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What Is Special about China's Reforms?

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This preliminary paper is a product of a joint research project on "Industrial Reform and Productivity in Chinese Enterprises" undertaken by researchers at the World Bank, Brandeis University, and the University of Pittsburgh, in collaboration with the Institute of Economics (CASS), the Economic Management Research Institute (System Reform Commission), the Rural Economic Research Center (Ministry of Agriculture), and the Institute of Quantitative and Technical Economics (CASS). The project is supported with funds provided by the World Bank, the Henry Luce Foundation and the National Science Foundation. This paper represents the individual views of the authors and not those of the sponsoring agencies or institutions or their affiliated agencies. Comments and suggestions are welcome by the authors.

Industrial Reform and Productivity in Chinese Enterprises
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OUTLINE OF THE ESSAY

What were China's different initial conditions from Eastern Europe?

Why did China started agricultural reform first?

What were the positive effects of the agricultural reform on the industrial reform?

Did China free prices?

Did China have ownership reform?

What was the impact of the agricultural and non-state sectors on the growth and productivity of the Chinese economy?

Why were the rural Township and Village Enterprises (TVEs) so successful?

How did the state-owned enterprises use their increased economic control?

What were China's secrets of macroeconomic stability during the early 1980s?

Why was it difficult to keep the macroeconomic stability?

What was behind the Chinese export boom?

The ownership-productivity link: A Surprise?!

Tables and Figures

This essay results from questioning by and conversations with staffs at the Socialist Economies Reform Unit of the World Bank, especially Alan Gelb and I.J. Singh. The author thanks all of them for inspiration.

China's reforms, undertaken after 1978, followed a very different pattern from those in Eastern Europe and were applied to a very different economy, which had a large rural population, a dominant agricultural sector, a very low per capita income, little external trade and small foreign debt. The reforms were partly initiated from the "bottom-up." There was considerable experimentation on a regional basis. Also, China largely maintained macroeconomic stability during the early stage of reforms (1978-84). Inflation reached low double digits only during 1985, 88, and 89. It did not face the disruption of trade-relations and the terms-of-trade shocks that were major problems in Eastern Europe. Unlike some countries in Eastern Europe, China's reform did not follow a dramatic political transition.

Reform in China started from the agriculture sector that has since become a leading sector of the economy. During the early 1980s, under pressure from many poor agricultural provinces and after successful experimentation in many places, the central government restored family-based farming and raised prices for agricultural products. As a result, agricultural output and productivity rose sharply. During 1983 and 1984, the growth rates for both agricultural output and total factor productivity were about 10% a year. During the decade after 1979, the two average growth rates were at an impressive 6% (see table 1 and table 2).

The success of rural reform had several positive effects on urban reform. First, it encouraged the government to carry out a more market-oriented industrial reform. Second, rising rural incomes generated new markets for manufactured goods which helped industrial enterprises to restructure. Third, farmers relieved from agricultural production provided a vast amount of unskilled and cheap labor needed for the rapid expansion of construction, transportation, retail sales, services, as well as some manufacturing sectors. Fourth, rising agricultural outputs, especially rice, meat, vegetables, fruits, edible oil and cotton, kept living costs in the cities under control and contributed to political stability there.

Even with all these favorable conditions, the Chinese government started only a partial, piecemeal, and gradual urban reform. The Chinese government did not free prices. Instead, it tolerated a "black market" through the so-called two-tier pricing (one through plans and the other through markets). The plans allocated a certain amount of input and output that were specified by quotas. Above the quotas, enterprises could buy and sell their materials and products freely in the markets. Hence, at the margin, resources started to move from low-value to high value uses. At the same time, the government still controlled a significant amount of key materials and products through plans and maintained some continuity of the planned production and allocation. The two-tier pricing certainly made the state enterprises more sensitive to market signals when managing their material supply, production, and product sales. In addition, the two-tier allocation system became a crucial link between the passive, rigid and less efficient state sector and the dynamic, flexible and more efficient non-state sector, which included the urban collectives and the rural township and village enterprises (TVEs). Without the two-tier allocation system, it would have been impossible to see rapid growth of the non-state sector, the expansion of markets for materials, and the abundant supply of consumer goods.

China also approached the privatization and ownership reform differently from the European socialist countries. There were no major privatization movements during the decade-long reform. Ownership reform was only allowed for experimentation in a few enterprises. The authorities were still committed to socialist principles and public ownership for a large part of the Chinese industry. But, in the rural areas, considerable de facto "ownership" reform appeared as various kinds of TVEs grew rapidly. In the cities, small state-owned enterprises were rented to their employees. The urban collectives were also allowed a greater extent of self-management. For the large and medium-sized enterprises, the central government gave substantial managerial autonomy to enterprises and local governments through profit-retention and various responsibility systems, but it still maintained state ownership.

Hence, except for the large and medium-sized state-owned enterprises, substantial ownership reforms toward private property or "real" community property happened quietly in all sectors. In fact, a strong non-state sector emerged during the process of reform, which included the urban collectives, rural TVEs, individual business, joint-ventures with Hong Kong businessmen, Taiwanese, overseas Chinese as well as foreigners.

The impact of the non-state sector on the performance of the Chinese economy during the reform period has been impressive. As shown in table 1 and 2, during the last decade, China's average growth rates were 9.1% for GNP, 10.7% for Gross Output Value (GOV). The growth of output mainly came from the non-state sectors. For the industrial sector, during 1982-1989, the average growth rates of output are 23.1% for urban and rural collectives, 222.6% for the private business, and 45.7% for the other non-state business. The average growth rate of output for the state sector during the same period is 9.8%, which is much lower than those of the non-state sector and is 5% lower than the average (15.3%) for the industrial sector.

In the non-state sector, Township and Village Enterprises (TVEs) have played an important role in sustaining rapid growth. The average growth rate for TVE output in all sectors (e.g. agriculture, industry, construction, transportation, and commerce) has reached 30% during past decade. In 1989, the TVEs produced 23.8% of the total industrial output and 21.1% of the total output of society (e.g. all 5 sectors: agriculture, industry, construction, transportation, and commerce). Compared to TVEs, the private business is still insignificant. By 1989, the private industrial business produced only about 5% of industrial output although it has recorded an average growth rate of 222.6% during 1982-1988.

The productivity growth in the agriculture and non-state sector has also been impressive. As shown in table 2, the agricultural total factor productivity growth was 11.4% per year during the four years during 1982-85. After 1985, the average growth rate were moderate at 1.3% per year. Table 2 also shows some significant industrial total factor productivity growth of 4.1% a year during 1979-87. Because of data limitation, this estimate of industrial TFP growth did not separate the state-owned, the urban collective, and the rural TVEs.

But, some comparative studies of Chinese industrial productivity shows that the collectives and TVEs have much higher level and growth of productivity than the state-owned enterprises. Using a sample of firm-level data for Chinese large and medium-sized industrial enterprises, Xiao (June 1991) shows that during 1980-85, the TFP growth was about 5% per year for the state enterprises and about 10% for the collectives. In another study using city-level Chinese industrial data, Xiao (Spring 1991) found that during 1985-87, the state-owned sector maintained a stagnant TFP growth while the urban collective sector achieved a TFP growth of 4.5% a year.

Hence, it was neither the "state-owned" nor the "pure private" enterprises that was driving the impressive growth of the Chinese economy. It was some kinds of "quasi-private" and community enterprises that contributed to the growth. One important type of the community oriented economic organizations was the rural township and village enterprises (TVEs). Across regions, the TVEs varied a lot in ownership, management, and production. Some of them (those in Wenzhou), were essentially individual business under a loose "supervision" by local governments. Others (those in Wuxi) were controlled tightly and managed actively by local industrial bureaus. However, all of them had strong profit incentives because there were virtually no central agencies to redistribute their profits to outside regions or communities. So, at least for each region or community, the TVE workers could work hard and get rich. More importantly, the TVEs certainly would get poor if failed since the central and provincial governments would at best not discriminate against them while the lower levels of local governments could give them only very limited help because of their limited financial resources. Indeed, evidences show an increasing divergence of rural incomes between individuals, enterprises, and communities. The pattern was very different from the redistribution in many Yugoslavia enterprises.

The reduced redistribution and increased inequality across rural communities, and to a less degree across urban communities and industries, would have not happened if the central government still had strong administrative control and enough fiscal resources to influence local behavior. The fact was that the recent urban reform decentralized substantial economic control to local governments and the state-owned enterprises and resulted in a rapid decline of the central government fiscal resources. The central government budgetary revenue, which was a measure of the resources commanded by central planning, fell from 37% in 1978 to 22% in 1988 of the national income. The extra-budgetary revenue, which was largely controlled by the state-owned enterprises and local governments, increased from 11.5% in 1978 to 19.3% in 1988 of the national income. The extra-budgetary revenue was less than one third of the budgetary revenue at the start of the reform. After one decade of reform, the extra-budgetary revenue was almost as large as the budgetary revenue.

More importantly, only a small part of the budgetary revenue was used as investment funds (about one third) while most of the extra-budgetary revenue was invested, particularly in fixed capital. So, as long as investment was concerned, the central government did not play the dominant role anymore. Figure 1 shows this dramatic shift of economic control away from the center even within the state-owned sector. Before 1978, the budgetary investment (thick line) always exceeded the extra-budgetary investment (thin line with dot) by a large margin. But, after 1978, the extra-budgetary investment well dominated the budgetary investment. Since the state-owned enterprises and their supervisors selected investment projects according to their own information and preference, the components of the investment also changed from a bias toward pure industrial projects to a bent on non-industrial projects such as residential housing, and medical and training facilities. In figure 1, the solid and empty bars represents respectively industrial and non-industrial investment in basic construction. It is clear from the figure that for the state sector in China, the amount of budgetary investment could not even cover industrial basic construction. On the other hand, 75% of the total extra-budgetary investment could easily cover both industrial and non-industrial basic construction. This implies that in case the central government want to stop an expansion of fixed capital investment, the enterprises and their supervisors can ignore the central directives by simply using their own extra-budgetary funds to continue their basic construction. In fact, the Chinese government did fail to stop expansions in fixed capital investment of the state sector during the reform period.

The rapid development of market activities in China also helped macro-economic stability for a brief period through the so-called monetization process. It is well known that market activities use more cash than planning. As economies are transformed from planned to market systems, the demand for cash increases. So, excessive money supply may not bring about inflation for a brief period since the extra money is absorbed through an expansion of market activities. This monetization happened in China during 1979-84 (Yi 1991). The experiences in China contrast strongly with the so-called "monetary overhang" in East Europe and USSR, where excessive money supply creates large amount of forced savings because of pervasive shortage and price control and threatens macro-economic stability. However, in the longer term, China, East Europe and USSR have to deal with the same problems of declining fiscal revenue and possible macro-economic instability. The hope once again lies in the non-state sector. In 1978, 13.2% of Chinese government revenue (14.4 billion yuan) was from the non-state sector, but, in 1988, the share increased to 25.3% (57.2 billion yuan). However, before the private sector became the dominate player in the economy, all socialist countries have to attack the difficult task of privatizing the large state-owned enterprises.

China's reform in the state sector, characterized by progressive decentralization within a framework of public ownership, achieved only moderate success. It prevented sharp output declines that appeared in the Europe and produced at least some productivity growth during the early period of reforms. But, the difficult task of restructuring the large state enterprises still lies ahead. Also, as the central government now faces declining fiscal revenue and weak macro-economic control, China may have to deal with macro-economic instability as the European socialist countries do now.

The real significance of Chinese industrial reform so far was its impact on the regional development of the non-state sector and foreign trade. As shown in table 3, China's export increased from 4.67% to 12.39% of GNP during 1978-89. It also maintained rough trade balance during that period. The foreign direct investment (FDI) increased from $636 million in 1983 to $3392 million in

1989. The influence of Hong Kong and Taiwan was obvious and important. As can be seen in table 4, more than 60% of the FDI came from Hong Kong and Macao, which also mediated trade between China and Taiwan. The overseas Chinese not only brought trade to the coastal provinces such as Guangdong, Fujiang, Zhejiang and Jiangsu, but also introduced knowledge about private economies to these regions. As shown in figure 2 and 3, the strong non-state sectors in the coastal provinces as well as in the other provinces contributed positively to their regional total factor productivity. In figure 2, the estimated provincial industrial TFP indexes (vertical axe) are related to their non-state sector share of total industrial output in the province (horizontal axe). In figure 3, names of the provinces are written at the location corresponding to the TFP indexes and the shares. As is indicated by a regression line going through those provincial sample points, there is a strong positive correlation between the productivity (TFP indexes) and ownership structure (non-state sector share of output). The graphs not only indicate systemic relations between the TFP and ownership structure but are also informative about the particular features of each province. For example, Zhejiang, which has Wenzhou city (the capital city of China's private economy), had the highest TFP as well as highest proportion of "private" economic activities. Guangdong, which not only borders with Hong Kong but also has Shengzheng (one of the most successful Special Economic Zone in China), had much smaller non-state sector and lower TFP than Zhejiang. Also interestingly, Shanghai is clearly an outlier with its high TFP and small non-state sector. With so many differences in China's regional economic development, it is really striking that the productivity and ownership linkage is so clean and strait. This linkage seems also at work in Europe, in Africa, indeed, around the world. The only difference is that China learnt and practiced the linkage under a political regime which theoretically denies the linkage.

Table 1. China's Growth of Gross Output Value by Sectors 1979-89

(constant or comparable price)

	Total	Agriculture	Industry	Industry by Ownership				Construction	Transportatio n	Commerce	TVE* All Sectors
				State	Collective	Private	Other				
Share in 1989	100.00%	18.89%	63.00%	35.3%	22.7%	3.2%	2.2%	8.19%	2.93%	6.37%	21.10%
1979	8.52%	7.51%	8.81%	8.88%	8.57%			10.69%	1.94%	9.14%	11.62%
1980	8.37%	1.44%	9.27%	5.61%	19.24%			16.40%	18.18%	6.32%	21.09%
1981	4.39%	5.78%	4.29%	2.53%	9.01%	134.57%	31.6%	-5.48%	2.81%	17.27%	14.38%
1982	9.50%	11.28%	7.82%	7.05%	9.54%	78.95%	27.73%	18.63%	11.28%	6.39%	15.10%
1983	10.22%	7.80%	11.19%	9.36%	15.53%	120.59%	33.90%	10.47%	9.10%	10.56%	19.69%
1984	14.72%	12.26%	16.28%	8.92%	34.85%	97.47%	56.81%	13.36%	11.22%	11.87%	70.28%
1985	17.15%	3.41%	21.39%	12.94%	32.69%	1089.6%	39.54%	20.33%	19.89%	20.02%	61.12%
1986	10.15%	3.36%	11.67%	6.18%	17.97%	67.57%	34.16%	13.97%	10.58%	10.93%	30.05%
1987	14.13%	5.79%	17.69%	11.30%	23.24%	56.59%	66.39%	10.02%	11.08%	9.39%	34.06%
1988	15.83%	3.96%	20.79%	12.61%	28.16%	47.34%	61.53%	7.26%	12.72%	9.11%	37.08%
1989	5.20%	3.10%	8.54%	3.86%	10.48%	23.77%	42.68%	-11.60%	7.30%	-6.90%	14.45%
AVG79-89	10.74%	5.97%	12.5%	8.1%	19.0%			9.46%	10.55%	9.46%	29.90%
AVG82-88	13.10%	6.84%	15.3%	9.8%	23.1%	222.6%	45.7%	13.43%	12.27%	11.18%	38.20%

Source: CHINA STATISTICAL YEARBOOK, 1990, page 32, 48-9, 316, 388, 394-5.

* It covers gross value of output by Township and Village Enterprises in Agriculture, Industry, Construction, Transportation and Commerce. Figures for 1978-1983 includes TVEs at town and village level. Starting from 1984, the figures include TVEs at all levels. Hence, part of the exceptional high growth of TVE output in 1984 represents change of enterprise classification.

Table 2. China's Growth of GNP, Productivity, and Prices 1979-89

Year	GNP	TFP Agriculture	TFP Industry	Consumer Price Index
1979	7.60%	3.52%	2.75%	-0.20%
1980	7.81%	3.53%	2.59%	7.53%
1981	4.48%	5.12%	-1.41%	2.52%
1982	8.75%	7.12%	3.38%	2.03%
1983	10.32%	12.94%	6.31%	1.99%
1984	14.58%	18.89%	8.77%	2.72%
1985	12.73%	6.60%	8.30%	11.92%
1986	8.31%	0.16%	0.30%	7.00%
1987	11.01%	1.79%	6.08%	8.80%
1988	10.89%	1.84%		20.68%
1989	3.55%	1.73%		16.29%
AVG79-89	9.09%	5.75%	4.12%	
AVG82-88	10.94%	6.38%		

Source: CHINA STATISTICAL YEARBOOK, 1990; Agricultural TFP growth from James Guangzhong Wen (1991); Industrial TFP growth from Chen and Singh (1990).

Table 3. China's Export, Import, Reserve, and Foreign Direct Investment 1978-89

Year	Export/GNP	Export (billion US$)	Import (billion US$)	Non-Gold Foreign Exchange Reserves (billion US$)	Foreign Direct Investment (million US$)
1978	4.67%	9.75	10.89	1.557	
1979	5.30%	13.66	15.68	2.154	
1980	6.07%	18.12	20.02	2.62	
1981	7.70%	22.01	22.02	4.773	
1982	7.97%	22.32	19.29	11.125	
1983	7.55%	22.23	21.39	14.342	636
1984	8.34%	26.14	27.41	14.42	1258
1985	9.45%	27.35	42.25	11.913	1661
1986	11.16%	30.94	42.91	10.514	1874
1987	13.01%	39.44	43.21	15.236	2314
1988	12.63%	47.52	55.27	17.548	3193
1989	12.39%	52.54	59.14	17.022	3392

Source: CHINA STATISTICAL YEARBOOK, 1990, page 602, 613, 625.

Table 4. China's Sources of Foreign Direct Investment 1988-89

	1988 (million US$)	1989 (million US$)	1988	1989
Total	3193.68	3392.57	100.00%	100.00%
Hong Kong & Macao	2095.2	2077.59	65.60%	61.24%
Singapore	27.82	84.14	0.87%	2.48%
Australia	4.16	44.42	0.13%	1.31%
Japan	514.53	356.34	16.11%	10.50%
US	235.96	284.27	7.39%	8.38%
FRG	14.9	81.39	0.47%	2.40%
Italy	30.54	30.28	0.96%	0.89%
UK	34.16	28.48	1.07%	0.84%
Canada	6.02	16.95	0.19%	0.50%
France	22.67	4.6	0.71%	0.14%

Sources: CHINA STATISTICAL YEARBOOK, 1990, page 625.

Table 5. Productivity and Ownership Structure of China's Provincial Economies 1985-87

Province Name	Region Classification	Non-State Sector Share of Industrial Output	Total Factor Productivity Index	Provincial Share of National Industrial Output
ALL PROVINCES		40.3%	100	100.0%
Provinces with 15%-23% Non-State Sector Share of GVIO			86	9.9%
GANSHU	West	15.3%	85	1.2%
QINGHAI	West	16.6%	85	0.2%
XINJIANG	West	17.1%	92	0.8%
HEILONGJIANG	Inland	19.4%	84	4.1%
NEI MONGGOL	Inland	20.8%	75	1.1%
GUIZHOU	West	21.1%	83	0.9%
XIZANG	West	21.8%	85	0.01%
NINXIA	West	22.2%	85	0.2%
YUNNAN	West	22.8%	97	1.3%
Provinces with 25%-41% Non-State Sector Share of GVIO			100	51.9%
GUANGXI	East	25.5%	99	1.5%
SHANGHAI	East, City	25.9%	123	7.7%
JILIN	Inland	28.2%	100	2.6%
SHAANXI	West	28.3%	84	1.9%
JIANGXI	Inland	28.9%	104	1.9%
BEIJING	East, City	30.0%	108	3.2%
TIANJING	East, City	30.6%	108	2.9%
SICHUAN	West	32.5%	91	5.2%
HUBEI	Inland	34.0%	91	4.8%
HUNAN	Inland	34.6%	103	3.3%
SHANXI	Inland	35.1%	79	2.2%
LIAONING	East	36.0%	99	7.6%
ANHUI	Inland	38.7%	110	2.9%
HENAN	Inland	40.9%	102	4.3%
Provinces with 45%-67% Non-State Sector Share of GVIO			120	38.2%
HEBEI	East	46.8%	108	4.6%
FUJIANG	East	47.5%	119	1.9%
SHANDONG	East	49.5%	107	7.5%
GUANGDONG	East	50.6%	126	6.5%
JIANGSU	East	63.4%	123	11.5%
ZHEJIANG	East	66.7%	139	6.2%

Source: TFP index from Xiao (Spring 1991); Others from STATISTICAL YEARBOOK OF CHINA, 1988.

The Myth about
Budgetary and Extra-Budgetary Investment
China, 1953-1986

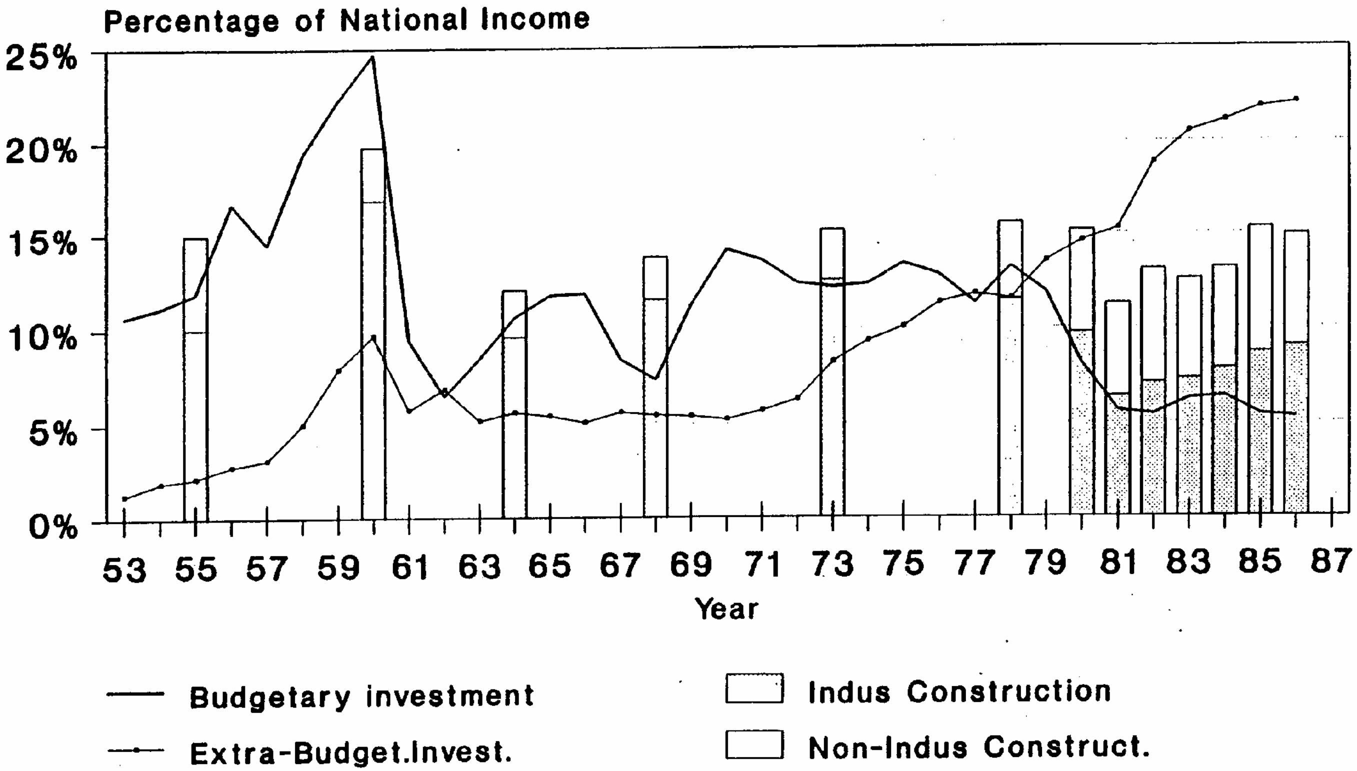

Figure 1

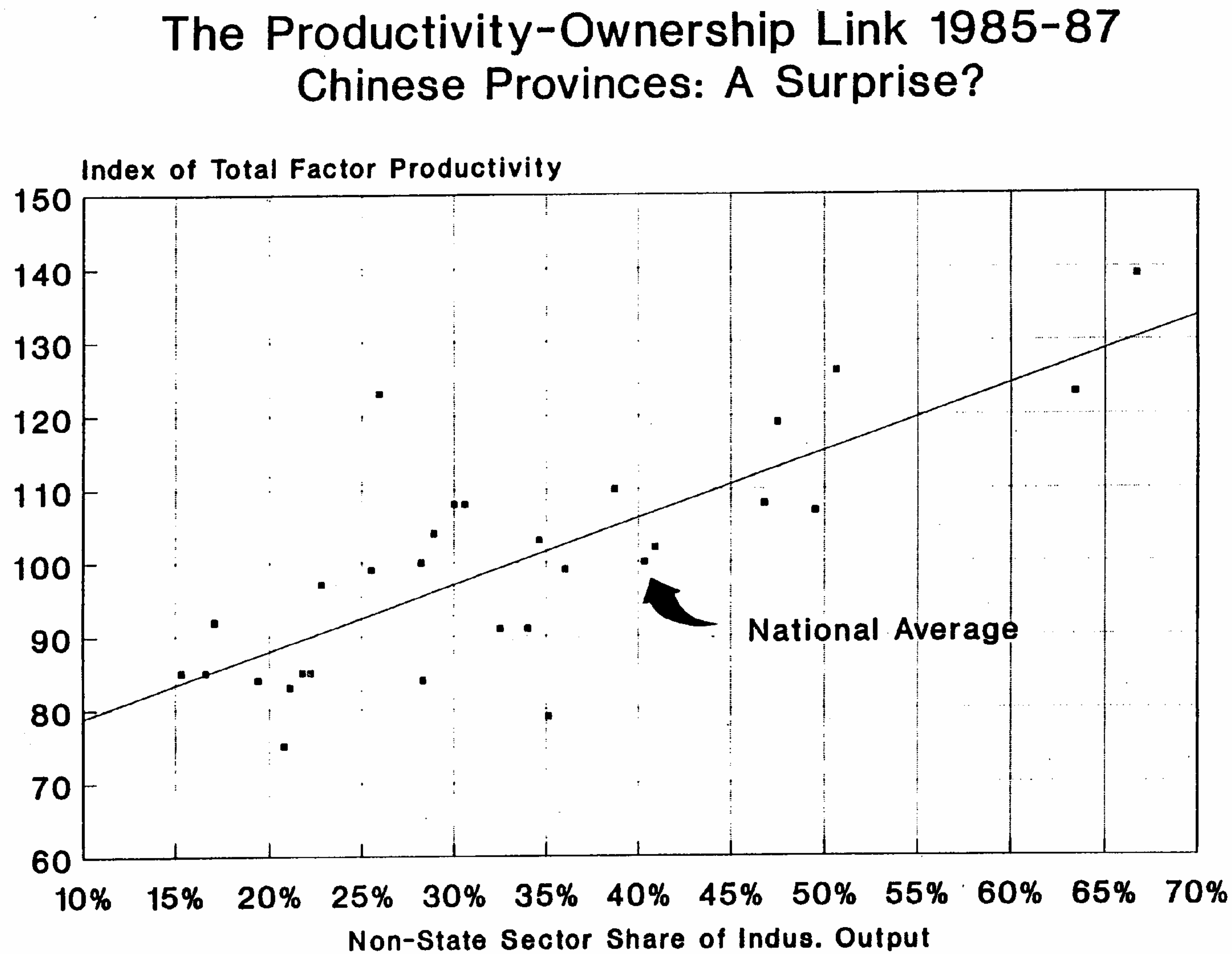
The Productivity-Ownership Link 1985-87
Chinese Provinces: A Surprise?
Index of Total Factor Productivity
150
140
130
120
110
100
90
80
70
60
10%
15%
20%
25%
30%
35%
40%
45%
50%
55%
60%
65%
70%
National Average
Non-State Sector Share of Indus. Output

Figure 2

The Productivity-Ownership Link 1985-87
Chinese Provinces: A Close Look!

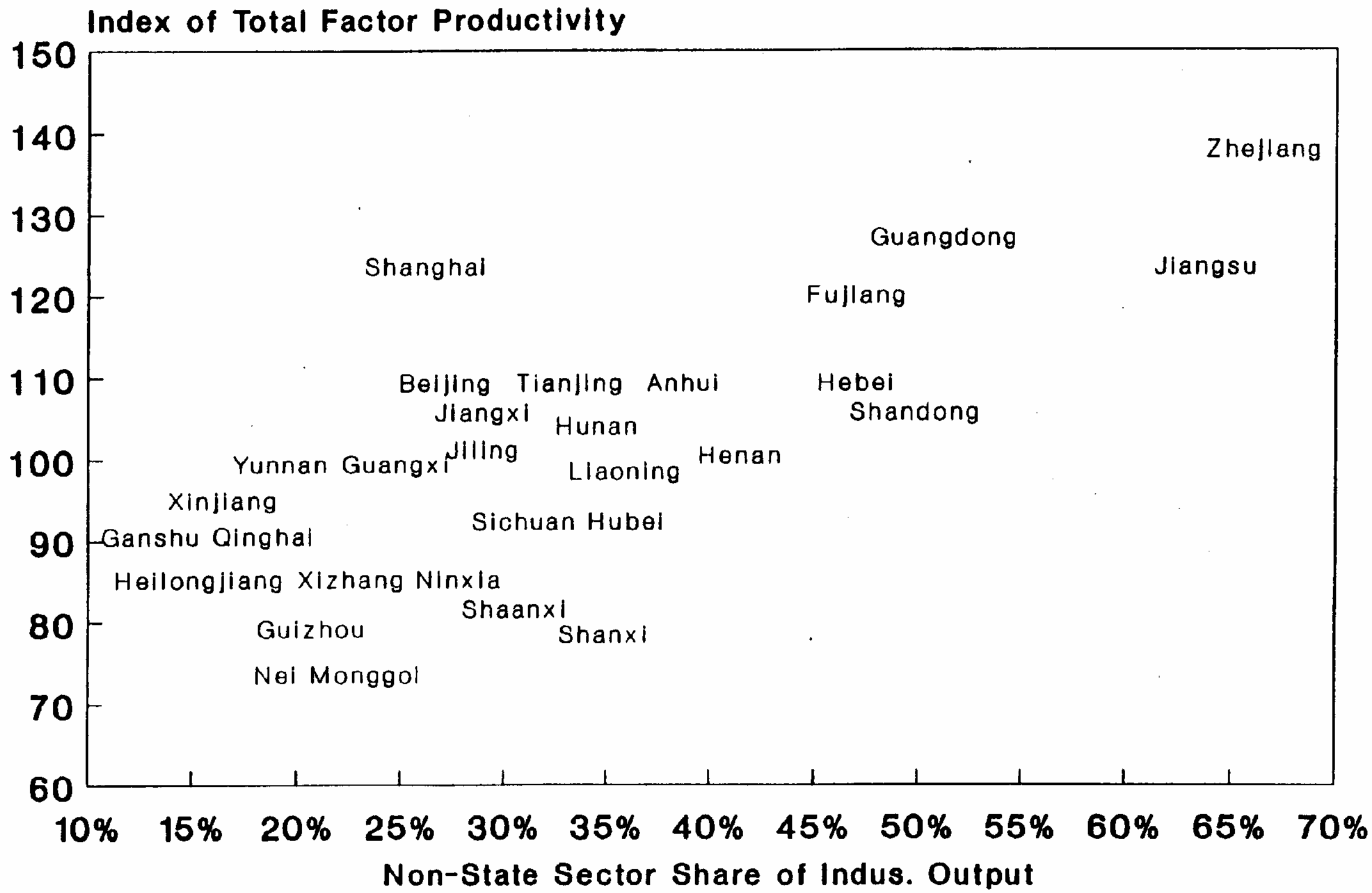

Figure 3

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