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ON THE NEW LONG-RANGE ECONOMIC PLAN OF JAPAN

As a Test of Economic Planning in a So-Called Middle-Advanced Country

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However, I take sole responsibility for the views expressed in this paper.

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PREFACE

The projecting of future economic conditions as well as programs providing bases for the policies of the government have, though with varying degrees, been generally accepted as a necessity among all the modern countries of the world today.

As we know, almost every country has its own economic plan to develop its economic activities in the future. We may find out easily that these economic plans (or projects) have a certain amount of general significance and to some extent common methodology. But, at the same time, if we study and observe them carefully, we will also see the fact that each economic plan has its own specific character and methodology according to the special stage of economic growth of the country.

I think it is a very important fact that there are two aspects - one is general and the other is specific - in every economic plan, and it is not only a theoretical problem but also a political problem to recognize and to discriminate between these two aspects.

Many interesting studies concerning the economic and political development of so-called underdeveloped countries have been made by the Center for International Studies, M.I.T. It is very regrettable, however, that few works or projects concerned with economic development in Japan have been done there. As is well-known, there have been some economic plans (or projects) in Japan so far, and they would provide a lot of stimulating facts for everyone concerned with the problems of

economic development. The experience of economic planning in Japan provides a typical example of the individuality of an economic plan in a 'middle-advanced' country, presenting a unique structure and pattern of economic development and with a complex of economic and non-economic factors.

In this study, I will consider the problems of economic planning in a 'middle-advanced' country, discussing the latest economic plan, in the making of which I myself participated, although these views which are mentioned here are not official but quite personal.

"ON THE NEW LONG-RANGE ECONOMIC PLAN OF JAPAN"
-as a test of economic planning in a so-called
'middle-advanced' country.

PART I. FRAMEWORK

I General Background of the Economic Plan of Japan

1. Background

The Japanese government announced "The New Long-Range Economic Plan" on December 17, 1957, together with a statement in which it promised to make sincere efforts toward the fulfillment of the Plan.[1]

The character of the Plan is something like a guidepost.[2] The Plan pictured a desirable economic level and pattern which is to be attained as of 1962, five years after 1957: e.g. the gross national product in 1962 will be 40 per cent more than that of 1956, the consumption expenditure per capita should increase 38 per cent compared to 1956, total exports should increase by 82 per cent from the actual figures registered in 1956, and so forth.

The rate of economic growth is computed as 6.5 per cent per annum from the computed-base-value for 1956. (This is not the actual economic level in 1956, but a level computed by constructing a theoretical trend line for the past six years which eliminates business-cycle fluctuations as much as possible; I will refer to this later.) This economic growth rate is approximately twice the rate of most Western countries. Even the pre-war rate of economic growth in Japan, which was high relative to international standards, was about 4 - 4.5 per cent annually on the average. Although the rate of economic growth from 1945 to 1956 was 5 percent per annum, and as high as 9 per cent

per annum during 1951-1956, this was due to the fact that this was a period of recovery from the ravages of World War II.

The goals shown in the Plan, therefore, can be reached only by the combined efforts of the government, business and the people.[3]

Judging from the present state of the Japanese economy, the factors limiting economic growth are, (1) the balance of international payments and (2) the rate of capital accumulation.

From this point of view, at first, the plan set the export target as an increase in exports of 10 per cent per annum from 1956 to 1962, or say 47 billion dollars in 1962. This means that the rate of increase in exports has to be more than twice that of the future rate of the world's export growth forecast by OEEC.[4] From this point of view, efforts to increase exports as well as to increase agricultural and other domestic production are urgently requested in the Plan.

At the same time, the total investment required to maintain the planned rate of economic growth and particularly to reinforce transportation facilities and energy power sources will reach a very large amount, say 29 per cent of GNP in 1962. In addition to this, if we take into account a balance of payments surplus as a buffer for emergency, this rate of capital formation will be 30 per cent of GNP. This rate is relatively high compared with that of foreign countries which is approximately 20 per cent. Even in post-war Japan, the only two years in which the rate exceeded 30 per cent were in 1951, during the Korean War boom, and in 1956 when an investment boom swept the country.

During the rest of the post-war period, the rate was around 25 to 28 per cent. As the stage of economic growth progresses from rehabilitation to development, total investment becomes proportionally larger, that is, the capital/output ratio rises. It will be such a difficult problem to boost the nation's overall rate of capital accumulation to this level that government, business as well as families are all requested to increase capital accumulation.

Parallel with these two limiting factors for economic growth, there is another serious problem which requires the enlargement of the economic scale as much as possible. This is the pressure of population and more particularly of the so-called working age population. The total population of Japan is predicted to increase by 0.8 percent per annum during the next five years. This rate is considerably smaller than that not only of past years but also of the international standard. The serious fact is, however, that the rate of increase of the working age population, which includes men and women from the age of 15 to 59 seeking new opportunities for employment will be the very high rate of 1.9 per cent annually for the coming five years. The minimum rate of economic growth must be roughly 6 per cent per annum at least to absorb this new labor force under the same conditions as those of today. Moreover, there still remains a considerable amount of disguised unemployment, now engaged in agriculture and small-and-medium sized enterprises, under virtually pre-industrial conditions. Such being the case, employment policy has been given first priority in the Plan, although it is estimated that this rate of working age population increase will decline after 1965

and that the demand for skilled workers will apparently exceed the supply in the near future. In this context, the Plan aims at a high rate of growth and, at the same time, proposes to improve conditions by non-economic policies such as the minimum wage scale and the social security system including unemployment insurance.[5]

The three problems mentioned above, namely (1) balance of international payments, (2) accumulation of capital and (3) improvement of the employment situation, are the fundamental points of the Plan, which, as we show later, distinguish the plans of 'middle-advanced' countries from those of both advanced and underdeveloped countries. This is one of the reasons why I regard the plan as a measuring rod against which can be tested the significance of economic plans in 'middle-advanced' countries, though the word 'middle-advanced' sounds a little unscientific.

2. What does 'long-range' mean?

The Plan is just a 'long-range' plan. It is not a long-run forecast nor a short-range plan, covering the next five years.

'Long-range' has two meanings. On the one hand, the five years involved in the Plan, 1958-1962 is regarded as part of a longer period, which covers 10-20 years in the future. More specifically, the targets set in the Plan are guideposts for 1962, but the path continues into the more distant future. This is particularly true in the fields of employment, power, transportation, agriculture, forestry and other important natural resources. The long-range projection will provide not only an outlook for economic development, but also some ideas concerning political and economic co-operation with foreign countries.

On the other hand, a 'long-range' plan must be strictly distinguished from a short-term plan. In the first place, the tools for making these two plans are quite different from each other. For instance, the capital-output ratio used recently as a tool for making long-range plans can never be used in making short-term plans or forecasts, while such parameters as the seasonal fluctuation index are not as important in 'long-range' plans as in short-range ones. In the second place, the meaning of 'stabilization' used in long-range plans sometimes conflicts with that used in short-term ones. For example , we often have to set aside the problem of employment in short-term projects to keep 'stabilization'.

Thus, the targets shown in the Plan are guideposts for 1962, and practical annual projects have to be set up along the lines of the Plan.

3. Terms of Stabilization

The Plan has set up a fundamental condition under which the targets mentioned are to be attained. It is a stabilized equilibrium sustaining the 6.5 per cent rate of economic growth during the planned years.

A rapid economic growth rate itself does not always indicate the soundness of a nation's economy. The experience of Japan in 1956 illustrates the fact that 'too rapid growth' even without prices rising may destroy the international balance of payments and result in a serious recession. Growth without stabilization, although the two may not coincide does not mean 'development'.[6]

The stabilized equilibrium of the Plan has three aspects:

(1) Terms of Equilibrium

These are, firstly, equilibrium between saving and investment to stabilize the money value; secondly, balance of payments equilibrium,

which is a limiting factor for economic growth; thirdly, equilibrium among the industrial sectors preventing the appearance of bottle-necks; and finally, equilibrium between the supply and demand for labor. These equilibria have to be maintained to minimize the influence of the business cycle .

(2) Terms of Economic Structure

The equilibrium mentioned above has to be attained along the elimination of a certain lack of balance in the industrial sectors. This lack of balance is evident at present in the fields of employment, production, consumption etc. A typical example is a curious co-existence of small-and-medium-scale (pre-industrial) and large (modern) enterprises in many fields of production. In this context, modernization of enterprise, improvement of productivity, full utilization of natural resources, are regarded as means for resolving these difficulties.

(3) Social Terms

There are many non-economic factors which are related to economic growth in the Japanese economy. Without considering these non-economic factors, it would be impossible to draw up an economic plan for Japan. From a theoretical point of view, a certain amount of 'freedom' is permissible in the industrial sector to achieve rapid economic growth, but if this 'freedom' goes too far, the resulting social tensions and disequilibria may themselves interrupt this growth.

The problem is very complicated. But, without considering these factors, there would be no modern economic plan, especially in 'middle-advanced' and underdeveloped countries.

Onto this stabilized equilibrium must be built such economic policies as: the provision of more employment opportunities, the improvement of living standards, the expansion of exports, the accumulation of capital, the reinforcement of industry, the utilization of domestic natural resources and the improvement of international co-operation.

II. Methodology of Planning

1. The Failure of the Last Plan

The methodology of planning in the case of the last economic plan, "The Five Year Plan for Economic Self-Support" (1956) was presented as follows:

(1) The GNP was estimated from the formula GNP = $m(\gamma N - u)$, where m stands for output per man in the base year, γ the ratio of the labor force to the population of working age, (N), and u the total number of unemployed.

(2) The import total was estimated from the formula $I = m_j \cdot GNP$; where I stands for imports, m_j for the ratio of imports to GNP.

(3) The Composition of National Expenditure was estimated from the formula $V_t = \beta(y_{t+1} - y_t)$ where V stands for gross capital formation, β for the gross capital coefficient, and y for the gross national product. V is then broken down into four components according to their relative proportions (plant and equipment, increase in inventories, private residential housing and government investment).

The remainder should be equal to personal consumption. This personal consumption is checked independently by postulating a probable rate of change in the propensity to consume, defined as the ratio

between personal consumption and national income distributed.

(4) These social accounts figures could be consistent with multitudinous combinations of industrial structures and individual investment plans. Targets concerning these sectors are projected by the method of 'trial-and-error' between these sectors and the social accounts figures.

The methodology of the plan mentioned above was based to such an extent on Dr. Gerhard Colm's Model,[7] that it was called after the Colm - Model. This model was originally an 'orientation' rather than an 'imperative' one, it was static rather than dynamic, and it stressed the expenditure rather than the production-side. The method of Colm model seemed to be effective in advanced countries such as America where the economic parameters used in the model are relatively stable. It would be effective even for non-advanced countries in making their patterns of development clear. Nevertheless, in the case of Japan, it was not sufficient to apply this methodology without considering special features of the Japanese economy which I shall call characteristics of a 'middle-advanced' country, such as the great degree of disguised unemployment, and the duality of economic structures, much of which is related to so-called non-economic factors. In Japan, the parameters used in the model were so unstable and so variable that the divergence between the project and actual results were found, by empirical testing, to be large. A further point is that the statistical system necessary for such a theoretical framework is relatively weak in these countries.[8]

2. Model-building by Measuring an Optimum Growth Rate

In view of the foregoing, a new method which has been considered to conform with the present stage and pattern of economic growth in Japan, has been used this time. The methodology may be named "model-building by measuring an optimum growth rate".[9]

This methodology started from the rough determination of an attainable economic growth under a stabilised equilibrium, and continued with the setting up of an economic structure corresponding to that growth. After getting the economic scale as a whole, this structure was broken down in detail by a trial-and-error method for testing each magnitude.

For setting out a roughly-estimated economic growth, two stages were considered.

(1) At first, three different types of economic growth were assumed. Then the Plan determined economic structures corresponding to these three growth rates by using empirical parameters. Then, these three types of economic growth and structure were tested by an extensive examination as to whether or not the equilibrium conditions would be fulfilled. (The equilibrium conditions are balances between total investment and total savings, in the international payments accounts, and between the supply and demand for labor.) Finally, judging from the scale and composition of GNP and/or GNE, each case was examined as to whether or not a 'bottle-neck' would be produced from a macro-economic point of view such as the iron-and-steel industry, the fuel and power industry, transportation facilities and agricultural production.

The three growth rates assumed are: (1) a relatively low rate which is near the average pre-war rate of growth. (2) a high rate which corresponds approximately to the rapid development in recent years and (3) an intermediate rate ranking between the two.

Now, after testing each growth rate by the above-mentioned criteria, it was concluded that, from the viewpoint of balance between investment and savings calculated by using the marginal capital co-efficient and/or the capital-output ratio (though these two have different conceptions, their usefulness in this case is similar), there would be some savings surplus in case (1) and some investment surplus in cases (2) and (3). A savings (surplus) means deflation, whereas an investment (surplus) means inflation; both are unfavorable factors to stable and continuous growth.

From the viewpoint of balance in the international payments accounts, it was found to be impossible in case (3), because the demand for imported goods would show a sudden and drastic increase resulting in a large deficit. This deficit would be larger the higher the growth rate. The relation between changes in the propensity to import and the rate of export growth will determine the extent of imbalance in the international payment accounts. In any case, so far as the foreign trade position is concerned, in all three cases the lower the rate of economic growth, the better the balance.

From the viewpoint of employment, on the contrary, the higher the rate of growth the better. The employment problem will get more serious in the future than at present in case (1) showing imbalance between demand and supply of labor, whereas the employment problem will be greatly improved, even though not completely solved, in case (2).

Lastly, a 'bottle-neck' in the industrial sectors would not appear except in case (2).

Thus, at the first stage in selecting the optimum rate of growth, it has become evident that, from the viewpoint of employment, it is more desirable to set a rate close to or higher than (2), while from the point of view of exports and investment the rate should be placed near (1).

(2) In the second stage, the variability of the leading parameters is examined and the probable effects of various political measures to be taken for the attainment of the Plan are anticipated. This study offers many probable cases.

It was very difficult to choose one 'probability', because these difficulties are inconsistent with each other, on the one hand, and on the other hand, the selection is a matter of government policy. Thus, it was determined that the rate of 6.5 per cent is the optimum rate of growth which can maintain the required conditions for equilibrium, presuming the high effect of sustaining policies.

Now let us examine four phases of the Plan. There are four points; (1) Production, which represents economic growth, by industrial sectors, (2) The components of gross national expenditure, particularly investment allocation, (3) Balance of international payments, the analysis of the I/p ratio (propensity to imports; I stands for imports and P for production), and the examination of the attainability of the export target in relation to the rate of growth of international trade, and (4) balance of labor forces, which includes some non-economic factors. This examination should

be done not only by historical testing but also by comparison with advanced or/and under-developed countries as much as possible.

3. Production

The determination of the production level and its rate of growth is considered in three sectors; namely, primary, secondary and tertiary industries. There was some opposition to dividing GNP into these three sectors. For example, Prof. Woytinsky recommended the division of GNP into two groups, modernized- and non-modernized- sectors.[10] Such suggestions for dividing GNP into certain categories other than those of Colin Clark seem very reasonable in the light of special characteristics of the Japanese economy. However, from a statistical point of view, which is a conclusive factor in building an economic model, the most convenient division so far is Clark's.

The first step in the derivation of GNP is to get a trend curve for the production of the primary and secondary industries.

In this case, the production of the problem is the number of terms to be considered[11], the larger the better. The Plan tested some terms, omitting the time of rehabilitation immediately after the war and, in the case of the primary industries, adjusting the influence of seasonal fluctuations.

Once the stabilized trend curves of production by industries are determined they are adjusted to the 'normal condition' of the base year, 1956. This 'normal condition' is the co-ordinate point for a certain year on the stable upward trend curve. This curve shows the normal trend of economic activities, and the computed base value represents, so to speak,

the normal economic level in 1956. When we say base year or base value for 1956, it means the year which is on this curve, and, needless to say, this very year is not an empirical but a theoretical year. The reason for setting the computed base value thus, is to prevent the influences of short-term business cycles or fluctuations from reflecting themselves in future figures which may happen if actual figures in a particular year are used as a base. In other words, the 'normal condition' is free from economic fluctuations. This conception of 'normal condition' is a remarkable character of the Plan and seems to be well applied to the plan for the country, the economic development of which is influenced by business cycles and fluctuations.

In the Plan, GNP in 1962 is planned to increase by 6.5 per cent per annum starting from the base value or 'normal condition' in 1956. The actual figure for GNP in 1956 stands approximately 4 per cent higher than the computed base value ('normal condition') so that the rate of growth for 1956-62 would be calculated as 5.85 per cent per annum.

Production income of the primary industries will increase at an annual rate of 3.0 per cent over the base value. The Production index of agriculture also shows a 3 per cent increase per annum, assuming no decrease in the rate of n/g (where n stands for net and g for gross production).

It is true that agricultural production is limited on the one hand, by the law of diminishing returns which is counteracted to some extent by technological progress, and that is influenced on the other hand, by an unpredictable 'seasonal' factor. But any error would not influence the Japanese economy as a whole as much as it would that of underdeveloped

countries, where the production of primary industries has a powerful influence on total economic activity.

The production curve of the secondary industries is presumed to increase by 60.5 per cent from 1956 to 1962, say 6.2 per cent per annum as an optimum growth rate. The secondary sectors (mining and manufacturing industries, construction, transportation and communication, and public utilities) will perform the major role among the three sectors.

It must be noted also that changes in economic structure (in the secondary sectors) must be accompanied by intensive heavy-chemical-industrialisation and the transfer of activity to the export-goods-industries.

Of course, the extent and speed of this heavy-chemical-industrialization and the transfer of activity to the export-industries must be decided by certain criteria such as capital coefficients, the propensity to energy consumption, the propensity to import raw materials, and the balance of enterprises by size etc.

The Plan proposes at first to develop the export-goods-industries, which consist of two different types of industries, on the one hand, such industries as the textile industry which holds a greater part of the export trade and handicraft goods (miscellaneous goods) both being labor-intensive industries, and on the other hand the heavy industries and chemical industries (especially machinery industry), which are regarded as the most promising in the future, having adaptability to future markets, labor absorbability and a low propensity to energy consumption. Parallel with these industries the Plan lays emphasis on developing the iron and

steel industries which produce not only basic materials but also exportable goods.

Thus, the output of heavy-chemical-industries will increase 82 per cent during the planning term, while that of light industries will increase only 36 per cent in the same term. Consequently, in terms of the added value comparison between heavy-chemical-industries and light-industries, the 59/41 ratio of 1956 will change to 66/34.

The total demand of energy to sustain this industrial activity will amount to 160 million tons (in terms of 7,000 Cal. coal) by 1962, which means 56 per cent higher level than the level of 1956 (rate of 7.7 per cent per annum); while GNP will increase, as mentioned before, by 41 per cent (say 5.85 per cent per annum). The overall propensity to energy consumption will increase as a result of heavy and chemical industrialization. In spite of efforts in mobilizing domestic energy sources, including some extent of power generation by atomic power, and in spite of technical progress in energy efficiency, the rate of E_i/E will still go up from 23 per cent in 1956 to 33 per cent in 1962 (where E_i stands for demand for imported energy - say coal and oil, and E stands for total energy demand).

Once the target figures of the primary and secondary industries (including transportation, communication and public utilities) are given, the figures for tertiary industries (commerce, services and others) can be obtained by the formula:

$$y_3 = a + b(y_1 + y_2)$$

where Y_1, Y_2, Y_3 stand for the output of the primary, secondary and tertiary industries respectively, and a and b are obtained from empirical tests. As a result, the tertiary industries are expected to increase at an annual rate of 7.2 per cent.

In this context, the change in the industrial composition ratio between the basic year, 1956 and the final year 1962 can be described as follows: in regard to the primary industries, it will decline from 19.1 per cent to 15.7, while the ratios in regard to the secondary and tertiary industries will increase respectively from 41.8 per cent to 43.6 per cent and from 39.0 per cent to 40.7 per cent.

These changes mean that the major force for economic growth in the future will be secondary industries and that, following the growth of the overall economy, the tertiary industries will also be developed.

These changes show the successive stages of economic growth; for reference, the figures of several countries are calculated as follows:

Component of National Product by Industry (%)

		Primary Ind.	Secondary Ind.	Tertiary Ind.
High in Primary:	Pakistan	60	7	33
" Secondary:	Italy	28	41	31
	: France	29	46	25
	: West Germany	11	56	33
" Tertiary	: Holland	14	42	45
	: U.K.	5	47	48
	: U.S.	6	38	56
Japan	1923-1927	28	30	42
	1938-1942	21	38	41
	1951-1955	23	31	46
	1956			
	1962 (Plan)			

Adding the production of the various industries, the total gross national production will reach 13042 billion yen (U.S. dollars) in 1962, that is to say a rate of 6.5 per cent per annum.

This rate of economic growth (6.5 per cent) is relatively high compared with the forecasted rate of growth in other countries, with the exception of certain socialistic countries.

4. Components of Gross National Expenditure

The next problem is the components of gross national expenditure corresponding to the grand national production mentioned above.

At first, the level of GNE (gross national expenditure) was computed by estimating the investment necessary for the projected economic growth, and by estimating the future savings considered possible.

This was merely a tentative approach to get the figures for GNE. Once, the rate of growth, say 6.5 per cent per annum, is decided, GNE is taken to be equal to the level of GNP in 1962. This GNE is composed of gross consumption expenditure (personal consumption expenditure and government outlay), gross capital formation (investment in industrial equipment, administrative investment, inventory increase or decrease and personal housing construction) and the overseas surplus on current account.

Each item of GNE is adjusted finally by the method of 'trial and error', but beforehand, they are all examined tentatively by the following procedures.

The figures for capital formation, which means investment allocation in this case, was given first consideration. Gross capital formation is estimated on the basis of the formula:

$$V_t = \beta (y_{t+1} - y_t)$$

where V stands for gross capital formation, β for the capital coefficient (not exactly same to capital productivity, in this case it means the capital/output ratio) and y for gross national product. In this case,

the decision of parameter β is crucial. It is necessary to get empirical figures concerning this capital-output ratio in the three (primary, secondary, tertiary) industries by four groups: private equipment investment, inventory increase, private house construction and administrative investment.

By examining the actual data for 1951-1955, it became clear that the capital-output ratio fluctuated from year to year, making it difficult to get a stable parameter from it.

Needless to say, from the theoretical point of view, it is necessary to examine one complete business cycle at least to get even tentative magnitude. In case of Japan, moreover, it is also difficult to obtain any business trend (whether cycle or not), because each decade has quite a different character from that one before. For instance the first ten years after the end of World War II would be of special magnitude because of rehabilitation activity, and the same is true for prewar periods and during the war when the economic structure was changing. Furthermore, the statistics have not always been reliable. Of course, our main intention is not to use a rigid conception of the capital-output ratio, but to judge roughly the possibility of equilibrium between the investment required for the planned economic growth and the savings estimated by trend analysis.

The capital-output ratios for the period of 1952-1955 are on the average: primary industries 2.6, secondary industries 3.2, tertiary industries 1.6, the three industries as a whole 2.4, and the administrative sector 0.6, and finally the total economy 3.0 (each is calculated by I/o, where I stands for gross capital formation

including investment for inventories, and $\underline{O}$ for the net increase in gross national income for the same year.)[12]

Although care must be taken in the use of these figures, it can roughly be said that; (1) the average capital-output ratio is approximately 3 in recent Japan. (2) the highest ratio is that for the secondary industries, next is that for the primary industries and the lowest is that for the tertiary sector. (3) the average rate of economic growth over this period was 8-9 per cent, so from Domar formula, the saving ratio can be computed as 24-27 per cent. (4) If we take a longer period, although some difficulties remain, we can predict that the capital-output ratio will have a tendency to increase slightly.

There are two reasons why the capital-output ratio will rise slightly in the near future in Japan.[13] One concerns the pattern of economic growth, namely a change in industrial structure. The secondary industries which will be especially encouraged to expand will expand relatively to the other sectors. This will raise the capital output ratio, because the capital-output ratio of secondary industries is the highest. However, since it is estimated in the Plan that the tertiary industries will have a higher rate of growth than the primary industries, we can counter-balance the influences on the capital output ratio from the point of view of structural changes.

The second reason why the ratio has a tendency to go up is the fact that capital demand for modernization will increase more and more. Heavy and chemical industrialization, without considering technical progress, has a tendency to raise the capital-output ratio. Generally speaking,

in this case, the extent of change in the ratio will depend upon the speed of economic growth, technical progress, and operation degree. The experience of 1956 in Japan serves as a typical example of the fact that too high a rate of economic growth has a tendency to raise the capital-output ratio, causing bottlenecks in some industries.[14]

In any case, it is important (1) not to overestimate α (which stands for the marginal increase of the capital-output ratio between actual-present and projected-future), and (2) not to emphasize too much the role of this parameter in economic model-building, because there remain un-resolved questions both in using the concept of capital-output ratio theoretically, and in the reliability of the statistics.[15]

Thus, total capital formation is expected to reach 3782 billion Yen (dollars), say 29 per cent of gross national expenditure. Of this, plant and equipment investment will amount to 2778 billion Yen (dollars), say 21.3 per cent of gross national expenditure (2100 billion Yen for industrial investment and 67.8 billion Yen for administrative investment). In these investment considerations, investment in the secondary industries, and above all in heavy and chemical industries must have priority.

Investment for inventory is calculated by using the marginal capital co-efficient, and the result shows a lower rate of growth. Investment for private house construction is calculated with reference to gross national production. The ratio of that investment to gross national expenditure will go on rising gradually.

The remainder of the gross national expenditure should be equal to the sum of personal consumption and the overseas surplus on current account. In the Plan, the latter is assumed to be the same proportion as in the basic year 1955, when the balance was slightly positive. The rest therefore is personal consumption, which should reach 7788 billion Yen by 1962 and cover about 60 per cent of total gross national expenditure. This consumption rate is very low, something which in the post-war period only appeared in 1956, when investment reached to abnormally high levels. This low rate of consumption, of course, corresponds to a high rate of capital formation.

Government consumption is assumed to be 1239 billion Yen, say 9.5 per cent of total gross national expenditure, entailing a decrease in tax and a reduction in the government budget.

Consequently, personal consumption is expected to increase by 45 per cent by 1962 compared with 1956, (consumption per capita will increase by 38 per cent), and, together with this growth in consumption the structure of consumption is assumed to change gradually. Each item making up personal consumption is estimated using the concept of income-elasticity. The result is that the ratio of expenditure on food as against total consumption expenditure (that is to say the Engel coefficient) will decrease, while that of education, housing, durable-consumer goods, and clothing will increase. The propensity to consume differs also between urban and farm districts. (The disposable income-elasticity of consumption is assumed to be 0.785 in urban, and 0.939 in farm household.) It should be noted here that these figures are

'aggregated', and that patterns of growth will be quite different for different brackets.

The figures for consumption shownin gross personal consumption expenditure are supported by the commodity-budget which approaches the problem from the materials side in another part of the Plan. Thus total personal consumption is calculated by deducting total capital formation from total gross national expenditure, but it is also checked independently by estimating the propensity to consume (consumption rate, E_P/E_I where E_P stands for personal consumption expenditure and E_I for personal disposable income), the trend of capital consumption allowances and indirect business taxes (minus subsidies).

The result is that the marginal propensity to save will be maintained at a level of 30 per cent or more. These estimates are of course collated with the figures mentioned above.

This pattern of gross national expenditure, that is to say a high ratio of investment and a low ratio of consumption, requires much more effort to save on the part of the people, though there will be special circumstances tending toward a high saving ratio due to more or less non-economic factors (which I am going to refer to soon), such as the incompleteness of the social guarantee system and the unimproved situation of housing which have compelled the consumer to save.

However, since it is hard to secure 'capital', say to save 3996 billion Yen (over 30 per cent of total GNE), it is expected in the Plan to increase capital consumption allowances by taking effective depreciation for enterprises and to increase undistributed profits and personal saving by tax-deductions, together with a certain rationalization of the way of living.

This equilibrium of saving and investment is described in the Plan as 'average' or 'aggregate'; therefore to carry out the Plan, a short-term practical plan determining activity by sectors or by income brackets is necessary to adjust the Plan and to minimize the influences of business flustuations.

5. International Balance of Payments

The next problem is the problem of the international balance of payments, which is where the domestic economy encounters external influences. Here, the important considerations are the propensity to import and the attainability of export targets.

Before setting up import-export projects, certain factors in the international or domestic situation must be assumed. These premises are as follows in the Plan.

(1) World trade will increase by 4 to 5 per cent annually for the next few years, though the speed of expansion of production is expected to slow down subsequently.

(2) The problems of the restoration of currency convertibility and the improvement of the dollar position will still remain with regard to the certain markets and countries, but there will be no need to keep too close an eye on the currency-by-currency balance.

(3) Although one cannot ignore the danger of discrimination inherent in the regionalism of world trade with its restrictions and control policies, particularly in Europe, the Sterling-area, Central and South America and the Communist area, international trade will proceed gradually in the direction of greater freedom.

(4) The proportion of trade within the Communist bloc relative to the total volume of world trade will diminish gradually, and East-West trade will increase. (So, the present restrictions on Japan's trade with Communist China and the Soviet Union will be greatly alleviated.)
(5) The United States' foreign aid policy will not change radically and there will be no marked reduction in the amount of its foreign aid. (Japan's special procurement revenue will gradually decrease but some will remain, mainly in the form of the International Cooperation Agency (I.C.A) purchases).
(6) Southeast Asian countries which are now suffering from stagnation and monoculture will gradually improve their economic conditions as their economic development programs proceed. It is also expected that the economic and political relations (including the problem of reparation) between these countries and Japan will be normalized completely in the plan period.

The different points in the above discussion agree on one point, namely that the export-import plan must be based on the equilibrium not only of domestic situation but also of the international position, based on the recognition of the fact that the Japanese economy is typically influenced by the world economy.

In drawing up the import-export plan, one can start with either the export or the import side. The former method seems suitable for the Japanese economy from the above-mentioned considerations, and it also looks reasonable from the empirical divergence between the projected and the actual figures. In fact, there are already some economic plans or projections which start from an estimate of exports

figures, such as that for the Netherlands.

This method was not followed, however, because of the difficulties in estimating the future exports of Japan.

(1) The export industry of Japan is in the position of a marginal supplier, and (2) even if some reasonable estimate could be made, there still remain the difficulties of calculating the multiplier effect of exports, aggravated by the incompleteness and instability of such statistics as those obtained from the input-output analysis table in Japan.[16]

In this Plan, therefore, the imports necessary to maintain the planned growth rate, were estimated first, although the method of trial-and-error was adopted at the final stage of planning. Then, the question of whether it would be possible to export enough to balance the estimated amount of imports was considered.

Import demand for principal materials such as iron-ore, coal, crude oil, salt for industrial use, raw wool, pulp, rice, soya beans are calculated by the formula:

$$I = (\alpha\rho - D + \beta P) \times p$$

where I stands for import demand, P for production (in real terms), α for material-consumption-per-unit, D for domestic supply, β for the normal rate of inventory. In the plan, α is assumed to decrease to some extent with technical progress, and β is assumed constant at the level of base year except for certain goods.

The quantities of these imports goods estimated by the method mentioned above, cover more than 60 per cent of total imports. The

other import commodities are divided into four categories, and their demand is estimated on the basis of correlations with close indices: namely, (1) foods and beverages with the real personal consumption index , (2) raw materials with industrial activity indices, (3) finished production goods with mining-industrial output indices, (4) finished consumption goods with the total scale of imports. These functional formulae were obtained from empirical studies.

The aggregated figure is tested in two ways: first from the viewpoint of 'propensity to import' and second from a break-down into a detailed commodity budget.

Needless to say, any level of gross national production implies a certain level of imports. Generally speaking, the propensity to import in Japan has been assumed to be a fairly stable function, because the major portion of imports consists of industrial raw materials and staple food items. The question however remains as to how stable this parameter really is.

In the Plan, the propensity to import is calculated at 16.2 per cent (value of import/national income) which shows a slight decrease from the 1956 figure of 16.9 per cent. Roughly speaking, there are two opinions about the future tendency of this propensity; one considered that this figure should decrease in the future because of increases in domestic agricultural production, which will utilize domestic materials as import substitutes in the manufacturing industry, and will increase productivity (using less imported raw materials per product by technological progress). This aspect has been used to explain the divergence

between the prewar propensity to import and the postwar one.

The other opinion states the exact reverse, namely it considers that this propensity should increase, because of the poorness of domestic industrial materials. It emphasizes the limit of natural resources, taking the recent tendency of the parameter as an example.

The truth is, I think, that the propensity to import depends not only on the level of GNP (or industrial activities) but also on the rate of economic growth (change in GNP?) We have to calculate this propensity to be higher (or lower) as the rate of economic growth is considered to be higher (or lower).[17]

The factors necessitating this emphasis on the rate of economic growth are (1) the time-lag between demand and supply of raw materials, which sometimes causes an inflational gap or the appearance of bottle-necks, and (2) changeability of inventory.

The propensity to import is estimated at approximately 16.2 per cent as mentioned above, and this estimate seems to be reasonable in the light of the following facts:

(1) There will be a high rate of growth in the machinery and chemical industries, both with a high degree of round-about production (lower propensity to import).

(2) There will also be a relatively high rate of growth in the tertiary industries the propensity to import of which is low.

(3) The marginal propensity to import under the stable economic growth will be stable and almost equal to the average propensity to import.

From the viewpoint of import structure, the changes can be seen as follows, reflecting the policies outlined above; (1) The import dependence (import demand/total demand) of salt, steel-scrap, pulp, ordinary finished steel, rubber will decrease with increasing domestic production and substitution of domestic goods. A typical example is the case of textiles: the ratio of production between natural and artificial fibres for 1962 is put at 58:42 against the 1956 ratio of 69:31 (The import dependence of natural fibres, i.e. raw cotton and raw wool is 100 per cent, while that of artificial fibres are negligible). (2) The import dependence in mineral fuel and finished products for material use will increase. The increase in the former (166 per cent increase during 1956-1962) is due to the low production in the domestic energy sectors, and the ratio of imported energy source to the total energy supply will rise from the 1956 level of 23 per cent to 33 per cent in 1962. The increase in the latter item is figured out in the light of the international division-of-labor and the liberalization of the world trade. (3) The import demand for consumer goods will keep the same proportion to total imports as at present.

The structure of imports would change in the direction of the "western pattern". The percentage distribution of imports by groups is as follows:

	1956	1962
Raw Materials	55.8%	50.6%
Mineral Fuels	13.1	16.2
Finished Product Goods	13.6	16.9
Others	2.7	2.6
Total	100.0	100.0

This pattern also corresponds to the market pattern.

Once the import projects are given, the exports targets must be set.

In order to keep equilibrium in the balance of payments, exports must increase at a rate higher than the increase in imports. In other words, exports must cover not only the increase in imports but also the deficit which results from decreases in special procurement In addition, a certain amount of foreign exchange accumulation for operative purposes is necessary to keep pace with the increased volume of trade.

Although the structure of industry is becoming more industrialized, the exports of Japan have a "duality". This is that the exports of Japan consist of two groups: The 'labor-intensive goods' or some special products which are exported to advanced countries, and the 'capital-intensive goods' which are exported to underdeveloped countries, especially to South-East Asian countries. This duality in Japanese exports which comes from the duality in economic growth is one of the most typical characteristics of 'middle-advanced' countries, and this situation will continue in the coming period. This course seems natural and reasonable. The advantage of labor-intensive goods is evident from the fact that there is relatively abundant labor available in comparison with capital, and it should be utilized in the international division of labor, in view of the continuing supply of new labor. The advantages of the export of capital-goods to underdeveloped countries comes from the divergence of industrialization. The labor-intensive goods in this case, are foodstuffs, beverages, raw silk, yarn, clothes, sewing machines,

and
cameras, toys etc.; the capital intensive goods are medical and chemical products, metal products, artificial fibres, machines, etc.

Heavy industry and chemical industrialization is taken into consideration in the light of the advantages of 'the duality of exports' and of Japan's location, and the structure of the export market will change with changes in commodities.

The exports' target has been settled both from the standpoint of merchandise composition and that of market structure, and the result is that exports must total $4730 million (on a customs clearance basis), an 82 per cent increase over the 1956 figure, or a 10.5 per cent annual increase. This target is high. Is it a possible one? The answer is prepared by a breakdown of exports by commodities and by markets. But, let us first examine the possibility in the light of the relation between Japanese exports and world trade. The target is certainly high; the rate of exports increase in the Plan, say 10.5 per cent per annum, is more than twice as high as the anticipated growth rate of world trade, approximately 4.5 per cent. But according to the statistical studies, the growth rate of exports in Japan was 17.4 per cent per annum from 1950-1955, while that of world trade was 6 per cent per annum over the same period. The Japanese rate of growth was nearly three times that of world trade. This divergence was largely due, undeniably, to the fact that Japan's exports emerged from the rock bottom of fatigue. But the gap between the rate of Japanese exports growth and that of world trade will still remain, in view of the stage of Japan's economic growth.

For reference, the ratio of Japanese exports to world total was as low as 2.7 per cent in 1956 as compared to 5 per cent in 1937.

Of course, though this target seems possible, its fulfillment cannot be certain. Other world trade factors must be carefully studied, such as bloc-ism (not only between West and East but also by currency area), discrimination, liberalization and so forth. Moreover, its realization depends on the trade policy to be carried out together with the effective industrial policy followed in modernization, mobilization, in the sphere of domestic and international equilibrium and the international division of labor. In this context, the Plan stresses also such policies as advancing economic diplomacy, enhancing economic cooperation, securing export markets, improving the trade system, simplifying and rationalizing trade and exchange regulations, improving the finance, insurance and tax systems, nurturing and strengthening the export industries and the stabilization of prices, improving invisible trade policy, etc.

In relation to export-import projects, there are two factors to be taken into account; one is the accumulation of foreign exchange, and the other is the development of investment abroad.

The foreign exchange holdings in 1956 were small. It is necessary to accumulate more foreign exchange not only to supplement the shortage, but also to meet increasing demand for inventory. In the Plan, the optimum holding level is assumed to be 20-30 per cent of total imports, which is considered reasonable by the recommendation of United Nations' authorities and by comparison with empirical cases in Western countries. In this context, a surplus of approximately 200 million dollars in the exchange balance is expected to accumulate per annum, showing a surplus of $150 million in 1962.

Furthermore, these accumulated foreign exchange holdings may be used as a 'buffer' to modify the influences of short-term business fluctuations. This is one of the typical measures to maintain stable economic growth.

Finally, in the trade plan, there is $300 million for overseas investment. The purpose of this kind of investment is to encourage exports and to secure imports, especially with South-East Asia. They include not only monetary credits but also various kinds of grant.

6. Employment

It is one of the main targets of an economic policy to achieve a situation of full-employment in every country. The way to achieve this aim, however, differs from one country to another according to the stage of economic growth.

In the advanced countries, 'full-employment'conditions are regarded as established when unemployment is between 3 and 5 per cent. In these countries, where the proportion of paid-laborers is more than 80 per cent of the working population, and where no great difference in productivity exists among the different industrial sectors, employment policy is mainly a question of preventing unemployment exceeding this limit.

Far from such advanced countries, Japan has a sharp divergence between modern and pre-condition industries, making up a heterogeneous industrial structure, with numerous family workers and self-established small enterprises (or self-employed), as well as paid laborers whose number accounts for no more than 40 per cent of the total working population.

This curious co-existence between modern and pre-condition industries, having amounts of disguised unemployment with low productivity and low income, is a typical feature of Japan which distinguishes it from advanced countries. Under such circumstances, can a Western type of employment policy, which regards a high rate of economic growth as the supreme target be adopted? The answer is no. The principles of the employment plan should be as follows:

(1) to provide normal employment opportunities for the new additions to the labor force.

In Japan, the growth rate of total population will remain at 0.8 per cent annually or more, though the increasing tendency is now lessening, with the declining birth rate and increasing life expectancy in the coming ten years. But, more important is the fact that the working age population (aged 15-59) is forecast to grow at the rate of 1.9 per cent annually. The number of young people who become 15 years of age during this period is estimated to be 11,430 thousands, or 1910 thousands annually, an increase of 12 per cent over the annual average of 1710 thousands during 1950-1955. This tendency is estimated to continue until at least 1965, and the peak of the increasing curve of the working age population will appear during the planned period.

This means that, on the one hand, the pressure of population is stronger than it seems and, on the other hand, the average ages of laborers will shift upwards several years after the planned period. This is the reason why the all possible provision of employment opportunities is required.

(2) To modernize the structure of employment.

The problem mentioned in the above paragraph, is rather the problem of population than the problem of employment. In the case of Japan, the two problems must be strictly distinguished both from the theoretical and the practical point of view. The crux is to the quality' as well as the 'quantity' of employment opportunities.

As is often pointed out, the employment situation of Japan has a special character. Although the ratio of those engaged in the primary industries to the total working population decreased from 49.4 per cent to 41.1 per cent during the years 1930-1955, and the percentage of paid-laborers among the total employment rose during the same period from 32.3 per cent to 45.5 per cent, the employment structure still remains in a low stage of economic development. There exist deep-rootedly pre-conditioned sectors and pre-modernized characteristics of employment.

Because of these features, a method semi-macro analysis as well as macro analysis is adopted in the Plan. The total employment is divided, on the one hand, into the primary, secondary, tertiary sectors and, on the other hand, into self-employed, paid laborers and family workers. This method seems reasonable in the case of Japan from the empirical fact that the fluctuations of the employment curve are very different by sector, and the fluctuations in the participation-rate is due mainly to the fluctuations in the 'fringe or secondary workers'.

(3) To increase income per capita by improving productivity and raising the production level.

This principle, of course, is related to (1) and (2). As far as employment fields are concerned, the low level of income causes two phenomena: one is the low level of wages as a consequence of low

living standards and the other is the existence of disguised unemployment.

From a theoretical point of view, the low level of wages has paradoxical economic interest. It is that, if wages are low labor-intensive industries would be advantageous industries to compete in foreign markets, but at the same time, low levels of income would obstruct the adoption of modernized equipment and production methods which would improve productivity. One of the difficulties in employment policy is how to resolve this paradoxical proposition. Further, this problem must be faced with other problems: (1) the average income level of workers should be raised to improve their standard of living by increasing productivity, and (2) the improvement of productivity may possibly worsen the employment situation. The expansion of the heavy and chemical industries means that the structure of industry with shift from being labor-intensive to being capital intensive, and this poses the question of whether a continuous high rate of growth will remove the 'duality' of the Japanese economy or whether the expansion of the heavy and chemical industries will aggravate it.

"Disguised unemployment" is one of the typical features of the Japanese employment situation, and it keeps the level of wages relatively low. Without tackling this problem, there would be no good employment policy. There are several definitions of "disguised unemployment." For instance, the Unemployment Counter-measure Advisory Council estimated the number to be 5,760 thousands (in 1954) from income levels, while the Ministry of Labor, placing the stress on the consciousness of the occupants

calculates the number of the once employed but urgently in need of improvement of their employment condition and of those who have never been employed before, looking for employment urgently, to be 2780 thousands (in 1956).

Anyhow, no one can deny the existence of disguised unemployment. It is divisible into two groups; one is found in the employment in pre-modern status of employment, and the other concealed among the modern type of paid-workers. In order to improve the situation the amount of pre-modern employment must be decreased by promoting the modernization of the industrial as well as the employment structure, and also the number of low-waged laborers even among the modernized sectors must be decreased not only by economic growth but also by political measures such as the minimum-wage system, unemployment insurance and so forth.

Considering these special features, the Plan calculated the targets by using semi-macro analysis. In the former economic plan in 1955, the formula GNP $= m(\gamma N - U)$ was adopted as the basic formula. (As we mentioned before, here m stands for output per man, γ the labor ratio of labor force rate to the working ages population N, and U for the total number of unemployed). But in the case of Japan, the figures for U, γ, m have less meaning than in the case of advanced countries which makes this an unsuitable formula on which to base an economic plan on Japan. [18]

Examining by sectors (the primary, secondary and tertiary industries) and by status (self-employed, paid-laborers and family workers) the Plan calculated the targets as follows:

(1) to realize a net increase of 4980 thousand employees and 330 thousand self-established during 1957-1962. This increase means that the jobs freed by retirement are taken into consideration, a greater percentage of school graduates will be absorbed into employment than before. In other words, 70 per cent of male graduates and 65 per cent of female graduates (who reach 15 years of age in this period and want jobs unless they go into advanced studies) will be employed. According to present statistics, most of the new school graduates have been employed as paid laborers, started to work themselves, or been engaged as family workers, and only a small part remained as non-labor force population. Thus, the new labor force for the self-established or the family workers will become smaller than the number necessary for maintaining the present levels. This means the modernization of employment structure.

(2) By sectors, this will mean an increase of 1,770 thousands in the secondary industries, and 3210 thousands in the tertiary industries, and lay-off in the primary industries. This also means the modernization of employment structure and, as a result, the ratios of employment by sectors will vary as follows:

	1956	1962
Primary industry	40.7%	35.7%
Secondary "	28.7	29.9
Tertiary "	30.6	34.4
Total	100.0	100.0

(3) Consequently, the rate of the workers per capita income growth

calculated from the growth rate of the above total number of employed and of the national income will be 4.4 per cent per annum.

(4) Of course, these targets are expected to be carried out with the help of various kinds of employment policy, including non-economic policies.

III. SOME COMMENTS

1. Characteristics of an Economic Plan in 'Middle-Advanced' Countries.

As we have seen so far, the new economic Plan in Japan has a typical character which neither advanced nor underdeveloped countries possess.

Roughly speaking, we can group the economic plans (though remains the theoretical question in the r definition[19]) of various countries into four groups; (1) advanced countries, (2) underdeveloped countries, (3) socialistic countries, and (4) middle-advanced countries.[20]

I will not refer in detail to plans in socialistic countries because of the differences in their economic system, their principles of economic movements, their patterns of economic growth. Let me limit the problem to so-called non-socialistic countries.[21]

First, I shall consider the economic plans in advanced countries. In this case, the word 'plan' is used in its weakest meaning. The United States makes its economic project by the "Employment Act (1943)" annually. Besides this project, there are a few projects such as Colm's 'American Economy in 1960' and the Parry Commission's Report which forecast future economic growth. In the United Kingdom, there is also an annual (informal) project which worked out at the time of the budget and, beside this, there is some project under the 'Distribution of Industry Act.' In France, there have been the first,

second (Irsh), and third Monet Plans which aimed at the modernization of industry.

The features of these plans in advanced countries can be roughly summarized as follows:

(1) The stage of economic growth in these countries has already attained a high level based on the free-enterprise system.

(2) The main criterion of planning is the regulation of indigenous dis-equilibria.

(3) Another criterion may be to sustain special sectors of industry (such as atomic-industry) or to enforce a basic key-industry which competes in foreign markets.

(4) Generally speaking, the importance of long-range planning is less than that of short-range policies. In recent years, short-range economic policies have come to have more 'planned' features. Annual projects are worked out in U.K., Netherlands, Sweden, Norway, Denmark, and so on, which are rather guide-posts to regulate economic activity or business fluctuations than intentions to change the structure of the economy.

(5) Finally, although the procedure of making these plans differs from country to country, generally speaking, they are rather informal and their methodologies are not always purely theoretical except in individual fields.

The economic plan in underdeveloped countries has contrasting features. As often indicated, the economic plans in countries like India, Pakistan, Burma, Indonesia, the Philippines, Iran, Afganistan, Vietnam, and many countries of South and Middle America, have common features as follows:

(1) The government has a highly positive role in making and carrying out the plan. The extent of government control over enterprises is sometimes very high because of the undeveloped character of the monetary system.

(2) In most cases, the plan has the characteristic of being a "development" plan.

(3) Besides purely economic policies, they include many non-economic policies to help promote the plan, such as land reformation and education and welfare programs.

(4) As for the economic models themselves, their weak point is in their capital formation plans which depend more or less on foreign aid.

(5) These plans, strongly supported by government, look like very much those of socialistic countries, but, of course, they are different not only from a theoretical point of view but also in practice.

(6) Finally, the effect of these plans are influenced to a great extent by non-economic factors such as the weather (it has a powerful effect on primary industry which is the main industry in these countries)

and the international political situation. (Their budget-revenue comes mainly from the customs duty for their mono-crop exports.)

Needless to say, this brief discussion is oversimplified; but, at any rate, they possess in general the common characters just summarized.

In contrast with the plans in advanced and underdeveloped countries, the economic plan as well as the national economy of some countries has quite different characteristics. It seems to me better to make up another category, 'middle-advanced countries' for them.

Japan and Italy would be typical examples of middle-advanced countries, though the stages and backgrounds of these two countries are quite different from each other.

We can specify the common problems in these middle-advanced countries, as far as economic plans and their background are concerned as follows:

(1) The per capita income of these countries is the median of the per capita income rate of all countries, though this is merely one (and not a very important one here) of the criteria. The targets for per capita income in the plans are, of course, the higher the better.

(2) The main point is in the 'duality' of their economic structure. Certain parts of the secondary industries have reached as high a level as any in the world (not only technologically but also in equipment),

while pre-condition factors (chiefly in agriculture and in small- and medium-sized enterprises) remain and are still deep-rooted. It becomes, therefore, one of the keypoints of any economic plan to adjust these two opposite extremes.

(3) The divergence in income levels is very large, and this, together with other factors, causes the existence of much disguised unemployment. As a result, non-economic factors (such as social structure) have to be carefully considered, and semi-macro analysis undertaken.

(4) The problem of the international balance of payments is one of the most serious points to be considered in economic plans for these countries, although the reasons for this are different from those mentioned in the context of underdeveloped countries. Domestic equilibrium can be obtained with international equilibrium.

(5) The importance the role of the government and foreign aid in carrying out the plan is still great, though not so great as in the case of underdeveloped countries.

(6) While the plans in advanced countries are 'stabilization' plans and those of underdeveloped countries are 'development' plans, the plans of middle-advanced countries have to have both characteristics. This is due to the incompleteness of take-off which forced the economic growth to be continuous but unstable.

I do not wish to discuss here the plans of advanced or underdeveloped countries. I only wish to point out that there are many

types of economic plans (or projects, etc.) and that all of them have their own specific historical background. Theoretically speaking, an economic plan has its own method and features which are determined by the different stages of economic growth. This is true even when we limit the problem to Japan; the methodology of Japanese economic plans has been varied from time to time according to its political situtation and the stage of economic growth achieved.

I have pointed out three types of planning here to show that the purpose of planning, the methodology of model-building and the way of carrying out the plan should correspond to the stage of economic growth and the special features of the countries concerned.

Therefore, if any mistakes are made in judging 'the stages' or features of economic growth, the plan will be meaningless and will have miserable results, however scientific the methodology may seem to be or its targets attained in some fields. The faults of the former economic plan make it a typical example of this case. [22]

The methodology of the new Plan has many features becoming to its national economy relevant to Japan's economy, as we have already seen, even though the way of model-building itself is not yet fully statistically-strengthened, or theoretically tested. For example, it would seem to be more or less untheoretical to adopt such a method as the so-called 'measuring opitimum growth rate,' especially when we compare it with other models such as that used in the former plan

which model was built on Western lines.

But if one studies the Japanese economy carefully, it will be clear that it has too many 'exceptions' for the direct application of the methods or conceptions derived from studies of advanced and/or underdeveloped countries. Of course, this by no means denies the usefulness of precepts which foreign experience has taught, but it does suggest that there must still be 'particularity' as well as 'generality.'

2. What is the Key for Planning?

I am going to deal in this section with the problems of the criteria of policies and the allocation of investment .

During the war and the period of rehabilitation from war-damage, the national economy was carried on with a certain kind of economic plan. These economic plans were certainly effective at that time: the government was given the power of mobilizing and allocating the labor force, investment, natural resources, foodstuffs, industrial and consumer products and even power over the price-mechanism including wage-control.

These factors, briefly speaking, 'a power of mobilization,' were certainly most powerful measures to lead the national economy toward its targets.

Today, practically no country except some underdeveloped countries (excluding all socialistic countries) has such power of mobilization.

It contradicts the principles of free-system enterprise. Particularly, any control over the flow of materials, or price-control including wage control is inconsistent with a capitalist system. The only measure left in the hands of capitalist governments is the allocation of investment. Moreover, this measure covers only some of the national economy, and is not always as strong as it can be in socialist countries. What is worse, "the nostalgia for the Invisible Hand" disturbs this measure now and then, whereas this Invisible Hand can do nothing but delay continuous economic growth.

The maximum growth and stability of the economy is thought by the classical school to be achieved through the following stages or equilibria, as Professor Rosenstein-Rodan has pointed out:[23] (1) the allocation of a given stock of consumers' goods, (2) the allocation of production on the assumption of a given stock of equipment, land, and labor, (3) the allocation of investment on the assumption of a given stock of labor, land, and capital, (4) a fourth equilibrium condition, the assumption of Say's law.

But the functions which perform as decision factors for these equilibria (for example, the working of the price mechanism) are more or less interrupted by economic growth itself. The measures to be applied in executing the economic plan depend on the extent to which these functions can progress without contradicting the national economic activity as a whole.

For example, in the countries where the equilibrium of distribution can be achieved well through the price mechanism, it will not be necessary to adopt such measures as price control or the allocation of foods, materials, or consumer goods, but, on the contrary, in the countries where the price mechanism does not work well, some artificial measures must be taken to help the Invisible Hand, however it may seem to violate the principle of free-enterprise.

In advanced and middle-advanced countries, the price mechanism works relatively well given the proper lead by monetary and commercial bodies, so that there is little need to adopt direct control, except in some fields like export-import trade. Usually, even these controls are used only to make investment allocation (to which I shall soon refer) effective.

There is no guarantee, however, that equilibrium between (1) total consumption and total production, (2) production and investment, and (3) investment and capital formation will be attained by the 'Invisible Hand.' There remains a sphere where human control has to achieve an important role: the problem of investment allocation. The main measures used to make such allocation effective are, direct government, the actions of government as a consumer, tight-or-loose money policies of the Central Bank, the tax-system, subsidies, customs, duties, foreign exchange regulation, and so forth.

Since the Japanese economy is greatly influenced by the international situation, and since the propensity both to import and to export is very high in Japan, export-import control as one of the foreign exchange policies would be, ideally, one of the main spheres of government activity. But, unfortunately, the greater part of the activities in the export-import field cannot be controlled by the Japanese government alone. Consequently, the control over this field must assume a rather passive character and cannot be a top-level policy in achieving the economic plan. However, the role of exports and imports is, needless to say, so important that we take account of the problem of the 'allocation of investment' including the problem of capitalformation, the control over the import-export field is always considered as one aspect of the investment program, though it is passive.[24]

Why can the problem of equilibrium among consumption, production, investment, and capital formation, which we can summarize as the problem of 'optimum allocation of investment,' not be left to the Invisible Hand? The answer is:

(1) The relative shortage of capital supply compared with demand. In general it can be said that the higher the rate of economic growth required, the more capital is needed. However, capital shortage, in this sense, has become increasingly less significant in recent Japan. The importance of the allocation of investment is rather a matter

of quality than quantity. The problem is not 'how much' but 'in what way.'

(2) The divergence of aims of private and social (national or public) investment.

Of course, behind this divergence there is a fundamental fact concerning the private-property-system which distinguishes capitalism from socialism. But, here, I would like to take the divergence between marginal productivity of private investment and that of social investment. This also means the divergence of 'criteria' in the intention of economic activities between the private entrepreneur and the national economy as a whole, even though the future efficiency of investment is sometimes calculated in the same way. This is a problem of 'choice.' which Marxists call 'anarchism in production.' This 'choice' includes not only the amount of expected interest but also the rate of interest, the time getting interest and even the conception of 'interest' itself.

(3) The important relation between investment and economic growth.

This can be explained from two aspects.

One is concerned with the range (term) of investment. There must be a limit in the investment of private capital, because it may be several years before recent investment brings returns, and private capital cannot wait, on account of the lack of forecasting the risks of investment, and the mobility of capital. This fact is connected

with recent progress in technology and the indivisibility of equipment which has become larger scale than ever before.

The other is concerned with the fact that the social overhead cost (capital) which is indispensable to economic growth, especially in take-off time, has become larger and larger. In this category we can include the investment not only for railroads, harbours, dam-building, and farm-irrigation but also that for education and scientific research which perform important roles in technical progress and in the formation of skills.

I may mention here, that the increase of the proportion which government investment is of total investment bears a relation to the fact that the possibility of planning has increased with the growth of the economy.

Thus, the problem of investment allocation comes out to be a main part of the economic plan, today. The phases of the problem are different according to the stage reached in economic growth.

Returning to the new Plan, priority in investment is given to the heavy and chemical industries as a top-level sector and then to energy-supply industries and railroad-construction. These sectors can be said to be 'basic' industries.

The criteria of investment allocation are considered from the following aspects:

(1) Internationalism or "Inner-developmentism"?[25]

The economic plans of post-war Japan had been based on the recognition of the fact that the Japanese economy has a high propensity to export and import.

It is desirable for certain reasons like the obstacles in the way of free trade and the low elasticity of income of underdeveloped countries, which are the main market for Japan, to approach a self-supporting system as far as possible through the developing or cultivation of domestic natural resources and foods. However, "inner-developmentism" would be undesirable compared with internationalism, from the point of view of the many difficulties with which we are now contending, such as land allocation, the efficiency of capital, trends in marginal cost, competitative power in foreign markets, the law of diminishing returns, and so forth.[26]

This means that a high level of exports together with a high level of imports (not always less-imports) should be the policy with the highest priority in the development plan. It is more economical compared with "inner developmentism" and will promote economic growth more rapidly. This is also reasonable from a historical point of view.

Of course, these two aspects do not always stand face by face. There could be a combination-policy such as lightening the export-

import-ratio ( ) by promoting new industries like the synthetic fibre industries.

(2) Agriculture or Manufacturing Industries?

In this choice, the latter is usually given preference in the comparison between internationalsim and autarky, because of fundamental criteria like the law of diminishing returns. Furthermore, the development of the secondary industries must proceed to supply the productive-goods necessary to industrialize agriculture and to absorb into its own sector part of the relatively over-populated labor force in the primary industries. Of course, equilibrium must be kept between these two sectors according to the stage of economic growth.[27]

(3) To which Industry of the Secondary Industries?

In this choice, almost all plans have stressed the industrialization with heavy and chemical industries (though some more positively than others). The bases of this industrialization are as follows:

(a) Although "light-industrialism" was a symbol of peace, prewar and "heavy and chemical-industrialism" was forced by non-economic violence in war-time accompanied by high cost, there is no inevitability in the old pattern. History need not repeat itself. On the contrary, we should utilize the 'bequeathed property' of the past (facilities, equipment, technology, and skill).

(b) The foreign market for the Japanese textile industry has entirely changed; namely, <u>silk</u> has lost its American market

through the progress of synthetic fibres and the collapse of the mulberry fields during the war; and cotton also lost the greater part of its foreign market through the progress of textile industries of the underdeveloped countries and the progress of chemical textiles, even though it is still powerfully competitive with foreign textiles.

Thus, this 'lost' part in the export market should be filled by the heavy and chemical-industries' products.

(c) On the other hand, the demand for heavy and chemical-industries' goods, such as iron and steel, machinery, chemical fertilizers and medicines in Southeast Asia will increase as their industrialization progresses, and this corresponds to the pattern of trade between Southeast Asia and Japan 'material-imports and manufactured-exports.'

(d) Heavy and chemical-industrialization has the possibility of making more opportunities of employment, bringing more value added than light-industrialization. This means will lower the import-export ratio.

(e) From a historical point of view (though not theoretically accepted), many advanced countries adopted or are adopting an economic policy which gives first priority to 'heavy-industry' as a desirable course of growth.

However, there are some persistent objections to such 'heavy and chemical-industrialization,' as follows:

(1) It seems economical to utilize the 'bequeathed property' externally. But, this property is too old-fashioned to use, and was built at the sacrifice of 'peace-industries' (the textile industry and the consumer-goods-industries). Therefore, we have first to restore light-industry.

This opinion is related to the theory that in the natural course of economic growth light-industry should develop earlier than heavy industry.

(2) There still remain sufficient foreign markets for textiles, and it is not desirable to give them up now. The obstacles now limiting the markets (import restrictions, high tariffs, etc.) can be enlarged by diplomatic negotiation.

This opinion is endorsed by the theory that at the first step of economic development in underdeveloped countries the wages of workers should be raised as a stimulant to capital formation.

(3) As far as international competitive ability is concerned, our light-industries (textile and miscellaneous goods) are superior to heavy and chemical industries in price level, technology, and selling networks.

(4) Judging from the present stages of capital accumulation in Japan, rapid heavy and chemical industrialization might cause inflation (with

or without an increase in the propensity to import). So, it is necessary to accumulate capital in light-industry first, and then shift to heavy and chemical-industrialization. This would be the most natural course for economic growth which on the evidence of the history of capitalism. The history of recent Japan also shows that too rapid economic growth can raise the capital-coefficient abnormally.

These objections against heavy and chemical-industrialization come mainly from supporters of the textile industry and some groups of economists who analyze the pattern of economic growth using some conceptions of modern economics.

Nevertheless, unless they go to extremes, both aspects can reasonably be argued. A final decision depends on the policy-maker's judgment case by case. From a theoretical point of view, it must be decided in which way the sum of the following benefits can be maximized:

(1) the import/export ratio, (2) the rate of material revolution, (3) the terms of production, (4) the effective-demand ratio in the world trade component (income elasticity), (5) the export/output ratio, (6) the productivity of equipment (rate of fixed-capital revolution), (7) the return/output ratio (domestic value added), (8) energy-efficiency.

Those criteria mentioned above are economic factors which can be calculated more or less from economic variables.

But, there are other factors which are non-economic and influence economic growth to a great extent. The final criteria of allocation of investment must be in the light of both economic and non-economic factors.

Thus, in the economic plan of middle-advanced countries, the decision as to the 'priority industry' is the most important one, and this entails at the same time consideration of the criteria of investment allocation.

3. Non-Economic Factors in Economic Planning.

Most of the economic plans we have had so far in Japan, have ended in failure, even though some of their final targets were attained within the planned period.

The reasons for failure can be summarized in three categories as follows:

(1) The international situation of Japanese Economy.

The economic situation of Japan itself is very much influenced by the changes in the international situation which the Japanese government can never control. But, paradoxically, it should be one of the main purposes of economic plans in such countries to prevent

shocks from international fluctuations and to keep the stability of the domestic economy.

Almost all the plans settled exports targets as the basic targets of the plan, but ironically, these targets were the most unstable in nature, because Japan's position in the export market is that of a 'marginal-supplier' which is a result of low competitive ability, lack of systematic markets and her own special pattern of exports as previously mentioned.[28]

This problem of the international situation is more or less a political one. It is related to the balance of power between Western and Eastern blocs, and between the Asian and other areas, the strategic value of Japan, the power of combination in Asia and so forth.

From this point of view, we can appreciate the fact that the occupation of Japan by foreign countries or strong restriction by them did sometimes hinder the ability of the Japanese government to make an independent plan. Of course, this is merely one phase of this problem.

(2) The unstability of government and the lack of co-operation of the people.

The Cabinet of Japan has changed many times since the end of World War II. These frequent changes of government themselves have

been a reason for failure of economic plans. How can one expect 'long-range' plans to outlive these 'short-lived' governments? Successive governments recognized the necessity of long-term investments which do not bring immediate returns, but they did not want to bring forward such proposals because they also knew that such investments would not be welcomed by the voters. Moreover, sometimes even the Congressmen (the ministers) opposed or sabotaged co-operation with planning authorities. This 'unstability' of the political situation is one of the non-economic factors which has a great effect on economic growth, though I shall not refer any more to it here.

Sometimes the reason of failure lay on the side of the people who were unable either psychologically or economically to co-operate with the plan.

In this respect, there is a dilemma in the execution of any plan. Economic development requires change, and change is sure to violate some existing institutions and hence run counter to some existing emotional current. Two principles of planning, progress and stability, often run counter to each other.[29]

For example, some labor unions have strongly opposed the 'productivity increasing movement' because of lack of social security, fear of strengthening labor, or 'affection for their workshops.' Some enterpreneurs act without considering the influences of their behavior on the national economy. Behind such behaviors, there are

many other non-economic factors which have been ignored so far, although they have had definite influences on the plan. However, precise the plan is made theoretically, we can never say it is a 'real plan' if it is not practical.

(3) Misadopting the Theory.

The failures sometimes occurred from misadopting an economic theory. There is no absolute, universal or 'super-historic' plan which goes through all times or can be applied to any country. Theory is, on the contrary, very relative and historical, and must correspond to the stage of economic growth. An economic model can never be imported directly from any other country.

"Can the methodology of the Indian economic plan be applied directly to the United States?" "Can the methodology of Vanomie Plan in Italy be used in Germany?" or "Can we use the methodology of early-capitalism today?" The answers are definitely 'No.'

Nevertheless, unfortunately, the economists in Japan who have learned so much from the West have sometimes used the same model in making an economic plan without 'translating' it into terms appliable to the stages of economic growth in Japan. Here, we do not deny that we can learn about or from other countries. However, we should learn and should translate them, we should not 'copy' or 'imitate' them.[30]

Let me give some examples. The method of projecting the future desirable GNP in the former plan, The Five Year Plan for Economic Self-Support (1955), was similar to the so called Colm's Model which has shown good evidence for long-range economic projections in U.S.A. The model itself is very theoretical. As we mentioned before, in that plan, total GNP was calculated from formula, GNP = m ($_{r}$N-U) (where m stands for out per man, r for the ratio of the labor force to working age population, N and U for the total number of un-employed). This formula was the most basic formula of the plan, from which many other factors were derived.

But, unfortunately, these parameters were all unstable, especially the natures of r and U which are quite different from those of advanced countries. For example, r is usually considered to show downward curve as the standard of living (income per capita) goes up. This is true in the case of advanced countries, but in Japan, this showed upward trend empirically, owing to the special features of Japanese employment. We can say the same thing of U. This figure itself has little meaning because of disguised unemployment. Here again, we meet the problem of non-economic factors connected with economic factors.

We can easily find another example in the field of small- and medium-scale industries which form a typical pattern or economic structure. In Japan, there is a trend that the more the economy

enlarges, the greater the divergence becomes between large and small scale enterprises. This fact is also a result of the special social structure of Japan. In Japan, the growth of GNP itself does not always mean the improvement in the level of small scale industries. On the contrary, a relatively poor situation in small scale industries has often supported the rapid growth of the economy as a whole. Though these factors can be more or less treated by economic theory, there still remains a strong influence on the economy from non-economic factors. We can easily discover other examples (such as the relation between propensity to consume and the insurance-system) of this.

The above mentioned factors which are connected with the 'duality of the economy' are the 'negative-side' of non-economic factors. These factors are historically rooted in incomplete take-off in economic growth or too serious competition with foreign countries, and are often stimulated by too rapid growth. This is, a reason why the theory used must correspond to the stage of economic growth.

But there are other kinds of non-economic factor which can be described as 'positive.' They are 'technical progress' and 'built-in stabilizers'; the former promotes productivity by changing the pattern of economic growth, and the latter, which is institutional, works automatically to prevent economic fluctuations.

But I do not want to refer to these factors here other than to say that they bear an important relation to education, social tradition, political institutions, public opinion and so forth.[31]

The Plan, speaking fairly, does not consider these factors very much, so that the problems are left to economists with an interest in economic growth theory.

To analyse the relations between economic and non-economic factors (including 'quantifying the non-quantifiable'), and to find a proper place for non-economic factors in economic theories, are the main problems put before us.

4. The Plan as 'Theory' and as 'Policy'

The phrase 'economic plan' can be defined literally as 'A number of measures and steps to gratify social wants in conscious application of objective economic principles.'

Here, two aspects of 'plan' come out; namely plan as a theory, and as a policy. A 'plan' has not only to have a theory, but also to be carried out practically on the real stage of national activity.

Turning back to the theoretical side of an economic plan in Japan, attention should be paid to the particular features of the Japanese economy as a middle-advanced country.

In this context, what shall we do with or how shall we deal with the present Plan? Firstly, we must realize that economic model building is only one step in the whole of economic development. At the same time, we must recognize that the plan is not absolute but relative. Some economic parameters may not be stable or constant as in

advanced countries but may be very unstable and variable. This is one of the reasons why we should picture the whole structure of the economy, even when we consider a specific sector or industrial project. The only way to make a more useful plan is continued work on the plan.

Secondly, we must recognize that there are too many dilemmas in the Japanese economy to adopt the Western theory directly. Generally speaking, the higher the rate of growth the better the employment situation. This is, however, not true in the case of Japan. This kind of dilemma is quite different from any general dilemma of the capitalistic system, such as 'the better the employment situation is, the slower the growth of productivity is.'

A short-cut to improvement is the trial-and-error method, because in social-science fields the proof of the pudding is in the eating.

Thirdly, there are many unresolved factors to consider in making a plan for Japan. One of the possible paths to improvement is not to attach too much importance to the 'plan,' or to devise ways of measuring certain phenomena and their causes which seem non-qualifiable at present, and which are treated merely as non-economic factors.[32]

So far we have referred only to the theoretical side of an economic plan. But a plan would be merely a 'game' if it remained there and were not carried out in practical economic policy; in other words, whether a plan can succeed or not depends finally upon the government which makes the plan itself.

What should the government do? What is the role of any government which has the responsibility of executing the plan?

Referring to the role of government, the Plan points out some efforts which the government should make. The government itself also issued a statement on the Plan intending to make every possible effort to accomplish the Plan lest it should be regarded as a mere projection; in this statement it announces that it will try to prevent excessive business fluctuations, to undertake necessary reforms in the management of the administration for carrying out the Plan and so forth, using the Plan as a guide.

Let me review this explanation a little more because this statement as it stands is too simple and too general. It is true that in democratic society there are a few fundamental roles which the government must achieve in general. Such objectives as Professor M. Millikan pointed out may be typical examples.[33]

There should, however, be certain special roles for governments in middle-advanced countries beside these general fundamental roles, just as there are some special features in economic plans for these countries.

In short, the role of the government in middle-advanced countries should be that of a 'mediator' or 'adjuster,' whereas the role of underdeveloped countries' government can be described as a 'promoter' and of advanced countries as 'spectator.'

In early capitalism or in pure capitalism, the cheaper government activity was the better. But in middle-advanced countries like Japan, if the government stays merely as a 'by-stander' without directing economic activity at all, or if on the contrary it meddles with private activities excessively, then the growth of the economy would be disturbed.

It is difficult, however, to determine the details of government's role distinctly, because it must be determined case by case. For instance, the position of government in a case where progress stands face to face with the 'status quo,' is very delicate. The government must, on the one hand, maintain the stability which often means keeping the 'status quo,' and it must also, on the other hand, lead the economic 'changes' which often violate the 'status quo,' standing at the head of the nation. As Professor P. Samuelson points out, progress is an obstreperous and often cruel disturbance of the 'status quo.'[34] This is especially true in Japan where even a small 'change' arouses a wide resistance or sacrifice, sometimes in or from 'conservatives' and sometimes in or from 'progressives.'[35] [36]

These problems mean, in conclusion, that the final decision as to whether the plan is good or not, whether it should stay merely as a 'desirable birds-eye-view in the future' or not, depends on whether the character of the government reflects public opinion democratically

or not. This is not only an economic, but also a political and social problem.

PART II APPENDIXES

I Footnotes

[1]There have been many economic plans given the title 'long-range' in Japan. It is curious that there have been so many 'long-range' plans, in the last ten years if we think over the meaning of the word 'long-range'. Usually in the economic literature, 'long-range' means that it covers more than a year, and yet we have had a 'long-range' economic plan almost every year since the end of World War II. (For example: The Economic Rehabilitation Plan in 1948, The Economic Self-supporting Plan in 1950, The Okano Economic Program in 1953, The Economic Five Year Plan in 1955, and the New Long-Range Economic Plan in 1957, etc.)

Each 'new' plan, in any case, has always had a quite different character from its predecessor, in other words, these plans bear no relation to each other, such as 'the First' 'the Second' 'the Third' five year plan. The reason for this curious fact in the history of economic plan in Japan is nothing but the reason why I am writing this article.

[2]There are many meanings given to the word 'plan.' It is confusedly regarded as or distinguished from the word 'project(ing)' 'program(ing),' 'economic model (building),' or even 'forecast(ing).' I have suggested in my book ("The history and background of economic plan in Japan" 1957) that the definition of the word must be determined by historically considering the objectives, targets and measures of the plan.

Here, guide-post nearly means project but not exactly project itself. In any case, the definition of the word 'plan' is not so important at the present stage. It will become clear as we progress.

[3]The Plan had been originally prepared by the Economic Deliberation Council (the advisory organ of the Economic Planning Agency) which consists of not more than 30 committee members who are appointed by the Prime Minister from among leading industrial, banking, and academic experts. The staff of the E.C.A. together with the economists of the University of Hitotsubash have cooperated with the E.D.C. As far as the planning system is concerned, it is democratic.

[4]See OEEC report, "The European Economy in 1965" (1957).

[5]"Realization of full employment" was one of the main targets in the last plan, 'The Five Year Plan for Economic Self-Support' (1955). Considering the peculiar features of the employment situation in Japan, the makers of the present Plan decided not to use the word "full employment".

[6]As for example, see the Economic Planning Agency, "Economic Survey in 1956" (1957, Japan).

[7]See Gerhard Colm, "The American Economy in 1960" (1952).

[8]See Shigeto Tsurn, "Empirical testing of macro-economic planning in Japan" (1957). In this article, Professor Tsurn criticizes the former Plan not only from a theoretical but also from an empirical point of view.

[9]See Kazushi Okawa, "The Conditions of the Optimum Growth Rate" (The Economic Research, October 1957, Tokyo).

[10]Professor Woytinsky's informal opinions on the Japanese Economy. (January 14, 1956, at Tokyo).

[11]Production figures are shown in output quantity, that is to say in the production index. Then it is corrected into gross production income. In this procedure, there are two unresolved problems. One is a difficulty in the index itself, and the other is the relation

between the production-index and gross product in money terms, which is in effect the problem of n/g rate, where n stands for net production and g stands for gross production. There seems to be no absolute way of overcoming the former except the present expedient; it would, however, be possible to induce a relative relation between the two factors, in the latter case, by empirical judgment. For instance, the assumed relation between GNP and national income in the Plan is as follows; "although the rate of depreciation will increase slightly, parallel with the increase in investment, the proportion of the other adjusting item will decrease, so the national income will increase at the same rate as GNP.

[12]There are many definitions of or ways of arriving at the capital-output ratio. For instance, (1) I has not to include investment for inventories, (2) increase has to mean net increase but not gross increase, (3) there must be one, or at least half a year's time-lag between I and O, and so forth. All kinds of computations are tried as possiblilities, but there still remains a question to be discussed. The adoption of this ratio must be carefully carried out. See S. Tsurn, 'Empirical Testing of the Macro-economic planning in Japan' (1957) and Francis M. Bator, 'On Capital productivity, imput allocation and growth' (The Quarterly Journal of Economics, February 1957).

[13]It seems too simple to say that the capital-output ratio in underdeveloped countries has a tendency to go up as industrialization proceeds, or, on the contrary, to say that the ratio in advanced countries has a tendency to decrease because of the high productivity of capital. We must consider the question in the light both of labor-reliance and of the rate of capital-output. This will be more relevant for international comparisons. Anyhow, the movement or stability of this ratio depends on the stage of economic growth, and this is the reason why we are examining the ratio by industrial sectors.

[14]See the Economic Planning Agency of Japan, "Economic Survey of Japan (1956-1957)" (August 1957).

[15]See. S. Tsurn, "Empirical testing of the Macro-economic planning in Japan" (1957), and Francis M. Bator, "On Capital productivity, input allocation and growth" (Q.J.E., February 1957).

[16]The effort to improve the input-output study and to apply it in economic model building has been ceaseless in Japan, but there still remains some questions about its use at the present stage of the study. On this, see S. Shishido, "On criteria of Japanese Input-output Table" (1957, Stanford University).

[17]Professor K. Okawa. has pointed out that if the rate of economic growth is considered to be 2.0 or 2.5 per cent higher, then the propensity to import must be estimated to be 1.5 or 2.0 per cent higher. See, K. Okawa, "The conditions of optimum growth rate" (1957).

[18]See S. Tsurn, "Empirical testing of macro-economic planning in Japan" (1957). On the subject of the relation between employment and economic growth in Japan, see the Economic Planning Agency, "Economic Survey of Japan (1956-1957)" and Miyohei Shinohava, "Industrial structure and investment allocation" (the Japanese Economic Research, October 1957).

[19]Here, I use the word 'plan' in its widest meaning with less theoretical examination. I include in 'plan' such conceptions as 'program(-ing)', 'project(-ing)', 'scheme', 'future-model(-building)', 'plan(-ing)', and 'long-range forecast(-ing)', and so on.

[20]Besides these four categories, there is another type of economic plan which is rather international. For example, the co-ordinate economic plan among the communist countries, the co-ordinate plan between advance and underdeveloped countries (such as the Colombo-Plan, the Marshall-Plan, etc.) and the co-ordinate works between or among the

countries with equal right-and-responsibility, (such as Energy Project for the future 20 years by OEEC).

These wide-spread international economic plans will become more and more necessary to promote effectively the economic plans of the participants.

[21]This does not mean, however, that there is nothing valuable in the economic planning of these socialistic countries. On the contrary, I believe, there is much to be learned from them as well in natural scientific fields. But, it requires even more careful and faithful study to make the problem clear, so that it is better to discuss it separately.

[22]As Professor P. Rosenstein-Rodan adequately pointed out in his lecture, 'The Theory of Economic Growth' (1957-1958, MIT), one serious, but often over-looked fault in investment plans is in mis-valued exchange rate of currency, which has an immediate relation to cost-calculation about new equipment or machinery mainly expected to be imported from outside.

[23]See S. Tsurn, 'Empirical Testing of the Macro-economic Planning in Japan' (Economic Research, Tokyo, 1958) and also, I. Miyazaki, 'Historical Backgrounds of Economic Planning in Japan' (The Oriental Economist, Japan 1957).

[24]See, Paul N. Rosenstein-Rodan, "Programming in theory and in Italian Practice" ('Investment Criteria and Economic Growth', Center for Internation Studies, MIT, 1955). In his lecture, 'The theory of economic growth' (1957-1958), he supplemented this theory by the experiences of the Italian Plan and others.

[25]Though I say the <u>control</u> over import-export field is passive, it does not mean, by any means, that the <u>role</u> of exports and imports in maximizing the national income has little importance. Whether the Plan can succeed or not depends very much on whether the export-

import targets can be attained. The main policy to increase exports is to modernize the domestic industries, which is related to the problem of investment allocation, though there are still many supplementary policies such as export-or-import subsidies, the presentation of over-competition, the reduction of taxes, and enlightenment movement and so on. Also, the role of imports can be taken as one aspect of'the allocation of investment', though it is not directly related to investment.

There are three types of foreign trade control, namely (1) tariffs, (2) export-import control and (3) changing exchange rate.
I will refer to (1) and (2) later, and will avoid tackling the problem of (3) directly, referring to it only as far as the matter of investment allocation is concerned. The change of the exchage rate occurs in case (1) when the international balance became so bad that even powerful dis-inflation cannot remedy it, and (2) when the domestic price and cost structure show quite different patterns from the international standard. The accumulation of foreign exchange, which is one of the targets in the trade program, is also related to the problem of investment allocation.

[26]Many economists in Japan regard the "narrowness of land (territory) and surplus population" as a basic ground for Internationalism. But I disagree with this view. The influence of population on the national economy is by no means absolute but is relative and variable according to productivity. (Even the law of diminishing return is not decisive.) This is tested not only historically but theoretically by Professor E. Hagen.

If we agree with the general vulgar view on Internationalism, we will have, at the same, a dangerous chance to be a 'colonialist'.

[27]In this part of the article, I use a word 'Inner-developmentism, in a narrow sense, namely as a conception like a self-supplied and

self-sustained type of economy (like 'autarky') as usually used. But, if we regard Inner-developmentism as something like deepening-ism (U.S. to widening-ism) or developmentism in domestic market, we must revise our view. In such a case, the problem is concerned with the wage level, standards of living technical progress and so forth and does not stand face to face with Internationalism.

[28]As Professor C.P. Kindleberger pointed out in his "Dollar Shortage", instability of plan in an open-system can be prenested by due judgement of international fluctuations.

[29]See, E.E. Hagen, "The Allocation of Investment in Underdeveloped Countries."

[30]Similar thing has happened in the case of the Indian Plan. See, W. Malenbaum, "Who does the Planning?" (November 1956).

[31]When we say non-economic factors, it includes a wide range and means psychological, social and political factors as causal in economic growth, such as interrelations between personality characteristics, systems of belief, social structure, and in other words, motivation, value, 'world view', traditionalism, religion, nationalism, kinship structure, class structure, legal system, political system, communication patterns, etc.

[32]See, E. Hagen, "The role of Economic Forecasting in Income Stabilization" (Ed. by M. Millikan, 'Income Stabilization for A Developing Democracy--1953, Yale.)

[33]See, M. Millikan, 'Objectives for Economic Policy in a Democracy' (Ed. by him 'Income Stabilization for a Developing Democracy--1953, Yale.)

[34]See, Paul Samuelson, "Full employment versus Progress and other Economic Goals" (in Millikan ed. book, 1953).

[35]This does not mean that a government should be 'neutral' in

certain cases. As Professor Rosenstein-Rodan says, 'Neutral government is as unrealistic an assumption as neutral money.'

[36]The following policies can be regarded as the 'general' role of the government in Japan:

(a) to maintain economic stability; By 'economic stability, we mean (1) the absence of fluctuations upward or downward in total employment (2) absence of mass or disguised unemployment (3) the absence of excessive price inflation, resulting from imbalance in the international balance of payments or from excessive demand for capital or from the appearance of 'bottleneck' industry or sometimes from unexpected causes such as war or emergency affairs in international balance of power.

(b) to consolidate statistics or other data which help the planners.

(c) to co-operate with foreign countries to draw up mutual assistance plans.

Table 1

PRINCIPLE ECONOMIC INDICES

Item	Unit	Fiscal 1956 Actual Figures (A)	Fiscal 1956 Base Value (B)	1962 (C)	C/A (%)	C/B (%)
Gross National Product	¥100 million	92,878	89,396	130,440	(5.8) 140.4	(6.5) 145.9
National Income	"	76,855	73,841	107,720	(5.8) 140.2	(6.5) 145.9
Total Population	10,000	9,025	-	9,459	(0.8) 104.8	-
Working-Age Population	15-59 years of age	5,326	-	5,956	(1.9) 111.9	-
Employment	"	1,787	-	2,285	(4.2) 127.9	-
Personal Consumption (per capita)	yen	60,010	-	82,740	(5.5) 138.0	-
Industrial Activity	1934-36 = 100	231.7	-	371.9	(8.2) 160.5	-
Total Energy Demand	1,000 tons	103,880	-	160,600	(7.7) 156.2	-
Exports	$1 million	2,495	-	4,422	(10.0) 177.2	-
Imports	"	3,050	-	4,230	(5.6) 138.7	-

Note: C/A C/B figures in parentheses indicate annual rates.

Table 2

GROSS NATIONAL PRODUCT

Item	1956 Actual Figures (A)	1956 Base Value (B)	1962 (C)	C/A (%)	C/B (%)
	(100.0)	(100.0)	(100.0)	(5.8)	(6.5)
Domestic National Income	77,180	74,136	108,110	140.1	145.8
	(18.5)	(19.1)	(15.7)	(2.9)	(3.0)
Primary Industry	14,242	14,186	16,940	118.9	119.4
	(42.3)	(41.8)	(43.6)	(6.3)	(7.2)
Secondary Industry	32,637	31,019	47,170	144.5	152.1
	(39.3)	(39.0)	(40.7)	(6.4)	(7.2)
Tertiary Industry	30,301	28,931	44,000	145.2	152.1
Net Income from Overseas	- 325	- 295	- 370		
				(5.8)	(6.5)
National Income	76,855	73,841	107,740	140.2	145.9
Adjustment Items, Etc.	16,023	15,555	22,700		
				(5.8)	(6.5)
Gross National Product	92,878	89,396	130,440	140.4	145.9

Unit: ¥100 million in 1956 prices.

Note: The figures in the parentheses under (A), (B), and (C) indicate composite ratios.
Figures in parentheses under C/A and C/B indicate annual rates.
(The Secondary Industries in the Plan include transportation, communications, and public utilities.)

Table 3

GROSS NATIONAL EXPENDITURES

	1955 (A)	1956 (B)	1962 (C)	C/B (%)	C/A (%)
	(71.7)	(69.4)	(70.0)	(6.0)	(5.7)
Gross Consumption Expenditures	62,130	64,443	91,300	141.7	147.0
	(60.7)	(58.3)	(60.0)	(6.3)	(5.8)
Personal Consumption Exp.	52,711	54,155	78,260	144.5	148.5
	(11.0)	(11.1)	(10.0)	(4.0)	(4.8)
Government Outlays	9,419	10,288	13,040	126.8	138.5
	(25.6)	(31.6)	(28.5)	(4.0)	(7.9)
Gross Capital Formation	21,864	29,367	37,180	126.5	170.0
	(16.8)	(21.8)	(21.0)	(5.2)	(7.9)
Equipment Investment	14,332	20,279	27,390	125.4	191.1
	(11.8)	(17.5)	(15.8)	(4.0)	(10.7)
Industrial Equipment	10,092	16,262	20,610	126.7	204.2
	(1.8)	(2.1)	(1.9)	(3.9)	(7.3)
Primary Industry	1,509	1,969	2,480	125.9	164.2
	(8.5)	(13.0)	(12.2)	(4.7)	(11.8)
Secondary Industry	7,290	12,059	15,910	132.0	218.3
	(1.5)	(2.4)	(1.7)	(-)	(8.0)
Tertiary Industry	1,293	2,234	2,220	99.2	171.5
	(5.0)	(4.3)	(5.2)	(9.2)	(6.9)
Administrative Investment	4,241	4,017	6,780	169.3	159.9
	(7.1)	(8.0)	(5.5)	(-)	(2.4)
Inventory Increase (and Decrease)	6,057	7,407	7,180	96.9	118.4
	(1.7)	(1.8)	(2.0)	(7.5)	(8.5)
Personal Housing Construction	1,475	1,690	2,610	154.4	176.9
	(1.7)	(-1.0)	(1.5)	-	(4.2)
Overseas Surplus on Current Accounts	1,467	-901	1,960	-	133.7
	(100.0)	(100.0)	(100.0)	(5.8)	(6.2)
Gross National Expenditures	85,462	92,878	130,440	140.4	152.6

Note: unit ¥100 million in 1956 prices.
Figures in the parentheses are as 'Gross National Production' table.

Table 4

SAVINGS AND INVESTMENTS BALANCE

	1955	1956	1962
Gross savings	22,818	28,071	38,930
Depreciation allowance	6,570	7,631	11,220
Corporation reserve	2,842	4,563	6,000
Private savings	9,344	12,242	17,020
Government budget surplus	3,112	3,819	4,690
(Errors and ommissions)	950	-184	-
Gross investments	21,864	29,376	37,180
International account balance	954	-1,305	1,750

Note: ¥100 million in 1956 prices.

Table 5

BALANCE OF INTERNATIONAL PAYMENTS ($1 million)

	1955	1956 (A)	1962 (B)	B/A (%)
Receipts	2,839	3,337	5,080	152.2
Exports	2,095	2,495	4,422	177.2
Invisible	145	842	658	78.1
Ordinary	175	255	408	160.0
Special Procurements	570	587	250	42.6
Payments	2,513	3,566	4,930	138.3
Imports	2,165	3,050	4,230	138.6
Invisible	348	516	700	135.6
Real Balance	327	-229	150	
Adjustment Items	59	267	89	
Nominal Balance	386	38	239	

Table 6

PROPENSITY TO IMPORTS

1955	13.8
1956	16.9
1962	16.2

$$\text{Calculated by } \frac{\text{amount of imports } \left(\begin{matrix}\text{custom} \\ \text{clearance} \\ \text{base}\end{matrix}\right)}{\text{National Income}} \times 100$$

Table 7

INDUSTRIAL STRUCTURE

	1955	1956	1962
Heavy Chemical Industries	55.42	58.71	65.56
Light Industries	44.58	41.29	34.44
Total	100.00	100.00	100.00

Table 8

RATIO OF IMPORTED RATIO (per cent)

1934-1936	18 per cent	
1955	21 per cent	
1956	23 per cent	
1962	33 per cent	
1975	48 per cent	(estimation)

Table 9

EMPLOYMENT STRUCTURE (per cent)

	1956	1962
Industry-by-Industry workers		
Total	100.0	100.0
Primary industry	40.7	35.7
Secondary industry	28.7	29.9
Tertiary industry	30.6	34.4
Status-by-Status workers		
Self-employed	25.6	24.3
Employes	42.0	49.5
Family workers	32.4	26.2

Table 10

CHANGE OF THE CONSUMPTION STRUCTURE

	1956		1962		Growth rate 1962/1956	
	Urban	Rural	Urban	Rural	Urban	Rural
Total	100.0	100.0	100.0	100.0		
Food stuffs	46.5	49.2	39.7	43.7	113.5	111.9
Staple foods	15.5	22.7	11.2	17.3	98.6	99.2
Others	31.0	26.5	28.5	26.4	125.3	129.9
Clothing	12.6	10.5	14.3	11.7	154.9	145.8
Heat, light	5.1	4.4	5.0	3.3	133.8	94.9
Housing	7.0	11.8	8.4	13.7	162.3	141.1
Others	28.8	20.0	32.6	24.3	154.3	160.2
Temporary expense	-	4.1	-	4.1	-	131.8

Table 11

RATIO TO WORLD'S TRADE

	Exports	Imports
1938	5.4	4.6
1954	2.1	3.0
1955	2.4	2.8
1956	2.7	3.8

Sources: Prewar figures: U. N. trade statistical yearbook.
Postwar figures: I. M. F. statistics.

Table 12

IMPORT-EXPORT RATIO OF PRINCIPAL EXPORT GOODS

(per cent in 1956)

Canned tuna	97.7	Ordinary rolled steel	73.0
Glutanic acid soda	64.0	Ships	89.5
Woolen yarn	56.6	Household sewing mach.	98.6
Staple fiber yarn	94.7	Automobile tires	59.0
Cotton yarn	58.6	Cement	99.5
Woolen fabrics	62.0	Lam. plywood	53.7
Cotton staple fibre	96.3	Electric lamps	97.2
Cotton fabrics	59.5	Metal toys	96.4

Note: This means foreign-currency earning ratio which is the ratio of the net foreign currency income (the export price minus the imported raw material price) to the export price.

Table 13

RATIO OF INCREASE IN WORLD DEMAND BY COMMODITIES (per cent)

	Ratio of Japan exports in world market	1951-1956 Demand increase	1951-1955 Rate of increase in Japan exports
Japan's relatively superior industries			
Cotton cloth	28	-41	-26
Clothing	24	+19	+208
Other fabrics	21	-9	+83
Cement	16	+10	+49
Chemical fertilizer	14	+88	+969
Ships	13	+87	+502
Japan's relatively medium industries			
Iron and steel	10	+36	+26
Miscellaneous goods	10	+8	+127
Physical and chemical appliances, cameras	7	+52	+162
Rolling stock	6	+49	+704
Footwear	6	+25	+72
Bicycles	5	+9	+21
Japan's relatively inferior industries			
General industrial machinery	2.8	+3	+87
Timepieces	2.2	+55	+13
Electrical machinery and apparatus	1.6	+48	+105
Films	1.1	+45	+67
Motor (excludes electro-motor)	0.9	+36	-50
Agricultural machinery	0.6	-1	+133
Metal processing machinery	0.6	+28	+89
Automobiles	0.3	+37	+236

Source: Economic Survey of Japan (1956-1957)

Table 14

EXPORTS TO ADVANCED AND UNDERDEVELOPED COUNTRIES (per cent)

	1950	1951	1952	1953	1954	1955	1956
To advanced countries	29.3	23.9	29.0	24.0	23.6	28.9	29.5
To underdeveloped countries	70.7	76.1	71.0	76.0	76.4	71.1	70.5

Note: Advanced countries include U.S.A., U.K., Germany, France, Italy, the Netherlands, Denmark, Belgium, and Luxemberg.

Table 15

COMPARISON OF PRODUCTS OF INTENSIVE AND EXTENSIVE LABOR (per cent)

	1934-1936	1951	1956
Intensive labor products	62	55	52
Extensive labor products	21	39	44
Others	17	6	4
Total	100	100	100

Note: Intensive labor product--Foods, textile (excluding artificial fiber goods, furniture and fixture, precision machinery, leather, wooden work, and sundries.

Extensive labor product--Chemical manufactures, coal and petroleum products, metal, machinery, paper goods, glass products.

Others--Raw material, mineral fuels, specially treated goods.

Table 16

INDUSTRIAL STRUCTURE

(a) Composition of numbers of establishments, employee, and shipments by size of establishment (per cent).

	1-29 workers	3-99 workers	100-299 workers	Less than 300 workers	300 or more workers	Total
All industries:*						
Establishments	98.0	1.6	0.3	99.9	0.1	100
Workers	61.2	14.7	8.0	83.9	16.1	100
Manufacturing industries:						
Establishments	93.7	4.9	1.0	99.6	0.4	100
Workers	41.5	18.7	12.9	73.1	26.9	100
Shipments	22.2	17.0	16.9	56.1	43.9	100

*Excluding agriculture, forestry, and fisheries.

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(b) International comparison in total industrial employment by scale of industries (per cent).

	1-19 workers	20-49 workers	50-99 workers	100-199 workers	200-999 workers	1,000 or more workers	Total
Japan (1955)	33.6	17.0	9.6	8.2	17.1	14.6	100
U.S.A. (1947)	7.2	8.7	9.1	15.6[a/]	26.6[b/]	32.8	100
U.K. (1949)	5.0	11.3[c/]	10.1[d/]	13.0	32.5	28.1	100

a/ 100-249
b/ 250-999
c/ 1-10
d/ 11-49

. . . . . .

(c) Employment structure by industries (per cent).

	1955	1956
Modernized industries	17.6	22.4
Intermediate "	19.7	18.0
Pre-condition "	62.7	59.6
Total	100.0	100.0

Note: Definition for stages of modernization are determined by the percentage of workers among the engaged in the industry.

Table 17

MARGINAL CAPITAL CO-EFFICIENT

	1952	1953	1954	1955	Average
Primary Industry	1.6	3.7	3.9	1.3	2.6
Secondary Industry	2.5	3.5	3.4	3.4	3.2
Tertiary Industry	1.6	0.8	2.7	1.2	1.6
All Industry	2.0	2.1	3.7	1.9	2.4
Administrative Sectors	0.2	0.6	0.6	0.9	0.6
Total	2.2	2.7	4.3	2.8	3.0

Note: Ratio between total capital formation (including inventory) and marginal increase of income (gross for same years).

ECONOMIC DEVELOPMENT PLAN IN VARIOUS COUNTRIES

Countries	Title of Plan	Term	Note
(Asia)			
India	Second Five Year Plan	1956-1961	Over-all developing plan.
China (Formosa)	Economic Construction Four Year Plan	1953-1956	Industrialization and self-sustained plan by the help of U.S.
Philippines	Five Year Economic and Social Development Program	1957-1961	Six per cent annual increase in N.I. Revolving-type plan.
Indonesia	Framework of the Five Year Development Plan	1956-1960	Shows the basic direction of development.
Malaya and Singapore	New Five Year Development Plan	1955-1959	By recommendation of World Bank.
Thailand			Specialized programs for road-construction, railway, harbor, irrigation.
Burma	State Welfare Program	1952-1953 1959-1960	So-called 'Pyidawtha Program.' Beside this, practical four-year program.
Ceylon	Six Year Programme of Investment	1954/55 - 1959/60	Doubling of per capita national income.
Pakistan	The First Five Year Plan	1955-1960	Twenty per cent increase in N.I. Development Plan.
Vietnam	Two Years Rehabilitation Plan	1954/55 - 1955/56	Now setting new plan.
Laos	Five Year Economic Plan	1953-1957	Now setting new plan. (Mainly is agriculture and transportation.)
Cambodia	Two Year State-Construction Plan	1956-1957	Setting new five year plan.
Nepal	Five Year Economic Plan		Investments 44 million dollars.

ECONOMIC DEVELOPMENT PLAN IN VARIOUS COUNTRIES (Continued)

Countries	Title of Plan	Term	Note
Afghanistan	the second Five Year Plan		?
Iran	the second Seven Year Development Program	1955-1961	Mainly for agriculture and public utilities.
Korea			Now preparing by Masen recommendation.
Okinawa			Now preparing.
Japan	New Long-Range Economic Plan	1957-1962	Over-all developing plan (announced December 1957).
(Europe)			
France	the second Modernization Plan	1954-1957	Modernization of industrial equipment--so-called Monet Plan (1), Irsh Plan (2).
		1957-1961	And now preparing the third plan.
Italy	Plan for the Development of Employment and Income	1955-1964	Increase employment and development of Southern Italy--so-called Vanoni Plan.
United Kingdom			Annual project. Local program under "The Distribution of Industry Act."
(Others)	in Holland, Sweden, Norway, Denmark, and etc. have no Development Plan but make annual project in budget-season.		
(Africa)	Ten Year Development Plan		Include development Plan in Sahara.
(America)			
U. S. A.			Annual project under 'Employment Act.' Beside this, Parrey Report, TVA.

ECONOMIC DEVELOPMENT PLAN IN VARIOUS COUNTRIES (Continued)

Countries	Title of Plan	Term	Note
Brazil	Amazon Development Five Year Plan Sanfransisio Valley Development Plan		
Colombia Venezuela			Program for irrigation, railway, iron-steel factory, and tourist industry.
(Communist Countries)			
U. S. S. R.	the sixth Five Year Plan	1956-1960	
East Germany	the second Five Year Plan	1956-1960	
Poland	the second Five Year Plan	1956-1960	Revised.
Czechoslovakia	the second Five Year Plan	1956-1960	
Hungary	the second Five Year Plan	1956-1960	Revised.
Romania	the second Five Year Plan	1956-1960	
Bulgaria	the second Five Year Plan	1956-1960	
Albania	the second Five Year Plan	1956-1960	
Communist China	the first Five Year Plan	1953-1957	Now in the second Five Year Plan.
Mongolia	the second Five Year Plan	1953-1957	
North Korea	the first Five Year Plan	1957-1961	
(International)			
OEEC Program (Marshal Plan)			
Colombo Plan			