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CHINA'S EXPORTS, SUBSIDIES TO STATE OWNED
ENTERPRISES AND THE WTO*

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CHINA'S EXPORTS, SUBSIDIES TO STATE OWNED ENTERPRISES
AND THE WTO*

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ABSTRACT

Although China agreed to abandon their use by 2001, subsidies to loss-making state owned enterprises continued through 2002. OLS and fixed effects regressions based on Chinese provincial data suggest strongly that the subsidies and annual increments in long term bank loans have stimulated the exports of state owned enterprise in those provinces that have done most of the exporting. Exports of foreign invested enterprises, reflecting provincial exporting conditions, were also important. The subsidies may have compensated for high production costs, weaknesses in domestic markets and/or the desire of local governments to maintain employment in state owned enterprises.

JWL Classification: F13, F14

Keywords: China exports, subsidies

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1. Introduction

The extraordinary growth in China's exports since the beginning of its reforms is well known. It is also no secret that state owned enterprises (SOEs) in China have received substantial subsidies from government budgets. Indeed these subsidies have been considered to be a major drain on government resources.¹ The question to be examined in this paper is whether there is a relation between these facts and their relation to China's commitments to the World Trade Organization (WTO), which bars export subsidies.

The next section will present a survey of China's exports and SOE subsidies. The relationship between them will be examined in the following section. Following that there will be a brief review of the obligations to the WTO that China has assumed.

2. An overview of China's exports and SOE subsidies²

The growth in China's exports has been among the most remarkable features of its remarkable economic growth after the beginning of its economic reforms in 1978. Although there were some ups and downs in the rate, the overall growth was exceptional, as shown in Figure 1, in which, for purposes of comparison, indices of China's exports of goods and services and of total world exports, both measured in constant 1995 U.S. dollars, are compared. China's foreign trade growth was a transformation from an almost autarchic economy to one intensively involved with foreign trade. Chart 2 shows that

¹ World Bank, 1996.

² All the data used in this note come from the *China Statistical Yearbooks* for 1996, 1997, 1999 and 2000 and the yearbooks of the provinces of China for the same years, which will not be cited separately.

transformation and compares the export/GDP ratios of China and the U.S. from 1970 to 1998.

Without trying to quantify and rank them in order of importance, there have clearly been a number of influences driving that transformation: a comparative advantage in relatively labor intensive production, due to a relatively well educated labor force available at low wages, high rates of both domestic and foreign investment, foreign sponsored technological change and effective entrepreneurship, both foreign and domestic. In addition, the government's encouragement for exports progressed far beyond permissiveness and has, at times, included foreign exchange privileges, preferential access to bank loans, tax and tariff relief and other privileges.³ Although the real exchange rate of the yuan versus the dollar actually rose from 1980 to 1994, it did not forestall the expansion of exports. In 1994 there was a devaluation of the yuan which substantially lowered the real exchange rate, but only for a short period, due to a high rate of domestic inflation. Chinese exports have risen from a negligible role in world trade before the beginnings of its economic reforms in 1978 to become a major factor, more than a third as large as U.S. exports, for example.

The total amounts of government subsidies to SOEs, either direct or indirect, are not reported in any source that could be found. However, direct government subsidies to, "loss making enterprises," have been reported, with a minus sign, as part of government revenues. Those subsidies as a share of government expenditures are shown in Figure 3. The share declined from a high of 25 per cent in 1985 to about 2 per cent in 2000. The

³ See Barry Naughton, 1996.

subsidies to loss making SOEs alone constituted 2.6 per cent of the total profits of all SOEs in 2001 and were more important in previous years.

The China Statistical Yearbook for 2003 provided some detail on the sources of the subsidies to loss making SOEs and their distribution among sectors, as shown in Table 1. Local governments were, by far, the largest source of the subsidies, with the largest portion going to, "Other enterprises." The definitions of the sectoral distinctions were not provided. Since the total amounts of all subsidies are not known, it is impossible to know the significance of the sectoral distributions.

The direct subsidies of the central and local governments are only one of the means by which SOEs may be subsidized. Other fiscal devices have included include tax relief and government contracts with payments well above costs and privileged use and retention of foreign exchange earned from exports. In addition both central and local governments have directed banks to provide loans to SOEs. These loans are reported to be unpayable, to some considerable extent, and are, therefore, a major burden to the banking system.⁴ However, perhaps for good reason, no information on the magnitude of these loans seems to be available, as that might be an acute embarrassment to the banking system.

In addition, since local governments often have both managerial and fiduciary authority over the SOEs in their region, they can provide direct subsidies to them. They may want to do so for various reasons, including the maintenance of local employment, partly because unemployment insurance often does not exist at all or is quite limited. On

⁴ See World Bank, 1996., Cull, Robert and Xu, Lixin Colin, 2003 and Heytens, Paul and Karacadag, Cern, 2001.

the other hand, local governments have been blamed for some of the financial problems of state owned enterprises due to their frequent and often arbitrary imposition of levies.⁵

Table 2 shows the total production and exports of SOES from 1995 to 1999 and their relative shares. It is the SOE export data which is particularly scant in the official statistics. Notably, while the share of SOE production in total output in China declined by 17 per cent during that period, the share of SOE exports in total exports, while fluctuating moderately, remained at 50 per cent in 1999.

3. The relation between SOE subsidies and exports

The procedure to be followed in exploring the relation of SOE subsidies to SOE exports is to estimate regressions on exports of SOEs using data from the set of thirty Chinese provinces, including Beijing, Shanghai and Tianjin, cities that have been given provincial status.⁶ As noted, full information on the direct and indirect subsidies to state owned enterprises is not available. For the purposes of subsequent analysis the subsidies to loss-making state owned enterprises will be treated as an index of total direct subsidies. It was possible to find data on both SOE exports and the SLEs for the individual provinces only for the years 1995, 1996, 1998 and 1999.

No available data identify the unrecoverable bank loans or bank loans on soft terms that have been used as effective subsidies to SOEs. However, total bank loans to SOEs and the annual increments to these loans will also be tried as explanatory variables that simulate the soft bank loans. Additional explanatory variables were used in the regressions, as will be seen. All the data are converted into current U.S. dollars at the

⁵ Steinfeld, 1998, Chap.3.

⁶ Chungking, which was given provincial status in 1996, will be omitted from the data set because separate data for it was not available.

nominal exchange rates, although SOEs in some provinces, in some years may have have some exchange rate advantages.

The four years of data for the 30 provinces provides a panel data set of 120 observations. A first impression of the data is provided by Figure 4, which simply plots SOE exports against SOE subsidies to loss making enterprises for the various provinces. Data for Guandong are, however, removed, because its exports are themselves 36.5 per cent of the total. Putting Guandong's exports on the Figure would compress the remaining observations into a small area and obscure the relationships.

Figure 4 is both suggestive and possibly misleading. First, there appears to be an overall positive relationship between subsidies and exports. But, to the naked eye, there it also appears that there may be two different relationships: one for provinces whose exports are below roughly 200 million dollars and another for provinces with exports above 200 million dollars. This latter group of provinces consists mainly of the coastal provinces that were given special development privileges, especially in the early years of the reform program. Beijing and Tianjin, although not coastal cities, but which also have benefited from special development privileges, have been added to this group of provinces.

The observations on the provinces with subsidies less than 200 million dollars are so clustered, however, that their pattern is not clear. Therefore, the points for this group of provinces are plotted separately in Figure 5. Again there appears to be an overall positive relationship between subsidies and exports, which, however, needs verification.

To probe for relationships, regressions were estimated with alternative sets of the variables listed in Table 3 and with alternative specifications. In addition to the subsidies to loss making state owned enterprises, the outstanding short and long term liabilities of the enterprises, which reflect mainly bank loans, were included to take account of reports that such loans have been a means of subsidizing SOEs. The annual increments to these liabilities are separate explanatory variables, since it may be new loans, rather than the total outstanding amounts of loans that affect exports. There are also, undoubtedly, other influences on SOE exports including, for example, a number of services that facilitate exports, transport facilities and sensitivity and familiarity with foreign markets. The variable used to capture these influences is the provincial exports by foreign invested enterprises. The sales revenues of the SOEs were used to normalize the variables in alternative regressions. The dependent variable then becomes the share of exports in total revenue and the independent variables are also shares in total revenues.

Table 4 shows the results of OLS regressions that were estimated for all the provinces and for two separate groups of the provinces: the coastal provinces and those with special economic zones and the noncoastal provinces and those without special economic zones. The t statistics for the estimated coefficients on the variables are reported in parentheses.

When a regression was estimated without deflating with total SOE sales revenues in each province, the results in column (2) of Table 4 indicate that the coefficient on the SOE subsidies variable is positive and significant, as is true in nearly all the regressions that were estimated. When regressions were estimated for the coastal and special zone provinces alone, the coefficient on SOE subsidies deflated by Sales revenue was also

positive and significant and apparently much more important for SOEs in the coastal and special economic zones than for other SOEs. It may be recalled that the subsidies variable includes only subsidies to loss making state owned enterprises. As a result it underestimates the total of subsidies to SOEs and, therefore, the effects of such subsidies on exports. On the other hand, some of the subsidies may not go to exporting firms, including firms that are not in exporting sectors. Overall the implication from Table 4 is that subsidies to SOEs have been an important influence in generating their exports.

The estimated coefficient on the total short term liabilities variable is not significant in any of the regressions. The total long term liabilities coefficient is significant only in the regression for all SOEs when the variables are deflated by Sales Revenue, but the negative sign suggests that firms with larger outstanding long term liabilities are less likely to export. The coefficients on the annual increment to short term liabilities is never significant, suggesting that loans for current working capital do not affect exports. The coefficients on the annual increments to long term liabilities are positive and significant, except when the regression is restricted to noncoastal and nonspecial economic zone provinces.

The estimated coefficient on the exports of foreign invested enterprise is positive and quite significant in all the regressions, implying that the general climate for exports, which this variable is intended to proxy, is important in all the provinces. The relatively large value of the coefficient in the noncoastal and nonspecial economic zone provinces suggests that in these provinces the export climate is especially important.

There are indications of considerable variability across provinces in their participation in export markets, other than that captured by the independent variables. To

explore the significance of this, fixed effect regressions were estimated, with provincial dummies, for all provinces and for the separate groups of provinces. In the regression for all the provinces and the regression for noncoastal provinces and those without special economic zones, the estimated coefficient on SOEsubsidies/SR is negative but significant only in the latter group of provinces, as shown in columns (2) and (3) of Table 5. On the other hand, the other estimated coefficients in the regression that includes all the provinces are significant on all the other variables, but the signs are often different from those in preceding regressions.

In the regression for the coastal and special economic zone provinces, the coefficient on the subsidies variable was positive, large and significant. This indicates that it is particularly in these provinces that the subsidies to SOEs are important. The exports of these provinces accounted for almost 92 per cent of all Chinese exports in 1999. The coefficients on long term liabilities was negative and significant, indicating again that SOEs with large outstanding bank loans were less likely to export. On the other hand, the estimates of the coefficients on the increments to long term liabilities were positive and significant, suggesting that these new loans were important in supporting exports. If the bank loans were ordinary business financing loans, the opposite would have been expected. Again the estimated coefficient on ExpForInvEnt was positive and significant in all of the regressions reported in Table 5.

4. China's Subsidies and the World Trade Organization

Government subsidies that directly or indirectly promote exports have been and continue to be an important issue among nations and have a prominent role in the rules of

the World Trade Organization (WTO).⁷ They have been a prominent issue as well in China's negotiations with the WTO. In particular, the elimination of subsidies to, "loss-making state owned enterprises," was a commitment under China's accession agreement with the WTO in December, 2001.⁸ By November, 2002 China warranted that these subsidies had been eliminated and that the item no longer appeared in the state budget.⁹ Yet the Chinese Statistical Yearbook for 2003 reported 25.96 billion yuan of such subsidies for 2002.¹⁰ So the consequences for Chinese exports of the subsidies to loss-making enterprise remained an issue, at least until the end of 2002.

In explanation of the discrepancy between the stated intent of the Chinese government to comply with its agreement with the World Trade Organization and the actuality, there was a rather plaintive statement in the Negotiations of the Working Party of the WTO in June, 2003: "The representative of China explained that, in common with many other Members, China had experienced difficulty in obtaining accurate data about all types of subsidies."¹¹

As noted, provincial and even city governments give subsidies in various forms to SOEs and, as well, may instruct their regional banks to provide loans that, in effect, are subsidies. The statement just above and the data provide some insight with respect to the subsidy system and the difficulties of the central government in tracking down all

⁷ World Trade Organization, 2002a

⁸ World Trade Organization, 2002b..

⁹ U.S. General Accounting Office, 2002.

¹⁰ China, Central Statistical Organization, 2003.

¹¹ World Trade Organization, 2002c.

sources and types of subsidies in a system with limited fiscal and bank regulatory oversight.

The fact that such a large portion of the subsidies have come from local governments suggests the possibility that their use was, to some degree, not part of a central government policy to promote exports, but even that is not certain. The local governments may have had implicit or explicit central government encouragement in providing the subsidies as a way of maintaining their local SOE's production and employment. However we do not know what the interests were of the local governments in helping their local firms earn foreign exchange.

5. Conclusions

Regression analysis with a few years data across provinces is rather a blunt instrument with which to investigate the role of subsidies to state owned enterprises in China in assisting them to export and the data used is deficient in important respects. Yet the positive relationship in the regressions between subsidies and exports is persistent, especially for those provinces that have made the overwhelming share of China's exports. Recall that the subsidies variable includes only a part of the overall government subsidy program in China and includes some subsidies to nonexporting SOEs. Thus the estimated coefficients on the subsidies in the regressions may be underestimates of the significance of subsidies. Omitting 1998, the regressions cover only the period from 1995 to 1999, when these subsidies were 5 per cent or less of government expenditures. During the 1980's and early 1990's when the SLEs were 10 to 20 per cent or more of government expenditures, those subsidies were likely to have been much more important

in maintaining SOE exports. That may help explain why China's exports were maintained in the middle 1990's when its real exchange rate appreciated.

It also appears from the regressions that long term bank lending has been an important assist to SOE exports. Short term bank lending, that would be principally for financing the current operations of the SOEs and be turned over relatively quickly was not important. In addition, the variable, exports of foreign invested enterprise, intended to simulate the overall export climate of the provinces, is always important.

In earlier phases of the economic reform program, the central government gave exporters preferred access to foreign exchange, in order to stimulate them to export. That became less important by the mid-1990's when foreign exchange availability was less of an issue. If the foreign exchange availability issue is set aside, the question remains as to why the SOEs did not sell more than roughly half of their output domestically. One straight forward answer to that may be that the domestic market would not absorb the other half. The period covered in the analysis was one of deflationary price pressures, implying an imbalance between production potential and demand. That, of course, has often happened in advanced economies, reflecting overbuilding of capacity, in turn related to high rates of investment and savings. It may have been true in China, where savings rates have often been over 30 per cent.

The many stories about the inefficiencies and excess labor of the SOEs implies that their production costs are relatively high. Were the SOEs dumping their production abroad and taking losses doing so? If so, that would provide an alternative explanation for the subsidies. The subsidies would have helped make it possible for them to do so and

survive. It would be impossible to be more definitive without having much more information about costs of production in SOEs.

The subsidies to the SOEs may also, to some extent, have been a means of avoiding plant shutdowns and possibly disruptive unemployment. This seems to have been a more tractable measure for easing the rigors of unemployment than providing employment insurance through the fiscal system. So the explanation for the continued SOE subsidies on exports may depend on the feasibility of government unemployment benefits.

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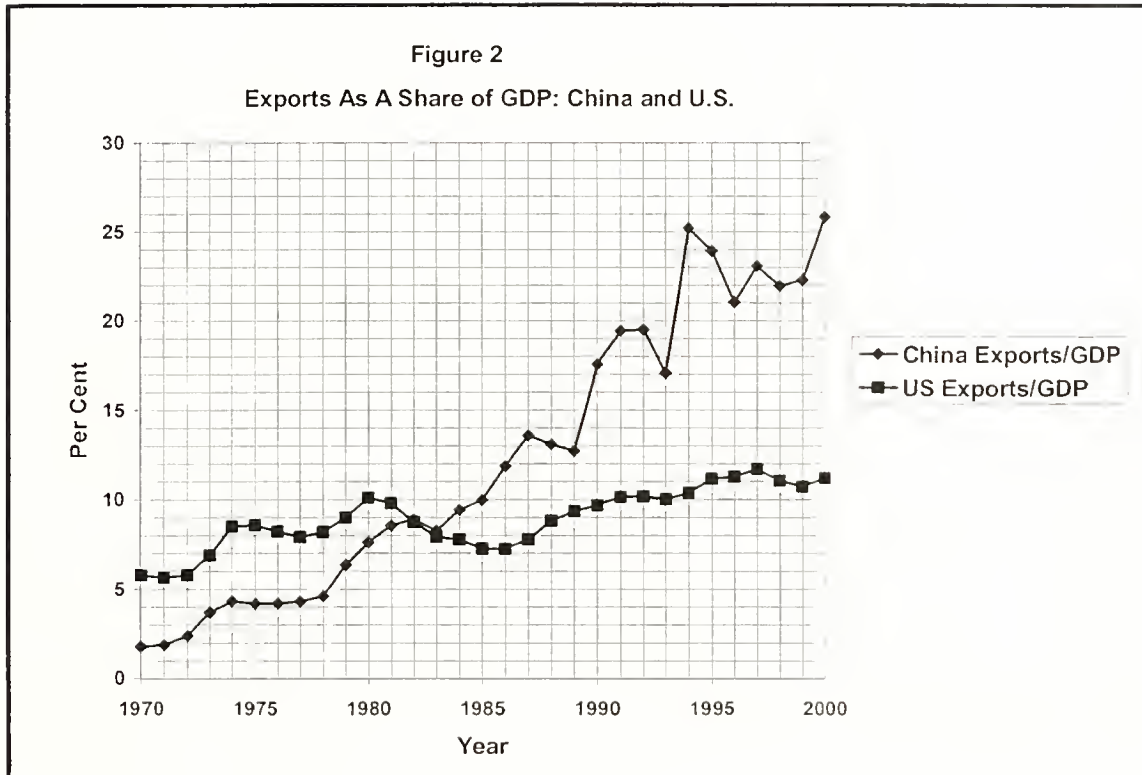


Figure 3
Subsidies to Loss Making SOEs As A Share of Total Government Expenditures

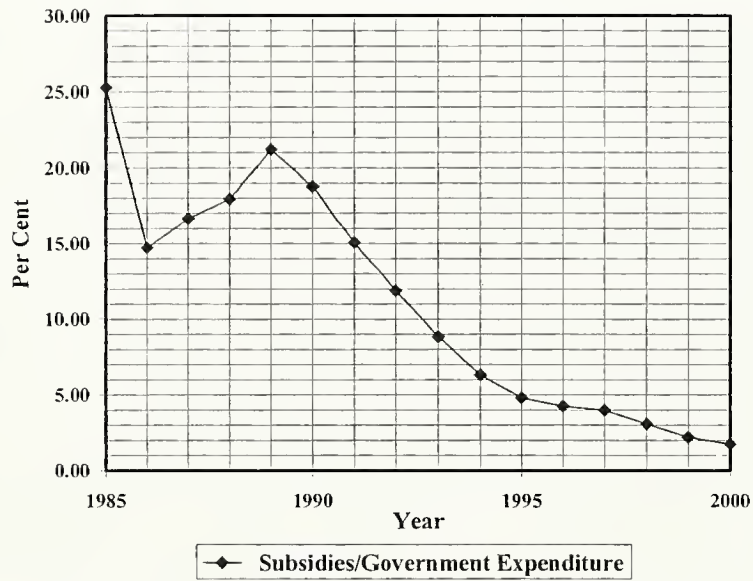
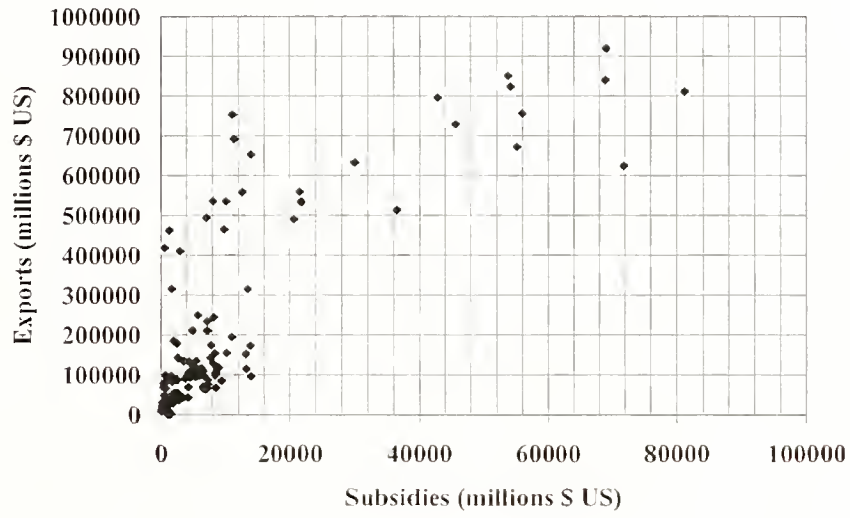


Figure 4
Provincial SOE Exports and Subsidies, 1995-1999

(without Guangdong)



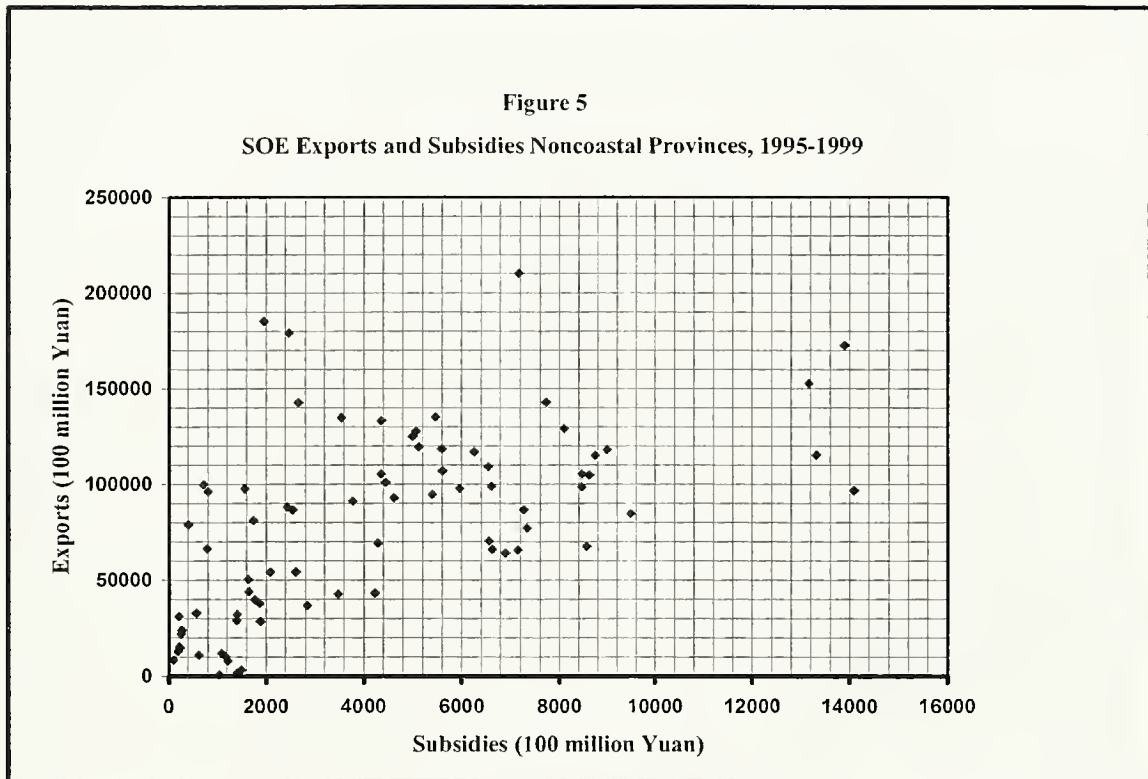


Table 1

	Total Subsidies		Central Government		Local Government	
	Billion yuan	Per cent of Total	Billion yuan	Per cent of Total	Billion yuan	Per cent of Total
Industry	6.821	26.3	3.476	13.4	3.345	12.9
Business	1.206	4.7			1.206	4.7
Grain enterprises	5.456	21.0			5.456	21.0
Foreign trade enterprises	0.651	2.5	0.562	2.2	0.089	0.3
Agriculture, Forest, Aquaculture and Meteorology enterprises	0.289	1.1	0.224	0.9	0.065	0.3
Other enterprises	11.537	44.4	0.297	1.1	11.240	43.3
Total	25.960	100.0	4.559	17.6	21.401	82.4

Table 2						
Production and Exports and SOE Shares						
	Total	SOE	SOE Share	Total	SOE	SOE Share
	Production	Production	of Total	Exports	Exports	of Total
	100 mil.yuan	100 mil.yuan	per cent	100 mil.yuan	100 mil.yuan	per cent
1995	91894	31220	34	12451.8	6642.9	53.3
1996	99595	36173	36.3	12576.4	8465.6	67.3
1997	113733	35968	31.6	15160.7	7257.5	47.9
1998	119048	33621	28.2	15231.6		
1999	126111	35571	28.2	16159.8	8135.7	50.3
2000*	85674	40544	47.3	20635.2	0	
2001*	95449	42408	44.4		0	42.5
*Definitions different from prior years						

Table 3

Exports	exports by state owned enterprises
Exports/SR	exports by SOEs divided by their sales revenues
SOEsubsidies	subsidies to loss making SOEs
SOEsubsidies/SR	subsidies to loss making SOEs divided by their sales revenues
ShortTrmLiab	short term liabilities reported by all SOEs
ShortTrmLiab/SR	short term liabilities reported by all SOEs divided by their sales revenues
LongTrmLiab	long term liabilities reported by all SOEs
LongTrmLiab/SR	long term liabilities reported by all SOEs divided by their sales revenues
IncShrtTrmLiab	year to year changes in short term liabilities of all SOEs
IncShrtTrmLiab/SR	year to year changes in short term liabilities of all SOEs divided by their sales revenues
IncLngTrmLiab	year to year changes in long term liabilities of all SOEs
IncLngTrmLiab/SR	year to year changes in long term liabilities of all SOEs divided by their sales revenues
ExpForInvEnt/SR	exports by foreign invested enterprises divided by SOE sales revenues

Table 4
OLS Regressions

(1)	(2)	(2)	(4)	(5)
	all provinces	all provinces	coastal provinces and provinces with special economic zones	noncoastal provinces and provinces without special economic zones
Independent Variables		Dependent Variables		
	Exports	Exports/SR	Exports/SR	Exports/SR
SOEsubsidies	7.916*			
	-11.47			
ShortTrmLiab	-0.234			
	(- 0.41)			
LongTrmLiab	0.018			
	-0.15			
IncShrtTrmLiab	-0.041			
	(-0.31)			
IncLngTrmLiab	0.428**			
	1.92			
ExpForInvEnt	0.812*			
	47.36			
SOEsubsidies/SR		2.148*	8.142*	0.957*
		4.24	2.74	4.00
ShortTrmLiab/SR		0.078	0.439	0.029
		0.78	1.27	-0.60
LongTrmLiab/SR		-0.212*	-0.474	-0.04
		(-2.29)	(-1.31)	(-0.90)
IncShrtTrmLiab/SR		-0.23	-0.755	0.170
		(-1.04)	(-1.11)	1.57
IncLngTrmLiab/SR		0.598*	1.266*	1.385
		3.52	2.61	1.60
ExpForInvEnt/SR		0.758*	0.734*	4.6*
		17.52	10.58	9.81
Constant	27496.95	0.136*	-0.5	0.004
	1.35	1.95	(-0.25)	0.10
R ²	0.9668	0.7629	0.7786	0.724

* 5 per cent significance level

** 10 per cent significance level

Table 5
Provincial Fixed Effects Regressions

(1)	(2)	(3)	(4)
	provinces	provinces	provinces
	All provinces	noncoastal provinces and provinces without special economic zones	coastal provinces and provinces with special economic zones
Independent Variables	Dependent Variable- Exports/SR	Dependent Variable- Exports/SR	Dependent Variable- Exports/SR
SOEsubsidies/SR	-1.205 (-1.05)	-3.204* (-5.43)	21.611* (2.54)
ShortTrmLiab/SR	0.257* (2.21)	0.022 (0.31)	0.528 (1.43)
LongTrmLiab/SR	-0.619* (-4.71)	-1.70* (-2.27)	-1.291* (-3.44)
IncShrtTrmLiab/SR	-0.340* (-2.25)	0.015 (0.19)	-0.312 (-0.76)
IncLngTrmLiab/SR	0.565* (4.61)	0.185* (2.81)	1.039* (3.17)
ExpForInvEnt/SR-	0.648* (5.96)	4.949* (4.04)	0.646* (3.91)
Constant	0.501* (3.16)	0.234* (3.21)	0.482 (0.455)
R ²	0.9397	0.9353	0.9563

* 5 per cent significance level

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