

as security for bank loans and sold at a later date after platinum prices had fallen. The recipient country's trade statistics suffer, however, from the same problem.

The value of Soviet platinum exports was reconstructed in most cases by converting the value of platinum imports from the USSR reported in the recipient country's currency into gold rubles at the then prevailing exchange rate. The value in this case was usually C.I.F. border of recipient country rather than F.O.B. Soviet border so that Soviet platinum exports are overvalued in terms of F.O.B. Soviet border (the conventional way of recording Soviet exports) by using recipient countries' foreign trade statistics. The relative importance of the difference between F.O.B. and C.I.F. is thought to be small because of the high value to weight ratio.

In some cases -- Germany, France and Japan -- direct information on the value of the platinum imports from the USSR are not available for some years. The notes to Table D.5 explain the method of estimating the value of Soviet platinum exports in these cases.



TABLE D. 1

EXPORT AND IMPORT OF GOLD FROM THE USSR  
 REPORTED BY OTHER COUNTRIES 1920-1938

Calendar Year	Net Gold Export by USSR					
	Total Value (millions gold rubles)	Total Weight (m. t.)	Weight (m. t.)			
			to United States	to Great Britain	to Germany	to other countries
(1)	(2)	(3)	(4)	(5)	(6)	
1920	45.1	34.9	...	12.0	...	22.9
1921	17.0	13.2	...	4.1	...	9.1
1922	1.7	1.3	...	...	0.0	1.3
1923	0.0	0.0	...	...	0.0	0.03
1924 <sup>a</sup>	-18.1	-14.0	...	-14.0	0.0	
1925	42.2	35.8	...	+27.8	8.0	
1926	35.6	27.6	...	+12.4	15.2	
1927	6.7	5.2	...	-10.3	15.5	
1928	196.6	152.2	[ 8.0 ]	28.4	123.8	
1929	0.0	0.0	...	...	0.0	
1930	0.0	0.0	...	...	0.0	
1931	114.6	88.7	...	...	88.7	
1932	89.4	69.2	0.0	0.0	69.2	
1933	77.9	60.3	0.0	...	60.3	
1934	93.8	72.6	0.9	...	71.7	
1935	28.9	22.4	16.1	0.8	5.5	
1936	12.9	10.0	10.0	...	...	
1937	230.2	178.2	0.5	177.7	...	
1938	133.4	103.3	0.0	103.3	.	

<sup>a</sup> Minus sign (-) denotes net imports of gold into the USSR.

TABLE D.2

## USSR: ESTIMATES OF THE VALUE OF GOLD EXPORTS

(Millions of gold rubles)

Year	Value of Soviet Gold Exports As Estimated By			
	Recipient Countries' Trade Data	League of Nations	Davidoff	Golowatscheff
	(1)	(2)	(3)	(4)
1920	45.1			121.6
1921	17.1			297.3
1922	1.7			150.1
1923	0.0			-1
1924	-18.1			-16.9
1925	42.2		46	46.6
1926	35.6		34	33.8
1927	6.7		20	6.4
1928	196.6		210	207.1
1929	0.0		45	0.0
1930	0.0		50	0.0
1931	114.6	114.6	114	114.6
1932	89.4	93.3	90	90.6
1933	77.9	77.7	78	78.3
1934	93.8	99.1	99	99.1
1935	28.9	29.1	29	29.2
1936	12.9	13.6	12	12.8
1937	230.2	229.3	230	229.7
1938	133.4		120	-

TABLE D. 3

USSR: EXPORTS AND IMPORTS OF SILVER<sup>a</sup> 1924-1937

(Imports designated by minus sign)

Year	Value in millions of gold rubles				Weight in metric tons			
	Total Value	Exports to			Total Weight	Exports to		
		Great Britain	United States	Germany		Great Britain	United States	Germany
1923		...	...	...		...	...	...
1924	-30.8	-30.8	...	...	-686.1	-686.1	...	...
1925	-4.6	-4.6	...	...	-162.9	-162.9	...	...
1926	0.1	0.0	...	0.1	0.2	0.0	...	0.2
1927	0.0	0.0	...	0.0	0.1	0.0	...	0.1
1928	-1.8	-1.8	...	...	-50.0	-50.0	...	...
1929	-3.4	-3.4	...	...	-105.3	-105.3	...	...
1930	-0.8	-0.9	0.1	...	-29.3	-32.6	3.3	...
1931	...	...	...	...	...	...	...	...
1932	7.5	2.9	...	4.5	855.2	263.4	...	591.8
1933	26.5	11.0	...	15.5	2013.9	763.3	...	1250.6
1934	22.3	10.0	0.1	12.3	3146.6	567.0	3.9	2575.7
1935	13.9	11.7	2.2	.	567.4	473.9	93.5	.
1936	0.7	0.0	0.7	.	31.7	0.2	31.5	.
1937	...	...	0.0	.	2.2	...	2.2	.

<sup>a</sup>Silver in bars and coin. Russian and Soviet coins contained 50% silver in smaller denominations and 90% in the larger denominations.

TABLE D. 4  
 USSR: EXPORT OF PLATINUM BY WEIGHT  
 (kilograms)

	Exports According to Soviet Data	Exports according to trade statistics of importing country						
		Sum of Trade Statistics	Soviet Platinum exports to					
			United States	Great Britain	Germany	France	Japan	Other (Sweden)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
1922		<sup>a</sup> 42						42
1922/23	299							
1923		<sup>a</sup> 215	15	200	0			
1923/24	838							
1924		999		999	0			
1924/25	2925							
1925		2579		2579	n. r.			
1925/26	4098							
1926		4420		4321	99			
1926/27	5073							
1927		5306	130	240	4742		194.0	
1927/28	2455							
1928		2324	186	517	1309		312.0	
1928/29	[2919]							
1929	n. p.	3592	435		2899		258.0	
1930	n. p.	2265	448		1427	127	263.0	
1931	n. p.	2264	211	784	493	161	615.0	
1932	n. p.	2916	2		2469	175	270.0	
1933	n. p.	4701	683	182	2439	655	742.4	
1934	n. p.	2202	358	0	534	652	657.5	
1935	n. p.	5254	694	3019	745	326	470.4	
1936	n. p.	<sup>b</sup> 3554	140	1843	[ 93]	858	619.5	
1937	n. p.	<sup>b</sup> 4787	466	3033	112	730	n. p.	
1938	n. p.	<sup>b</sup> 4516	978	2648	n. p.	890	n. p.	

<sup>a</sup> Considerable quantities of platinum may have been exported through the Baltic countries.

<sup>b</sup> May be understated because of lack of information from Germany and Japan.

TABLE D.5

USSR: ESTIMATES OF THE VALUE  
OF PLATINUM EXPORTS 1922-1938

(Thousands of rubles)

A. SEMI-OFFICIAL SOVIET DATA

Year	1922/23	1923/24	1924/25	1925/26	1926/27	1927/28	1928/29
Value	1867	5733	19010	26639	26569	9820	12106

B. ESTIMATES BASED ON IMPORTING COUNTRIES' STATISTICS

(Includes platinum and allied metals)

Year	Total Value	Estimated Value of Platinum Imports from the USSR to				
		USA	Great Britain	Germany	France	Japan
	(1)	(2)	(3)	(4)	(5)	(6)
1923	1559.9	104.5	1455.4	...	.	...
1924	7111.7		7111.7	...	.	...
1925	15,805.6		15,805.6	...	.	...
1926	28,862.0		28,304.7	557.3	.	...
1927	25,448.3	729.4	1,293.5	22,497.1	.	928.3
1928	11,357.7	896.8	2,508.9	6,687.0	.	1,265.0
1929	13,991.3	1,933.1	...	[10,934.5]	...	1,123.7
1930	5,968.9	1,222.6	...	[3,634.2]	317.8	794.3
1931	5,413.2	572.2	1,887.1	[987.0]	297.3	1,669.6
1932	5,952.5	19.6	...	[5,051.8]	330.0	551.1
1933	6,218.3	1,097.1	275.2	[3,012.4]	[773.2]	1,060.4
1934	2,923.8	515.9	0.3	[783.9]	[777.4]	846.3
1935	6,514.1	974.0	3,766.7	[832.0]	[364.6]	576.8
1936	4,905.7	238.2	2,591.3	[130.9]	[1,165.2]	780.1
1937	<sup>a</sup> 8,377.8	991.3	5,961.8	[189.1]	[1,235.6]	.
1938	<sup>a</sup> 5,243.7	1,088.9	3,109.9	.	[1,044.9]	.

<sup>a</sup>Possibly understated because of lack of information

TABLE D. 6

## UNIT VALUES AND NEW YORK PRICES OF PLATINUM

(\$/troy ounce)

	Average yearly price of refined platinum in retail lots at New York	Unit values of platinum ingot imported into the USA from USSR	Unit values of platinum sponge imported into the USA from the USSR	Unit values of platinum imported into United Kingdom from USSR	Unit values of platinum imported into Germany from the USSR	Unit values of platinum imported into France	Adjusted prices of platinum 90% of New York
1918							
1919	114.61						103.15
1920	110.90						99.81
1921	75.03						67.53
1922	97.62						87.86
1923	116.54	100.00		109.10			104.89
1924	118.82			114.94			106.94
1925	119.09			98.34			107.18
1926	113.27			(104.98)	(89.91)		101.94
1927	84.64	66.49		(82.96)	(76.05)		76.18
1928	78.58	74.99	68.48	77.92	(74.18)	(36.40)	70.72
1929	67.66	65.00	61.46			(63.66)	60.89
1930	45.36	35.51	38.52			(39.98)	40.82
1931	35.67	32.21	30.06	(38.43)		(29.56)	32.10
1932	36.46	(44.73)				(30.07)	32.81
1933	30.99	29.00	29.88				27.89
1934	36.47	35.24	33.45				32.82
1935	34.15	33.49	31.04				30.73
1936	42.93	38.24					38.64
1937	51.77	46.34					46.59
1938	35.90	30.65					32.31

TABLE D. 7

USSR: ANNUAL AVERAGE EXCHANGE RATE AT OFFICIAL  
RATE IN RUBLES

	London 1 £	New York 1 \$	Paris 100 Francs	Amsterdam 100 Florin	Riga 100 Lat	Rome 100 Lire	Stockholm 100 Kroner	Berlin 100 Mark	Japan 1 yen
Parity	9.458	1.943	37.498	78.116	37.498	37.498	52.080	46.29	.9685
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1923 1923/24	9.53	2.12							
1924 1924/25	8.80	> 1.945 1.945							
1925 1925/26	9.36	1.945							.7986
1926 1926/27	9.43 9.44	1.945 1.945	6.16 7.32	77.68 77.66	37.21 37.14	7.65 9.46	53.11 51.87		.9165
1927 1927/28	9.45 9.46	1.945 1.94	7.55 7.61	77.79 78.19	37.10 37.37	10.01 10.29	51.95 52.11	46.21 45.88	.9218
1928 1928/29	9.45 9.42	1.94 1.94	7.62 7.60	78.18 77.83	37.46 37.43	10.21 10.17	52.09 52.00	45.89 46.23	.9023
1929 1929/30	9.43 9.45	1.94 1.94	7.61 7.63	77.92 78.20	37.45 37.51	10.17 10.18	52.06 52.21	46.29 46.42	.8968
1930	9.44	1.94	7.62	78.15	37.47	10.17	52.18	46.36	.9605

TABLE D. 7 (continued)

	London 1 £	New York 1 \$	Paris 100 Francs	Amsterdam 100 Florins	Riga 100 Lat	Rome 100 Lire	Stockholm 100 Kroner	Berlin 100 Mark	Japan 1 yen
Parity	9.458	1.943	37.498	78.116	37.498	37.498	52.080	46.29	.9685
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1931	8.83	1.94							.9508
1932	6.79	1.94	7.58	77.69	37.00	9.86	35.68	45.98	.5495
1933	6.38	1.56	7.51	77.25	37.12	9.96	33.18	45.60	.3923
1934	5.80	1.14	7.50	76.70		9.80	29.79	45.17	.3450
1935	5.58	1.12	7.50	76.91		9.41	28.66	45.84	.3315
1936	5.60	1.15	7.61	78.23		9.25		46.34	.3345
1937	5.73	1.13							.3345
1938	5.73	1.13							



TABLE D. 8

USSR: NET EXPORTS OF PRECIOUS  
METALS: 1923-1938<sup>a</sup>

(millions of gold rubles)

	Total Net Exports	Net Soviet Exports of			Net exports of precious metals as % of		Net Platinum exports as % of total exports
		Gold	Silver	Platinum	Total	Total	
					exports	imports	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	
1923	1.6	0.0	.	1.6	0.5%	0.9%	0.5%
1924	- 41.8	- 18.1	-30.8	7.1	- 8.8%	- 8.5%	1.5%
1925	53.4	42.2	- 4.6	15.8	8.8%	6.5%	2.6%
1926	64.6	35.6	0.1	28.9	8.9%	9.4%	4.0%
1927	32.1	6.7	0.0	25.4	4.3%	4.2%	3.4%
1928	206.1	196.6	- 1.8	11.3	25.7%	21.6%	1.4%
1929	10.6	0.0	- 3.4	14.0	1.4%	1.2%	1.5%
1930	5.2	0.0	- 0.8	6.0	0.5%	0.5%	0.6%
1931	120.0	114.6	...	5.4	14.8%	10.9%	0.7%
1932	102.9	89.4	7.5	6.0	17.9%	14.6%	1.0%
1933	110.6	77.9	26.5	6.2	23.5%	31.8%	1.3%
1934	119.0	93.8	22.3	2.9	28.4%	51.1%	0.7%
1935	49.3	28.9	13.9	6.5	13.4%	20.4%	1.8%
1936	18.5	12.9	0.7	4.9	6.0%	6.0%	1.6%
1937	238.5	230.2	...	8.3	63.4%	81.8%	2.2%
1938	138.6	133.4	.	5.2	47.3%	44.3%	1.8%

<sup>a</sup> Minus sign (-) denotes net imports.

TABLE D. 9

USSR: EXPORTS AND IMPORTS  
OF PRECIOUS METALS

(millions of rubles)

Economic year	Net export of precious metals	Gross exports of precious metals	Exports of		Gross imports of precious metals	Imports of	
			Gold	Platinum		Gold	Silver
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1924/25	24	70	[ 51.0]	19.0	46	[8.5]	37.5
1925/26	72	81	[ 54.4]	26.6	9	0.0	9.0
1926/27	34	49	[ 22.4]	26.6	15	[13]	2.0
1927/28	155	155	[145.2]	9.8			
1928/29	67	70	[ 57.9]	12.1	3	...	3.0
1929/30	8	9	[ 0.0]	9.0	1	...	1.0
1930/31	110	110			0	...	

Notes to Tables in Appendix D

Notes to Table D.1

Col. 1: Column 2 multiplied by 1,291,590 rubles, which is the value of one metric ton of gold in gold rubles.

Col. 2: Sum of columns 3 through 6.

Col. 3: Soviet gold exports to the USA from FCNUS (various years). Eight metric tons of gold were sent by the USSR to the USA in March 1928, but because of legal claims of ownership made by the French government, this gold was re-exported by the USSR to Germany. For a description of this incident, see ERSU, Vol. III, No. 7 (April 1, 1928), pp. 114-115, and ERSU, Vol. III, No. 8 (April 15, 1928), pp. 134-135.

Col. 4: Soviet gold exports to and imports (denoted by minus sign) from ASTUK (various years).

Col. 5: Soviet gold exports to Germany. Figures for 1920-1925 from AHD (various years). Figures for 1926-1929 from STATJAHR-31, p. 213; for 1929-1930 from STATJAHR-35, p. 30; for 1931-1937 from STATJAHR-38, p. 252.

Col. 6: Soviet gold exports to other countries. Gold exports direct from USSR to Sweden reported in SCB-67. Japan: No gold was exported to Japan according to a letter of 24 November 1967 from Laurence Vass, Minister for Economic Affairs, Embassy of the United States of America, Tokyo, Japan. His information was based on discussion with research personnel in the library of the Ministry of Finance.

Notes to Table D.2

Col. 1: Other countries' trade data. From column 1 of Table D.1.

Col. 2: League of Nations' data (1931-1937). League-38a, pp. 13-14. Nations. Money and Banking 1937/38: Volume I: Monetary Review (1938), pp. 13-14. Data converted from "old dollars" into gold rubles at the parity exchange rate of one dollar equals 1.9434 gold rubles.

This source commented that: "These figures take into account the gold recorded in Customs returns of other countries -- mainly Germany, the United Kingdom, and the United States -- as imported from the USSR. It is probable that the quantity of gold which left the USSR has been larger than these figures suggest."

Col. 3: Davidoff data. Figures from Davidoff-39, pp. 292-293.

Col. 4: Golowatscheff data. Figures for gold exports from Soviet holdings for 1920-1922 from Golowatscheff-38, p. 465. Figures for 1923 and 1924 from Golowatscheff-38, p. 465. Figures for 1925-1930 from Golowatscheff-38, pp. 522-523. Figures for 1931-1937 from Golowatscheff-38, pp. 381-383.

#### Notes to Table D.3

##### Source by country

Great Britain: ASTUK (various years). Converted to gold rubles at the following exchange rates: 1924, 1£ = 8.5878 gold rubles and others listed in Table D.7.

United States: FCNUS (various years). Converted to gold rubles at the exchange rates listed in Table D.7.

Germany: Figures for 1925-1927 from AHD (various years). Figures for 1930-1934 calculated as a residual of a series including both silver and gold in coin and bars (STATJAHR-32, p. 219, STATJAHR-35, p. 230) minus a series including only gold (STATJAHR-38, p. 252). The weight of Soviet gold exports from Table D.1 was subtracted from weights in metric tons cited in the first series. The Reichsmark's values are converted into rubles by an unweighted average exchange rate for the year (Table D.7) of 45.63 kopecks per mark for 1931, 45.95 kopecks per mark for 1932 and 45.57 kopecks per mark for 1933.

#### Notes to Table D.4

Col. 1: Soviet sources: Figures for 1922/23-1927/28 from ERSU, IV, 9 (May 1, 1929), p. 178; for 1928/29 from League-31a, p. 261, where the remaining figures for exports of crude platinum agreed with the above source.

Col. 2: Sum of platinum imports reported directly from the USSR by the United States, Germany, Great Britain, France, Japan. Incomplete for 1937-38.

Col. 3: United States. FCNUS (various years from 1920 to 1938). Weight refers only to United States imports of ingot and sponge platinum. Value includes imports of platinum in other forms (wire, sheet, etc.) and platinum allied metals. The United States imported large amounts of platinum from Estonia and Latvia in the early 1920's which probably came from the USSR either as part of the original peace settlement in 1920 or as indirect imports through middlemen.

Col. 4: Great Britain. ASTUK (various years from 1920 to 1938). Weight and value refer to imports of platinum (wrought or unwrought) and rare metals. Great Britain imported substantial amounts of platinum from Latvia and Estonia during the early 1920's which probably came directly or indirectly from the USSR.

Col. 5: Germany. Figures for 1912-29 from AHD (various years). Weight and value includes rare metals. For 1929-1939 from Minerals (various years).

Col. 6: France. Assumed to be zero for 1922-1927. Data for 1928-1938 from TGCE (various years). Weight and value included "platinum, en masses, barres, bijoux casses."

Col. 7: Japan. Information for 1922-38 from Vass-67.

Col. 8: Other (Sweden) SCB-67.

#### Notes to Table D.5

- A. Semi-official Soviet data. Figures for 1922/23 - 1927/28 from ERSU, Vol. 4, No. 9 (May 1, 1929), p. 178. Figures for 1928/29 from League-31b, p. 261.
- B. Estimates of Soviet platinum exports based on recipient countries' statistics.

Col. 1: Total value of Soviet platinum exports as reported in recipient countries' statistics (United States, Great Britain, Germany, France, Japan): Sum of columns 2 through 7. Usually includes all forms of platinum and platinum metals, but coverage varies slightly from

country to country. Estimates for early years may understate significantly total Soviet platinum exports due to exports through Baltic countries.

Col. 2: Soviet platinum exports for 1922-1938 to USA. Data from FCNUS (various years). Included both platinum and allied metals in ingot, sponge and other forms. U.S. dollar value converted to gold rubles according to exchange rates in Table D.7 except 1935-1938 when they were converted at parity.

Col. 3: Soviet platinum exports to Great Britain. Data from ASTUK (various years). Included platinum and allied metals. Converted into gold rubles according to the exchange rates in Table D.7.

Col. 4: Soviet platinum exports to Germany. Figures for 1923-1928 from AHD (various years). Included platinum and allied metals and excluded "finished products" from the "noble metals." Reichsmarks value converted to gold rubles according to exchange rates in Table D.7. Figures from 1929 to 1937 from Mineral (various years) from the section on "Platinum," and the table heading "Platinum imports into Germany from the USSR." Presumably these data were based on data from AHD. Only quantity was cited, so that the "value in gold rubles" for Soviet platinum exports to Germany was obtained by multiplying the quantity in troy ounces times the "adjusted New York price" (Table D.6) times the exchange rate into gold rubles per dollar in Table D.7. This method assumed that the shipments to Germany were sold at an average price in Reichsmarks of 90% of the New York annual yearly price converted to Reichsmarks at the average exchange rate. The actual price may be substantially different. Ruble values estimated in this manner are identified by brackets.

Col. 5: Soviet platinum exports to France. No data located for years 1923-1927. Figures for 1928-1932 from TGCE (various years). Value in gold rubles calculated by assuming that the unit value of platinum imported into France from USSR was identical to unit value of total platinum imports into France and converting the value of French platinum imports from the USSR estimated in francs on the above assumptions into gold rubles according to the exchange rate in Table D.7. Included platinum in "masses, barres" and "bijoux casses." Figures from 1933 to 1938 from Mineral (various years); weight of platinum imports into France from USSR in troy ounces converted into gold rubles according to the same method used for German imports of platinum from the USSR from 1929-1937.

Col. 6: Soviet platinum exports to Japan. Weight and value in yen from Vass-67. Yen values converted into gold rubles on the exchange rate cited in Table D.7.

Notes to Table D.6

1. USA (New York Price). Average yearly price for sales in miscellaneous small lots at New York in dollars per troy ounce. (Average computed with equal weights for each month.) Quoted price.
 

1919-1927: Mineral-27, p. 466. In 1927, "the open market price for large lots was fairly uniform at \$6 under the quoted price."

1928-1935: Mineral-35, p. 469. In 1935, "it is understood that wholesale transactions between dealers and refiners are at prices 10% lower."

1936-1938: Mineral-38, p. 499.
2. USA: Unit value of platinum sponge imported into USA from USSR (dollars/troy ounce). Dollar values divided by weight in troy ounces. Source: FCNUS (various years).
3. USA: Unit value of platinum ingots, etc. Same procedure and source as column 2. 1932 price based on very small value and quantity of imports.
4. United Kingdom: Unit value of platinum (wrought and unwrought) imported into the United Kingdom from the USSR, converted from pounds to dollars at average exchange rate as reported in FRB. Included rare metals until 1937. See source notes to Table D.5.
5. Germany: Unit value of platinum imported into Germany from the USSR converted from Reichsmarks to dollars at average exchange rate as reported in FRB. Included rare metals wrought and unwrought. See source notes to Table D.5.

Notes to Table D.7

Parity exchange rates of rubles for selected currencies based on legal gold contents. Data from SUYB-30, p. 419 and STAT-25, p. 782. A new parity of the ruble for the franc was established in 1933.

Average exchange rates. Unweighted average of official exchange rate on the last (trading) day of each month. Exchange rates for 1926 were based on last five months of 1926. Exchange rates for 1931 were not calculated for most currencies because of lack of data. It was assumed that the dollar was quoted at parity. The average exchange rate for the British pound sterling was estimated as the unweighted average of 9.43 rubles/£ for the months of January to August and 9.38, 7.42, 7.24, and 6.45 rubles/£ for the months of September to December. Exchange rate for 1935 was based on first eleven months of 1935. Official Soviet data were not located for post-1935 period. U.S. dollar and British pound sterling exchange rates for 1923-1925 were based on unweighted averages of data cited in Table VIII.3. Data for 1936 were adapted from Aizenberg-62, p. 238. Data for U.S. dollar and for British pound sterling for 1937 and 1938 based on new parity rates established by the USSR in 1937 (see Notes to Table A.1a). All data for Japanese yen were based on the parity of the yen cited in STAT-25, p. 782 and the relation of the yen to its gold parity as stated in STATJAHR (various years).

Sources: The underlying monthly data were from the following publications. Figures for August 22, 1922 to February 28, 1931 were from Monthly Survey (various months), published in Moscow by the State Bank of the USSR (Gosbank). No data were located for period from February 28, 1931 to September 20, 1931. Data for 1930-1931, when published, were from Bank of Russian Trade Review, London. Data for 1932-35 were from the Monthly Review, published by the Moscow Narodny Bank, Ltd., London.

Notes to Table D.8

Col. 1: Total net exports of precious metals. Sum of columns 2 through 4.

Col. 2: Net gold exports. Figures of trade data from column 1 of Table D.2.

Col. 3: Net silver exports. Figures from column 1 of Table D.3.



Col. 4: Net platinum exports. Figures from column 1 of Part B of Table D.5.

Col. 5: Net precious metal exports as % of total exports. For 1923 and 1924 the value of annual exports in current prices is assumed to be the same ratio to the value in 1913 prices as the values of annual exports for 1922/23 and 1923/24 in current prices are to the values in 1913 prices. The values for the calendar years 1923 and 1924 probably include platinum (VTSSSR-60). See Appendix A, Technical Note 2 for estimates of 1922/23 and 1923/24 trade in current prices. The ratio for 1922/23 is 1.5811 and for 1923/24, 1.4076, for exports, and 1.26 and 1.88 for imports. VTSSSR-60 states that exports in 1923 and 1924 were 218 and 337; imports were 143 and 250, so that estimates for 1923 and 1924 are 345 and 474 for exports and 180 and 489 for imports.

Figures for 1925-1929 from VTSSSR-39 are known to exclude platinum exports. Figures for 1930-1938 are from VTSSSR-60, and exclude trade in precious metals (Appendix A, Technical Note 3, Table 3a).

Col. 6: Net precious metal imports as % of total imports. Imports in current prices for calendar years 1923 and 1924 estimated by procedure described for exports (in col. 5 above). Imports in current prices for calendar years 1925-1938 from VTSSSR-60; data converted to gold rubles. Column one was divided by the resultant time series for imports.

Col. 7: Column 4 divided by export series described in column 5.

#### Notes to Table D.9

Col. 1: Column 2 minus column 5 or Shenkman-32, p. 553.

Col. 2: Birmingham-32a, p. 13 and Shenkman-32a, p. 553.

Col. 3: Column 2 minus column 4. Assumed no silver export during period.

Col. 4: Figures from Table D.5, Part A.

Col. 5: Birmingham-32a, p. 13 or Shenkman-32a.

Col. 6: Gold imports for 1924/25 from Great Britain from League-26a, p. 80. The gold import from Great Britain in 1927 (Table D.1) was presumed to have occurred during 1926/27. No other gold imports occurred during this period as far as can be determined.

Col. 7: Column 5 minus column 6.

## APPENDIX E

## ESTIMATES OF SOVIET FOREIGN RESERVE HOLDINGS

Virtually no information has been published by official Soviet authorities about the total foreign reserves held by the USSR during the inter-war period. The published balance sheet of the State Bank of the USSR was not an accurate indicator of both the absolute level of Soviet foreign reserves and changes in the level of Soviet foreign reserves. During NEP, the total foreign reserves held by the State Bank tended to understate the actual Soviet foreign reserves because the Commissariat of Finance and other institutions held foreign reserves, which were potentially or actually available for international payments. After 1930, the State Bank's published total reserves -- and especially the gold stock component -- rapidly outpaced even the most optimistic estimates of the possible gold stock, which led the League of Nations to suggest that the Soviet State Bank's estimates included gold shipped abroad in pledge for payments for imports and credits.<sup>1</sup>

---

<sup>1</sup> League-37a, p. 139.

Method used for our estimates of  
total Soviet foreign reserves

The estimates for total Soviet foreign reserves (Table E.3) are based on independent estimates of the gold stock held within the USSR (Table E.1) combined with estimates of non-gold foreign reserves held by the Soviet State Bank (Table E.2). All tables and table notes for Appendix E are at the end of the text of the appendix on pp.

Estimates of the Soviet stock of gold must take into account (1) initial stock of gold, (2) expenditure of gold, (3) production of domestic gold and (4) purchases and requisitions of gold from the population and from abroad.

Estimating the initial stock of Soviet gold for January 1, 1923 is complicated and subject to many uncertainties because of the problems in determining the disposition of the original gold stock of about 1292 million rubles inherited by the Soviet government in October 1917.<sup>2</sup> Part was paid in compensation to Germany and the border states; part was seized and spent by the White forces, and a large part was shipped abroad in 1920-1922 in payment for imports and famine relief.<sup>3</sup> Golowatscheff's estimates of the Soviet gold stock for January 1, 1923 were the most reliable estimates, I think, because he correctly identified

---

<sup>2</sup> Golowatscheff-38, p. 461. Also in many other sources.

<sup>3</sup> For example, see Golowatscheff-38 (pp. 457-465) for a description of the disposition of the Tsarist gold stock during the period 1917-1923. Many other authors have attempted to estimate the disposition of the Tsarist gold stock during this period, including FRB, October, 1922, p. 1202, Baikalov-34, p. 33, Davidoff-39, p. 291ff.

the actual disbursements of gold (especially for treaty obligations) by Soviet authorities; these disbursements I have verified in other sources. Golowatscheff estimated that the Soviet stock of gold on January 1, 1923, was 281 million rubles, not including the 118 million rubles in gold sent by the Rumanian government to Russia in 1916 for safekeeping and not returned by the Soviet government.<sup>4</sup> Golowatscheff's estimates of the Soviet gold stock are used as the gold stock estimates for my estimates of total Soviet foreign reserves (Table E.1).

Other economists and organizations have attempted to estimate Soviet gold output, Soviet gold exports and Soviet gold stocks: two major studies of Soviet gold stocks are Davidoff-39 and Baikalov-34.<sup>5</sup> The Director of the U.S. Mint also presented estimates in their Annual Reports which are representative of the other estimates of Soviet gold output during this period; this series is also presented for comparison with Golowatscheff's data in Table E.1. An alternative series for the gold stock is also shown in Table E.1.

Soviet "expenditures of gold" were largely for covering the balance of payments and these exports (and imports) of gold by the USSR can be reasonably well reconstructed from the recipient countries' trading statistics (Table D.2). The State Bank or the Commissariat of

---

<sup>4</sup> Golowatscheff-38, p. 429.

<sup>5</sup> See footnote 7 on page 864.

Finance also spent gold on the domestic "free exchange" market in order to support the exchange rate of the chervonets ruble in terms of gold and foreign currency during the period 1924-1926, but this sum is thought to be insignificant compared to Soviet gold exports.

Estimates of Soviet gold output since 1926 are difficult to make because of the secrecy of the Soviet government about the absolute quantity of gold produced and because of the uncertainty about the Soviet definition of "gold produced." The issue centered on the inclusion or exclusion of gold refined from old gold turned in (for example, at the Torgsin stores) or confiscated by the government.<sup>6</sup> By using Golowatscheff's estimates of Soviet gold stocks, we implicitly accepted his estimates of Soviet gold output. In comparison with the estimates of other sources, Golowatscheff's estimates tend, on the average, to be slightly on the high side.<sup>7</sup> Golowatscheff's estimates for Soviet gold output after 1926 (as are all other estimates) are based on statements about relative gold output in the Soviet press rather than official Soviet figures on absolute quantity of gold output.

---

<sup>6</sup> For description of Torgsin foreign currency stores, see Aizenberg-62, p. 65 and Arnold-36, pp. 415-416, 447-448, and 520-521.

<sup>7</sup> Golowatscheff's estimates are close or identical to Davidoff-39 (pp. 266-270). Both these series are slightly higher than Prokopovich-40 (pp. 484-490), Baikalov-34, Arnold-36 (p. 416) and League-37a (p. 59). Thus, the increase in gold stocks and total reserves used for the text of this study may be overstated. See Table E. 1.

Estimates of non-gold Soviet  
foreign reserves

I have not found any official information about Soviet holdings of non-gold foreign reserves which included platinum, silver, foreign currency, deposits in correspondent banks abroad and foreign bills of exchange. The only available indicator of the magnitude of these non-gold foreign reserves appears to be the non-gold holdings of the State Bank of the USSR (Table E.2). A breakdown of the foreign exchange holdings of the State Bank is available only for the Issue Department (for the chervonets-ruble banknotes) of the State Bank and the total foreign reserves "assigned" to the Issue Department as "firm cover" for the chervonets were frequently less than the total foreign reserves of the State Bank. Therefore, the composition of the foreign reserves held by the State Bank but not assigned to the Issue Department is unknown and could be either all gold or all non-gold foreign reserves. Because of these uncertainties, two series of estimates for non-gold foreign reserves were calculated. The "minimum series" of non-gold Soviet foreign reserves are simply the series of platinum, silver, and foreign exchange assigned to the Issue Department. In the "minimum series" it is implicitly assumed that all foreign reserves held by the State Bank but not assigned to the Issue Department were gold. In the "maximum series" of non-gold Soviet foreign reserves it is assumed that all gold in the State Bank was assigned to the Issue Department so

that all foreign reserves held by the State Bank but not assigned to the Issue Department were non-gold foreign reserves. For the maximum series, the gold stock of the Issue Department was subtracted from the total foreign reserves held by the State Bank. This method assumed that all non-gold foreign reserves were held in the State Bank and that the data of the State Bank for non-gold foreign reserves were not "inflated" in the post-1929 years (State Bank's figures for gold holdings are thought to be excessively high after 1929.).



TABLE E. 1

USSR: STOCK OF GOLD BASED ON  
GOLOWATSCHEFF'S STUDY

(millions of rubles)

As of January first	Golowatscheff's estimates of			Estimate of Soviet gold output Dir. U.S. Mint <sup>b</sup>	Alternative estimate of gold stock
	Soviet gold stock <sup>a</sup>	Soviet gold <sup>b</sup> output	Soviet net gold exports		
	(1)	(2)	(3)	(4)	(5)
1923	281	10	- 1 <sup>c</sup>		
1924	290	23	- 17 <sup>c</sup>		
1925	330	31	46.6		
1926	314	34	33.8	35.9	314.0
1927	314	39	6.4	32.5	316.1
1928	347	47	207.0	36.1	342.2
1929	187	56	0.0	43.6	171.3
1930	243	69	0.0	57.6	214.6
1931	312	82	114.5	68.3	272.5
1932	289	96	90.7	79.9	226.3
1933	304	136	78.4	107.1	213.5
1934	372	195	99.0	154.9	242.2
1935	478	242	29.2	192.1	298.1
1936	701	305	12.9	210.1	461.0
1937	993	310-	230.0	215.2	658.2
1938	1075- 80	315		210.3	643.4

<sup>a</sup> Does not include unreturned Rumanian gold of 118 million rubles. See Table Note

<sup>b</sup> Calendar year of year cited for January first gold stock.

<sup>c</sup> Minus sign denotes net imports.

Source: Notes to Table E. 1 are on page 871.

TABLE E. 2

USSR: ESTIMATES OF FOREIGN RESERVES EXCLUDING GOLD BASED ON  
NON-GOLD RESERVES OF STATE BANK (GOSBANK)

(millions of rubles)

As of Jan. 1st	Foreign Reserves of State Bank of USSR					Estimates of Non-gold Foreign Reserves	
	Total Foreign Reserve Holdings of State Bank	Assigned to Issue Department				minimum estimate	maximum estimate
		Total "Firm Cover" of Issue Department	Gold Assigned to Issue Department	Platinum Assigned to Issue Department	Foreign <sup>e</sup> Assigned to Issue Depart.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1923	29.1	15.1	5.1		10.0	10.0	24.0
1924	212.6	148.0	87.5	1.1	69.3	70.4	125.1
1925	351.7	257.4	142.0	13.0	102.4	115.4	209.7
1926	282.5	266.8	182.4	33.7	50.7	84.4	100.1
1927	303.0	258.0	164.4	30.4	63.2	93.6	138.6
1928	296.4	285.5	188.6	20.7	76.2	96.9	107.8
1929	320.1	304.1	178.5	44.4	81.2	125.6	141.6
1930	402.8	391.1	285.7	34.6	70.8	105.4	117.1
1931	562.2	561.0	483.6	22.3	55.1	77.4	78.6
1932 <sup>b</sup>		707.1	637.9	22.8	46.4	69.2	
1932 <sup>b</sup>		762.9	714.5	17.5	30.9	48.4	
1934		862.0	807.8	9.2	45.0	54.2	
1935		896.5	854.3	8.4	33.8	42.2	

<sup>a</sup>Included silver through April, 1930. <sup>b</sup>September 1, 1932. <sup>c</sup>Column 4 plus 5.<sup>d</sup>Column 2 minus 3. <sup>e</sup>Included bills of exchange drawn in foreign currency.

Source: Notes to Table E. 2, p. 871.

TABLE E. 3  
USSR: ESTIMATES OF TOTAL  
FOREIGN RESERVES

As of January first	Gold stock	Non-Gold Reserves		Total Foreign Reserves of U. S. S. R.	
		Minimum estimate	Maximum estimate	Minimum estimate	Maximum estimate
	(1)	(2)	(3)	(4)	(5)
1923	281	10.0	24.0	291	305
1924	290	70.4	125.1	360	415
1925	330	115.4	209.7	445	540
1926	314	84.4	100.1	398	414
1927	314	93.6	138.6	408	453
1928	347	96.9	107.8	444	455
1929	187	125.6	141.6	313	329
1930	243	105.4	117.1	348	360
1931	312	77.4	78.6	389	391
1932	289	69.2	.	358	.
1933	304	48.4	.	352	.
1934	372	54.2	.	426	.
1935	478	42.2	.	520	.
1936	701	.	.	.	.
1937	993	.	.	.	.
1938	1075- 80	.	.	.	.

Source: Notes to Table E. 3 are on page 871.

TABLE E. 4

USSR: VALUE AND QUANTITY OF  
PLATINUM OUTPUT

Economic Year	Output		Exports		
	Kilograms	Value million rubles <sup>a</sup>	Kilograms	Value million rubles	Rubles/ kilogram
	(1)	(2)	(3)	(4)	(5)
1922/23			299. 1	1, 870	6252
1923/24	1770	12. 1	838. 4	5, 730	6834
1924/25	2950	19. 2	2, 924. 6	19, 010	6500
1925/26	2880	18. 7	4, 098. 3	26, 640	6500
1926/27	3110	16. 3	5, 073. 1	26, 570	5237
1927/28			2, 454. 9	9, 820	4000

<sup>a</sup> Valued at unit values of Soviet platinum exports.

Source: Notes to Table E. 4 are on page

TABLE E. 5

## USSR: GOLD OUTPUT

	Metric Tons	Rubles, millions
	(1)	(2)
1922/23	11. 2	14. 5
1923/24	20. 0	28. 8
1924/25	25. 3	32. 6
1925/26	25. 1	32. 4
1926/27	23. 2	30. 0

Source: Notes to Table E. 5 are on page

Notes to Tables in Appendix E

Notes to Table E.1

Col. 1: Stock of gold as of January 1. Figures for 1923-1925 from Golowatscheff-38, p. 469. Does not include Rumanian gold of 118 million rubles which was shipped to Russia in 1916 for safekeeping (Ibid., p. 457 and p. 469). Figures for 1926-1929 from Golowatscheff-39, p. 522. Figures for 1930 and 1931 from Golowatscheff-38, p. 523. Figures for 1932-1936 from Golowatscheff-38, p. 581.

Cols. 2 and 3: Output and net exports of gold. Figures for 1923 and 1924 from Golowatscheff-38, p. 469. Figures for 1925-1928 from Golowatscheff-38, p. 521. Figures for 1929 and 1930 from Golowatscheff-38, p. 523. Figures for 1931-1936 and for 1937 from Golowatscheff-38, p. 581 and p. 583.

Col. 4: Estimates of Soviet gold output. Published in Annual Reports of Director of the Mint [of the United States]. Data cited in Shimkin-53, p. 171.

Col. 5: Alternative series of estimates for Soviet gold stock based on Golowatscheff's estimate of the Soviet gold stock for January 1, 1926 and summing the difference between Golowatscheff's estimates for exports and the Director of the U.S. Mint's estimates of Soviet gold output (i.e., the sum of column 4 minus column 3).

Notes to Table E.2

Cols. 1-5: Data from the Balance Sheet of The State Bank of the USSR and from the Balance Sheet of the Issue Department of the State Bank of the USSR as published in ERSU (various issues).

Col. 6: Sum of columns 4 and 5.

Col. 7: Column 2 minus column 3.

Notes to Table E.3

Col. 1: Gold stock. From Table E.1, column 1.

Cols. 2 and 3: Non-gold reserves. From Table E.2, columns 6 and 7.

Col. 4: Sum of columns 1 and 2.

Col. 5: Sum of columns 1 and 3.

Notes to Table E.4

Col. 1: Output data from Minerals-27, p. 731.

Col. 2: Column 1 multiplied by column 5.

Cols. 3 and 4: Export data from ERSU, Vol. IV, No. 8 (May 1, 1929), p. 178.

Col. 5: Unit-value of Soviet platinum exports obtained by dividing column 4 by column 3.

Notes to Table E.5

Col. 1: Output data from ERSU, Vol. III, No. 16-17 (September 1, 1928), p. 284.

Col. 2: Value of Soviet gold output obtained by multiplying the weight of gold output in kilograms by the value of one kilogram of gold at the official parity rates (1 kg. gold equalled 1291.59 rubles).

## APPENDIX F

ESTIMATING PRICE AND VOLUME INDEXES FOR  
SOVIET FOREIGN TRADE 1913, 1924-1928

The purpose of Appendix F is to describe the statistical procedures used in computing the volume and price indexes for total exports and total imports, the basic import and export volume and price indexes, and the price and volume indexes for selected commodity groups. The indexes have been computed using 1913, 1926/27, 1927/28, 1932 and 1937 price and quantity weights. All tables and notes to tables for Appendix F are placed at the end of this appendix.

Total volume and price indexes

The volume and price indexes for total exports and total imports are essentially value-weighted combinations of the basic volume and price indexes for the major exports and imports with price and volume indexes of selected commodity groups. These latter groups were specifically excluded from the basic indexes because of the diverse nature of the individual commodities in these commodity groups and because

of inadequate unit-value data for the entire period. Separate indexes for these latter commodity groups used (1) data from sources other than VTSSSR-60 and (2) aggregate deflators for entire commodity groups. These separate indexes and the basic index were combined into total price and volume indexes using value-based weights, i. e., using the share in total exports or imports in a given "weight year" of each group specifically excluded from the index for reasons mentioned above. The value weight for the basic index is one minus the share of the specifically excluded groups. The groups specifically excluded from the basic index and the methods of estimating the indexes for these separate commodity groups are described below.

#### Basic volume and price indexes

The indexes for prices and volume used in this study were based largely on the so-called "basic price and volume indexes" which were calculated using commodities for which fairly reliable "unit-values" or prices were available.

The price indexes are conventional indexes which use unit-values of exports (or imports) to represent "prices" and use the quantity exported in the selected "weight year" for weights. The resultant series were then converted to a base year of 1927/28 (1927/28 = 100) to facilitate comparison of the indexes with different weights. The formulation for the price indexes for exports is the following:



$$\begin{aligned}
 \text{PI}_{y,w} &= \frac{\sum Q_w^i P_y^i}{\sum Q_w^i P_w^i} \cdot 100 = \frac{\sum Q_w^i P_y^i}{\sum Q_w^i P_{27/28}^i} \cdot 100 \\
 &= \frac{\sum Q_w^i P_y^i}{\sum Q_w^i P_w^i} \cdot 100
 \end{aligned}$$

where:

$\text{PI}_{y,w}$  = price index in year "y" weighted with quantities of year "w"

$Q^i$  = quantity exported of commodity "i"

$p^i$  = unit-value of commodity "i"

w = weight year

y = current year

In all, five price indexes have been computed using 1913, 1926/27, 1927/28, 1932, and 1937 quantity weights; all are arithmetical averages of the same set of prices, varying only in the quantities used for weighting the various prices.

---

<sup>1</sup> See Moorsteen-62 (pp. 1-8, 35-43) for a description of the procedures used in calculating such indexes. The procedure in our study is essentially similar except that unit values were combined directly with the quantity weights for year "x" and the resultant series was divided by the value of the series for 1927/28 to get an "x-weighted" price index with 1927/28 as the base year. Moorsteen used price-relatives for each item and combined these price-relatives using value-weights for each of the weight years (see Moorsteen-62, pp. 40-41).

The volume indexes were calculated in a similar manner using the quantity of each commodity exported (or imported) weighted by the unit-value of that commodity in the weight year:

$$V_{y,w} = \frac{\sum P_w^i Q_y^i}{\sum P_w^i Q_w^i} \cdot 100 = \frac{\sum P_w^i Q_y^i}{\sum P_w^i Q_{27/28}^i} \cdot 100$$

where:

$V_{y,w}$  = volume of exports in year "y" using unit-value weight of year "w"

$Q^i$  = quantity exported of commodity "i"

$P^i$  = unit-value of commodity "i"

w = weight year

y = current year

In most cases, "weight" in metric tons was used as an indicator of quantity; for selected items, "units" or "area" was used because it was thought more appropriate for the commodity in question (cloth) or it was the only information available (hides).

Selection of items for basic indexesand "substitute unit values"

Table F.1 lists the 73 commodities included in the basic export indexes and related indexes. The criteria for selection of these items is less than ideal. The inclusion of a particular item depended on the homogeneity of the product, the availability of data, and the availability of reasonable outside information to fill in gaps in the unit-values when exports ceased or fell to extremely low levels (thereby distorting the representativeness of the unit-values). The unit-values of some exports were accepted without any adjustment, but "substitute unit-values" were calculated for several years for many series because exports ceased or fell to insignificant levels.

The following procedure was used to estimate these "substitute unit-values." A price series for the commodity for which reliable unit-values could not be calculated from export data was obtained from one of several sources: spot prices on a major commodity market, export or import unit-values of British, U.S., or German foreign trade, or wholesale prices in Great Britain (published in STATABUK) or Germany (published in STATJAHR), the two major Soviet export markets. The foreign price series were adjusted for devaluation of the pound sterling and the dollar in the relevant years by multiplying the price by the correction coefficients for devaluation (Table F.9). A unit-value of Soviet exports of this commodity for a nearby year, for

which reliable data were available, was multiplied by an index of the selected substitute price series in order to derive the "substitute unit-values." The resultant "substitute unit-values" were then included in the price index in the normal manner described above. Substitute unit-values for any of the years 1913, 1922/23, 1923/24 were often calculated from the actual unit-values of any one of these years, for, in theory, all trade data for these years were entered in 1913 prices (see Appendix A, Technical Note 2).

#### Coverage and adjustments for basic volume index

The "basic export indexes" were computed using the 73 commodities listed in Table F.1. "Machinery" (SOVTC 1) and "furs" (SOVTC 52) were specifically excluded from the basic export indexes because the unit-values for machinery and furs based on the data in VTSSSR-60 did not reflect the actual trend in prices either theoretically or in practice. Separate price and volume indexes for these "specifically excluded commodity groups" were estimated and combined with the basic export indexes to derive the total export indexes.

#### Adjustments for incomplete coverage in export volume index.

The share of the 73 items in the basic export index and the share of machinery and fur exports are presented in Table F.2. The value of exports not included in either the basic index or in the fur or machinery commodity groups varied from 5% to 19% of the value of total exports.

The inability to include all items in either the basic index or in the specifically excluded groups (fur and machinery) introduces the possibility that the basic and total volume indexes do not accurately reflect the "actual changes in volume" which would be estimated if all commodities could be specifically included in the indexes.<sup>2</sup> Thus, in estimating a volume index for all exports this explicit variation in the coverage of the basic index and other specifically excluded commodity groups should be taken into account in order to get a more meaningful index of the volume of exports. For our index, this adjustment for changes in the coverage of total exports by the basic index and other specifically excluded groups was made by dividing the basic volume index by the following ratio:

$$\frac{\left( \frac{\text{value of commodities included in basic index}}{\text{value of total exports minus specifically excluded groups}} \right) \text{ in year "y" }}{\left( \frac{\text{value of commodities included in basic index}}{\text{value of total exports minus specifically excluded groups}} \right) \text{ in year "w" }}$$

---

<sup>2</sup> Of course, this problem is present in any volume index which is constructed as a sum of indexes for various commodity groups, the indexes of which are based only on several commodities within the group. When these "representative indexes" are combined using value weights for the entire commodity group, it implicitly assumes that the commodities included in the "representative index" for that group changed (as a group) in proportion to the representative index for that group.

The ratio of the value included in the basic volume index  $(\sum P_y^i Q_y^i)$  to the total value of exports not explicitly excluded from the basic volume index (that is, total value of exports minus furs and machinery) is presented in Table F.2. The basic volume indexes and the adjusted basic volume indexes are presented in Table F.3 and Table F.4. This method assumed that all the variations in the percentage coverage of the basic volume index items of all items not specifically excluded from the export index resulted from changes in the volume of these items exported and did not result from change in the relative prices of items included and excluded in the basic volume index. If the basic volume index is of the Laspeyres type (past prices), then we have assumed implicitly in this method that the Paasche price index of the items specifically included in the basic volume index and the Paasche price index of the items not specifically excluded from the basic index were identical. A proof is provided in an addendum to this appendix.

Examination of the "residual items" which were neither included in the basic index, nor specifically excluded from the basic index suggest that changes in the coverage reflected changes in the volume of the residual items rather than changes in the relative prices. This was especially true in the mid-1930's when the USSR was exporting almost any commodity it could find and sell (for example, apatite ore, slag and scrap of non-ferrous metals, chromite ore, window glass, cement, yarn, leather, cotton).

### Selection of items for import indexes

Table F.5 lists the 60 items included in the basic import indexes. The comments made about the criteria and problems in selecting items for the index and the types of adjustments in the unit value of exports apply also to imports.

Coverage. The coverage of the basic indexes for imports is much less favorable with respect to total imports and also with respect to that portion of total imports not specifically excluded from the basic indexes. The three groups of commodities specifically excluded from the basic import indexes are (1) machinery, (2) all chemicals except fertilizers and rubber, and (3) all manufactured consumer goods except cotton and woolen cloth. These three groups formed a much larger share of total imports (from 18.3% to 57.5% according to Table F.6) than the specifically excluded groups in the export index. Furthermore, the 60 items selected for the basic import indexes were also a smaller share of the items not specifically excluded from the basic index (see column 6 in Table F.6) because of the more diversified list of imports. The composition of imports changed radically during the 1930's -- much more so than the composition of exports!

Adjustment for coverage in the basic import list was done in the same manner as for exports (see Tables F.7 and F.8).

Commodity groups specifically

excluded from indexes: exports

Soviet machinery exports. Soviet machinery exports (SOVTC 1) were specifically excluded from the basic index. Machinery exports played a minimal role in Soviet exports until about 1933. For the purposes of the weight years, Soviet machinery exports were important only in 1937. Soviet machinery exports were deflated by a German price index for industrial machinery.<sup>3</sup>

Soviet fur exports. Soviet fur exports (SOVTC 52) were specifically excluded from the basic export index because the data in VTSSSR-60 was not detailed. Since fur exports were important in Soviet exports, we have calculated unit-value based price and volume indexes using data from other sources. This index is described below.

The fur price and volume indexes. Several price (unit value) and quantity indexes were calculated for Soviet fur exports because of the lacuna in Soviet statistics for fur exports.

The simplest indexes (and least reliable on a statistical basis) are the indexes based on weight (for the volume index) and the unit values of the aggregate commodity group, "furs" (SOVTC 52) and the major subgroups, "raw furs" (SOVTC 520), dressed furs, not dyed

---

<sup>3</sup> See below, p.891, n. 13.



(SOVTC 520) and dressed furs, dyed (SOVTC 523). These simple indexes are presented in Table F.10.

The composition of fur exports changed during this period, so that these simple indexes do not reflect the changes in prices and volume of Soviet fur exports. The share (in weight and value) of dressed and dyed furs increased relative to raw furs in the early and mid-1930's and within the subgroup "raw furs" the importance of squirrels and karakul declined significantly during this same period (partly because these two furs were being increasingly exported in a dressed form). A more meaningful price index would be market prices for individual furs weighted by the quantity exported of each type of fur. This ideal type of index was unrealizable because of inadequate data for most of the 54-plus types of raw furs exported during this period, and because of the almost complete lack of detailed data for Soviet exports of dressed furs. We had to be satisfied with estimating price indexes (Tables F.11 and F.12) for raw furs based on 8 types of furs: squirrel, fox, ermine, sable, polar fox, white fitch, black fitch, and karakul. Even here we had to make several rough estimates for 1913. We combined these indexes using value weights with the simple unit-value indexes of dressed furs and dressed-and-dyed furs. The resultant index was then combined using value-weights with the basic export index described above.

The volume index for raw fur exports was estimated in a similar manner using the eight types of furs for the raw fur volume index and adjusted for changes in the share of these eight raw furs relative to the total value of raw fur exports.<sup>4</sup> The resultant index was combined with volume indexes of dyed and dressed furs based on the weight of exported furs; this was not very satisfactory from a theoretical viewpoint but there was no alternative.

Data for 1913. Tsarist statistics for Russian fur exports were incomplete and lacked detail. They recorded only 6.5 million rubles for fur exports in 1913; Soviet writers, however, estimated that fur exports in 1913 were roughly 24.5-26.3 million rubles, and these estimates were based on either recipient countries' statistics, or on the statistics of the major fairs -- Irbit Yakutsk, Nizhni-Novgorod, etc. -- at which most fur trade occurred before World War I.<sup>5</sup> The statistics for the trade fairs were relatively detailed and transactions for exports were separated into a special category. We have used these "transactions for export" as the source for the quantities and

---

<sup>4</sup> See above, page 878 and Addendum to Appendix F for statistical procedure used for adjustment and a discussion of its implied assumption about changes in price and volume.

<sup>5</sup> VTSSSR-60 (p. 55) for official fur export statistics. SUA, Vol. 5, No. 19 (p. 29) estimated fur exports at 24.5 million rubles. EIKSSSR (p. 275) estimated fur exports at 26.3 million rubles.

unit values for 1913 as a substitute for otherwise unavailable official statistics.<sup>6</sup> The eight furs which were chosen for our index (because of the availability of data) comprised 72% of the turnover in these trade fairs. The division of fur exports in 1913 among raw, dressed, and dressed-and-dyed furs is not known. Official statistics listed all fur exports in 1913 as being "raw furs," but other sources noted that some furs (squirrel, hares, lamb) were exported in the dressed state in significant quantities. We have not been able to make any reasonable estimate of the value of these exports of dressed furs and we therefore accept the official statistics allocation of fur exports between the raw and dressed classifications. Insofar as dressed furs were included in the trade fair statistics for the eight furs, this would understate the increase in prices which occurred after World War I.

Little data for 1922/23 - 1924/25. No detailed export statistics have been located for the 1922/23 - 1924/25 period. A published index of fur exports in 1913 prices and 1924/25 prices has been used for estimating volumes and prices in the combined fur indexes; the weights for the price index are not known and may be either 1913 weights or

---

<sup>6</sup> EIKSSSR, pp. 275-277.

1924/25 weights.<sup>7</sup> These data are presented below:<sup>8</sup>

	<u>Wild Animal Fur</u>		<u>Karakul</u>	
	<u>1913</u> <u>prices</u>	<u>1924/25</u> <u>prices</u>	<u>1913</u> <u>prices</u>	<u>1924/25</u> <u>prices</u>
1913	17,300	47,575	7,200	8,280
23/24	17,582	48,351	2,615	3,007
24/25	21,488	59,091	4,473	5,144

"Wild animal fur" prices were 175% higher than 1913 prices; karakul and similar furs were priced only 15% higher. Volume estimates for 1922/23 and 1923/24 are based on the statistics presented in VTSSSR-60 (p. 80) because fur trade statistics were entered in 1913 prices for these years.

1925/26 - 1936. Figures for 1925/26 are from SUA, Vol. 6, No. 2 (1927), p. 31. Figures for 1926/27 - 1936 are from VTSSSR-39. For 1931-33 the unit values of black fitch and white fitch are assumed to move in proportion to "fitch - total," the only figures reported for these years.

---

<sup>7</sup> They probably are in 1924/25 quantity weights, derived by calculating fur exports both in 1913 prices and 1924/25 prices as part of the statistical process of estimating foreign trade in both pre-war prices and current prices which was started that year. From calculation of the volume indexes based on the volume in the so-called "1913 prices" and "1924/25 prices," it was obvious that the estimated price index for 1924/25 was used to revalue the values for price years, rather than using the individual prices and quantities.

<sup>8</sup> SUA, Vol. V, No. 19 (1926), p. 29.

1937-1938. Unit values estimated from changes in the unit value of imports into the USA of these furs from the USSR for 1935-1938 as reported in FCNUS -35, -36, -37, -38. In particular, karakul was assumed to move with the unit value of "lamb skin" imports from the USSR. Black and white fitch unit values were assumed to move with the unit value of "fitch." The estimated unit values for Soviet exports were based on the average of 1935 and 1936 unit value of each item for both US imports and Soviet exports. Checks of early years revealed that the unit values of Soviet exports and US imports moved together. Volume for 1937 and 1938 is assumed to move in proportion to weight -- no better evidence is available. This assumes implicitly that no structural change occurred during this time.

Construction of index. The index of raw fur prices is an index of export unit values weighted by the quantities exported in the selected base years:

$$P_{w,y} = \frac{\sum Q_w^i P_y^i}{\sum Q_w^i P_w^i}$$

where:

w = weight base year

i = type of fur

y = current year

Q = quantity in number

P = export unit values

That is, it is similar in formulation to all the indexes used in this study.

The unadjusted quantity index was calculated using unit value weights.

The fraction of total raw fur exports which these eight furs comprised varied from year to year as seen in Table F. 11, so that to obtain a more meaningful indicator of volume of raw fur exports, we adjusted the volume index by dividing the volume index of eight furs (weighted by unit values) by the ratio of the value of these eight furs to the value of all raw furs. The "adjusted volume index of raw fur exports" is presented in Table F. 12. This method of adjustment assumed that the variations in the share of the eight furs in total fur exports was due entirely to changes in the quantities of the other raw furs rather than to changes in price fluctuations differing from those of the eight furs.<sup>9</sup>

Dressed furs and dressed-and-dyed furs. Unfortunately, we were forced to resort to simple unit values as an index of price for dressed furs, and "weight" as an index of volume. For dressed-and-dyed furs we followed a similar procedure, except that the unit value index for dressed furs was used for the years 1913-1929 because of the insignificant amount of exports of dressed-and-dyed furs during this period.

Combined fur export indexes. The price and quantity indexes for the above described groups of fur exports were combined using value-

---

<sup>9</sup> See above, p. 878, F. 7.

weights and were calculated for 1913, 1926/27, 1927/28, 1932, and 1937 weight-years. The "combined" price indexes for fur exports are presented in Table F. 13; quantity indexes are presented in Table F. 14.

Commodity groups specifically excluded

from basic import indexes

The following commodity groups were specifically excluded from the basic import index because of their unsuitability for calculating meaningful unit values:

- Machinery (SOVTC 1)
- Industrial chemicals (SOVTC 30)
- Dyes (SOVTC 31)
- Explosives (SOVTC 32)
- Film (SOVTC 33)
- Manufactured consumer goods except cotton and woolen cloth (SOVTC 9 minus SOVTC 900 and 901)<sup>10</sup>

Volume and price indexes for Soviet machinery imports. The major problem in calculating the price and volume indexes was that the data for individual items imported during this period were not sufficiently detailed to estimate reliable (meaningful) unit-values to use in the price indexes and as weights for the quantity indexes.<sup>11</sup> Hence we were

---

<sup>10</sup> See Appendix A, Technical Note 5 for discussion of SOVTC numbers.

<sup>11</sup> Several estimates of unit-values and price indexes based on Soviet machinery import data from VTSSSR-60 were erratic. Greater disaggregation of data (available only for 1929-1933) would be required to compute the indexes more accurately than any of the available published price indexes for selected types of machinery, and I felt that these unit-value indexes were less suitable indicators of the price of Soviet machinery than available alternative indexes of machinery prices.

forced to use the machinery price indexes for broad commodity groupings of machinery published by several major machinery exporting nations (Germany and the United States). Machinery imports were separated into three basic categories for the purposes of estimating price and volume indexes for machinery imports: "industrial machinery" (a residual of SOVTC 1 minus other groups), "agricultural machinery" (SOVTC 18) and "transport" (SOVTC 19 which consisted mostly of trucks and automobiles). The price indexes used to deflate the value of Soviet machinery imports were less than ideal and, furthermore, the statistical methodology used for computing these indexes was largely unknown. These deflators are presented in Table F.15. The three separate indexes for machinery -- general machinery, transportation and agricultural -- were combined using the share of each of these groups in the value of total imports of machinery (SOVTC 1) in current prices in the weight year and the resultant indexes for Soviet machinery imports were combined into the total indexes using the share of machinery imports (SOVTC 1) in total imports in current prices in each of the weight years.<sup>12</sup> Two deflators were tried for "industrial machinery," a German purchaser's price index for industrial machinery (Arbeitsmaschinen) and the American price index for "general

---

<sup>12</sup> The share of general machinery imports was 1 minus the share of agricultural equipment (SOVTC 18) and minus the share of transportation equipment (SOVTC 19) in current prices.



equipment."<sup>13</sup> The German price index for industrial machinery was used for the total import price and volume indexes presented in Tables T-25, T-27, T-28, T-30, XV. 5 and XV.7. I thought that the German index for industrial machinery was more appropriate for use in the total import indexes because a large share of imports of machinery into the USSR during the inter-war period came from Germany.<sup>14</sup> The German index for machinery differs from the American price index in an important way -- the German index rises less rapidly in the 1920's and declines much less rapidly in 1930 (and, in fact, it rose during the first year of the world depression, perhaps because of the large volume of Russian machinery orders). In terms of estimating the commodity terms of trade for goods actually crossing the border, the German indexes are also more "suitable" because of the lag in "delivery date" compared to "order date." The American and German price indexes are presented in Table F.15. A large part of the decline from 1932 to

---

<sup>13</sup> The German price index for industrial machinery was published in STATJAHR-35, p. 260, and STATJAHR-36, -37, -38, under the heading "Indexziffern der Grosshandelspreise industriellen Fertigungsgüter: Gewerbliche Betriebsmittel," based on 1913 = 100; the statistical procedures (weights, machinery types, costs) for this index were not therein described. The American price index "general machinery" was published in Goldsmith-55, p. 887, based on Shaw-47.

<sup>14</sup> VTSSSR-60.

1934 in the American price indexes of both "general equipment" and "transport (passenger cars)" was caused by the devaluation of the dollar rather than by a decline in U.S. prices (Table F.9).

The agricultural equipment price index used for deflating the value of Soviet imports of agricultural machinery was the German price index for "Landwirtschaftliche Maschinen und Ackergeräte (agricultural machinery and field equipment)" (Table F.15);<sup>15</sup> a more suitable index for constructing the agricultural machinery component of price and volume indexes would have been two American price indexes -- one for tractors and the other for "agricultural equipment excluding tractors" for much of Soviet agricultural machinery imports came from the United States (especially between 1925-1931), but these indexes were not available.

The price index used for deflating the value of Soviet transportation equipment imports was the American price index for passenger cars -- for Soviet transportation equipment imports during the inter-war period consisted largely of automotive vehicles rather than railroad equipment (after 1924/25).<sup>16</sup> The second largest item of transportation equipment imports after 1924/25 was ships -- both new and

---

<sup>15</sup> STATJAHR-38, p. 318.

<sup>16</sup> VTSSSR-60. See Table F.15.

used -- and some airplane parts and entire airplanes.<sup>17</sup>

Thus, the volume and price indexes for Soviet machinery imports were far from ideal, but I consider them better than available alternatives. Two volume and price indexes for machinery imports were also computed -- one using the German price index and the other using the American price index for "general machinery imports" (Tables F. 16 and F.17). The volume index for all machinery using American prices for general machinery imports approximates the index using German prices up to about 1927/28 (except for 1913). After 1927/28, the volume index for Soviet machinery imports using German "general machinery" prices rose much less rapidly and declined further than the volume index using the American general machinery price index. The American price index for general machinery fell faster and more rapidly after 1929 than did German prices because of Germany's formal retention of the gold standard, because of the large Russian demand for German machinery in 1930 and 1931, and possibly because of greater cartelization of German industry.

The choice of the price index for general machinery imports affected the behavior of the aggregate price and volume indexes (and

---

<sup>17</sup> VTSSSR-60. For used ship imports, see ERSU, Vol. II, No. 7 (April 7, 1927). It was likely that airplane imports were understated in VTSSSR-60 and other sources for military reasons.

terms of trade). The decline in volume was greater, the decline in prices less, and the terms of trade declined sooner and faster, using the German price index for "industrial machinery" (Tables F.18 and F.19). Because of the direction of trade of Soviet machinery imports, we have used in this study the indexes based on the German machinery price indexes.

German wholesale price indexes. Wherever German wholesale price indexes were used in this study, the index number for the calendar year was used to deflate or was substituted for the latter part of the split year (economic year), that is, an index number of commodity group "x" for 1925 was used to represent the Soviet import prices for commodity group "x" of 1924/25. The German price index numbers for 1938 are actually a simple arithmetic average of the first six or seven months of 1938.<sup>18</sup>

Indexes for Soviet chemical imports. Individual items for Soviet chemical imports -- with the exception of "natural rubber" (SOVTC 35000) and selected fertilizers (SOVTC 34004), 34005, 34200, 34203) -- were not included in the basic import indexes because of (1) the large diversity and the irregularity or lacuna in the time series for individual items for industrial chemicals, and (2) inadequate detail in the

---

<sup>18</sup> For example, see STATJAHR-38, p. 317.

data for the important groups of chemicals such as dyes and tanning chemicals (SOVTC 312 and 313). The SOVTC 3 (Chemicals) included basic industrial chemicals (SOVTC 30), dyes and tanning materials (SOVTC 31), explosives (SOVTC 32), film (SOVTC 33), fertilizers and pesticides (SOVTC 34), and rubber and rubber-products (SOVTC 35).<sup>19</sup> The commodity group (SOVTC 3) of chemicals minus natural rubber and fertilizers (SOVTC 35000, 34004, 34005, 34200, 34203) was introduced into the total volume indexes by using the value of SOVTC 3 (Chemicals), minus the selected items mentioned above, deflated by the German wholesale price index for industrial chemicals.<sup>20</sup> The resulting volume index was included in the total index, using as weights the share of the value of SOVTC 30 (excluding the above-mentioned items) in total imports in each of the weight-years. Similarly, the "prices" of Soviet chemical imports were included in the total price index for Soviet imports by weighting the German wholesale price index for chemicals by the above described weights.<sup>21</sup>

Indexes for Soviet manufactured consumer goods imports. Because of the large diversity of manufactured goods imports (SOVTC 9)

---

<sup>19</sup> See Appendix A, Technical Note 5 for description of SOVTC system.

<sup>20</sup> STATJAHR-35, p. 259 and STATJAHR-38, p. 319. "Indexziffern der Grosshandelspreise. Industrielle Rohstoffe und Halbwaren: Chemikalien, 1913 = 100."

<sup>21</sup> See above note.

and the lack of adequate time series for construction of unit values (or even substitute unit values) for most items, we had to be satisfied with including only two manufactured consumer goods imports in the basic indexes -- cotton cloth (SOVTC 900) and woolen cloth (SOVTC 901).

The remaining Soviet manufactured goods imports (SOVTC 9) were included in the total indexes by constructing separate price and volume indexes using German wholesale price indexes for categories similar to commodity groups of Soviet manufactured consumer goods imports. The resulting indexes were included in the total indexes by using the share of manufactured consumer goods imports minus cotton and wool imports (SOVTC 9 - SOVTC 900 - SOVTC 901) in total imports in the weight-years.

The indexes for manufactured consumer goods were computed by taking the values of the following SOVTC groups and deflating them by wholesale price indexes for similar groups of goods in Germany:

- 1) SOVTC 91 and 92 (Clothing and Haberdashery) were matched with "Textilwaren (cloth items)" from STATJAHR-35 (p. 260) and STATJAHR-38 (p. 318).
- 2) SOVTC 93 (Footwear) was matched with "Lederschuhwerk (leather footwear)" from STATJAHR references mentioned above.
- 3) SOVTC 94 (Domestic Utensils and Tableware) were matched with "Haus- und K uchger te (home and kitchen equipment) from STATJAHR references mentioned above.

- 4) SOVTC 95 (Furniture) was matched with "Mobel" from STATJAHR references mentioned above.
- 5) SOVTC 96-98, which included miscellaneous manufactured goods, were matched with "Industrielle Fertigwaren: Konsumgüter (manufactured consumer goods)" from STATJAHR-35, p. 259 and STATJAHR-38, p. 317.

Each group was deflated by the corresponding German price index and was combined into a volume index using the share of the value of each of the groups (SOVTC 91, 92, 93, 94, 95) in total manufactured consumer imports (excluding cotton and woolen cloth), while the weight of SOVTC 96-98 was a residual calculated by subtracting the above weights from one. The manufactured consumer goods volume index computed on this basis is presented in Table F.20. A price index for manufactured consumer goods imports (excluding cotton cloth and woolen cloth) was computed using the same (German) indexes and the same value weights for various categories of Soviet imports.

Indexes for selected commodity groups. Volume and price indexes for selected commodity groups of imports and exports were also calculated for this study. These indexes are computed in the same manner and from the same raw data as the basic volume and price indexes. In this study, all the selected commodity indexes are based on 1927/28 unit values or 1927/28 quantity weights; the one exception is grain exports, which used 1926/27 quantity and unit-value weights. Grain exports in 1926/27 were much larger than in 1927/28 and

therefore the unit values were statistically more reliable and the structure of grain exports in 1926/27 was more representative of other years with large grain exports, such as 1913, 1923/24, 1925/26, 1930 and 1931.

The commodities included in each group are listed in the notes accompanying the tables in which these indexes are presented (Tables T-26, T-27, T-29, T-30, XIV.9, XIV.10).



Addendum to Appendix F

Adjustment of Basic Volume Indexes for Changes in the Coverage of the Value of the Items in the Basic Index to Value of All Items.

Proof: Method of adjusting basic volume index for changes in coverage assumed that the Paasche price index for items in basic index must be identical to the Paasche price index for all items.

1. Basic index

$$V_{y,w} = \frac{\sum P_w^i Q_y^i}{\sum P_w^i Q_w^i}$$

2. Basic index adjusted for coverage ("adjusted basic index")

$$V_{y,w}^* = \frac{\frac{\sum P_w^i Q_y^i}{\sum P_w^i Q_w^i}}{\frac{(\sum P_y^i Q_y^i) / (\sum P_y^i Q_y^i + \sum P_y^e Q_y^e)}{(\sum P_w^i Q_w^i) / (\sum P_w^i Q_w^i + \sum P_w^e Q_w^e)}}$$

3. We assumed that Paasche price index of commodities included in the basic index would be identical to the Paasche price index of all export commodities (omitting specifically excluded export groups).

$$\frac{\sum P_y^i Q_y^i}{\sum P_w^i Q_y^i} = \frac{\sum P_y^i Q_y^i + \sum P_y^e Q_y^e}{\sum P_w^i Q_w^i + \sum P_w^e Q_w^e}$$

4. Multiplying both sides by  $\sum P_w^i Q_y^i$  and substituting the resulting product on the right hand side for  $\sum P_y^i Q_y^i$  gives us:

$$V_{y,w}^* = \frac{\frac{\sum P_w^i Q_y^i}{\sum P_w^i Q_w^i}}{\left( \frac{\sum P_y^i Q_y^i + \sum P_y^e Q_y^e}{\sum P_w^i Q_y^i + \sum P_w^e Q_y^e} \right) \frac{\sum P_w^i Q_y^i}{(\sum P_y^i Q_y^i + \sum P_y^e Q_y^e)}}{\left( \frac{\sum P_w^i Q_w^i}{\sum P_w^i Q_w^i + \sum P_w^e Q_w^e} \right)}$$

5. which gives us:

$$V_{y,w}^* = \frac{\sum P_w^i Q_y^i + \sum P_w^e Q_y^e}{\sum P_w^i Q_w^i + \sum P_w^e Q_w^e}$$

which is the volume index if all commodities were included.

$V_{y,w}$  = volume index in year "y" weighted with year "w" unit-value weights.

$V_{y,w}^*$  = volume index in year "y" based on  $V_{y,w}$  basic index adjusted for incomplete coverage of exports not specifically excluded from basic index.

P = price (unit-value)

Q = quantity

w = (subscript) weight year

y = (subscript) current year

i = (superscript) item not included in basic index

e = (superscript) item not included in basic index and not included in the groups specifically excluded from basic index.

Thus,  $\sum P_w^i Q_y^i$  would be the value of exports of items in the basic index valued in weight-year prices.

TABLE F.1  
ITEMS INCLUDED IN THE BASIC PRICE AND VOLUME  
INDEXES FOR SOVIET IMPORTS

SOVTC <sup>a</sup>		SOVTC	
Number	Description	Number	Description
2000	Stove coal	530013	Goat skins
20001	Anthracite	54000	Tobacco
21	Crude oil	56322	Licorice root
220	Benzene	580	Oilcake
223	Kerosene	59000	Down feathers
224	Diesel fuel	59008	Guts
225	Mazut	70000	Wheat
226	Oils, grease	70001	Rye
24000	Iron ore	70002	Barley
24001	Manganese	70003	Oats
25000	Asbestos	70004	Corn
260	Pig iron	72001	Soya beans
262	Iron scrap	72003	Flax seed
264	Rolled cast iron products	80001	Poultry
30100	Caustic soda	800030	Bacon
30101	Soda ash	80100	Butter
30315	Coal tar pitch	803	Eggs
30500	Ethyl alcohol	810	Fresh fish
34000	Apatite concentrate	811	Salted fish
34200	Ammonia sulfate	813	Canned fish
500	Raw timber	81500	Canned crab
50100	Sawn lumber	81600	Black caviar
50200	Plywood	81601	Red caviar
50307	Staves	82000	Wheat flour
51000	Cotton	82101	Peas
51003	Flax fiber	82102	Kidney beans, lentils
51004	Linen tow	84000	Sugar
51006	Hemp	84108	Sunflower seed oil
51008	Hemp tow	900	Cotton material
51013	Hemp combings	903	Linen cloth
51014	Rags	904	Carpeting
511	Wool	931	Rubber shoes
53000	Long-horned cattle	941000	Porcelain table ware
530011	Sheep skins	942	Glass table ware
530012	Calf skins	98207	Matches

<sup>a</sup> See Appendix A, Technical Note 5 for a description of SOVTC classification system.

TABLE F.2

USSR: WEIGHTS FOR COMBINING COMPONENTS OF TOTAL  
EXPORT INDEX AND RATIOS USED FOR ADJUSTING BASIC  
EXPORT VOLUME INDEX FOR CHANGES IN COVERAGE

(based on current prices)

	Groups as % of Total Exports					Ratio of Items in Index to non- Excluded Items
	Excluded Items		Items not Excluded	73Items in Basic Index	Items not in Machinery, Furs or Index	
	Machinery SovTC 1	Furs SovTC 52				
	(1)	(2)	(3)	(4)	(5)	(6)
1913	0.26	0.43	99.31	86.94	12.37	1.1422
1922/23	0.20	3.81	95.99	82.95	13.04	1.1572
1923/24	0.10	4.99	94.41	87.14	7.77	1.0834
1924/25	0.29	12.05	87.66	82.79	4.87	1.0588
1925/26	0.15	10.24	89.61	83.92	5.69	1.0678
1926/27	0.09	11.05	88.86	83.87	4.99	1.0594
1927/28	0.12	15.15	84.73	73.94	10.79	1.1459
1929	0.27	11.54	88.19	76.91	11.28	1.1466
1930	0.23	7.41	92.36	82.80	9.56	1.1154
1931	0.58	6.93	92.49	82.71	9.78	1.1182
1932	0.87	7.36	91.77	77.95	13.82	1.1772
1933	1.00	8.21	90.79	73.04	17.75	1.2430
1934	1.48	7.64	90.88	71.78	19.10	1.2660
1935	2.13	8.16	89.11	74.90	14.81	1.1897
1936	2.16	11.40	86.44	75.77	10.67	1.1908
1937	3.19	8.80	88.81	79.38	9.43	1.1187
1938	5.01	9.41	85.58	75.61	9.97	1.1318

Source: see page 921 - at end of Appendix F.

TABLE F. 3

## USSR: BASIC VOLUME INDEXES FOR EXPORTS

1913, 1922/23 - 1938

	1913 Unit- value weights	1926/27 Unit- value weights	1927/28 Unit- value weights	1932 Unit- value weights	1937 Unit- value weights
1913	285.7	323.6	355.3	291.9	328.8
1922/23	23.9	28.7	31.6	25.1	37.1
1923/24	70.7	77.8	83.2	69.6	87.9
1924/25	66.4	66.3	70.9	64.7	76.6
1925/26	88.3	93.2	100.5	87.1	99.5
1926/27	105.0	111.7	115.1	102.6	111.0
1927/28	100.0	100.0	100.0	100.0	100.0
1929	131.3	132.9	133.9	127.6	141.1
1930	201.1	212.6	216.0	186.2	219.5
1931	225.5	234.4	240.3	207.8	223.3
1932	175.6	169.9	174.2	155.2	167.2
1933	159.2	155.6	160.0	142.6	152.3
1934	148.2	143.9	147.0	137.4	139.1
1935	139.0	136.5	138.7	130.7	131.4
1936	114.5	109.3	110.4	112.7	101.1
1937	114.9	118.8	122.2	115.8	104.5
1938	94.0	100.8	104.1	95.8	89.9

Source: see page 921 - at end of Appendix F.

TABLE F.4

USSR: BASIC VOLUME INDEXES FOR EXPORTS ADJUSTED  
FOR CHANGES IN COVERAGE OF BASIC INDEX

	1913 Price Weights	1926/27 Price Weights	1927/28 Price Weights	1932 Price Weights	1937 Price Weights
1913	284.8	322.5	354.2	291.0	327.7
1922/23	24.1	27.0	32.9	25.3	
1923/24	67.2	73.9	79.1	66.1	77.8
1924/25	61.4	61.3	65.5	59.8	70.8
1925/26	82.3		93.6	81.2	92.7
1926/27	97.1	103.3	106.4	94.9	102.6
1927/28	100.0	100.0	100.0	100.0	100.0
1929	131.4	133.0	134.0	181.2	141.2
1930	195.8	206.9	210.3	202.8	213.7
1931	220.1	228.7	234.5	161.4	217.9
1932	182.6	176.7	181.2	151.8	173.9
1933	172.7	168.8	173.6		165.2
1934	163.7	159.0	162.4		153.7
1935	145.3	142.7	145.0		137.3
1936	114.1	108.9	110.0		100.7
1937	112.2	116.0	119.3		102.0
1938	92.8	99.6	102.8		88.8

Source: see page 921 - at end of Appendix F.

TABLE F.5  
ITEMS INCLUDED IN THE BASIC PRICE AND VOLUME  
INDEXES FOR SOVIET IMPORTS

SOVTC Number	Description	SOVTC Number	Description
20000	Stove coal, soft	506	Paper
220	Gasoline	51000	Cotton
24204	Wolfram ore	51009	Jute
26101	Ferro silicone	51010	Sisal
26102	Ferrochrome	51014	Rags
26103	Ferro vanadium	511000	Wool
26104	Ferro tungsten	51200	Silk
26406	Beams, channel bars	514000	Cotton thread, yarn
26407	Structural steel	514004	Woolen yarn
26410	Steel plate	51401	Wollem tops
26503	Tinplate	530000	Leather, long-horned
266	Tubes, pipes	530011	Sheep skin
26800	Wire	53100	Leather for soles
26806	Nails	53101	Leather for uppers
26812	Cable	70000	Wheat
26903	Other metal articles	70001	Rye
27000	Copper	70104	Rice
27003	Zinc	71000	Cattle, long-horned
27004	Lead	71001	Short-horned cattle
27005	Tin	72007	Copra
27006	Nickel	72100	Natural coffee
27007	Aluminium	72101	Cocoa beans, butter
34004	Superphosphate	72103	Tea
34005	Phosphorite	811022	Salted herring
34200	Ammonium sulfate	82000	Flour
34203	Sodium nitrate	82003	Hulled grains
35000	Natural rubber	84000	Sugar
504	Cork bark and chips	84107	Olive oil
50500	Wood pulp	900	Cotton cloth
50504	Cellulose	901	Woolen cloth

TABLE F.6

USSR: WEIGHTS FOR COMBINING COMPONENTS  
OF IMPORT INDEXES

	Groups as % of Total Imports					Ratio of Items in Index to non- Excluded Items
	Groups as % of Total Imports			Items not Excluded from Basic Index	Sixty Items in Basic Index	
	Machin- ery	Chemicals Excluding Fertili- zers, Rubber	Consumer Goods Excluding Cotton & Woolen Cloth			
(1)	(2)	(3)	(4)	(5)	(6)	
1913	16.6	3.8	8.4	71.2	52.5	1.3561
1922/23	21.4	8.4	11.1	59.1	44.8	1.3191
1923/24	13.3	8.1	3.7	75.0	62.6	1.1980
1924/25	9.7	5.9	2.7	81.7	69.4	1.1772
1925/26	20.6	6.2	3.8	69.4	61.5	1.1284
1926/27	22.0	5.4	1.6	70.9	62.7	1.1307
1927/28	23.9	4.9	1.8	69.4	60.3	1.1509
1929	30.1	4.3	1.6	64.0	55.6	1.1510
1930	46.8	3.2	1.0	49.0	41.9	1.1694
1931	53.9	1.6	0.8	43.7	36.1	1.2105
1932	55.7	0.7	1.0	42.5	35.4	1.2005
1933	43.0	0.9	1.5	54.6	43.9	1.2437
1934	25.0	2.4	2.5	70.1	55.1	1.2722
1935	23.5	2.3	1.9	72.3	55.0	1.3145
1936	39.0	2.0	1.9	57.1	43.9	1.3006
1937	27.4	1.5	8.0	70.4	56.4	1.2482
1938	34.5	1.7	0.6	63.1	49.8	1.2670

Source: see page 922 - at end of Appendix F.



TABLE F.7

USSR: BASIC VOLUME INDEXES FOR IMPORTS<sup>a</sup>

1913, 1922/23 - 1938

	1913 Unit Value Weights	1926/27 Unit Value Weights	1927/28 Unit Value Weights	1932 Unit Value Weights	1937 Unit Value Weights
1913	169.3	184.5	184.4	174.2	173.6
1922/23	15.0	14.1	14.4	15.6	13.1
1923/24	34.7	36.4	39.3	41.6	33.4
1924/25	63.7	70.2	71.8	70.4	66.6
1925/26	68.7	72.2	74.9	71.1	70.0
1926/27	79.6	81.6	85.8	84.6	78.3
1927/28	100.0	100.0	100.0	100.0	100.0
1929	89.4	94.6	94.8	88.2	91.3
1930	95.3	98.3	93.2	90.3	98.3
1931	120.4	117.2	107.5	106.4	125.3
1932	89.5	89.4	81.5	75.2	92.0
1933	73.9	68.5	61.5	57.9	67.6
1934	83.8	72.5	65.2	54.9	62.7
1935	84.9	77.1	72.0	62.9	68.3
1936	77.4	89.8	64.5	56.4	62.1
1937	81.7	72.8	67.5	58.7	64.6
1938	83.5	75.2	70.4	62.8	70.4

<sup>a</sup>Excludes machinery imports, manufactured consumers' goods and chemicals.

Source: see page 922 - at end of Appendix F.

TABLE F. 8

USSR: BASIC VOLUME INDEXES FOR IMPORTS ADJUSTED  
FOR CHANGES IN COVERAGE OF BASIC INDEX

	1913 Price Weights	1926/27 Price Weights	1927/28 Price Weights	1932 Price Weights	1937 Price Weights
1913	143.9	156.9	157.6	148.0	147.6
1922/23	13.1	12.3	12.6	13.6	11.5
1923/24	33.4	35.0	37.8	40.0	32.1
1924/25	62.3	68.7	70.2	68.9	65.1
1925/26	70.2	73.7	76.4	72.6	71.4
1926/27	81.1	83.2	87.4	86.2	79.8
1927/28	100.0	100.0	100.0	100.0	100.0
1929	89.9	95.1	95.3	88.7	91.8
1930	94.0	97.1	92.0	89.1	96.9
1931	114.6	111.7	102.4	101.2	119.2
1932	86.0	86.0	78.2	72.3	88.3
1933	68.5	63.5	57.0	53.6	62.7
1934	75.8	65.7	59.1	49.8	56.8
1935	74.5	67.6	63.1	55.2	59.9
1936	68.7	61.9	57.2	50.0	55.1
1937	75.5	67.3	62.3	54.2	59.7
1938	75.8	68.3	64.0	57.0	63.9

Source: see page 922 - at end of Appendix F.

TABLE F.9  
 COEFFICIENTS OF DEVALUATION OF  
 THE DOLLAR AND THE POUND  
 STERLING

	London pounds	New York dollars	Germany
1913	1.000	1.000	
1922/23			
1923/24	0.9078	1.000	0.9880
1924/25	0.9925	1.000	0.9996
1925/26	0.9983	1.000	0.9993
1926/27	0.9987	1.000	
1927/28	0.9999	1.000	
1929	0.9980	1.000	
1930	0.9991	1.000	
1931	0.9317	1.000	
1932	0.7202	1.000	
1933	0.6807	0.8057	
1934	0.6177	0.5905	
1935	0.5979	0.5905	
1936	0.6056	0.5905	
1937	0.6036	0.5905	
1938	0.5950	0.5905	

Source: see page 922 - at end of Appendix F.

TABLE F.10

USSR: UNIT VALUES OF SOVIET FUR EXPORTS FOR AGGREGATE  
 FUR EXPORTS, RAW FURS, DRESSED FURS,  
 AND DRESSED AND DYED FURS

	Unit Values from VTSSSR-60				Weighted Indexes	
	All Furs Exports	Raw Furs Exports	Dressed Furs Exports	Dressed Dyed Furs Exports	All Furs 1927/28 quantity weights	Raw Furs 1927/28 quantity weights (8 furs)
	(1)	(2)	(3)	(4)	(5)	(6)
1913	6.9	6.0	29.9	0.0	30.0	30.0
1922/23	7.8	6.9				
1923/24	33.2	30.8	29.9	109.3		
1924/25	107.2	100.3	106.9	145.7	[74.2]	
1925/26	97.2	88.4	130.0	83.3	81.3	75.0
1926/27	89.1	87.6	89.3	41.6	89.6	89.6
1927/28	100.0	100.0	100.0	100.0	100.0	100.0
1929	83.4	91.7	79.6	64.5	91.5	93.1
1930	70.2	77.1	75.3	58.3	66.4	65.3
1931	54.6	53.4	81.3	44.7	55.8	52.5
1932	39.2	42.0	57.9	34.1	39.3	36.9
1933	31.7	34.1	45.8	39.4	36.0	34.8
1934	28.5	25.2	45.5	25.6	32.2	30.5
1935	31.0	23.9	57.8	33.0	31.9	28.7
1936	39.5	32.2	73.7	42.3	34.0	29.0
1937	54.3	44.0	113.3	56.9	43.1	34.1
1938	50.1	40.5	114.0	42.4	37.9	27.6

Source: see page 923 - at end of Appendix F.

TABLE F. 11

USSR: INDEX OF FUR PRICES FOR EIGHT  
MAJOR RAW FURS<sup>a</sup>

1928 = 100

	1913 Quantity Weights	1926/27 Quantity Weights	1927/28 Quantity Weights	1932 Quantity Weights	1936 Quantity Weights	8 Furs as % of all Raw Furs
	(1)	(2)	(3)	(4)	(5)	(6)
1913	29.3	30.0	30.0	30.0	32.2	[72.2]
1922/23						
1923/24						
1924/25						
1925/26	78.1	74.2	75.0	72.5	69.1	68.7
1926/27	94.0	88.2	89.6	86.0	80.2	68.8
1927/28	100.0	100.0	100.0	100.0	100.0	70.4
1929	90.1	95.6	93.1	97.1	105.3	70.5
1930	63.9	66.3	65.3	67.0	73.0	80.6
1931	52.8	51.8	52.5	52.3	53.5	73.6
1932	38.3	36.0	36.9	34.8	36.3	74.6
1933	36.4	34.2	34.8	31.7	35.4	76.0
1934	36.9	29.7	30.5	27.1	29.9	78.4
1935	31.7	27.4	28.7	24.5	26.1	81.7
1936	32.2	28.2	29.0	25.7	26.5	78.7
1937	37.4	32.6	34.1	30.0	31.7	68.5
1938	30.4	26.4	27.6	24.3	25.0	58.8

<sup>a</sup>Squirrel, fox, ermine, polar fox, sable, white fitch, black fitch, karakul.

Source: see page 923 - at end of Appendix F.

TABLE F.12

## USSR: VOLUME INDEX OF RAW FUR EXPORTS

1913, 1922/23 - 1938<sup>a</sup>

	1913 Unit- value weights	1926/27 Unit- value weights	1927/28 Unit- value weights	1932 Unit- value weights	1937 Unit- value weights
1913	85.3	91.7	87.4	90.7	97.3
1922/23					
1923/24					
1924/25					
1925/26	78.2	77.7	81.8	74.6	67.0
1926/27	81.0	76.7	81.0	78.9	78.7
1927/28	100.0	100.0	100.0	100.0	100.0
1929	91.9	91.6	90.8	92.0	93.5
1930	93.5	93.6	91.3	94.7	101.2
1931	68.5	62.4	64.0	64.9	67.7
1932	69.4	66.6	69.4	65.4	61.7
1933	57.3	50.5	54.2	50.5	48.0
1934	71.9	65.2	70.3	65.6	60.6
1935	77.5	61.7	70.1	66.7	63.0
1936	100.4	83.7	93.6	91.8	85.8
1937	71.8	59.9	66.9	65.7	61.3
1938	65.1	54.3	60.7	59.6	55.6

<sup>a</sup>Based on a unit-value weighted volume index of eight major raw furs and their share in the value of raw fur exports.

Source: see page 923- at end of Appendix F.

TABLE F. 13

## USSR: PRICE INDEX OF ALL FUR EXPORTS

1913, 1922/23 - 1938

	1913 Quantity Weights	1926/27 Quantity Weights	1927/28 Quantity Weights	1932 Quantity Weights	1936 Quantity Weights
1913	29.3	30.0	30.0	29.9	31.8
1922/23					
1923/24					
1924/25	[ 72.5]	[ 74.2]	[ 74.2]	[ 74.0]	78.7
1925/26	78.1	79.9	81.3	91.1	79.8
1926/27	94.0	88.3	89.6	87.6	82.5
1927/28	100.0	100.0	100.0	100.0	100.0
1929	90.1	94.0	91.5	91.5	100.7
1930	63.9	67.2	66.4	69.5	73.1
1931	52.8	54.7	55.8	60.0	56.0
1932	38.3	38.4	39.3	41.3	38.6
1933	36.4	35.4	36.0	36.5	37.5
1934	32.9	31.3	32.2	32.1	31.4
1935	31.7	30.5	31.9	34.2	30.2
1936	32.2	32.8	34.0	39.9	32.9
1937	37.4	40.7	43.1	54.3	42.1
1938	30.5	35.3	37.9	49.5	35.5

Source: see page 887 - at end of Appendix F.

TABLE F. 14

## USSR: VOLUME INDEX OF ALL FUR EXPORTS

1913, 1922/23 - 1938

	1913 Price Weights	1926/27 Price Weights	1927/28 Price Weights	1932 Price Weights	1936 Price Weights
1913	85.3	79.6	75.7	73.9	72.0
1922/23	66.8	62.4	59.3	57.9	56.4
1923/24	70.3	65.6	62.4	60.9	59.4
1924/25	90.4	84.3	80.2	78.3	76.2
1925/26	78.2	74.1	77.7	68.7	59.1
1926/27	81.0	80.7	81.8	79.6	78.8
1927/28	100.0	100.0	100.0	100.0	100.0
1929	91.1	99.9	99.7	104.5	111.5
1930	93.5	92.8	94.8	100.7	113.1
1931	68.5	73.5	80.4	84.8	97.0
1932	69.4	81.0	86.7	90.3	100.8
1933	57.3	76.1	85.2	93.0	112.5
1934	71.9	75.6	89.6	88.9	98.7
1935	77.5	65.7	80.3	79.3	86.5
1936	100.4	78.4	91.4	88.7	87.2
1937	71.8	61.7	70.8	68.0	64.6
1938	65.1	64.3	74.8	70.9	66.8

Source: see page 924 - at end of Appendix F.



TABLE F.15

PRICE INDEXES USED FOR DEFLATING SOVIET  
MACHINERY IMPORTS

	Machinery (excluding agricultural & transport equipment)		Agricultural Equipment	Transport (American passenger cars)
	German Price Index	American Price Index		
1913	69.1	50.6	78.4	156.2
1922/23	69.1	50.6	78.4	156.2
1923/24	69.1	50.6	78.4	156.2
1924/25	95.3	97.9	98.2	111.6
1925/26	96.5	98.5	98.7	106.0
1926/27	96.3	98.9	98.4	102.7
1927/28	100.0	100.0	100.0	100.0
1929	102.1	101.1	100.4	108.5
1930	103.4	93.1	100.2	102.2
1931	100.8	87.9	98.0	97.6
1932	91.8	82.0	95.8	95.1
1933	89.2	66.0	85.8	73.9
1934	88.7	55.9	84.2	57.3
1935	88.3	55.9	83.3	55.0
1936	88.5	55.9	83.2	54.4
1937	88.5	61.9	83.2	59.5
1938	88.5	62.5	81.1	62.0

Source: see page 924 - at end of Appendix F.

TABLE F.16

USSR: COMPARISON OF PRICE INDEXES OF MACHINERY  
IMPORTS BASED ON AMERICAN AND  
GERMAN PRICE INDEXES

(1913, 1927/28, 1937 weights)

	1913		1927/28		1937	
	German Mach. Volume	American Mach. Volume	German Mach. Volume	American Mach. Volume	German Mach. Volume	American Mach. Volume
1913	76.0	59.9	77.5	62.5	77.7	58.1
1922/23	76.0	59.9	77.5	62.5	77.7	58.1
1923/24	76.0	59.9	77.5	62.5	77.7	58.1
1924/25	96.8	98.6	97.0	99.1	96.9	98.9
1925/26	97.5	98.9	97.5	99.1	97.4	99.0
1926/27	97.1	99.0	97.1	99.2	97.0	99.2
1927/28	100.0	100.0	100.0	100.0	100.0	100.0
1929	102.1	101.3	102.4	101.7	102.7	101.6
1930	100.1	94.7	102.9	94.7	103.3	93.8
1931	91.2	90.0	100.3	89.8	100.5	88.7
1932	87.6	83.6	91.7	83.8	92.1	82.9
1933	85.9	69.6	87.6	68.8	87.7	66.6
1934	85.3	60.6	85.5	59.1	85.6	56.0
1935	85.4	60.3	84.9	58.8	85.0	55.9
1936	85.8	60.3	85.0	58.7	85.1	55.8
1937	85.5	65.2	85.5	64.0	85.7	61.7
1938	85.5	65.5	85.5	65.5	85.9	62.5

Source: see page 924 - at end of Appendix F.

TABLE F.17

USSR: COMPARISON OF VOLUME OF MACHINERY IMPORTS  
 DEFLATED WITH AMERICAN AND GERMAN PRICE  
 INDEXES FOR THE GENERAL MACHINERY  
 COMPONENT

(1913, 1927/28, 1937 weights)

	1913 weights		1927/28 weights		1937 weights	
	German Mach. Price Index	American Mach. Price Index	German Mach. Price Index	American Mach. Price Index	German Mach. Price Index	American Mach. Price Index
1913	130.6	161.7	133.0	168.8	133.4	172.1
1922/23	18.2	22.5	14.2	17.2	13.1	16.9
1923/24	17.7	21.9	14.7	17.8	13.8	17.9
1924/25	35.8	40.5	31.1	30.8	29.5	34.0
1925/26	71.9	75.2	70.2	69.3	69.4	73.5
1926/27	69.5	68.3	71.6	70.1	72.1	71.5
1927/28	100.0	100.0	100.0	100.0	100.0	100.0
1929	118.8	125.4	114.5	115.2	112.8	119.9
1930	219.5	242.0	213.7	229.6	211.3	237.5
1931	272.7	304.8	263.5	291.2	260.3	296.5
1932	180.3	188.0	188.6	209.8	191.7	202.7
1933	76.2	93.6	75.6	99.0	75.6	95.9
1934	32.2	44.5	30.6	45.9	30.2	44.3
1935	38.2	51.3	31.8	45.1	29.9	43.3
1936	63.7	88.7	62.8	95.3	62.7	92.0
1937	41.4	53.2	41.2	57.3	41.3	55.2
1938	63.3	80.3	57.2	76.5	55.6	73.6

Source: see page 924 - at end of Appendix F.

TABLE F.18

USSR: COMPARISON OF VOLUME OF IMPORTS ESTIMATED  
WITH GERMAN MACHINERY PRICE INDEXES AND  
AMERICAN MACHINERY PRICE INDEXES

(1913, 1927/28, and 1937 quantity and value weights)

	1913 weights		1927/28 weights		1937 weights	
	Using German Mach. Price Index	Using American Mach. Price Index	Using German Mach. Price Index	Using American Mach. Price Index	Using German Mach. Price Index	Using American Mach. Price Index
1913	152.6	158.5	169.6	178.1	165.4	178.7
1922/23	16.8	17.4	17.0	17.8	17.2	18.6
1923/24	31.7	60.8	33.9	62.9	28.6	60.1
1924/25	59.1	74.4	63.0	79.1	56.5	78.1
1925/26	73.8	79.2	79.3	83.0	76.4	77.9
1926/27	79.0	79.2	83.3	83.0	77.5	77.9
1927/28	100.0	100.0	100.0	100.0	100.0	100.0
1929	95.2	95.4	99.3	99.5	98.1	98.7
1930	117.4	117.1	120.0	123.8	132.6	132.5
1931	141.7	141.8	137.0	143.7	159.3	159.9
1932	101.1	99.3	101.2	106.2	116.9	113.1
1933	67.4	69.8	59.0	64.6	63.2	67.5
1934	64.6	67.9	50.0	53.7	45.3	50.4
1935	64.6	67.8	52.8	56.0	46.7	51.8
1936	65.4	69.5	56.4	64.2	55.0	62.2
1937	65.7	68.5	54.0	57.8	49.6	54.1
1938	70.3	73.3	59.1	63.7	57.0	61.9

Source: see page 924 - at end of Appendix F.

TABLE F.19

USSR: COMPARISON OF PRICE INDEXES FOR IMPORTS  
ESTIMATED WITH GERMANY MACHINERY PRICES  
INDEXES AND AMERICAN MACHINERY  
PRICE INDEXES

(1913, 1927/28, and 1937 quantity and value weights)

	1913 weights		1927/28 weights		1937 weights	
	German Quantity Weights	American Quantity Weights	German Quantity Weights	American Quantity Weights	German Quantity Weights	American Quantity Weights
1913	69.0	66.3	75.4	71.8	88.3	83.6
1922/23	71.2	68.4	78.5	74.9	89.3	84.5
1923/24	68.3	65.6	75.1	71.5	88.0	83.3
1924/25	116.5	116.0	113.7	114.2	110.0	109.7
1925/26	107.1	107.0	109.3	109.7	118.3	117.4
1926/27	96.0	96.4	96.4	96.9	102.5	102.6
1927/28	100.0	100.0	100.0	100.0	100.0	100.0
1929	94.4	94.5	97.3	97.1	92.0	92.4
1930	86.7	85.8	91.1	89.1	81.0	80.4
1931	75.1	74.2	75.8	73.3	66.1	65.6
1932	62.7	62.4	67.6	64.7	57.6	57.7
1933	51.4	49.5	56.5	52.0	49.0	46.9
1934	46.9	43.8	53.5	47.2	44.1	40.3
1935	47.8	44.6	49.8	43.6	42.3	38.7
1936	50.4	47.1	51.6	45.3	45.2	41.4
1937	53.6	51.1	56.8	51.6	40.2	47.2
1938	51.5	49.1	54.3	49.2	46.6	44.0

Source: see page 924 - at end of Appendix F.

TABLE F. 20

USSR: VOLUME INDEX FOR SOVIET IMPORTS  
OF MANUFACTURED CONSUMER GOODS

	1913 Weights	1926/27 Weights	1927/28 Weights	1932 Weights	1937 Weights
1913	1200	1171	1199	1094	1184
1922/23	183	179	183	190	182
1923/24	91	89	91	90	90
1924/25	132	126	131	133	127
1925/26	249	225	244	270	231
1926/27	76	76	76	77	76
1927/28	100	100	100	100	100
1929	99	94	98	109	95
1930	78	96	78	82	76
1931	57	56	57	62	56
1932	60	57	60	67	58
1933	49	49	49	51	50
1934	55	55	55	56	55
1935	38	37	38	40	37
1936	49	48	49	52	48
1937	18	17	18	18	17
1938	16	16	16	18	15

Source: see page 925 - at end of Appendix F.

Notes to Tables in Appendix FNotes to Table F.1

See text, pp. 877 ff for method or criteria of selecting items for basic export index.

Notes to Table F.2

Col. 1: SOVTC 1 (Machinery) divided by total exports (excluding platinum).

Col. 2: SOVTC 2 (Furs) divided by total exports (excluding platinum).

Col. 3: 100 minus the sum of cols. 1 and 2.

Col. 4: Value in current prices of the 73 items included in basic export indexes (listed in Table F.1) divided by total exports (excluding platinum).

Col. 5: This column shows the per cent of items not specifically included in the basic index or in SOVTC 1 and SOVTC 52 and is a residual, i. e., 100 minus the sum of cols. 1, 2, 4 (or col. 3 minus col. 4).

Col. 6: Col. 4 divided by col. 5.

Notes to Table F.3

Source: Based on 73 commodities listed in Table F.1. See pp. 877 ff for description of methodology and the procedures used in deriving unit-values.

Notes to Table F.4

Source: Based on Tables F.3 and F.4 according to procedures discussed in the text, pp. 878 ff and Addendum to Appendix F.

Notes to Table F.5

Source: See text, pp. 881 ff for method or criteria of selecting items for basic import index.

Col. 1: SOVTC 1 (Machinery) divided by total value of import prices.

Col. 2: SOVTC 3 (Chemicals) minus SOVTC 35000 (Natural rubber) and SOVTC 34 (Fertilizers and Pesticides). The remainder was divided by the total value of imports.

Col. 3: SOVTC 9 (Manufactured Consumer Goods) minus SOVTC 900 (cotton cloth) and SOVTC 901 (woolen cloth). The remainder was divided by the total value of imports.

Col. 4: One hundred minus sum of cols. 1-3.

Col. 5: Value of 60 items in basic import index divided by value of total imports.

Col. 6: Col. 4 divided by col. 5.

Notes to Table F.7

Source: Based on 60 items listed in Table F.5. Statistics for Soviet imports taken from VTSSSR-60. See pp. 877 ff for description of methodology and the procedures used in deriving unit-values. See Notes to Table F.6 for list of commodity groups specifically excluded from the basic import indexes.

Notes to Table F.8

Source: Based on Table F.6 and F.7 according to procedures discussed in the text, pp. 877 ff and Addendum to Appendix F.

Notes to Table F.9

Source: Based on STATJAHR (various years) from the table "Goldwert der Valuten" in the international statistics section.



Notes to Table F.10

- Col. 1: Value divided by weight for SOVTC 52 in VTSSSR-60.
- Col. 2: Value divided by weight for SOVTC 520 in VTSSSR-60.
- Col. 3: Value divided by weight for SOVTC 521 in VTSSSR-60.
- Col. 4: Value divided by weight for SOVTC 522 in VTSSSR-60.
- Col. 5: From Table F.13.
- Col. 6: From Table F.11.

Notes to Table F.11

Source: See text, pp. 883 ff for source of data. The eight furs are squirrel, fox, ermine, polar fox, sable, white fitch (specie of European polecat), black fitch, and karakul (fur of various species of sheep).

Col. 6: Value of eight furs divided by the value of raw furs as cited in VTSSSR-60, except for 1913, for which the value of the furs sold for exports at the trade fairs was used (see p.885 ).

Notes to Table F.12

Source: Based on a unit-value weighted volume index of eight species of fur, which accounted for a large share of raw fur exports (see Table F.11 and Notes to Table F. 11). The volume index of eight furs was adjusted for changes in the share of the value of the eight furs (in current prices) in the total values of raw fur exports (col. 6 in Table F.11) according to the method described on pp. 878 ff and in Addendum to Appendix F.

Notes to Table F.13

Source: See text, pp. 887 . Raw fur component of this price index based on eight furs listed in Table F.11.

Notes to Table F.14

Source: See text, pp. 881 ff . Raw fur component from Table F.12. Individual components weighted by relative shares of raw, dressed, and dressed-and-dyed furs in total fur exports, as reported in VTSSSR-60.

Notes to Table F.15

Source: See text, pp. 889 ff. Indexes based on American general machinery prices and on American passenger cars adjusted for devaluation of the U.S. dollar (Table F.9).

Notes to Table F.16

Source: See text, pp. 893 ff . These price indexes are based on identical weights (based on relative share of general machinery, agricultural machinery, and transport machinery) and identical price indexes for agricultural and transport machinery. They differ only in choice of a price index for general machinery imports.

Notes to Table F.17

Source: See text, pp. 892 ff . These series differ only in the choice of a price deflator for the value of general machinery imports. See Notes to Table F.16.

Notes to Table F.18

Source: These volume series differ only in the choice of the price deflator for the value of general machinery imports. See Notes to Table F.16. See text, p. 894.

Notes to Table F.19

Source: See Notes to Table F.18.

Notes to Table F. 20

Source: See text, pp. 895 ff.

## BIBLIOGRAPHY

I. SOVIET PERIODICALS AND PERIODICALS PUBLISHED UNDER SOVIET AUSPICES

Short form used text or notes.	Name of periodical and place published.
<u>Ekon. Oboz.</u>	<u>Ekonomicheskoe Obozreniie</u> , monthly, Moscow.
<u>Ekon. Zhisn</u>	<u>Ekonomicheskaja Zhisn</u> , every other day, Moscow.
<u>ERSU</u>	<u>Economic Review of the Soviet Union</u> , semi- monthly, New York (Official journal of the Amtorg Trading Corporation).
<u>ES</u>	<u>Economic Survey</u> , monthly, Moscow (Offi- cial journal of the USSR Chamber of Com- merce).
<u>ES Gosbank</u>	<u>Economic Survey</u> , monthly?, Moscow (Pub- lished by State Bank of USSR).
<u>Izvestia</u>	<u>Izvestia</u> , daily, Moscow.
<u>Plan. Khoz.</u>	<u>Planovoe Khoziaistvo</u> , monthly, Moscow.
<u>Pravda</u>	<u>Pravda</u> , daily, Moscow.
<u>ST</u>	<u>Sovetskaia Torgovlia</u> , weekly and semi- monthly, Moscow.
<u>SUA</u>	<u>Sowjetwirtschaft und Aussenhandel</u> , semi- monthly, Berlin. (Official organ of the Soviet Trade Delegation in Germany and published under the title <u>Die Volkswirt- schaft der Union der Sozialistischen Sowjet- republiken</u> from 1922 to 1930.).
<u>Vest. Fin.</u>	<u>Vestnik Finansov</u> , monthly, Moscow.
<u>Vop. Torg.</u>	<u>Voprosy Torgovli</u> , monthly, Moscow (Pub- lished by the Commissariat of Trade).
<u>VT</u>	<u>Vneshnaia Torgovlia</u> , three times per month, Moscow

## II. Non-Soviet Periodicals

Short form used in text or notes.	Name of periodical and place published.
<u>Annals Col.</u>	<u>Annals of Collective Economy</u> , Geneva.
<u>AER</u>	<u>American Economic Review</u> .
<u>Ekon. Kab.</u>	<u>(Biulleten') Ekonomicheskogo Kabinetu Prof. S. N. Prokopovich</u> , Prague.
<u>FRB</u>	<u>Federal Reserve Bulletin</u> , Washington, D.C.
<u>Kyklos</u>	<u>Kyklos</u> , Basel.
<u>RES</u>	<u>Review of Economics and Statistics</u> , Cambridge, Mass.
<u>QJE</u>	<u>Quarterly Journal of Economics</u> , Cambridge, Mass.
<u>Russ. Ekon.</u>	<u>Russkii Ekonomist</u> , Berlin?
<u>Russ. Ekon. Sbor.</u>	<u>Russkii Ekonomicheskii Sbornik</u> , Prague.
<u>SS</u>	<u>Soviet Studies</u> , Oxford.
<u>Welt. Arch.</u>	<u>Weltwirtschaftliches Archives</u> , ?
<u>Wirt.</u>	<u>Wirtschaftsdienst</u> , Hamburg.

## III. Books and Articles

AHD	Germany. Statistischen Reichsamt. <u>Der Auswaertige Handel Deutschlands</u> . Berlin: Statistischen Reichsamt (various years).
Aizenberg-62	Aizenberg, I.P. <u>Valiutnaia Systema SSSR</u> . Moscow: Izd. sotsial 'no-ekonomicheskoe literatury, 1962.
Allen-68	Allen, R.G.D. <u>Macro-Economic Theory: A Mathematical Treatment</u> . New York: St. Martin's Press, 1968.
Anders-28a	Anders, Rudolf. "Die UdSSR als Maschinenimportland," <u>SUA</u> , Vol. VII, No. 7 (1928) pp. 2-11.

- Anders-29a \_\_\_\_\_ . "Zum Fuenfjahresplan des Aussenhandels der UdSSR," SUA, Vol. VIII, No. 9 (1929), pp. 7-15.
- Anglo-26 (Anglo-Russian Parliamentary Committee) Possibilities of British-Russian Trade: An Investigation by British Members of Parliament. London: The Anglo-Russian Parliamentary Committee. March, 1926.
- ARCC-31 American-Russian Chamber of Commerce. Economic Handbook of the Soviet Union. New York: American-Russian Chamber of Commerce, 1931.
- ARCC-36 \_\_\_\_\_ . Handbook of the Soviet Union. New York: The John Day Company, 1936.
- Arnold-37 Arnold, Arthur Z. Banks, Credit, and Money in Soviet Russia. New York: Columbia University Press, 1937.
- Arvatov-28 Arvatov, I. and Velikhov, T. "Eksportnyi tamozhennyi tarif" in ENSOVEX, pp. 171-172.
- ASTUK Great Britain Customs and Excise Department, Statistical Office. Annual Statement of the Trade of the United Kingdom. (annual).
- Badmas-32 Badmas, A., Anders, R. et al. (eds). Ezhegodnik vneshnei torgovli za 1931 g. Moscow: Gosud, zotsial 'no-ekonomicheskoe izdat., 1932. Published for the Nauchno-issledovatel'skii Institut Monopolii Vneshnei Torgovli.
- Baikalov-34 Baikalov, A. V. "The Gold Industry and the Gold Reserves of the Soviet Union" in Money, Prices and Gold in the Soviet Union, Monograph No. 3. London: University of London, School of Slavonic and East European Studies: November, 1934.
- Baksht-27a See M. B. -27a.
- Baksht-28a. Baksht, M. "Rekonstruktivnye protsessy vo vneshnei torgovle," Vop. Torg., No. 12, 1928, pp. 21-35.

- Baksht-28b \_\_\_\_\_ . "Vneshniaia torgovlia v 1927/28 g", ST, Vol. III, No. 45/46 (1928), pp. 8-10.
- Bakulin-35 Bakulin, S. and Mishustin, D. Statistika vneshnei torgovli SSSR. Moscow: Vneshtorgizdat, 1935.
- Bakulin-40 \_\_\_\_\_ . Statistika vneshnei torgovli. Moscow: B/O Mezhdunarodnaia Kniga 1940. Published for Koniunkturny Institut Narkonsvneshtorga SSSR.
- Balaban-28 Balaban, I.A.S. "Khlebnaia torgovlia SSSR" in ENSOVEX, pp. 211-220.
- Baldwin-65 Baldwin, Robert E. et al. Trade, Growth, and the Balance of Payments. Chicago: Rand McNally & Co., 1965.
- Balzak-49 Balzak, S.S., Vasyutin, V.F., and Feigin, Ya. G., eds. Economic Geography of the USSR. Trans. Robert M. Hankin and Olga Adler Titelbaum. New York: MacMillan, 1949.
- Baykov-46 Baykov, Alexander. Soviet Foreign Trade. Princeton, New Jersey: Princeton University Press, 1946.
- Baykov-47 \_\_\_\_\_ . The Development of the Soviet Economic System, An Essay on the Experience of Planning in the USSR. New York: MacMillan, 1947.
- Bazarov-26a Bazarov, V. "O metodologii postroeniia perspektivnykh planov," Plan, Khoz., No. 7, 1926, pp. 7-21. Translated in part in Spulber-64, pp. 221-229. Page references to Spulber-64.
- Bazarov-28a \_\_\_\_\_ . "Printsipy postroeniia perspektivnogo plana," Plan, Khoz., No. 2, 1928, pp. 38-63. Translated in part in Spulber-64, pp. 221-229. Page references to Spulber-64.
- Beable-19 Beable, William Henry. Commercial Russia. New York: The Macmillan Company, 1919.

- Becker-55                    Becker, Abraham S. Cotton Textile Industry of the U.S.S.R. Washington, D.C.: Council for Economic and Industry Research, Inc. January, 1955.
- Beer-59                      Beer, John Joseph. The Emergence of the German Dye Industry, Urbana, Illinois: University of Illinois Press, 1959.
- Beloff-47                    Beloff, Max. The Foreign Policy of Soviet Russia 1929-1941, Vol. I, 1929-1936. London: Oxford University Press, 1947.
- Bergson-53                   Bergson, Abram (ed). Soviet Economic Growth, Conditions and Perspectives. Evanston, Illinois: Row, Peterson and Company, 1953.
- Bergson-61                   \_\_\_\_\_ . The Real National Income of Soviet Russia since 1928. Cambridge, Mass.: Harvard University Press, 1961.
- Bergson-63                   Bergson, Abram and Kuznets, Simon (eds). Economic Trends in the Soviet Union. Cambridge, Mass.: Harvard University Press, 1963.
- Berliner-55                   Berliner, Joseph S. The Soviet Metal-Working and Machinery Industries. Washington, D.C.: Council for Economic and Industry Research, Inc., May, 1955.
- Berkenkopf-36a              Berkenkopf, Galina. "Industrialisierung und Aussenhandel der Sowjetunion in ihrer wechselseitigen Abhaengigkeit," Welt. Arch., Vol. 43 (January-May, 1936), pp. 421-437.
- Bettelheim-40               Bettelheim, Charles. La Planificacion Sovietique. Paris: Librairie Des Sciences Politique et Sociales, (1940?).
- Birmingham-31a             Birmingham Bureau of Research on Russian Economic Conditions. Memorandum No. 2, The Foreign Trade of the USSR. Birmingham: University of Birmingham, July, 1931.





- Carr-52 Carr, Edward Hallett. The Bolshevik Revolution 1917-1923. Vol. II. London: MacMillan, 1952.
- Carr-58 \_\_\_\_\_ . Socialism in One Country 1924-1926. Vol. I. New York: MacMillan, 1958.
- Carr-59a \_\_\_\_\_ . Socialism in One Country 1924-1926. Vol. II. London: MacMillan, 1959.
- Carr-67 \_\_\_\_\_ . "Some Random Reflections on Soviet Industrialization" in Feinstein-67, pp. 271-284.
- Chapman-63 Chapman, Janet. Real Wages in Soviet Russia Since 1928. Cambridge, Mass.: Harvard University Press, 1963.
- Chayanov-66 Chayanov, A.V. The Theory of Peasant Economy. Edited by Daniel Thorner, Basile Kerblay, R.E.F. Smith. Homewood, Ill.: Richard D. Irwin, 1966. Published for American Economic Association, Translation Series.
- Chernobaev --28a Chernobaev, N.G., Rosenblit, M.C., Kheifets, L.M. "Perspektivy importa SSSR v sviazi s razvitiem ego narodnogo khoziaistva" in ENSOVIM, pp. 15-34.
- Chernobaev-28b Chernobaev, N.G. "Promyshlennost' i vneshniaia torgovlia v piatiletnei perspektive", Vop. Torg., No. 13, 1928, pp. 14-22.
- Cherviakov-58 Cherviakov, P.A. Organizatsiia i tekhnika vneshnei torgovli SSSR. Moscow: Vnesh-torgizdat, 1958.
- Child-58 Child, Frank C. The Theory and Practice of Exchange Control in Germany. The Hague: Martinus Nijhoff, 1958.
- Clark-56 Clark, M. Gardner. The Economics of Soviet Steel. Cambridge, Mass.: Harvard University Press, 1956.

- Clemen-27                      Clemen, Rudolf A. By-Products in the Packing Industry. Chicago, Ill.: The University of Chicago Press, 1927.
- Coates-31                        Coates, W.P. Is Soviet Trade a Menace? London: The Anglo-Russian Parliamentary Committee, September, 1931.
- Collette-65                      Collette, J.M. Politique des Investissements et Calcul Economique L'Experience Sovietique. Paris: Editions Cujas, 1965.
- Committee-33                    Committee on Russian-American Relations. The United States and the Soviet Union: A Report on the Controlling Factors in the Relation Between the United States and the Soviet Union. New York: Committee on Russian-American Relations, The American Foundation, 1933.
- Comparisons-60a                U.S. Congress, Joint Economic Committee. Comparisons of the United States and Soviet Economies, Part I, 86th Congress, first session, 1960. Washington, D. C.: GPO, 1960.
- Condoide-46                      Condoide, Mikhail V., Russian American Trade. Columbus, Ohio: The Bureau of Business Research, College of Commerce and Administration of the Ohio State University, 1946.
- Conolly-33                        Conolly, Violet. Soviet Economic Policy in the East. London: Oxford University Press, 1933.
- Conolly-35                        \_\_\_\_\_ . Soviet Trade from the Pacific to the Levant. London: Oxford University Press, 1935.
- Czechowicz-29a                Czechowicz, Paul. "Wesen und Entwicklung der Zollpolitik der UdSSr", Wirtschaftsdienst, December 20, 1929, pp. 2209-2215.
- Czechowicz-29b                \_\_\_\_\_ . "Zahlungsbilanz und Zahlungsfahigkeit der UdSSR", I, Wirtschaftsdienst, Heft 30, July 26, 1929, pp. 1282-1285.
- Czechowicz-29c                \_\_\_\_\_ . \_\_\_\_\_ . II, Wirtschaftsdienst, Heft 31, August 2, 1929, pp. 1328-1331.

- Czechowicz-29d \_\_\_\_\_ . "Zahlungsbilanz und Zahlungsfähigkeit der UdSSR: Eine Entgegnung" Wirtschaftsdienst, Heft 31, October 25, 1929, pp. 1856-57.
- Czechowicz-29e \_\_\_\_\_ . "Währungssystem und Preissystem der Sowjetunion," Wirtschaftsdienst, Heft 15, April 12, 1929, pp. 632-637.
- Czechowicz-32 \_\_\_\_\_ . "Die Exportpolitik und das Problem der Exportfähigkeit der UdSSR," Welt. Arch., Vol. XXXV (1932, II), pp. 475-513.
- Dalrymple-64a Dalrymple, Dana. "The Soviet Famine of 1932-1934" Soviet Studies, Vol. XV, No. 3 (January, 1964), pp. 250-284.
- Dalrymple-64b \_\_\_\_\_ . "The Soviet Famine of 1932-1934: Some Farther References," Soviet Studies, Vol. XVI, No. 4 (April, 1965), pp. 471-474.
- Daniels-60 Daniels, Robert Vincent. The Conscience of The Revolution: Communist Opposition in Soviet Russia. Cambridge, Mass.: Harvard University Press, 1960.
- Danishevskii-30 Danishevskii, K. "Itogi i perspektivy nashego lesnogo eksport," Ekon. Oboz., Vol. VIII, No. 2 (February, 1930), pp. 41-47.
- Davidoff-39 Davidoff, G. "L'or et les Crises monetaires en U.R.S.S." Revue Economique Internationale. (August, 1939), pp. 256-294.
- de Hevesy-40 de Hevesy, Paul. World Wheat Planning and Economic Planning in General. London: Oxford University Press, 1940.
- de Tchihatchef-55 deTchihatchef, Andrew. Shoe and Leather Industry of the U.S.S.R., 1920-1953, Washington, D.C.: Council for Economic and Industry Research, Inc., April, 1955.
- Deutscher-50 Deutscher, Isaac. Soviet Trade Unions. London: Oxford University Press, 1950.
- Diamond-55 Diamond, Douglas, Jr. Agricultural Statistics of the U.S.S.R. Washington, D.C.: Council for Economic and Industry Research, Inc., June, 1955.

- Dobb-28 Dobb, Maurice. Russian Economic Development Since the Revolution. New York: E.P. Dutton & Co., 1928.
- Dobb-48 \_\_\_\_\_ . Soviet Economic Development Since 1917. New York: International Publishers, 1948.
- Dobb-60 \_\_\_\_\_ . An Essay on Economic Growth and Planning. London: Routledge and Kegan Paul, 1960.
- Dobb-63 \_\_\_\_\_ . Economic Growth and Underdeveloped Countries. New York: International Publishers, 1963.
- Dodge-66 Dodge, Norton. "The Stalingrad Tractor Plant in Early Soviet Planning," Soviet Studies, Vol. XVIII, No. 2 (October, 1966), pp. 164-168.
- Documentation-33 Documentation Relating to Foreign Economic Relations of the USSR. Prepared for the Monetary and Economic Conference in London, June, 1933. Moscow: 1933.
- Dohan-65 Dohan, Michael R. Soviet Concessions to Foreign Capital. A History 1917 to 1930. Unpublished paper written for Professor Merle Fainsod's seminar on Topics in Soviet Government and Politics at Harvard University in the spring of 1964. Paper submitted in February 9, 1965 and accepted as fulfilling the requirements for a Master's Thesis in the Soviet Union Program at Harvard University.
- Dohan-67 \_\_\_\_\_ . An Analytical Model of the Soviet Industrialization Debate 1920-1930 with Especial Attention Given to the Role of Foreign Trade in Soviet Growth. Unpublished paper under the guidance of Abram Bergson for his "Seminar on the Soviet Economy" at Harvard University in the spring of 1966. Paper submitted in January, 1967.
- Domar-57 Domar, Evsey D. Essays in the Theory of Economic Growth. New York: Oxford University Press, 1957.

- Dubenezki-27                      Dubnezki, N. "Die Getreideernten 1925 und 1926," SUA, Vol. VI, No. 10 (1927), pp. 15-26.
- Dyck-66                                Dyck, Harvey Leonard. Weimar Germany and Soviet Russia 1926-1933. New York: Columbia University Press, 1966.
- Dzerzhinskii-26                      (Dzerzhinskii, F.E.) "Der Aufbau der Industrie und die gegenwaertigen wirtschaftlichen Schwierigkeiten: Aus der Rede von F.E. Dsershinski auf dem Gewerkschafts Kongress am 9 Februar 1926", SUA, Vol. V. No. 4 (1926), pp. 12-17.
- Eason-54                                Eason, Warren. The Agricultural Labor Force and Population of the USSR: 1926-1941. Santa Monica, Calif.: RAND Corporation, Research Memorandum RM-1248, 4 May 1954.
- Eason-63                                \_\_\_\_\_ . "Labor Force," in Bergson-63, pp. 38-95.
- Eckstein-66                              Eckstein, Alexander. Communist China's Economic Growth and Foreign Trade: Implications for U.S. Policy. New York: McGraw-Hill, 1966.
- EIKSSSR                                Troianovskii, A., IUrovskii, L., and Kaufman, M. (eds). Eksport, import i kontsessii Soiuza S.S.R. Moscow: Dvigatel, (1926?). Text in Russian, English, French and German.
- Ekon. Zhisn, September 1, 1926.      "Vypolnenie eksportno-importnogo u valiutnogo plana na 1925-1926 g: Po materialam NK RKI," Ekon. Zhisn, September 1, 1926, p. 1.
- Elchibegoff-55a                        Elchibegoff, Ivan. Production of Agricultural Machinery in the USSR. Washington, D.C.: Council for Economic and Industry Research, Inc., March, 1955.
- Elchibegoff-55b                        \_\_\_\_\_ . Lead, Tin and Zinc Industries of the U.S.S.R. Washington, D.C.: Council for Economic and Industry Research, Inc., April, 1955.

- Engееv-27a Engееv, T.K. "Problema valiutnogo balansa SSSR," Finansovye Problemy, No. 2, 1927, pp. 64-72.
- Engееv -27b \_\_\_\_\_ . "Evoliutsiia plateshnogo balansa SSSR," Vestnik Finansov, No. 11, 1927, pp. 117-134.
- Engееv-28a \_\_\_\_\_ . "Osnovnye voprosy valiutnoi politiki SSR," Ekon. Oboz., Vol. VI, No. 8, (August, 1928), pp. 56-69.
- Engееv-28b \_\_\_\_\_ . "O platezhnom balanse dovoyennoi Rossii," Vestnik Finansov, No. 5, 1928, p. 82. Cited in Liashchenko-49, p. 718.
- ENSOVEX Belen'skii, B.S., Berlin, P.A. et al. Entsiklopediia sovetskogo eksporta Tom I. 2d ed. Moscow: Torgogo Predstavitel'stva SSSR u Germanii Tesntrosuiuza i Gostorga, 1928.
- ENSOVIM Goldstein, J., Folgov, A., et al., Entsiklopediia sovetskogo importa, Vol. I. Moscow: Izd. Narkomtorga SSSR i RSFSR 1929.
- Erlich-50 Erlich, Alexander. "Preobrazhenski and the Economics of Soviet Industrialization," Quarterly Journal of Economics, Vol. LXIV, No. 1 (February, 1950), pp. 57-88.
- Erlich-55 \_\_\_\_\_ . "Stalin's Views on Soviet Economic Development," in Continuity and Change in Russian and Soviet Thought, Ernest J. Simmons, ed. Cambridge, Mass.: Harvard University Press, 1955, pp. 81-99.
- Erlich-60 \_\_\_\_\_ . The Soviet Industrialization Debate. Cambridge, Mass.: Harvard University Press, 1960.
- Erlich-67 \_\_\_\_\_ . "Development Strategy and Planning: the Soviet Experience," in National Economic Planning, Max F. Millikan, ed. New York: National Bureau of Economic Research, 1967, pp. 233-278.

- ERP-67 Economic Report of the President: 1967.  
Washington, D. C.: G.P.O., 1967.
- Eventov-26a Eventov, L. "Problemy vneshnei torgovli,"  
Ekon. Oboz., Vol. IV, No. 2 (February,  
1926), pp. 2-29.
- FCNUS United States Department of Commerce.  
Foreign Commerce and Navigation of the  
United States (annual).
- Feifets-28a Feifets, S. "Nakladnye raskhody po eksportu  
SSSR," in ENSOVEX, pp. 149-162.
- Feifets-28b \_\_\_\_\_ . "Nakladnye raskhody po khleb-  
nomu eksportu," in ENSOVEX, pp. 334-  
340.
- Feinstein-67 Feinstein, C.H., ed. Socialism, Capital-  
ism and Economic Growth: Essays Presented  
to Maurice Dobb. Cambridge, Great Bri-  
tain: At the University Press, 1967.
- Fel'dman-28a Fel'dman, G.A. "K teorii tempov narod-  
nogo dokhoda," Plan. Khoz., No. 11,  
1928, pp. 146-171. Translated in part  
in Spulber-64, pp. 174-199. Page references  
to Spulber-64.
- Fel'dman-28b \_\_\_\_\_ .  
\_\_\_\_\_, No. 12, 1928, pp. 151-178.  
Translated in part in Spulber-64, pp. 304-  
331. Page references to Spulber-64.
- Firth-64 Firth, Raymond and Yamey, B.S. Capital,  
Saving and Credit in Peasant Societies.  
Chicago: Aldine Publishing Co., 1964.
- Fischer-26 Fischer, Louis. Oil Imperialism. New  
York: International Publishers, 1926.
- Fullard-61 Fullard, Harold. The Soviet Union in Maps.  
Chicago: Denoyer-Geppert Company, 1961.
- Geller-26a Geller, G. "Bolezni nashei vneshnei tor-  
govli," Plan. Khoz., No. 10 (October, 1926),  
pp. 30-42.
- Geller-28a Geller, G. and Sovalov, A. "Osnovnye  
problemy razvitiia vneshnei torgovli v  
piatiletie 1928/29-1932/33," Vop. Torg.,  
No. 12, 1928, pp. 37-49.



- Gerschenkron-45 Gerschenkron, Alexander. Economic Relations with the USSR. New York: The Committee on International Economic Policy in Cooperation with the Carnegie Endowment for International Peace, 1945.
- Gerschenkron-47 \_\_\_\_\_ . "The Rate of Industrial Growth of Russia Since 1885," Journal of Economic History, Vol. VII, Supplement (1947), pp. 144-174.
- Gerschenkron-51 \_\_\_\_\_ . A Dollar Index of Soviet Machinery Output, 1927/28 to 1937. Santa Monica, Calif.: RAND Corporation, Research Memorandum R-197, April 6, 1951.
- Gerschenkron-52 Gerschenkron, Alexander and Nimitz, Nancy. A Dollar Index of Soviet Petroleum Output, 1927/28 to 1937. Santa Monica, Calif.: RAND Corporation, Research Memorandum RM-804, April 4, 1952.
- Gerschenkron-53 \_\_\_\_\_ . A Dollar Index of Soviet Iron and Steel Output, 1927/28 to 1937. Santa Monica, Calif.: RAND Corporation, Research Memorandum RM-1055, March 13, 1953.
- Gerschenkron-65 \_\_\_\_\_ . "Russia: Patterns and Problems of Economic Development, 1861-1958," Chapter 6 in Economic Backwardness in Historical Perspective, by Alexander Gerschenkron. New York: Frederick A. Praeger, 1965, pp. 119, 151.
- Goldsmith-61 Goldsmith, Raymond. "The Economic Growth of Tsarist Russia, 1860-1913," Economic Development and Cultural Change, April, 1961, pp. 441-475.
- Goldsmith-55 \_\_\_\_\_ . A Study of Saving in the United States. 3 vols. Princeton, N.J.: Princeton University Press, 1955-56.
- Golowatscheff-38 Golowatscheff, W. v. "Goldproduktion, Goldaussenhandel und Goldreserven der UdSSSR," Ost-Europa-Markt (Koenigsberg), Vol. XVIII, Nos. 9, 10, 11 (1938), pp. 455-468, pp. 518-526, pp. 578-585.

- Gosplan-25                    Gosplan SSSR. (SSSR Gosudarstvennaia planovaia komissii) Kontrol'nye tsifry narodnogo khoziaistva na 1925/1926 god. Moscow: Planovoe khoziaistvo, 1925. Parts from pp. 7-15 are translated and reprinted in Spulber-64, pp. 393-400. Page references are to this translation.
- Gosplan-26                    Gosplan SSSR. Kontrol'nye tsifry narodnogo na 1926/27 god. Moscow: Planovoe khoziaistvo, 1926. Parts translated and reprinted in Spulber-64, pp. 401-415. Page references are to this translation.
- Gosplan-28                    Gosplan SSSR. Kontrol'nye tsifry narodnogo khoziaistva SSSR na 1927/28 god. Moscow: Izd. "Planovoe khoziaistvo", 1928. Translated in part in Spulber-64, pp. 408-410.
- Gosplan-29a                   Gosplan SSSR. Kontrol'nye tsifry narodnogo khoziaistva SSSR na 1928/29 god. Moscow: Izdatel'stvo "Planovoe Khoziaistvo", 1929.
- Gosplan-29b                   Gosplan SSSR. (SSSR Gosudarstvennaia planovaia komissii), Piatiletanii plan narodno-khoziaistvennogo stroitel'stva SSSR. 2nd ed. Moscow: "Planovoe Khoziaistvo," 1929.
- Gosplan-30a                   Gosplan SSSR. Piatiletanii plan narodno-khoziaistvennogo stroitel'stvo SSSR. 3 volumes. 3d ed. Moscow: Izdatel'stvo Gosplana SSSR "Planovoe Khoziaistvo" (all references are to the first volume).
- Gosplan-30b                   (Gosplan USSR). The Soviet Union Looks Ahead: The Five Year Plan for Economic Construction. London: George Allen and Unwin, 1930.
- Gosplan-33                    (Gosplan USSR). Summary of the Fulfillment of the First Five-Year Plan for the Development of the National Economy of the USSR. Moscow: State Planning Commission of the USSR, 1933.
- Gottheil-66                    Gottheil, Fred M. Marx's Economic Predictions. Evanston, Ill.: Northwestern University Press, 1966.

- Granick-67                    Granick, David. Soviet Metal-Fabricating and Economic Development Practice versus Policy. Madison, Wis.: University of Wisconsin Press, 1967.
- Grinko-30                    Grinko, G.T. The Five-Year Plan of the Soviet Union: A Political Interpretation. London: Martin Lawrence Ltd., 1930.
- Groman-23                   Groman, V.G. and Kaufman, M. Ia. (eds). Vneshniaia trgovlia i narodnoe khoziastvo. Moscow: Vsia Rossiia, 1923. Cited in Kutusov-28, p. 10 passim.
- Groman-28a                 Groman, V.G. "Khlebnaia produktsiia i khlebnyi eksport SSSR," in ENSOVEX, pp. 220-238.
- Grossman-60                Grossman, Gregory. Soviet Statistics of Physical Output of Industrial Commodities: Their Compilation and Quality. Princeton, N.J.: National Bureau of Economic Research, 1960.
- Grossman-61                \_\_\_\_\_ . "Suggestions for a Theory of Soviet Investment Planning," in Center for International Studies, Massachusetts Institute of Technology. Investment Criteria and Economic Growth. London: Asia Publishing House, 1961.
- Gurevich-27a               Gurevich, B.E. "Vypolnenie vneshnetorgovogo plana," ST, Vol. II, No. 31 (1927), p. 3.
- Gurevich-27b               \_\_\_\_\_ . "Nashi zadachi po rasshireniiu vtorostepennykh vidov eksporta," ST, Vol. II, No. 41 (1927), pp. 1-3.
- Gwyer-55a                   Gwyer, Joseph. Production of Steel Mill Equipment in the USSR: A Preliminary Study. Washington, D.C.: Council for Economic and Industry Research, Inc., March, 1955.
- Gwyer-55b                   \_\_\_\_\_ . USSR Production of Boilers, Prime Movers, and Electric Power Equipment: A Preliminary Study. Washington, D.C.: Council for Economic and Industry Research, Inc., April, 1955.

- Gwyer-55c . Notes on USSR Production of Textile Machinery, Pumps, and Compressors, Washington, D.C.: Council for Economic and Industry Research, Inc., June, 1955.
- Gwyer-55d . Production of Mining, Chemical, and Non-ferrous Metallurgical Equipment in the USSR: A Preliminary Study. Washington, D.C.: Council for Economic and Industry Research, Inc., March 1955.
- Haensel-30 Haensel, Paul. The Economic Policy of Soviet Russia. London: P. S. King & Son, Ltd., 1930.
- Handbook-36 USSR Handbook. London: Victor Gollancz Ltd., 1936. Preface stated that text was edited by Louis Segal.
- Harrod-64 Harrod, Roy (ed.), International Trade Theory in a Developing World, London: Macmillan & Co. Ltd., 1964.
- Hassman-53 Hassmann, Heinrich. Oil in the Soviet Union. Trans. Alfred M. Leeston. Princeton University Press, 1953.
- Heady-60 Heady, Earl Orel. Economics of Agricultural Production and Resource Use. Englewood Cliffs, N.J.: Prentice-Hall, 1960.
- Hildebrand-31 Hildebrand, Karl. Sovjetunionens Femaersplan och Exportpolitik. Stockholm: Lars Hoekerbergs Bokfoerlag, 1931.
- Hirschman-45 Hirschman, Albert O. National Power and the Structure of Foreign Trade. Los Angeles: University of California Press, 1945.
- Hodgman-54 Hodgman, Donald R. Soviet Industrial Production 1928-1951. Cambridge, Mass.: Harvard University Press, 1954.

- Holzman-60 Holzman, Franklyn D. "Some Financial Aspects of Soviet Foreign Trade," in Comparisons-60a, pp. 427-43.
- Holzman-62a \_\_\_\_\_ . Soviet Taxation: The Fiscal and Monetary Problems of a Planned Economy. Cambridge, Mass.: Harvard University Press, 1962.
- Holzman-62b Holzman, Franklyn D. (ed.) Readings on the Soviet Economy. Chicago: Rand McNally, 1962.
- Holzman-63 Holzman, Franklyn D. "Foreign Trade" in Economic Trends in the Soviet Union, Abram Bergson and Simon Kuznets (eds). Cambridge, Mass.: Harvard University Press, 1963, pp. 284-332.
- Holzman-68 \_\_\_\_\_ . "The Ruble Exchange Rate and Soviet Foreign Trade Pricing Policies, 1929-1961," American Economic Review, Vol. LVIII, No. 4 (September, 1968), pp. 803-825.
- Hunter-57 Hunter, Holland. Soviet Transportation Policy. Cambridge, Mass.: Harvard University Press, 1957.
- Hunter-64 \_\_\_\_\_ . "Priorities and Shortfalls in Prewar Soviet Planning," in Soviet Planning Essays in honour of Naum Jasny, edited by Jane Degras, Oxford: Basil Blackwell, 1964.
- Huntington-35 Huntington, William Chapin. The Prospects of British and American Trade with the Soviet Union. Monographs No. 7 and No. 8. London: School of Slavonic and East European Studies in the University of London, July 1935.
- IAnovski-29 IAnovskii, V. "O valiutnoi piatiletke," Vestnik Finansov, Vol. IX, No. 7 (1929), pp. 43-57.
- IAnson-34a See Yanson-34a.

- IAnson-35a IAnson, Iakov, Davidovich (ed.), Vneshniaia torgovlia SSSR k XVII sezdu VKP(b). 2d ed. Moscow-Leningrad: Vneshtogizdat, 1935.
- Ikonnikov-52 Ikonnikov, V.V. (ed.). Deneshnoe obrashchenie k kredit SSSR. Moscow: Gosfinizdat, 1952.
- Ioffe-38a Ioffe, IA. "K itogam borby za tekhniko-ekonomicheskuiu nezavisimost SSSR," Plan Khoz, No. 11, 1938, pp. 50-72.
- Izvestia, June 4, 1929 "Perspektivy promeksporta," Izvestia, June 4, 1929.
- Izvestia, June 6, 1929 "Voprozy vneshnei torgovli v piatiletnem plane," Izvestia, 6, 1929.
- Jasny-49 Jasny, Naum. The Socialized Agriculture of the USSR: Plans and Performance. Stanford, Calif.: Stanford University Press, 1949.
- Jasny-57 \_\_\_\_\_ . The Soviet 1956 Statistical Handbook: A Commentary. East Lansing, Mich.: The Michigan State University Press, 1957.
- Jasny-61 \_\_\_\_\_ . Soviet Industrialization 1928-1952. Chicago: University of Chicago Press, 1961.
- Johnson-60 Johnson, Gale and Kahan, Arcadius. "Soviet Agriculture: Structure and Growth," in Comparisons-60a, pp. 201-284.
- Kaktyn-26a Kaktyn, A. "Die Elemente der Planwirtschaft im Innen- und Aussenhandel der Sowjet Union," SUA, Vol. V, No. 11 (1926), pp. 5-13. Probably a translation of his article "Razvitie elementov planovostia v vnutrennei i vnshnei torgovle SSSR," Plan.Khoz, No. 3 (March, 1926), pp. 73-87.
- Kaplan-51 Kaplan, Norman. Capital Investments in the Soviet Union, 1924-1951. Santa Monica, Calif.: The RAND Corp., November 28, 1951. Research Memorandum RM-735.

- Kapp-36 Kapp, Karl W. Planwirtschaft und Aussenhandel. Liege: H. Vaillant-Carmienne, 1936. Published PhD thesis for University of Geneva.
- Karcz-57 Karcz, Jerzy F. Soviet Agricultural Marketings and Prices 1928-1954. Santa Monica, Calif.: The RAND Corporation, Research Memorandum RM-1930, July 2, 1957.
- Karcz-67 \_\_\_\_\_ . "Thoughts on the Grain Problem," Soviet Studies, Vol. XVIII, No. 4 (April, 1967), pp. 399-434.
- Kas'ianenko-64 Kas'ianenko, V.I. Kak byla zavoevana tekhniko-ekonomicheskaiia samostoiatel'nost' SSSR. Moscow: Izd. Sots.-Ekonom. Liter. Mysl. ' . 1964.
- Kaufman-23 Kaufman, M. "Vneshniaia trgovlia," in Narodnoe khoziaistvo Rossii za 1921/22: Statistiko-Ekonomicheskii Ezhegodnik, Moscow: Izd. 'Ekonomicheskaiia Zhisn', 1923, pp. 258-271.
- Kaufman, -24 \_\_\_\_\_ . Vneshniaia i trgovlia politika SSSR. Moscow: ? , 1924. Cited in Shenkman-32a, p. 537.
- Kaufman-25a \_\_\_\_\_ . L'Union Sovietique et la France Manuel de l'exportation et de l'importation. Tome I. Moscow: Editeur "Dwigatel", 1925.
- Kaufman-25b \_\_\_\_\_ . Organisation und Regulierung des Aussenhandels der Union Sozialistischen Sowjet-republiken. Koenigsberg i. Pruss.: Wirtschaftsinstitut fuer Russland und die Oststaaten E. V., 1925. Schriftenfolge "Ost-europaeischer Aufbau", Heft No. 9, 1925.
- Kaufman-26a \_\_\_\_\_ . "Torgovlyi balans v novom khoziaistvennom godu," Ekonom. Zhisn', September 30, 1926.
- Kaufman-26b See Kaufman-26a.
- Kaufman-26c \_\_\_\_\_ . "Ausfuhr und Ausfuhrmoelick-eiten," SUA, Vol. V, No. 3 (1926), pp. 11-15.

- Kaufman-26d Kaufman, M. "Itogi vneshnei torgovli za 1925/26 god." ST, Vol. I, No. 11 (1926), pp. 7-9.
- Kaufman-26e \_\_\_\_\_ . "Nakladnye raskhody v eksportnoi torgovle," ST, Vol. V, No. 6 (1926), pp. 1-2.
- Kaufman-27a \_\_\_\_\_ . Organizatsia i regulirovanie torgovlya SSSR. Moscow: ? , 1927.
- Kaufman-27b \_\_\_\_\_ . "Eksport i narodnoe khoziaistvo," ST, Vol. II, No. 31 (1927), pp. 1-3.
- Kaufman-27c \_\_\_\_\_ . "Zadachi importnoi politiki," ST, Vol. II, No. 3 (1927), pp. 1-2.
- Kaufman-27d \_\_\_\_\_ . "K kontrol'nym tsifram po vneshnei torgovle," ST, Vol. II, No. 35 (1927), pp. 1-3.
- Kaufman-27e \_\_\_\_\_ . "O vtorostepennom eksporte," ST, Vol. II, No. 33 (1927), pp. 1-2.
- Kaufman-28a \_\_\_\_\_ . "K kontrol'nym tsifram po vneshnei torgovle," Vop Torg., No. 11, 1928, pp. 5-12.
- Kaufman-28b \_\_\_\_\_ . "Der Aussenhandel im Jahre 1926-27," SUA, Vol. VII, No. 1 (1928), pp. 7-11.
- Kaufman-28c \_\_\_\_\_ . "Vneshniaia torgovlia i narodnoe khoziaistvo v 1926/27 g.," Ekon. Oboz., Vol. VI, No. 1 (January, 1928), pp. 99-117.
- Kaufman-28d \_\_\_\_\_ . "Organizatsiia eksportnoi torgovli SSSR" in ENSOVEX, pp. 21-36.
- Kaufman-28e \_\_\_\_\_ . "K postroeniiu perspektivnogo plana po vneshnei torgovle," Vop. Torg., No. 13, 1928, pp. 5-13.
- Kaufman-28f Kaufman, M. "Eksport i narodnoi khoziaistvo," Vop. Torg., No. 1, 1928, pp. 25-35.
- Kaufman-29a \_\_\_\_\_ . "Itogi i perspektivy vneshnei torgovli," Plan. Khoz., No. 4 (April, 1929), pp. 72-93.



- Kaufman-29b Kaufman, M. "Import und Volkswirtschaft der Sowjetunion," SUA, Vol. VIII, No. 11/12 (1929), pp. 9-21.
- Kaufman-29c \_\_\_\_\_ . "Kontrol'nye tsifry po vneshnei torgovle na 1929/30 g.," Izvestia, June 28, 1929.
- Kaufman-29d \_\_\_\_\_ . "Import SSSR v nastoiashchem i proshlom" in ENSOVIM, pp. 1-14.
- Kaufman-29e \_\_\_\_\_ . "Maksimal'noe vnimanie eksportnomu planu," ST, Vol. IV, No. 36 (1929), pp. 1-2.
- Kaufman-29f \_\_\_\_\_ . "Import i narodnoe khoziaistvo," Vop. Torg., (No. 18?) (April, 1929), pp. 5-15.
- Kaufman-29g \_\_\_\_\_ . "Planirovanie vo vneshnei torgovle," Vop. Torg., No. 27 (December, 1929), pp. 9-17.
- Kaufman-29h \_\_\_\_\_ . "Kontrol'nye tsifry po vneshnei torgovle," ST, Vol. IV, No. 28 (June, 1929), pp. 1-3.
- Kennan-61 Kennan, George. Russia and the West under Lenin and Stalin. Boston: Little, Brown and Company, 1961.
- Kheml'nitsaia-28 Kheml'nitsaia, E. "K voprosu o miro-khoziaistvennykh sviaziakh SSSR," Plan. Khoz., No. 3 (March, 1928), pp. 22-33.
- Khusro-67a Khusro, Ali M. "The Pricing of Food in India," Quarterly Journal of Economics, Vol. LXXXI, No. 2 (May, 1967), pp. 271-285.
- Kindleberger-56 Kindleberger, Charles P. The Terms of Trade: A European Case Study. New York: John Wiley & Sons, Inc., 1956. Published jointly with the Technology Press of the Massachusetts Institute of Technology.
- Kindleberger-62 \_\_\_\_\_ . Foreign Trade and the National Economy. New Haven, Conn.: Yale University Press, 1962.

- Kindleberger-63 Kindleberger, Charles P. International Economics. Homewood, Ill.: Richard D. Irwin, Inc., 1963.
- Kindleberger-65 \_\_\_\_\_ . Economic Development. New York: McGraw-Hill Book Co., 1965.
- Knickerbocker-31a Knickerbocker, H.R. Soviet Trade and World Depression. London: John Lane, The Bodley Head Ltd., 1931.
- Knickerbocker-31b \_\_\_\_\_ . The Soviet Five-Year Plan and Its Effect on World Trade. London: John Lane, The Bodley Head Ltd., 1931.
- Knirsch-59 Knirsch, Peter. Die Oekonomischen Anschauungen Nikolai I. Bucharins. Berlin: Duncker and Humblot, 1959. For the Osteuropa-institut an der freien Universitaet Berlin.
- Kon-26 Kon, S. "Vneshnie torgovle snosheniia SSSR za poslednie gody," Russkii ekonomicheskii svornik (Prague), Vol. VIII, 1926, pp. 122-149.
- Kondrat'ev-27a Kondrat'ev, N.D. "Kriticheskie zametki o plane razvitiia narodnogo khoziaistvo," Plan Khoz, No. 4, 1927, pp. 1-34.
- Kovarskii-27a Kovarskii, B.H. "Problema eksporta," ST, Vol. II, No. 12, pp. 3-5.
- Kowner-27 Kowner, A. "9 Monate Getreideausfuhr," SUA, Vol. VI, No. 10 (1927), pp. 26-28.
- Krasin-25 Krasin, L.B. "Gosudarstvennyi plan i monopoliia vneshnei torgovli," Plan.Khoz, No. 5, May 1925.
- Krasin-28 \_\_\_\_\_ . Voprosy vneshnei torgovli. Moscow: gos. izd. 1928. Collection of Krasin's articles on foreign trade from 1918 to 1926. Edited by IV. V. Goldstein and M. IA. Kaufman.
- Kretschmer-30a Kretschmer, "Soviet Russia's Five-Year Plan as Seen Across the Atlantic," Annals of Collective Economy, Vol. VI, No. 1, 1930, pp. 96-110.

- Kretschmer-30b Kretschmer, "Germano-Russian Trade Relations and the Five-Year Plan," Annals of Collective Economy, Vol. VI, No. 1, 1930, pp. 111-133.
- Krzhizhanovskii-27a Krzhizhanovskii, G. M. (Introduction to "Prospective Development of the National Economy of the USSR"), in Perspektivy razvertyvaniia narodnogo khoziaistva SSSR na 1926/27-1930/31. Materialy Tsentralnoi Komissii po Piatiletnemu Planu, S. G. Strumilin (ed.). Moscow, 1927, pp. xv-xxii. Translated in part in Spulber-64, pp. 414-425. Page references are to Spulber-64.
- Krzhizhanovskii-29 \_\_\_\_\_ . "Vvedenie" to Gosplan-29a. Translated in part in Spulber-64, pp. 461-470. Page reference to Spulber-64.
- Kutusov-28 Kutusov, A. I. (ed). Vneshnei Torgovlia Soiuza SSSR za X let. Moscow: Izdatel'stvo Narkomtorga SSSR: RSFSR, 1928.
- Kuznets-66 Kuznets, Simon. Modern Economic Growth: Rate, Structure and Spread. New Haven, Conn.: Yale University Press, 1966.
- Kuznets-67a \_\_\_\_\_ . "Quantitative Aspects of the Economic Growth of Nations, Part X. Level and Structure of Foreign Trade: Long-term Trends," Economic Development and Cultural Change, Vol. XV, No. 2, Part 2 (January, 1967). Entire issue.
- Ladas-30 Ladas, Stephen P. The International Protection of Industrial Property. Cambridge, Mass.: Harvard University Press, 1930.
- Lambrov-29 Lambrov, I. "Evoliutsiia tsen i struktury v sovetskom vneshnem tovarooborote," Vop. Torg., April, 1929, pp. 29-51.
- Lamer-55a Lamer, Mirko. Woodworking Industries of the USSR. Washington, D. C.: Council for Economic and Industry Research, Inc., May, 1955.
- Lamer-55b \_\_\_\_\_ . Wood Pulp and Paper Industry of the U.S.S.R. Washington, D. C.: Council for Economic and Industry Research, Inc., June, 1955.

- League-26a                    League of Nations, Memorandum on Currency and Central Banks. Vol. II, 1913-1925.  
Geneva: League of Nations, 1926.
- League-28a                    \_\_\_\_\_ . Memorandum on International Trade and Balance of Payments 1912-1926. Volume II, Trade Statistics of Sixty-Four Countries. Geneva: League of Nations, 1928.
- League-30a                    \_\_\_\_\_ . Memorandum on International Trade and Balance of Payments, Volume III, Trade Statistics of Sixty-Four Countries. Geneva: League of Nations, 1930.
- League-31a                    \_\_\_\_\_ . Financial Section and Economic Intelligence Service. Memorandum on International Trade and Balance of Payments 1930, Vo. I, Review of World Trade 1930. Geneva: League of Nations, 1931.
- League-31c                    \_\_\_\_\_ . Memorandum on International Trade and Balance of Payments 1927-1929. Volume III Trade Statistics of Sixty-Four Countries. Geneva: League of Nations 1931.
- League-32a                    \_\_\_\_\_ . Vol. II, Balance of Payments, 1930. Geneva: League of Nations, 1932.
- League-32b                    \_\_\_\_\_ . Vol. III, International Trade Statistics 1930. Geneva: League of Nations, 1932.
- League-33a                    League of Nations, Economic Intelligence Service. World Economic Survey 1932-33. Geneva: League of Nations, 1933.
- League-36a                    League of Nations. Money and Banking 1935/36, Vol. II, Commercial Banks. Geneva: League of Nations, 1936.
- League-37a                    \_\_\_\_\_ . Memorandum on Money and Banking 1936/37, Vol. I, Monetary Review, Geneva: League of Nations, 1937.
- League-37b                    \_\_\_\_\_ . Balance of Payments 1936. Geneva: League of Nations, 1937.

- League-38a                    League of Nations, Money and Banking 1937/38, Volume I, Monetary Review, Geneva: League of Nations, 1938.
- Leff-67a                      Leff, Nathaniel H. "Export Stagnation and Autarkic Development in Brazil, 1947-1962," Quarterly Journal of Economics, Vol. LXXXI, No. 2 (May, 1967), pp. 286-301.
- Leites-22                     Leites, L. Recent Economic Developments in Russia. Oxford: At the Clarendon Press, 1922.
- Letiche-59                    Letiche, John M. Balance of Payments and Economic Growth. New York: Harper & Brothers, 1959.
- Lewin-65                      Lewin, M. "The Immediate Background of Soviet Collectivization," Soviet Studies, Vol. XVII, No. 2 (October, 1965), pp. 162-197.
- Liashchenko-28                Liaschenko, P.I. "Khlebnaia trgovlia SSSR", in ENSOVEX, pp. 200-211.
- Liashchenko-49                \_\_\_\_\_ . History of the National Economy of Russia to the 1917 Revolution. Trans. Leon M. Herman. New York: Mac-Millan, 1949. Author's name transliterated as Lyashchenko in translation of book.
- Lipsey-63                      Lipsey, Robert E. Price and Quantity Trends in the Foreign Trade of the United States. Princeton, New Jersey: Princeton University Press, 1963 (NBER Study).
- Livshits-26                    Livshits, F. D. "O kurse chervontsa i ego pokupatel'noi sile na vnutrennem rynke i za granitsej," Ekon. Oboz., Vol. IV, No. 10 (October, 1926), pp. 106-107.
- Loevetskii-27                 Loevetskii, D. "Dostizheniia i zadachi vneshtorgovogo i valiutnogo balansa," Ekon. Zhisn', February 24, 1927. ,
- Lumb-20                        Lumb, A.D. The Platinum Metals. London: John Murray, 1920.
- Macbean-66                    Macbean, Alasdair I. Export Instability and Economic Development. Cambridge, Mass.: Harvard University Press, 1966.

- Malevsky-33 Malevsky-Maletvitch, P. (ed.). Russia U.S.S.R.: A Complete Handbook. New York: William Farquhar Payson, 1933.
- Marbury-55 Marbury, Elizabeth. The Rubber Industry of the USSR. Washington, D.C.: Council for Economic and Industry Research, April, 1955.
- Margold-48 Margold, Stella K. Let's Do Business With Russia: Why We Should and How We Can. New York: Harper and Brothers, 1948.
- Martin-37 Martin, Robert F. International Raw Commodity Price Control. New York: National Industrial Conference Board, Inc., 1937.
- Marx-06 Marx, Karl. Capital: A Critique of Political Economy. (Vol. I), Trans. from 3d German edition by Samuel Moore and Edward Aveling. Edited by Frederick Engels. Revised and amplified according to the fourth German edition by Ernest Untermann. Copyright, 1906, by Charles H. Kerr & Co. Reprinted by Modern Library, Random House, Inc., New York.
- Mason-46 Mason, Edward S. Controlling World Trade: Cartels and Commodity Agreements. New York: McGraw Hill, 1946.
- MB-27a (Baksht, M.) "Itogi vneshnei trgovli za 1926/27 g." ST, Vol. II, No. 43 (1927), pp. 10-12. This article was signed "M. B."
- Meij-60 Meij, J. L. Mechanization in Agriculture. Chicago: Quadrangle Books, 1960.
- Michaely-62 Michaely, Michael. Concentration in International Trade. Amsterdam: North-Holland-Publishing Company, 1962.
- Mikoian-27a Mikoian, A. "K otsenke tekushchei kon'iunktury," ST, Vol. II, No. 49 (1927), pp.1-3.
- Mikoian-28 \_\_\_\_\_ . "Znachenie eksporta v narodnom khoziaistve SSSR," in ENSOVEX, pp. 17-20.
- Mikoian-29 \_\_\_\_\_ . "Nado usilit' i uluchshit' eksport. Doklad A. N. Mikoiana Na Vesoiuznom Eksportnom Soveshchenii," Izvestia, March 24, 1929.

- Mishustin-35a Mishustin, D. "Struktura sovetskogo importa," ST, Vol. V, No. 7 (1935), pp. 7-8.
- Mishustin-38a \_\_\_\_\_ . Vneshniaia torgovlia i industrializatsiia SSSR. Moscow. V/O Mezhdunarodnaia Kniga, 1938. Published under the auspices of the Nauchno-Issledovatel'skii Institut Monopolii Vneshnei Torgovli.
- Mishustin-38b \_\_\_\_\_ . (ed.) Vneshniaia Torgovlia Sovetskogo Soiuz. Moscow: Izd. V/O Mezhdunarodnaia Kniga, 1938. Published under the auspices of the Nauchno-Issledovatel'skii Institut Monopolii Vneshnei Torgovli.
- Mishustin-38c Mishustin, D. D. Sotsialisticheskaia Monopolii Vneshnei Torgovli SSSR. Moscow: Izd. V/O Mezhdunarodnaia Kniga, 1938. Published under the auspices of the Nauchno-Issledovatel'skii Institut pre Vsesoiuznoi Akademii Vneshnei Torgovli.
- Mineral-(various years) The Mineral Industry, Its Statistics, Technology during ... (various years). Edited by G. A. Roush. New York: McGraw-Hill Book Co.
- Moorsteen-62 Moorsteen, Richard. Prices and Production of Machinery in the Soviet Union: 1928-1958. Cambridge, Mass.: Harvard University Press, 1962.
- Moorsteen-66 Moorsteen, Richard and Powell, Raymond P., The Soviet Capital Stock 1928-62. Homewood, Illinois: Richard D. Irwin, 1966.
- Narkievicz-66 Narkievicz, O. A. "Stalin, War Communism and Collectivization," Soviet Studies, Vol. XVIII, No. 1 (July, 1966), pp. 20-37.
- NBER-56a National Bureau of Economic Research, Statistical Abstract of Industrial Output in the Soviet Union 1913-1955: Vol. I. Output. New York: NBER, October, 1956.
- Neiman-27 Neiman, G.M. and Makarov, V.M. Tekstil'naia promyshlennost' SSSR, Moscow-Leningrad: Gosudarstvennoe Izdatel'stvo, 1927.

- Neuberger-63      Neuberger, Egon. International Division of Labor in CEMA: Limited Regret Strategy. Santa Monica, Calif.: The RAND Corp., December, 1963. Research Memorandum RM-3645-PR.
- Nimitz-54      Nimitz, Nancy. Statistics of Soviet Agriculture. Santa Monica, Calif.: The RAND Corporation, May 7, 1954. Research Memorandum RM-1250.
- NKhR-23      Narodnoe khoziaistvo Rossii za 1921/22: Statistko-ekonomicheskii ezhegodnik. Moscow: Izd. Ekonomicheskaiia Zhisn', 1923.
- Nove-66a      Nove, Alex. The Soviet Economy: An Introduction. Rev. ed., New York: Praeger, 1966.
- Nurkse-62      Nurkse, Ragnar. Problems of Capital Formation in Underdeveloped Countries. New York: Oxford University Press, 1962.
- Oehring-26a      O.R., "Drei Monate Getreidekampagne," SUA, Vol. V, No. 19 (1926), pp. 10-15.
- Oehring-26b      O.R., "Die Neue Getreideexportkampagne," SUA, Vol. V, No. 15/16 (1926), pp. 11-16.
- Oganovskii-25      Oganovskii, N.P. "Sel'skoe khoziaistvo SSSR i ego eksportnye ressursy," Plan.Khoz., No. 2 (February, 1925), pp. 66-82.
- Oganovskii-26      \_\_\_\_\_ . "Itogi S-khoz kampanii 1925/26 g. i perspektivy na 1926/27 g.," ST, Vol. I, No. 2 (July 1, 1926), pp. 4-5.
- Oliver-56      Oliver, John W. History of American Technology. The Ronald Press Co., 1956.
- Pashkov-30      Pashkov, A. "Balans promyshlennykh mashin," Plan.Khoz., No. 3 (March 1930), pp. 31-60.
- Pasvolsky-24      Pasvolsky, Leo and Moulton, Harold G. Russian Debts and Russian Reconstruction. New York: McGraw-Hill Book Co., 1924.
- Pokrovskii-47      Pokrovskii, S.A. Vneshniaia torgovlia i vneshniaia torgovaia politika Rossii. Moscow: V/O Mezhdunarodnaia Kniga, 1947.



- Potiaev-26 Potiaev, A. (Article on foreign trade), Vneshniaia Torgovlia, January 1926, cited in Kon-26, p. 128.
- Powell-59 Powell, Raymond P. A Materials-Input Index of Soviet Construction Revised and Extended. Santa Monica, Calif.: The RAND Corp. September 28, 1959. Research Memorandum RM-2454.
- Preobrazhensky-26 Preobrazhensky, Evgeny. The New Economics. Trans. Brain Pearce. Oxford: Clarendon Press, 1965. Translation of Preobrazhenskii's Novaia Ekonomika, 2d. ed., Moscow: 1926.
- Preobrashneskii Preobrazhenkii, Evgeny. A. "Khoziaistvennoe ravnovesie v sisteme SSSR," Vestnik Kommunisticheskoi Akademii, No. 22, 1927, pp. 19-71. Translated in part in Spulber-64, pp. 124-173. Page references to Spulber-64.
- Prokopovich-40 (Prokopovich, S. N.), "The Growth and Decline of the Foreign Trade of the USSR", in Professor Prokopovicz's Bulletin (Ekon. Kab.), January 1940, as published in Annals of Collective Economy, Vol. XVI, No. 3 (August-December), pp. 400-433.
- Prokopovich-52 Prokopovich, S. N. Narodnoe Khoziaistvo SSSR Tom. II. New York: Izd. Imeni Chekhova, 1952.
- Prozorovskii-32 Prozorovskii, K., Kolpakov, B. and Bakulin, S. "Vneshniaia torgovlia SSSR i mirovoi tovaroorot," in Varga-32, pp. 110-149.
- Pryor -63 Pryor, Frederick L. The Communist Foreign Trade System. Cambridge, Mass.: The M. I. T. Press, 1963.
- Raj-67 Raj, K. N., "Role of Machine Tools Sector in Economic Growth," in Feinstein-67, pp. 217-226.

- Reingold-31 Reingold, I. "The New Economic Policy," Chapter III in Sokolnikov-31, pp. 138-273.
- Rivkin-55 Rivkin, Joseph, Chemical Fertilizers and Industrial Nitrogen Fixation in the U.S.S.R., Council for Economic and Industry Research, Inc., June, 1955.
- Rolt-65 Rolt, L. T., A Short History of Machine Tools, Cambridge, Mass., M.I.T. Press, 1965.
- Rostow-60 Rostow, W. W., The Stages of Economic Growth: A Non-Communist Manifesto. Cambridge: At the University Press, 1960.
- Rozenfeld-61 Rozenfeld, I.A.S. and Klimenko, I.I., Istoriia mashinostroeniia SSSR. Moscow: Izdat, Akademii Nauk SSSR, 1961.
- Rozengolts-39a Rozenholz, A.P., The USSR and the Capitalist World. Moscow: Vneshtorgisdat State Publishers for Foreign Trade, 1935. Translated from SSSR: kapitalisticheskii mir, Moscow: 1934.
- Rozengolts-34b \_\_\_\_\_ . "Die Wichtigsten Fragen des Aussenhandels der UdSSR," SUA, Vol. XIII, No. 8/9 (1934), pp. 3-20.
- Rozengolts-35a \_\_\_\_\_ . "Die UdSSR-das kreditfahigste Land," SUA, Vol. XIV, No. 21 (1935), pp. 7-9. First published in Pravda, November 7, 1935.
- Rozengolts-35b \_\_\_\_\_ . Vneshniaia torgovlia i bor'ba za tekhniko-ekonomicheskuiu nezavisimost' SSSR. (Moscow) Partizdat Tsk (b) 1935.
- Rozengolts-36a \_\_\_\_\_ . "Der Aussenhandel unter neuen Bedingungen (Aus der Schlussrede des Volkskomissars A.P. Rosengolz auf der Tagung des Rates bei dem Volkskommissar fuer den Aussenhandel der UdSSR)" SUA, Vol. XV, No. 14/15 (1936), p. 7-13.

- Rosengolts-36b                    Rozengolts, A.P. "Vneshnaia torgovlia sotsialisticheskogo gosudarstva," Pravda, November 25, 1936.
- Rozengolts-35c                    \_\_\_\_\_ . "Monopoliiia vneshnei torgouli SSSR i kapitalisticheskie strany" in IANSON-35a, pp. 3-21.
- Rubinstein-37                    Roubinstein, Constantin, "Le Commerce Exterieur de L'U.R.S.S.," Revue Economique Internationale, III, (29th year), July 1937, pp. 119-137.
- Rykov-26a                         "Die Wirtschaftslage der Sowjetunion: Auszug aus der Rede von A. Rykow Auf der Sitzung des Leningrader Sowjets am 3.31926," SUA, Vol. V, No. 6 (1926), pp. 7-11.
- Rykov-26b                         Rykov, A., "Die Sowjetwirtschaft zu Beginn des Neuen Wirtschaftsjahres," SUA, Vol. V, No. 20 (1926), pp. 5-11.
- Schwartz-54                        Schwartz, Harry. Russia's Soviet Economy. 2d ed. Englewood Cliffs, N.J.: Prentice-Hall, 1954.
- SCB-67                              Letter from Voldemars Brivkalns, Statistician National Central Bureau of Statistics, Stockholm, Sweden, December 1, 1967, who took his information from SOS Handel (Foreign Trade), Part I.
- Segal-28a                         Segal, A. "O putiakh razvitiia sovetskoi neftianoi promyshlennosti v suiazi s eksportom nefti," Plan.Khoz., No. 8, 1928, pp. 118-133.
- Shanin-25a                         Shanin, L. "Ekonomicheskaiia priroda nashogo bestovar'iu," Ekon. Oboz., November, 1925, pp. 25-39. Translated in part in Spulber-64, pp. 205-211.
- Shanin-26a                         \_\_\_\_\_ . "Regulirovanie vneshetorgovykh raschetov," Vestnik Finansov, No. 9, 1926, pp. 37-42.
- Shanin-26b                         \_\_\_\_\_ . "Voprosy ekonomicheskogo kursa," Bolshevik, No. 2, January 30, 1926, pp. 65-87. Translated in part in Spulber-64, pp. 212-220.

- Shapiro-50 Shapiro, Leonard. Soviet Treaty Series. Volume I, 1917-1928. Washington, D.C.: Georgetown University Press, 1950.
- Shaw-47 Shaw, William. Value of Commodity Output Since 1861. New York: National Bureau of Economic Research, 1947.
- Shenkman-31 Shenkman, E. M. "Die Finanzierung des Russischen Aussenhandels," Welt Arch., Vol. XXXIII, (1931, I), pp. 109-119.
- Shenkman-32a \_\_\_\_\_ . "Russlands Zahlungs Bilanz und Zahlungsverkehr mit dem Ausland," Welt Arch., Vol. XXXVI (1932, II), pp. 530-557.
- Shenkman-32b See Birmingham-32a. Shenkman claimed authorship of Birmingham-32a; see Shenkman 32a, p. 535.
- Shimkin-53 Shimkin, Demitri B. Minerals, A Key to Soviet Power. Cambridge, Mass.: Harvard University Press, 1953.
- Sobolev-26a Sobolev, N.M. "Importno-eksportnyi plan," Ekon Oboz., Vol. 4, No. 2 (February, 1926), pp. 65-75.
- Sobolev-26b Sobolev, N.M. "Plany i perspektivy nashei vneshnei trgovli," Ekon Oboz., Vol. 4, No. 11 (November, 1926), pp. 26-37.
- Sokolnikov-31 Sokolnikov, Gregory Y., and Associates. Soviet Policy in Public Finance 1917-1928. Trans. Elena Varneck, Eds. Lincoln Hutchinson and Carl C. Plehn. Stanford, Calif.: Stanford University Press, 1931.
- Solovev-27a Solowjev, N. "Dos Sowjetnaphta auf dem Weltmacht," SUA, Vol. VI, No. 18 (1927), pp. 2-10.
- Solovei-31 Solovei, G. "Pre-war and Present Financial System," in Sokolnikov-31, pp. 274-308.
- Spasskii-62 Spasskii, I.G. Russkaia monetnaia systema. Leningrad, Izdatel'stvo Gosudarstvennogo Ermitazha, 1962.
- Spulber-62 Spulber, Nicolas. The Soviet Economy: Structure, Principles, Problems. New York: W. W. Norton, 1962.

- Spulber-64 Spulber, Nicolas. Foundation of Soviet Strategy for Economic Growth. Bloomington, Indiana University Press, 1964.
- Sov. Torg., October 11, 1928 "K kontrol'nym tsifram vneshnei torgovli na 1928-29 g," (11 October, 1928), pp. 1-2, ST, Vol. III, No. 41.
- Stalin-28a Stalin, J. V. "Industrialization of the country and the Right Deviation in the C.P.S.U.C.B. (November 19, 1928)," in Works, Volume II, 1928 - March 1929 (in English). Moscow: Foreign Language Publishing House, 1954, pp. 256-302.
- Stalin-28b Stalin, J. V. "On the Grain Front," from a talk to Students of the Institute of Red Professors, the Communist Academy and the Sverdlov University, May 28, 1928," in Works, Volume II, 1928-March 1929 (in English). Moscow: Foreign Language Publishing House, 1954, pp. 85-101.
- Stalin-29a Stalin, J. V. "The Right Deviation in the C.P.S.U.(B)!" Speech delivered at the Plenum of the Central Committee and Central Control Commission of the C.P.S.U.(B) in April, 1929 in Works, Volume 12, April 1929-June 1936 (in English). Moscow: Foreign Languages Publishing House, 1955, pp. 1-113.
- STAT-25 Tsentral'noe Statisticheskoe Upravlenie. Narodnoe khoziaistvo soiuza SSR v tsifrakh s prilozheniem dannykh po mirovomu khoziaistvu, statisticheskii spravochnik god 2-oi. Moscow: 1925.
- STAT-28 Tsentral'noe Statisticheskoe Upravlenie. Statisticheskii spravochnik SSSR za 1928. Moscow: Statisticheskoe Izdatel'stvo TsSU, 1929.
- STAT-32 Tsentral'noe Upravlenie Narodnokhoziaistvennogo Ucheta SSSR. Narodnoe khoziaistvo SSSR statisticheskii spravochnik 1932. Moscow: Gosudarstvennoe Sotsial'no-ekonomicheskoe Izdatel'stvo, 1932.

- STAT-34 Tsentral'noe Upravlenie Narodno-Khoziaistvennogo Ucheta Gosplana SSSR. Sotialisticheskoe stroitel'stvo SSSR; statisticheskii ezhegodnik. Moscow: Soiuzorguchet, 1934.
- STAT-35 Tsentral'noe Upravlenie Narodnokhoziaistvennogo Ucheta Gosplana SSSR. Sotzialisticheskoe stroitel'stvo SSSR: statisticheskii ezhegodnik. Moscow: TsUNKhU Gosplana SSSR- v/o Soiuzorguchet, 1935.
- STAT-36 Sotsialisticheskoe stroitel'stvo SSSR: statisticheskii ezhegodnik. Moscow: TsUNKhV Gosplana SSSR- v/o "Soiuzorguchet", 1936.
- STAT-56 Central Statistical Administration, Council of Ministers USSR. The National Economy of the USSR: A Statistical Compilation. Moscow: State Statistical Publishing House, 1956.
- STAT-60 (USSR Central Statistical Administration). The National Economy of the USSR (Statistical Yearbook). Washington, D. C.: U. S. Joint Publications Research Service, 1962. Translation of Narodnoe khoziaistvo SSSR v 1960 godv. Statisticheskii ezhegodnik (Moscow: 1961).
- STATABUK-39 Great Britain, Board of Trade. Statistical Abstract for the United Kingdom for each of the fifteen years 1913, 1924-1937. London: HMSO, 1939.
- STATABUK-40 Great Britain, Board of Trade. Statistical Abstract for the United Kingdom for each of the fifteen years 1924-1938. London: HMSO, July, 1940.
- STATJAHR- Germany. Statistisches Reichsamt. Statistisches Jahrbuch fuer das Deutsche Reich. Berlin: Statistischen Reichsamt, Various years. The year of the Jahrbuch is added to each reference to STATJAHR.

- Stomoniakov-28                      Stomoniakov, B. "Leonid Borisovich Krasin" in ENSOVEX, pp. 2-14.
- Strumilin-27a                        Strumilin, S. G. "Perspektivnaia orientirovka na 1926/27-1930/31." Report to the Second Congress of Planning Agencies of the USSR, March 25, 1927, in S. G. Strumilin, Ocherki sovetskoi ekonomiki. Resursy i perspektivy. Moscow-Leningrad: USSR Gosplan, 1928, pp. 422-439. Translated in Spulber-64, pp. 426-437. Page references are to Spulber's translation.
- Strumilin-28a                        \_\_\_\_\_ . "Otvét nashim kritikam" in S. G. Strumilin, Ocherki sovetskoi ekonomiki: Resursy i perspektivy. Moscow-Leningrad: USSR Gosplan, 1928, pp. 476-498. Translated in part in Spulber-64, pp. 452-460. Page references are to Spulber's translation.
- Strumilin-32a                        Strumilin, S. T. Problemy planirovaniia V SSSR. Leningrad: Izd. Akademii Nauk SSSR, 1932.
- SUYB-25                                Segal, Louis and Santalov, A. A. Commercial Yearbook of the Soviet Union, 1925. London: George Allen and Unwin, N. d. (1925?).
- SUYB-26                                \_\_\_\_\_ . Soviet Union Yearbook 1926. London: George Allen and Unwin, N. d. (1926?).
- SUYB-27                                \_\_\_\_\_ . Soviet Union Yearbook 1927. London: George Allen and Unwin, N. d. (1927?).
- SUYB-28                                \_\_\_\_\_ . Soviet Union Yearbook 1928. London: George Allen and Unwin, N. d. (1928?).
- SUYB-29                                \_\_\_\_\_ . Soviet Union Yearbook 1929. London: George Allen and Unwin, N. d. (1929?).
- SUYB-30                                \_\_\_\_\_ . Soviet Union Yearbook 1930. London: George Allen and Unwin, N. d. (1930?).

- SUA V, 23/24 (1926)a "Regulierung du Rohstoffmarkte 1926-27," SUA, Vol. V, No. 23/24 (1927), pp. 45-47.
- SUA V, 1-2 (1926)a "Die ersten Resultate der Getreideexport kampagne," SUA, Vol. V, No. 1-2 (1926), pp. 77-83.
- SUA V, 20 (1926)a "Die Baumwollwirtschaft," SUA, Vol. V, No. 20 (1926)a, pp. 26-29.
- SUA VI, 9 (1927)a "Die Getreidebeschaffungskampagne" SUA, Vol. VI, No. 9 (1927), pp. 33-35.
- SUA VI, 12 (1927)a "Vor dem Abschluss der Getreidekampagne 1926-27," SUA, Vol. VI, No. 12 (1927), pp. 18-20.
- SUA VI, 14 (1927)a "Die Getreidekampagne 1926-27 und der Beginn der neuen Kampagne," SUA, Vol. VI, No. 14 (1927), pp. 18-20.
- SUA VII, 1 (1928)a "Der Holzhandel der UdSSR 1926-27," SUA, Vol. VII, No. 1 (1928)a pp. 44-46.
- SUA VIII, 13 (1929)a "Der Funfjahresplan des Aussenhandels," SUA, Vol. VIII, No. 13 (1929), pp. 20-34.
- SUA VIII, 13 (1929)b "Zur den Wirtschaftsbeziehungen: Funfjahresplan des Aussenhandels," SUA, Vol. VIII, No. 13 (1929), pp. 2-4.
- SUA VIII, 14 (1929)a "Die Ausfuhr von Manganerz in Funfjahresplan," SUA, Vol. VIII, No. 14 (1929), pp. 20-24.
- TGCE France, Direction Generale des Douanes, Tableau General Du Commerce Exterieur (annual).
- Timoshenko-32 Timoshenko, Vladimir P. Agricultural Russia and the Wheat Problem. Stanford, Calif.: Food Research Institute and Committee on Russian Research of the Hoover War Library, 1932.
- Turgeon-53 Turgeon, Lynn, and Bergson, Abram. Prices of Non-Ferrous Metals in the Soviet Union: 1928 to 1950. The RAND Corporation, Research Memorandum RM-1030, 21 January 1953.



- USGS-14                      United States Geological Survey. Mineral Resources of the United States 1913, Part I, Metals. Washington: GPO, 1914.
- Varga-32                      Varga, E. and Badmas, S. (eds). XV Let bor'by za monopoliu vneshnei torgovli. Moscow: Partinoe Izdatel'stvo, 1932. Published under auspices of Institut Mirovogo Khoziaistva i Mirovoi Politiki Komakademii i Nauchno-Issledovatel'skii Justitut Monopolii Vneshnei Torgovli.
- Vass-67                        Personal letter from Laurence Vass, Minister for Economic Affairs, Embassy of the United States of America, Japan, November 24, 1967. The information was obtained from the Library of the Ministry of Finance on the basis of discussions with research personnel.
- Vinogradskii-27a              Winogradski, N. "Die Resultate der Getreidebeschaffungs-Kampagne 1926/27," SUA, Vol. VI, No. 20 (1927), pp. 8-13.
- Vissarionov-28                Vissarionov, N. "Statistika Eksporta SSSR," in ENSOVEX, pp. 491-555.
- Vop. Torg. (May 1929)a        "Eksport v piatiletnem perspektivnom plane vneshnei torgovli," Voprosy Torgovli, (May 1929), pp. 92-99.
- VTSSSR-33                      Voznesenskii, A. and Voloshinskii, A. A. (eds). Vneshniaia torgovlia soiuzs sovetskikh sotsialisticheskikh republikh za pervuiu piatiletky (za period x 1928 po 1933): Statisticheskii Obzor. Moscow: Glavnoe Tamozhennoe Upravlenia, Vneshtorgizdat, 1933.
- VTSSSR-39                      Bakulin, S. N. and Mishustin, D. D. (eds). Vneshniaia torgovlia SSSR za 20 let 1918-1937 gg. Statisticheskii spravochnik. Moscow: v/o Mezhdunarodnaia Kniga, 1939.
- VTSSSR-60                      Ministerstvo Vneshnei Torgovli SSSR, Glavnoe Tamozhennoe Upravlenie. Vneshniaia torgovlia SSSR za 1918-1940 gg., Statisticheskii obzor. Moscow: Vnestorgizdat, 1960.

- Warshaver-27      Warshaver, S. S. and Padeski, N. A. "Die Entwicklungsaussichten des Aussenhandel's," Vestnik Finansov, Moscow (September 1927), p. 59 f, cited in Czechowicz-32, p. 1927.
- Wiles-62      Wiles, P. J. D. The Political Economy of Communism. Cambridge, Mass.: Harvard University Press, 1962.
- Winkler-31      Winkler, Willi. "Autarchy in the Soviet Union," Annals of Collective Economy, Vol. VII, No. 1 (January-April, 1931), pp. 41-80.
- Woodbury-58      Woodbury, Robert. History of the Gear-Cutting Machine. Cambridge, Mass.: The Technology Press, 1958.
- Woodbury-59      \_\_\_\_\_ . History of the Grinding Machine. Cambridge, Mass.: The Technology Press, 1959.
- Woodbury-60      \_\_\_\_\_ . The History of the Milling Machine. Cambridge, Mass.: The Technology Press, 1960.
- Woodbury-61      \_\_\_\_\_ . History of the Lathe. Cambridge, Mass.: The Technology Press, 1961.
- Yanson-34a      Yanson, J. D. Foreign Trade in the U.S.S.R. London: Victor Gollancz Ltd., 1934.
- Zak-29      Zak, S. S. "K voprosu o planirovanii vneshnei torgovli," Plan. Khoz. No. 11 (November 1929), pp. 122-134.
- Zaleski-62      Zaleski, Eugene. Planification de la Croissance et Fluctuations Economiques en URSS: Tome I 1918-1932. Paris: Societe d'Edition d'Enseignement Superieur, 1962.
- Zalkind-26a      Zalkind, L. "Problema snizheniia roznichnykh tsen," ST, Vol. I, No. 6, pp. 4-6.
- Zalkind-27a      L. Z. (Zalkind, L.). "O sel'sko-khoziaistvennykh itogakh 1926/27 g i perspekhvakh na 1927/28 g," ST, Vol. II, No. 25 (1927), pp. 2-4.

- Zalkind-27b Zalkind, L. "K kontrol'nym tsifram tovarn-  
oborota na 1927/28 g," ST, Vol. II, No. 34,  
(1927), pp. 1-5.
- Zalkind-27c \_\_\_\_\_ . "Voprosy sel'sko-khoziaist-  
vennykh zagotovok," ST, Vol. II, No. 9  
(1927), pp. 1-4.
- ZEC-55 Zec, Gregory C. Aluminum Industry of the  
USSR and Satellite Nations, Report Number  
A-2. Washington: Council for Economic  
and Industry Research, February 1955.
- ZEC-56 \_\_\_\_\_ . The Copper Industry of  
USSR. Washington: Council for Economic  
and Industry Research, April 1956.

## BIOGRAPHICAL NOTE

Michael Repplier Dohan, born on January 11, 1941 in Philadelphia, Pennsylvania, attended Haverford College during 1957-1961 and received a B. A. in June 1961. He entered the doctoral program of the Department of Economics at the Massachusetts Institute of Technology (M. I. T.) in September 1961 and passed the general examinations two years later. He studied in the Soviet Union Program of Harvard University during 1963/64, and then returned to M. I. T., where he was a teaching assistant and instructor in economics. He was Lecturer on the Soviet economy at Tufts University in the spring of 1966. In September 1966 he was appointed instructor in economics at the California Institute of Technology and was promoted to assistant professor in August 1969.

He has received a 2nd year Woodrow Wilson Fellowship awarded by M. I. T. (1962-63), a Foreign Area Fellowship (1963-64), a NSF Summer Fellowship for Graduate Teaching Assistants (1965) and a Fulbright to Germany (1963-64, received but not accepted).

Other research on the USSR includes "Soviet Concessions to Foreign Capital 1918-1931, A History," (Harvard University, 1965, unpublished), and "An Analytical Model of the Soviet Industrialization Debate and the Role of Foreign Trade in Soviet Growth 1920-1930," (Harvard University, 1967, unpublished).