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THE INDUSTRIAL STRUCTURE AND RECENT REFORMS  
IN SHANGHAI

by

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### Abstract

The industrial structure of Shanghai is predominantly dominated by the State; with the advent of reforms, collectives and other forms of organizations have partly displaced the State's role. The objective of industrial reform is an improvement in economic efficiency; nevertheless, it has brought about serious problems such as unequal income distribution. The question remains: how far should reform go and how should it be implemented?

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The objective of this paper is to describe the changes in the industrial structure, recent industrial reforms and problems in Shanghai, China.

## INTRODUCTION

Shanghai, with a population of 12.5 million, is located in the middle of China's coastline and on the front edge of the Changjiang Delta between Changjiang's outlet to the sea and Hangzhou Bay. The strategic location and available water transport facilities have made Shanghai an excellent port. In addition, Shanghai has been a dominant force in industry, commerce, finance and has been an exemplary of modernization in China for more than a century. Even after 1949, its prominence has continued although its relative position has changed due to the rapid growth of nearby provinces: Jiangsu and Zhejiang.

## INDUSTRIAL STRUCTURE

Shanghai is predominantly an industrial city. Its industrial structure is characterized by numerous small, collectively-owned enterprises with the State as the single biggest contributor to gross output. There appears to be a good balance between light and heavy industry but few dominant sectors exist in both. In 1987, small enterprises, totalling 11,812, accounted for 94 per cent of total number of enterprise,

collectives owned 58 per cent of the total while the State accounted for 77 per cent of gross value of industrial output (GVIO) which reached Y92.308<sup>1</sup> billion. Light industry, with 58 per cent of total enterprises, accounted for 55 per cent of GVIO. (Tables 1 and 1A). There were 6,815 enterprises in light industry in 1987, divided into 27 industries producing 94 product lines. Light industry is dominated by textile which accounted for 14.5 per cent of total number of enterprises and 29.2 per cent of GVIO. The shares can increase to 27.3 per cent and 35 per cent respectively if sewing were included. The remaining 25 industries have garnered individual shares of GVIO of not more than 10 per cent. (Table 2). There were 4,997 enterprises in heavy industry in 1987 composed of 18 sub-industries producing a total of 88 product lines. Heavy industry appeared to have more dominant sectors relative to light industry. The largest sector is machinery with 33 per cent share in number of enterprises accounting for 23 per cent of GVIO. The next three sectors contributed shares of GVIO hovering around 7-8 per cent; Chemical (29 per cent), electrical machinery (8.17 per cent) and transport (7.66 per cent). The remaining 13 industries have garnered individual shares of not more than 6 per cent (Table 3).

The industrial structure has undergone some changes during the period 1981-1987. The role and presence of the State has

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<sup>1</sup> Y3.722/US\$.



been on a gradual decline, while that of collective and other forms of industrial organization are on the rise. The State's share of GVIO has declined steadily from 87 per cent in 1981 to 77 per cent in 1987; the shares of collectives and others have risen, the former from 11 per cent in 1981 to 17 per cent in 1987 and the latter from 1.7 per cent in 1981 to 6 per cent in 1987. (Table 4A). In terms of number of enterprises, the same pattern is observed. (Tables 5 and 5A). The share of light industry has decreased from 57.3 per cent in 1981 to 55 per cent in 1987, while that of heavy industry has climbed up from 42.7 per cent in 1981 to 45 per cent in 1987. (Table 6).

#### RECENT DEVELOPMENTS AND REFORMS

Reform has been a recurring theme in post 1949 China: the goals have remained essentially the same but the methods have changed. The recent reform started in 1979 and has been closely associated with an open door policy, the gradual, increasing and consistent use of market forces and the renewed emphasis on industrialization via modernization and importation of appropriate and more advanced technology. Reform has permeated every part of China and it could not be more salient than in one of its most important industrial bases - Shanghai.

There are four basic areas of reform in the industrial sector of Shanghai: ownership and management, modernization of

its production equipment, decontrol on prices, property rights and the municipal government administration.

#### Ownership and Management

The Enterprise Law, passed in February 1988 and took effect in August 1988, represents a major achievement in reform. The Law provides essentially for the separation of ownership from management, construed as the separation of politics (ownership) from economics (management). This new form of relationship is supposed to give management a more substantial role in running State-owned enterprises with minimum interference from local party officials; more important, decisions are motivated by economic rather than political factors.

The relationship between the State and an enterprise is embodied in the comprehensive management contract which among other things, specifies production targets as set by the Shanghai Municipal Government (SMG). The factory director, the key decision-making person, is responsible for meeting production targets, procuring raw materials, marketing output in local and foreign markets, hiring labor, distributing profits and losses and deciding on capital investments with certain limits; in turn, the party official takes on a secondary advisory and ideological function.

In a very limited sense, the role of a director becomes also that of an entrepreneur; it is limited because while the director does not own the assets, he is responsible for losses. His personal property, no matter how negligible, is stipulated as a pledge in the contract in case of failure or bankruptcy. The reforms that have been instituted so far to motivate the director to behave more as an entrepreneur are decentralization of decision making, less interference from local party officials and linking pay with profits. Nevertheless, there are other institutional factors missing. To solve the problem of ownership, directors and possibly workers, should be allowed to own partly an enterprise; this calls for the issuance of shares of stocks and the creation of stock markets which are also necessary when the bankruptcy law becomes operative. When losing State enterprises are allowed to go bankrupt or merge with other enterprises, it is difficult for the tenderer to know the true value of an enterprise without stock markets. Part-ownership of an enterprise has an added advantage: it can reduce the possibility of a director unduly using profits to increase incentives of workers to the neglect of capital investments and care and expansion of assets.

In actual implementation, the contract management system may take many forms depending on the nature of the product and



agreement with the SMG. Before reform, state enterprises receive a budget for operations and remit all profits to the State. With the introduction of the contract management system, the enterprise retains part of the profits; to make up for the loss of revenues, the State imposed a 55 per cent tax on profits, although the actual rate may be negotiated depending upon the situation of the enterprise. At present, there are two profit distribution schemes.<sup>1</sup> First, profits is distributed as 4-3-3: 40 per cent for investment, 30 per cent for welfare projects such as housing, baby care centers and medical benefits; 30 per cent for bonus. Second, profits is distributed as 5-3-2: 50 per cent for investment, 30 per cent for welfare projects and 20 per cent for bonus. The type of distribution scheme used by an enterprise is decided by the Shanghai Treasury and is guided by certain criteria such as number of workers in the factory and the size of the profits. The different profit schemes are to prevent any wide income distribution effects; the reinvestment provisions can be looked upon to serve two purposes: sustaining industrial capacity to produce and ensuring that the factory director does not neglect capital accumulation in order to increase income of his workers. There were some 465 industrial enterprises that adopted the comprehensive contract management system by the end of 1987.

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Profit distribution is made after tax payments which was imposed in lieu of profit remittances to the State.



Within an enterprise, the relation between a director, and his workers is spelled out in the factory director system (FDS), implemented in 1986. A director has a free hand in hiring or firing a worker. New workers hired after the FDS was introduced are covered by a labor contract which is negotiated or renewed every year. The contract stipulates a worker's rights and duties, production targets, remuneration and bonus. Aside from his base pay, a worker can earn more if he exceeds his quota; nevertheless, wage is still set or controlled by the government but is allowed to move within a range. Firing a worker is now possible, but it has been rare or on an isolated basis only. At present, the government still bans rural to urban migration; nevertheless, changing jobs in urban areas and even working for foreign and joint ventures is now possible, but a worker has to seek approval from the Ministry of Labor. In a more egalitarian society, it is ironical that labor has not received significant changes.

Another aspect of reform is the process by which the factory director obtains his position. Generally, he is appointed by an industrial bureau; nevertheless, a new system on a trial basis has been introduced to allow more democratic procedures. The position is first advertized and qualified people apply, not necessary based on seniority. The municipal government approves the applicants and the factory workers elect their own director.

## Modernization of Production Equipment

Shanghai has realized that its industrial machinery is old, inefficient and rather obsolete. Starting in 1983, the whole industrial sector has been undergoing a massive modernization program, the main emphasis of which is importing appropriate advanced technology and the creation of new industries with high potential. The Shanghai Economic Commission has approved 1,100 technical renovation projects via importing equipment from 1983-1987, with a total value of \$1.13 billion. 640 projects have been implemented and completed, while the remaining 460 projects will take two more years to finish.

## Decontrol on Prices

Price reform, the root of the recent reform, has been the most difficult to pursue and implement for two reasons. First, its sensitive social and political impact. Second, the basic goal of balancing equity against efficiency since for every price effect, there will always be a corresponding income effect. At present, there are three kinds of prices prevailing: controlled prices, negotiated prices and free market prices. Generally, production under the quota are sold at controlled prices, production above the quota are sold at negotiated or free market prices.

The scope of reform on prices is wide, from raw materials to finished goods and primary factor inputs; nevertheless, price control remains for certain key raw materials like iron and steel and most-essential finished goods. Deregulation on non-staple food prices started April 1988 and there is a move to remove rental control on housing. In 1986, there were 116 raw materials under price control but in 1987, there were only about 30 left. The timing and sequencing of price reforms has been clear: the freeing of market prices of raw materials first, followed by finished products.

However, there is one difficult and serious problem: prices of many finished products have remained under control for fear of a nationwide inflation, especially on the products manufactured in Shanghai. The enterprises are obviously in a quandary: the squeeze on profits is inevitable and losses may ensue. Inflation has affected urban workers badly, especially after the deregulation of non-staple food prices. The response of the State has been to grant two cost of living allowances, the most recent being May 1988 by an amount of Y25; these allowances have also been incorporated into a worker's base pay. In effect, the government has shifted its policy from a production subsidy to an income subsidy. This may be feasible only in the short run as it will be a huge burden on government coffers.



The long run choices are to lift controls on wages and to encourage and improve workers' productivity. Just how price reforms are to be completed remains a policy problem.

### Property Rights

There have been significant and substantial moves in other areas of property rights: private citizens, corporations, joint-ventures and collectives can own capital equipment, buildings and private residences, and may engage in a wide range of economic activities, except in the areas of public utility, banking, and exploitation of natural resources. Only land remains as an exclusive property of the State and this serves as an upper limit to the extent of reform.

Leasing of land is now permitted, and there is a move to allow the transfer of land-use rights. Foreign joint-ventures operating in Shanghai pay land use fees promulgated in November 1986. The fees range from Y100 per square meter per annum for industry, commerce, finance and tourism sectors to Y.5 per square meter per annum for scientific research, education and health. The fees also vary according to different geographic locations.

### Municipal Government

The tools used to achieve the five year plan or annual plan has also undergone some changes. The plan consists of two major



parts: the command plan which stems from Beijing followed by Shanghai Planning Commission and passed on to the enterprises and the guiding plan. In 1986, 60 per cent of industrial products is under the command plan; in 1987, only 20 per cent remains.

In line with decentralization of decision making, there were two major developments in 1988. First, Shanghai used to surrender 75 per cent of its annual export earnings to Beijing and keep 25 per cent for itself, equally divided between the enterprise and the municipal government. Starting 1988, Shanghai will surrender a fixed amount of \$1.5 billion of its exports earnings for the next three years after which negotiation will commence to determine a new amount. In terms of its municipal profit, Shanghai surrendered \$3.4<sup>1</sup> billion in 1987, representing 77 per cent of its total profits; starting 1988, it will only surrender \$2.8<sup>1</sup> billion. Second, approval authority for loans and projects for capital construction, whether in local currency or foreign exchange, is \$8<sup>1</sup> million at the bureau level, \$8<sup>1</sup> million-\$54<sup>1</sup> million for the municipal government; anything above requires the approval from Beijing. For technical renovation, the approval limit for Shanghai Economic Commission is between \$1.34<sup>1</sup> million-\$8<sup>1</sup> million for light industry and between \$1.3<sup>1</sup> million for heavy industry.

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<sup>1</sup>  
The respective amounts were converted at Y3.722/\$.

## Foreign Investment

To hasten its industrial modernization, Shanghai has offered numerous incentives to attract foreign investment. One, reduction in income tax rate, related business taxes and lease rent depending on the type of technology and export-orientation. Second, the recent move to allow these enterprises to transact foreign exchange in "adjustment centers" where the rate is not tied to the official rate, but all transactions are under the supervision of the State Administration of Exchange Control (SAEC). This is tantamount to a de facto devaluation. Third and surprisingly, the repatriation of profits is allowed. The SMG has also identified the priority areas as well as areas where investment is discouraged.

The SMG has also provided infrastructure support to encourage foreign investment. There are three special economic and development zones created: (i) the Shanghai Caohejing Microelectronic Industrial Park (SMIP) with an area of 170 hectares was established in November 1984. It was designed to attract foreign investments in microelectronics, computers, integrated circuits, fiber optics, semi-conductors, office automation systems and telecommunications equipment. (ii) Shanghai Hongqiao Economic and Technological Development Zone with a planned area of 65.2 hectares, approved in August

1986 by the State Council. It will serve mainly as the residential quarters and recreation center for Shanghai's foreign investors. (iii) Minhang Economic and Technological Development Zone with a total land area of 213 hectares, 50 per cent of which is allocated for industrial enterprises. It is designed to attract technology-intensive and export-oriented products with emphasis on textiles, electronics, processed food and building materials.

The Seventh Five Year Plan of Shanghai (1986-1990) identifies five key infrastructures: (i) construction of an urban subway system; (ii) cleaning of Suzhou Creek; (iii) expansion of Hongqiao Airport; (iv) construction of a bridge and underwater tunnel across Huangpu River; (v) expansion of the city's telephone network. By 1990, Shanghai will have the following completed: (i) Shidongku coal-fired Power Plant with a capacity of 112 kw; (ii) the Qinshan Nuclear Plant; (iii) three 500,000 volt transmission lines; (iv) a new railway station and five expressways.

Shanghai has one advantage over other cities in attracting foreign investment: its skilled labor force, especially in services such as banking and insurance. Other advantages are its excellent port facilities and also the biggest in China. Foreign investment in Shanghai started in 1979. As of May 1988, there



were 323 projects involving direct equity investment which reached \$1.91 billion. (Tables 7 and 7A). Hongkong was the biggest investor in terms of number but America ranked first in terms of value. A very high proportion of these investments, 69 per cent, appeared to be going to real estate/hotel with only 27 per cent going to industry.

#### CONCLUSION

Like a young person in a hurry, reform in Shanghai has been remarkable; its pace fast, in fact, like the rest of China, too fast. Reform has brought about favorable and unfavorable changes and perhaps one unquantifiable gain in a sense of economic freedom. The problems created by reform are predominantly part of the adjustment process and can be viewed as necessary cost. However, there is a fundamental dilemma faced by policy makers: How far should reform go and how should it be implemented to achieve efficiency and an acceptable income distribution? The Chinese are looking for answers.



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Table 1. Industrial Structure of Shanghai, 1987

	Number of Enterprises	GVIO (Y billion)
Total	11,812	92.308
A. <u>Size of Enterprise</u>		
Large	219	35.016
Medium	459	18.956
Small	11,134	38.336
B. <u>Type of Ownership</u>		
State-owned	4,188	71.004
Collective	6,859	15.299
Others	765	5.625
C. <u>Light vs Heavy Industry</u>		
Light Industry	6,315	50.877
Heavy Industry	4,997	41.431

Source: 1988 Shanghai Annual Statistics

N.B. All figures exclude the activities of rural industries and are all in 1980 constant prices.

Table 1A. Industrial Structure of Shanghai, 1987  
( in per cent )

	Number of Enterprises	GVIO (Y billion)
Total	100.0	100.0
A. Size of Enterprise		
Large	1.8	37.9
Medium	3.9	20.5
Small	94.3	41.5
B. Type of Ownership		
State-owned	35.4	77.3
Collective	58.1	16.6
Others	6.5	6.1
C. Light vs Heavy Industry		
Light Industry	57.7	55.1
Heavy Industry	42.3	44.9

Source: Table 1

Table 2. Number of Enterprises and GVIO of Light Industry, 1987  
(in Y 100 million and 1980 constant prices)

Divisions	Number of Enterprises	% Share	GVIO	% Share
1. Waterworks	76	1.2	1.50	0.3
2. Food Processing	685	10.7	29.90	6.1
3. Beverages	121	1.9	5.29	1.1
4. Tobacco	2	0.0	7.93	1.7
5. Animal Feeds	89	1.4	5.47	1.1
6. Textile	928	14.5	139.43	29.7
7. Sewing	820	12.8	28.13	5.9
8. Leather and Fur	200	3.1	7.58	1.6
9. Wood, Bamboo, Rattan and Grass	84	1.3	1.62	0.3
10. Home Furnitures	144	2.3	3.26	0.7
11. Paper Making & Paper Products	296	4.6	13.41	2.8
12. Printing	322	5.0	8.68	1.8
13. Educational and Sports	339	5.3	16.83	3.5
14. Arts works	167	2.6	7.21	1.5
15. Coke & Gas and by-products	33	0.5	0.56	0.1
16. Chemicals	217	3.4	27.20	5.7
17. Pharmaceuticals	120	1.9	19.97	4.2
18. Chemical Fibers	27	0.4	36.09	7.5
19. Rubber Products	51	0.8	7.29	1.5
20. Plastic Products	450	7.0	8.75	1.8
21. Construction Materials and Other Non-ferrous products	80	1.3	4.95	1.0
22. Metals	542	8.5	20.62	4.3
23. Machinery	315	4.9	40.16	8.4
24. Transport Equipment	8	0.1	1.61	0.3
25. Electrical machinery	452	7.1	24.35	5.1
26. Telecommunications	131	2.0	39.04	8.2
27. Others	116	1.8	1.94	0.4
	6815	100.0	508.772	100.0

Source : 1987 Shanghai Annual Statistics

N.B. GVIO exclude output of rural industries.



Table 3. Number of Enterprises and GVIO of Heavy Industry, 1987

	Number of Enterprise	% Share	GVIO 100 M	% Share
1. Construction Materials and Non-Metals Mining	4	0.09	0.04	0.01
2. Wood Processing, Bamboo, Rattan and Grass Products	48	1.04	2.66	0.68
3. Power Generation	15	0.32	13.68	3.48
4. Petroleum Refining	15	0.32	17.73	4.51
5. Coal, Coke and by-products	2	0.04	3.17	0.81
6. Chemical	290	6.26	32.55	8.29
7. Rubber Products	77	1.66	11.80	3.00
8. Plastic Products	149	3.22	9.16	2.33
9. Construction Materials and Non-Metal Products	498	10.76	15.11	3.85
10. Ferrous Metals	68	1.47	77.51	19.73
11. Non-Ferrous Metals Processing	104	2.25	25.55	6.50
12. Metals	464	10.02	14.51	3.69
13. Machinery	1507	32.55	89.44	22.77
14. Transport	380	8.21	30.10	7.66
15. Electrical Machinery	533	11.51	32.08	8.17
16. Electronics & Telecommunications	290	6.26	23.46	5.97
17. Measuring Equipment	397	8.57	14.51	3.69
18. Others	156	3.37	1.25	0.32
	4997	100.00	414.3	100.00

Source: 1988 Shanghai Annual Statistics

N.B. GVIO excludes output of rural industries.

Table 4. Gross Value of Industrial Output, by ownership, 1980-1987  
( in Y billion and 1980 constant prices)

	Total	State- Owned	Collective- Owned	Others
1981	60.870	53.087	6.738	1.042
1982	63.670	55.154	7.148	1.363
1983	67.858	57.976	8.203	1.673
1984	74.437	62.535	9.967	1.919
1985	82.959	67.433	13.271	2.255
1986	87.092	69.933	13.606	3.553
1987	92.308	71.384	15.299	5.625

Source : 1987 and 1988 Shanghai Annual Statistics

N.B. All Figures exclude the output of rural industries.

Table 4A. Gross Value of Industrial Output, by ownership, 1981-1987  
( in per cent )

	Total	State- Owned	Collective- Owned	Others
1981	100.0	87.2	11.1	1.7
1982	100.0	86.6	11.2	2.1
1983	100.0	85.4	12.1	2.5
1984	100.0	84.0	13.4	2.6
1985	100.0	81.3	16.0	2.7
1986	100.0	80.3	15.6	4.1
1987	100.0	77.3	16.6	6.1
Average		83.2	13.7	3.1

Source: Table 4

Table 5. Number of Industrial Enterprises, by ownership :1981-1987

	1981	1982	1983	1984	1985	1986	1987
Total	8017	8368	8562	8764	10656	11029	11812
State-Owned	3356	3309	3290	3278	4176	4123	4188
Collectively-Owned	4536	4888	5074	5279	6141	6381	6859
Others	125	171	198	207	339	525	765

Source: 1987 and 1988 Shanghai Annual Statistics

Table 5A. Number of Industrial Enterprises, by ownership ,1981-1987  
( in per cent )

	1981	1982	1983	1984	1985	1986	1987
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
State-Owned	41.9	39.5	38.4	37.4	39.2	37.4	35.5
Collectively-Owned	56.6	58.4	59.3	60.2	57.6	57.9	58.1
Others	1.6	2.0	2.3	2.4	3.2	4.8	6.5

Source : Table 5

Table 6. Gross Value of Industrial Output of Shanghai, 1981-1987  
(in Y billion 1980 constant prices)

	Total GVIO	Light Industry	% Share	Heavy Industry	% Share
1981	60.870	34.884	57.3	25.986	42.7
1982	63.670	35.885	56.4	27.785	43.6
1983	67.858	37.724	55.6	30.134	44.4
1984	74.437	41.660	56.0	32.777	44.0
1985	82.959	46.129	55.6	36.830	44.4
1986	87.092	47.812	54.9	39.280	45.1
1987	92.308	50.877	55.1	41.431	44.9
Average			55.8		44.2

Source: 1987 and 1988 Shanghai Annual Statistics  
N.B. GVIO is exclusive of output of rural enterprises.

Table 6A. Growth Rates of Industrial Sector of Shanghai, 1980-1987  
( in per cent )

	Total	Light Industry	Heavy Industry
1981	-	-	-
1982	4.6	2.9	6.9
1983	6.6	5.1	8.5
1984	9.7	10.4	8.8
1985	11.4	10.7	12.4
1986	5.0	3.6	6.7
1987	6.0	6.4	5.5
Average	7.2	6.5	8.1

Source : Table 6



Table 7: Direct Equity Investment in Shanghai (approved)  
As of May 1988  
By Country of Origin

	No. of Projects	323
	Total Value in US \$	1.91 B
	No. of Projects % Share	Value in US \$ % Share
1. USA	14	30
2. H.K.	46	23
3. Japan	13	10
4. Others*	27	37
Total	100	100

\* Western Europe, North America, Asia, Pacific Region  
Source: Shanghai Municipal Foreign Economic Relations and Trade Commission

Table 7-A: Direct Equity Investment in Shanghai (approved)  
As of May 1988  
By Sector

	No. of Projects % Share	Value in US \$ % Share
1. Industry	56	27
2. Real Estate/ Hotel	25	69
3. Others	19	6
	100	100