The productivity and profitability conditions of China's larger industrial enterprises: 1996-1999

1 Introduction

Previous literatures on China's enterprises focused on the productivity, especially the growth in TFP after the Reform. On the one hand, most researches found that there were marked improvements in productivity for Chinese enterprises, even for state-owned ones. On the other hand, the lose-maker of Chinese state-owned enterprises grew quickly at the same time. However, good performance in productivity for Chinese enterprises does not guarantee good performance in profitability. As in a transitional economy, resources do not be allocated in according to the same laws as that in a mature market economy.

Productivity, defined as usual as the output per total factor inputs in this study, is to greater extent the indicator of technological level, which can be more easily improved by updating equipment and other measures alike. Profitability, the gap between value added and expenses, measures more the ability of value creativity for an enterprise and is decided not only by the productivity of a firm but also, and more important in China, by the level of management. The improvement of management involves the transition of institution and so is hard to reach to. Concerning of the special situation with huge amount and very cheap of labor force in China, when dealing with the enterprise performance one should be caution. Some firms may show high productivity but perform poor in profitability due to bad institutional constrains and x-inefficiency in management. Others have average or even lower-average productivity but perform pretty well in profit-earning. Therefore, it is not necessary that the firms with higher productivity in China should survive and the ones with average productivity should be closed. The existence of losemaker firms is the waste of social resources even they may show high productivity, like some state-owned enterprises in China. Other firms can not only create value added but also absorb large amount of labor force. They can contribute greatly to Chinese economic growth, even they may have low productivity.

This study differs from those earlier papers on the economic performance of Chinese enterprises in that it examined comprehensively the enterprise performance from both dimensions of productivity and profitability or profit-earning. We develop a framework for measuring the performance of China's industrial enterprises based on firm-level accounting data. These annual accounting data reports are submitted to China's National Bureau of Statistics (NBS) for the purpose of calculating Gross Domestic Product (GDP) and other industrial statistics. The sample we choose here is the 1000 largest industrial firms across all industries in China between 1996 and 1999. This study is the first attempt to use these invaluable firm-level data for systematic and comprehensive analysis on the performance of China's large industrial enterprises. Based on performance indicators measured by ratios or other one dimension scale variables, we primarily attempted to create several sets of performance-ranked groups by productivity and profitability. The results reported in this paper focus on comparing the relative performance of the 1000 largest firms across those various groups as defined by such structural factors as industry, region, and ownership etc.

This study actually found the existence of gap between productivity and profitability, which is largely decided by industry, ownership and region. There is no great difference between state-owned enterprises and non state-owned enterprises in productivity performance. On the other hand, non state-owned enterprises performed better than state-owned enterprises in profitability or earning. Sate-owned enterprises can produce as efficiently as non state-owned enterprises, but they make less value added. Actually, large amount of products produced by state-owned enterprises piled up in warehouse. The finding implicates that only examing the enterprise performance in productivity in a transitional economy is not enough. Taking advantage of accounting data in much more details, this study checked enterprise performance both in productivity and profitability. It would provide us a better picture on the behavior and performance of the Chinese industrial enterprises. This study also found that even for the largest enterprises in China their performance both in productivity and profitability changed with the cycle of market condition. This shows that through the marginal institutional reform a maturing and competition market environment is forming in China. Enterprises must struggle to survive without the protection from government.

We first describe our data and methodology in section II. Section III reports and discusses the empirical results. Section VI concludes.

II Data and Methodology

A. Data

This study bases primarily on the annual brief accounting reports filed by all of the large and medium-size industrial enterprises with the National Bureau of Statistics of China. Before 1995 the firm-level industrial statistics collected by NBS were fragmented and sometimes inconsistent due to changes in accounting systems, collection methods, and other factors. In 1995 China conducted its third nation-wide industrial census. The statistical reporting system for data used in this study was built during the 1995 industrial census. The quality of data collection and management improved significantly since 1995. We picked the 1000 largest production output enterprises as our sample. However, the sample enterprises are among the best ones in China so that their performance described here must be better than the general situation of Chinese industrial enterprises. Although the data used in this study is the best one so far in firm-level in China, it is still unbalanced. To ensure reliability of our study, we have screened the original firm-level data for problem observation. Here one observation is defined as all statistics for one enterprise in a particular year. The problem observations are identified by the following five screening rules: i) Enterprises which are not in full operation; ii) Enterprises with too small scale in inputs; iii) Enterprises with inconsistent or suspicious accounting data; iv) Enterprises with apparent data entry errors; v) Enterprises with other data problems. Table 1 reports the number of enterprises caught by each of the five screening rules during each year.

(Insert table 1)

Furthermore, we have paid attentions to the identification and isolation of outliers while measuring performance. For example, when we try to estimate the total factor

productivity (TFP) of each enterprises, we need to estimate production functions by industry. A data error may create outliers in the production function regression and then distort significantly the estimation of TFP. The difficult is that we do not know whether the outliers are due to data errors or due to real exceptionally good or bad performance of a few enterprises. We excluded all extreme outliers from our measurement of performance. Since we try to compare enterprises performance across various groups in this study, identifying and excluding outliers will improve significantly the reliability and usefulness of the estimated average performance for each group. However, on the other hand, such technical disposition caused a little change in samples while analyzing productivity performance and profitability performance.

In this study we derive productivity indicator and profitability indicators for each enterprises. Based on these indicators for individual enterprises we estimate the performance indicators for various groups of enterprises. In some cases simple average would be good enough. But in most cases it makes more economic sense to use weighted average with total assets or employment as the weight, which is what we do in this paper.

B. Methodology

1. Accounting Framework

The primary objective of industrial enterprises is to produce output by employing inputs such as capital, labor, and intermediate inputs. In this production process, enterprises create value added which is defined in this study as the following:

VA=YCURR-MINPUT+VAT+FC

Where
VA: value added;
YCURR: gross value of industrial output at current price;
MINPUT: intermediate input;
VAT: value added tax bill;
FC: financial chares

From the distribution perspective, an enterprise's output and value added can be divided into a few basic payment components.
Y=YCURR+VAT+FC
and
VA=ATP+TAX+CURRD+W+FC

where
Y: adjusted gross value of output;
ATP: after-tax-profits as an income flow to owners;
TAX: taxes as a revenue flow to the government;
CURRD: current depreciation as a flow to maintain owners' capital value;
W: wage and other benefits as payment to labor services;

Because Chinese statistical and accounting system are still inconsistent with international standards, we believe that the above presentation on the composition of output and value added provides an excellent framework for measuring and analyzing the performance of the Chinese industrial enterprises using the firm-level data from the NBS. For example, we have included the value added tax and financial charges in our definition of value added because we would like to treat taxes and financial charges as two of the basic payment components of value added. In China, the value added taxes are not included in the gross value of output. Hence we added VAT back to VA and Y.

Using the above basic payment components of value added, we can derive a few more commonly used accounting terms as:

Gross Profits: GP=VA-W=ATP+TAX+CURRD+FC
Gross Cash Flow: GCF=GP-FC=ATP+TAX+CURRD
Profits: P=GCF-CURRD=ATP+TAX
Net return on equity: NROE=ATP/(TA-TL); TA: total assets; TL: total liabilities;
Net return on sales: NRONS=ATP/SR; SR: sales revenues;
Net return on total assets: NROTA=ATP/TA;
Return on total assets: PROTA=P/TA;
Total return on total assets: TROTA=(P+RFEE)/TA; RFEE: interest outlay;
Ratio of sales revenue over gross output: MKTR=SR/YCURR

The definition of many other performance indicators can be found in table A0 in Appendix.

Throughout this study, unless otherwise noted, the unit for all value variables is 1000 RMB Yuan and the unit for employees is number of persons. All value variables are measured by current prices. No attempts have been made to deflate the nominal variables for calculating the real growth because of the lack of reliable price deflators.

2. Profitability Categories and Grouping by Profitability

It may be first time in literatures to exam enterprise performance in profitability in China. Profitability is one of the most important measures of enterprise financial performance. Unfortunately it is also the least understood concept both in statistics and policy-making. The enterprises in our sample do report a statistics Total Profits. But few understand how that figures are derived. Hence we have decided to use our own estimated of profits or P, which is based on the value added accounting framework developed in the last part.

Based on the five payment components of value added, we classify sample enterprises into eight profitability groups:

GFIN=[-4] if VA<=0
GFIN=[-3] if GP<=0 and VA>0
GFIN=[-2] if GCF<=0 and GP>0
GFIN=[-1] if P<=0 and GCF>0
GFIN=[+1] if ATP<=0 and P>0
GFIN=[+2] if ATP>0 and NROTA<=5%

GFIN=[+3] if NROTA>5% and NROTA<=15%
GFIN=[+4] if NROTA>15%

- Group [+4]: Enterprises in this group are highly profitable with their after-tax return on total assets higher than 15%

- Group [+3]: Enterprises in this group are very profitable with their after-tax return on total assets greater than 5% but less than 15%

- Group [+2]: Enterprises in this group are profitable with positive after-tax return but their after-tax return on total assets less than 5%

- Group [+1]: Enterprises in this group have negative after-tax profits but positive profits. They are profitable before paying taxes.

- Group [-1]: Enterprises in this group have negative profits but positive gross cash flow. Shortly, they can pay their variable or working capital costs of production.

- Group [-2]: Enterprises in this group have negative gross cash flow but positive gross profits. This group of enterprises could cover their variable or working capital costs of production related to labor and materials but could pay only part of their financial charges and none of their current depreciation.

- Group [-3]: Enterprises in this group have negative gross profits but positive value added. They could still create some positive value added but could only cover part of their labor costs.

- Group [-4]: This group of enterprises creates zero or negative value added. They cannot survive without net subsidies and may have to be closed down as soon as possible.

To simplify the analysis, we may reduce the number of profitability groups from eight to four by combining the adjacent groups:

GF=2 or profitable if GFIN=[+3] or [+4]
GF=1 or marginally profitable if GFIN=[+1] or [+2]
GF=-1 or light loss-maker if GFIN=[-1] or [-2]
GF=-2 or heavy loss-maker if GFIN=[-3] or [-4]

3. Productivity Index and Grouping by Productivity

Firstly, we estimated the following much simple regression equation:

(1) $Ln(VA_i)=\chi+\phi Ln(NVFIXA_i)+\eta Ln(LABOR_i)+\theta_I$

i denotes each of the enterprises in the sample;
i=1, 2, …, N. N=number of enterprises in the sample;
χ is the coefficient for constant;

ϕ is the estimated average output elasticity of capital for the whole industrial sector;
η is the estimated average output elasticity of labor for the whole industrial sector;
θ_i is the regression residual for enterprise i;

The productivity index GVA_i for enterprise i is defined as the standardized residual for enterprise i from the regression equation (1) or:

$$(2)\quad GVA_i = \frac{q_i - \bar{q}}{\sqrt{\frac{\sum (q_i - \bar{q})^2}{n-1}}}$$

The regression equation (1) estimates an aggregate production function for the entire industrial sector without allowing variations in output elasticity of each factor input across industries. This is however not in line with the standard practices outside of China. It measures essentially financial productivity in that it captures the idea that reallocation of factor inputs across industries might generate more output not only from higher total factor productivity but also from higher output elasticity of inputs.

The mean and standard deviation for GVA_i are zero and one respectively because of the standardization. It should be noted that GVA_i is effectively an annual ranking of relative productivity level for our sample enterprises. Its value from different years could not be compared directly to draw any conclusions about the growth of productivity for each enterprise. However we can compare the changing of productivity ranking for each enterprise over time, because the value of GVA_i does inform us a little about the position of enterprise i in the sample distribution of relative productivity levels. For example, GVA_i=2 would imply that the productivity score for enterprise i is above the sample mean and is as large as two standard deviations from the sample mean.

To identify and isolate the outliers, we have run regressions using equation (1) twice. All outliers and missing values then were excluded from our study in this paper. Based on the value of GVA_i, we have ranked and organized enterprises into the following eight productivity groups for each year:

GTFPVA=[+4] if GVA>=2 and GVA<=3
GTFPVA=[+3] if GVA>=1 and GVA<2
GTFPVA=[+2] if GVA>=0.5 and GVA<1
GTFPVA=[+1] if GVA>=0 and GVA<0.5
GTFPVA=[-1] if GVA>=-0.5 and GVA<0
GTFPVA=[-2] if GVA>=-1 and GVA<-0.5
GTFPVA=[-3] if GVA>=-2 and GVA<-1
GTFPVA=[-4] if GVA>=-3and GVA<-2

Again, to simplify the analysis, we can reduce the number of productivity groups from the above eight to the following four by combing the high and low productivity groups.

GTVA=2 or high productivity if GTFPVA=[+2] or [+3] or [+4]

GTVA=1 or above average productivity if GTFPVA=[+1]
GTVA=-1 or below average productivity if GTFPVA=[-1]
GTVA=-2 or low productivity if GTFPVA=[-2] or [-3] or [-4]

III Results and Discussion

A. General picture of financial status for Chinese largest 1000 industrial enterprises

1. Financial performance

Table 2 describes a general picture about the financial status of the sample enterprises. There are three groups of variables derived from the basic accounting data. The figures are all reported in mean value among each group. The financial performance of the sample enterprises improved apparently during 1996 and 1999. The mean value added each enterprise created increased from 660 million yuan in 1996 to 725 million yuan in 1999. The mean after-tax-profits of each enterprise also grew from 128 million in 1996 to 154 million in 1999. Labor productivity grew too. The mean value added per employee created annually increased sharply from 59 thousands yuan in 1996 to 80 thousands yuan in 1999. capital return improved a little but did not stable. Total return on total assets (TROTA) slightly increased from 15.3% to 16.1%. Net return on total assets also increased a little from 5.7% to 7.1%.

(Insert table 2)

2. Productivity performance

One advantage of this research, for example, is that when using total assets to weight the number of enterprises in various ranking groups of productivity, we can get the share of total assets in different productivity levels, which will surely give us more information about the productivity situation for Chinese enterprises. Figure 1 through figure 3 show the distribution of the number of enterprises, total assets, and labor force among the eight productivity groups and their change during 1996 to 1999. For the industrial sector as a whole over the four years, the distributions in number of enterprises, total assets, and labor among the eight productivity groups are not very similar. The distribution of the number of enterprises is more close to normal distribution. A little more enterprises are concentrated in low productivity groups. However, the distributions in total assets and labor force are skewed toward high productivity groups. Someone may argue that the phenomenon is due to the sample we selected, which are large and better enterprises in China. This is not the case. In one of our other studies, which surveyed more than 20 thousands Chinese large and medium-size industrial enterprises, the same situation appeared. Therefore, the implication of the robust evidence is that in China high productivity enterprises seem able to secure more assets and labor. This is evidence showing partly the success of economic reform, such as " grasp the large ones, let the small ones be".

(Insert firgure1 to figure 3)

3. Profitability performance

In term of the number of firms, the share of loss-maker dropped. For example, the share of firms in group [-4] decreased from 1.4% in 1996 (11 firms among total 813 sample firms) to less than 1% in 1999 (only 7 firms in total 763 sample firms). Comparatively, the share of firms in group [+4] increased from 17.3% (141 firms) in 1996 to 19.7% (150 firms) in 1999. However, in the term of the distribution in total assets, and labor among various groups, the dynamic situation is not so optimistic. Although the share of total assets distributed in group [-4], group [-3], and group [-2] dropped remarkably from 9.2% in 1996 to 5.4% in 1999, the share of total assets distributed in group [+4] dropped greatly from 13% to 9.9%. Accordingly, the share of total assets distributed in group [[+3] grew stable. The evidences indicate that with the gradual opening of market the competition enterprises in China faced has become intensive so that profitability of enterprises is regressing asymptotically to the social average rate of return. As shown in figures 4 to figure 6, much more assets and labor were concentrated on group [+1], group [+2], and Group [+3].

(Insert figure 4 to figure 6 here)

B. Relative productivity performance across industry, region, and ownership

In the following discussion, the ranks of productivity performance will reduce to four groups.

1. Across industry

In table 3 we displayed the distribution of the 1000 largest industrial enterprises in China in four groups of productivity performance across industries. It should be remembered that grouping productivity performance was based on the estimated productivity index, which was estimated from an aggregate production function for the entire industrial sector without allowing variations in output elasticity of each factor input across industries. Therefore, the comparison is among all industries rather than within individual industry. The result can be due to the technical level of each firm or due to the favor or unfavor market environment the whole industry faced. For example, in 1999 there were 94.6% enterprises in tobacco processing distributing in group [+2]. This means that the productivity of most enterprises in tobacco processing was high relative to the average of all enterprises in the sample, which is to greater extent due to the special favor market tobacco processing faced in China. As another example, in 1999 35.7% enterprises in coal mining and dressing were ranked in group [-2]. The figure showed that the productivity of most enterprises in coal mining and dressing was low relative to the average of all enterprises in the sample, which is to greater extent due to the special poor market the industry faced.

However, we found that: (i) There were more enterprises concentrated on high productivity group in the following industries: a, industries with monopolized market, such as petroleum and natural gas extraction; b, industries with special market, such as tobacco processing; c, newly industries, such as electronic and telecom equipment; d, industries with broad market, such as beverage production. (ii) There were more enterprises concentrated on low productivity group in the following industries: a, industries producing public products, such as tap water production and supply; b, sunset industries, such as textile industry; c, industries with narrow market, such as special purposes equipment manufacturing.

(Insert table 3 here)

2. Across region

As fast growing districts, most provinces along the eastern coast including Shanghai, Fujian, Guangdong, Jiangsu, and Shandong showed satisfied distribution of enterprises among productivity groups in term of assets share. Shanghai is the best where 74.8% total assets were distributed in the group [+2] in 1999. Large enterprises in Guangdong also performed not so bad in productivity. In 1999, 51.8% total assets were in the group [+2] in Guangdong. Those regions with more enterprises concentrated in low productivity groups scattered in middle district, western district, and northeastern district including Shanxi, Inner Mongolia, Heilongjiang, Jiangxi, Anhui, Guangxi, and Gansu. In table 4 we report the results in details.

(Insert table 4 here)

Using the data estimated, we can illustrate the distribution of the total assets among the four productivity groups in three main parts of China: East, Middle, and West[1]. Figure 7 through figure 9 show the distribution in each part. Although a little more assets distributed in low productivity group or below average productivity group in Middle part, the distribution for total assets are very similar among the four productivity groups for the three parts.

(Insert figure 7 to figure 9 here)

3. Across ownership

It is assumed that state-owned enterprises performed worse than non-state-owned enterprises. Large amount of literatures only focused on the analysis of the performance of state-owned enterprises. The data here illustrated that there is no significant gap between state-owned and non state-owned enterprises in their performance in productivity. See table 5. For example, at first sight one may argue that state-owned enterprises performed worse than non state-owned enterprises because there were more non state-owned firms (123 firms) distributed in high productivity group than state-owned firms (106 firms) in 1999. However, in term of total assets, the distributions of productivity performance for state-owned and non state-owned are very similar. The dynamic changes for the distributions are also very similar. The similarity may be due to our selective sample of 1000 largest industrial enterprises. In recent years, Chinese Government inputted most resources into large state-owned enterprises, which can help to update the technical level so that narrow the gap between state-owned and non state-owned enterprises in productivity performance. On the other hand, the similarity in productivity performance does not necessarily approve that state-owned and non state-owned enterprises perform similarly in profit-seeking. We will discuss their difference in profitability in next section. The theoretical implication for the revealed facts in this study is that

[1] East part includes Beijing, Tianjin, Liaoning, Heibei, Shandong, Shanghai, Jiangsu, Zhejiang, Fujian, Guangdong, Guangxi, and Hainan. Middle part includes Shanxi, Jilin, Heilongjiang, Henan, Hubei, Hunan, Jiangxi, and Anhui. West part includes Inner Mongolia, Chongqin, Sichuan, Guizhou, Yunnan, Shananxi, Gansu, Qinghai, Ningxia, Xinjiang, and Tibet.

profitability performance is more important for survive of Chinese enterprises, especially for state-owned enterprises, when the reform goes deep into broader fields.

(Insert table 5 here)

C. Relative profitability performance across industry, region, and ownership

As in the discussion of productivity, in the following discussion, the ranks of profitability performance will reduce to four groups.

1. Across industry

With the data developed in this study, we can check in more details the sources of losses for Chinese large enterprises. The figures in table 6 tell us that most losses are from few industries. Profitability is more effected by the macro-situation the industry an enterprise belongs to faced. For example, in 1999 near half enterprises in "Coal mining and dressing" were loss-maker, which occupied more than half total assets in the industry. Only 8.5% total assets in this industry distributed in group [+2] in profitability performance. On the other hand, only 8 enterprises among 78 large enterprises were loss-maker in "Electronic and telecom equipment", which occupied less than 8% total assets in the industry. 75.1% total assets in "Electronic and telecom equipment" are among group [+2] in profitability performance. Gap between productivity performance and profitability performance can be found in lots of industries. The typical example is the industry of "Petroteum processing and coking". In 1999, for example, 47.2% total assets in the industry performed in group [+2] in productivity but only 14% performed in group [+2] in profitability. We found that in most industries enterprises performed worse in profitability than in productivity. The evidences imply two general conclusions. Firstly, market condition has become one important factors influent the profitability performance of an enterprise in China. Secondly, weak management, which may be due to the poor property right arrangement, is the main reason induced losses for Chinese enterprises other than low productivity. Additionally, weak management or poor institutional arrangement makes more impact on the profitability performance of an enterprise than on its productivity performance.

(Insert table 6 here)

2. Across region

Table 7 reports the distribution of enterprises in profitability performance among four groups across region. There are no much interesting findings. However, two facts need special emphasis. First, the worst regions in profitability performance are not provinces in northeastern part with heavy burden of state-owned enterprises but such regions as Beijing, Shanxi, Inner Mongolia which are concentrated in northern and western part of China. Second, there is great gap between productivity performance and profitability performance for enterprises located in some regions such as in Shanghai. Most enterprise in Shanghai performed very well in productivity performance but pretty poor in profitability performance.

(Insert table 7 here)

3. Across ownership

Great difference exited between state-owned and non state-owned enterprises in profitability performance for Chinese 1000 largest enterprises. As shown in table 8, non state-owned enterprises performed much better than state-owned enterprises. (i) There were almost the same number of state-owned and non state-owned enterprises in our sample in 1999. There were 382 sate-owned enterprises and 381 non state-owned enterprises. Among them, 59 state-owned enterprises were loss-maker while 29 non state-owned enterprises were loss-maker. In the same year, 15 state-owned enterprises made heavy losses while only 7 enterprises made heavy losses. In term of the number of enterprises, 54.5% state-owned enterprises distributed in marginally profitable group while 64.8% non state-owned enterprises distributed in profitable group. (ii) Concerning of the distribution of total assets, the difference is greater. In 1999, more than 17% total assets of state-owned enterprises were making loss while a little more than 10% total assets of non state-owned enterprises were among loss-maker. On the other hand, 58.8% total assets of state-owned enterprises performed only marginally profitable while 54.6% total assets of non state-owned enterprises performed profitable. In another group of data, we found that among non sate-owned enterprises private enterprises were the best in profitability performance.

The difference between state-owned enterprises and non state-owned enterprises in profitability performance can partly due to the sample selective bias. The private enterprises, for example, would be out off operation if they are making loss and therefore they would be also out of our sample. On the other hand, sate-owned enterprises, for example, even they are making loss, can still in operation so that remain in the sample. Nevertheless, there is no strong reason to expect the bias is serious. The general conclusion is still effective that non state-owned enterprises, especially private enterprises, perform better than state-owned enterprises in profitability, although they may perform the same in productivity.

(Insert table 8 here)

IV. Conclusion

In this paper we investigates the productivity and profitability conditions of Chinese large enterprises. We developed an analytical framework using the accounting data reported by each enterprise to NBS for measuring the performance both in productivity and profitability. We ranked the performance into different groups and then check the distribution of various input factors of the 1000 largest industrial enterprises among those groups across industry, region, and ownership. The evidences show that as a whole the sample enterprises performed pretty well during 1996 and 1999. Partly because of the short period, dynamically we have not found strong evidences showing improvement in their performance for the sample enterprises.

An interesting result we found is that there was apparent gap between productivity performance and profitability performance when we check their distributions across

industry, region, and especially ownership in more details. we found that state-owned enterprises, for example can performed as well as non state-owned enterprises in productivity. However, they performed great differently in profitability. Non state-owned enterprises performed better than state-owned enterprises in profitability. Additionally, non state-owned enterprises might have chosen to understate their profits for avoiding taxes more often than state-owned enterprises. if this is the case, the gap between non state-owned enterprises and state-owned enterprises can be greater than what estimated in this study. In a market economy, profitability for an enterprise to survive is more important. In this sense, it would be doubtful for the general conclusions that enterprises restructuring only through partly reform in property rights or the structure of incentives without formal privatization can basically improve the situation of state-owned enterprises. We also found that other structural factors influenced strongly the productivity and profitability performance of enterprises like business cycling of the industry the enterprise locates, competition market, technical advantage, etc.

However, our sample is not random but a selection of 1000 largest ones in China, which surely caused the up-biased estimation about the performance of Chinese industrial enterprises. But the bias is not serious enough to change our basic conclusion. In one of our study with a database covered about 24,000 enterprises which is effectively the entire population of Chinese important large and medium industrial enterprises, for example, the estimated results also showed the great gap between productivity and profitability performance and that the productivity performance is better than profitability performance.

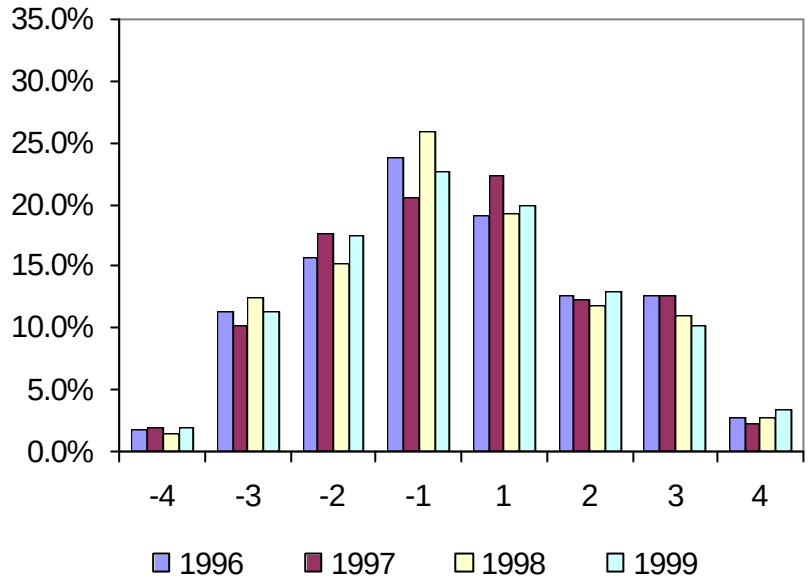

Figure 1 Distribution of number of enterprises among eight productivity groups (1996-1999)

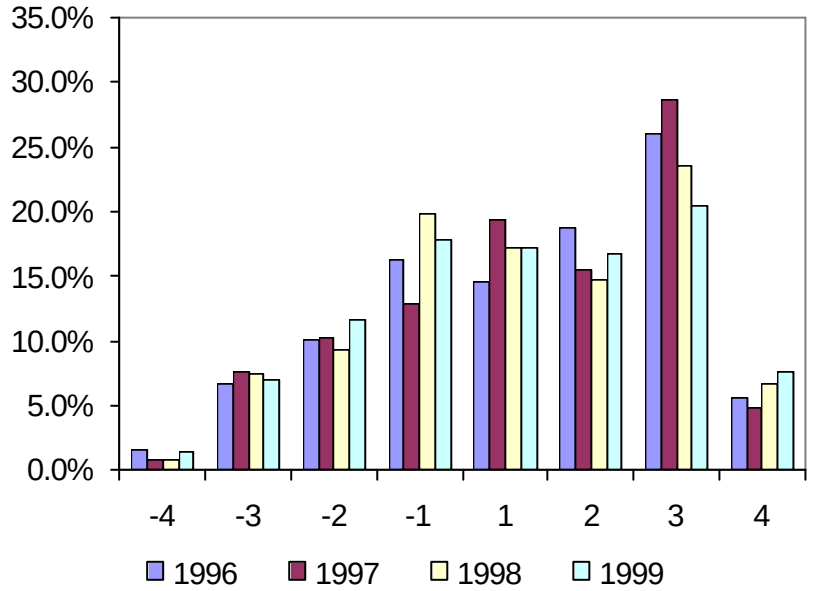

Figure 2 Distribution of total assets of enterprises among eight productivity groups (1996-1999)

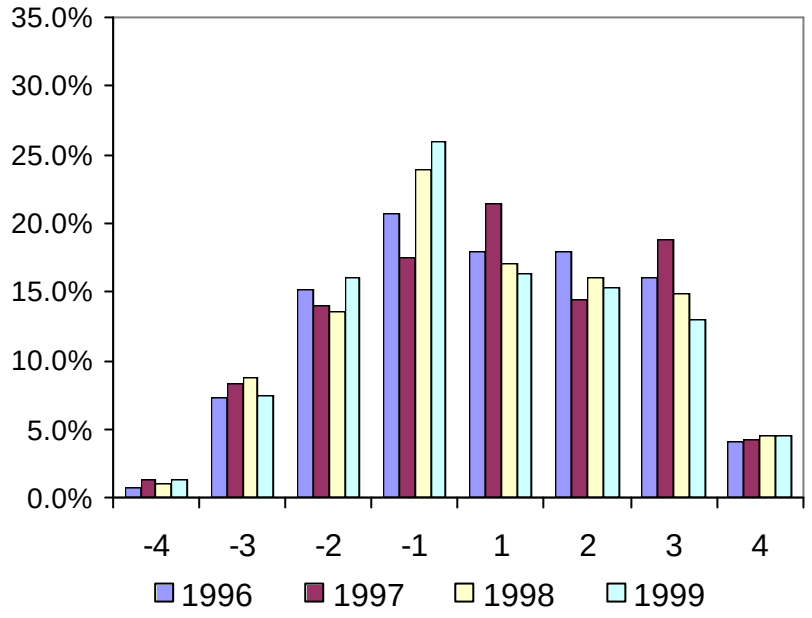

Figure 3 Distribution of labor force of enterprises among eight productivity groups (1996-1999)

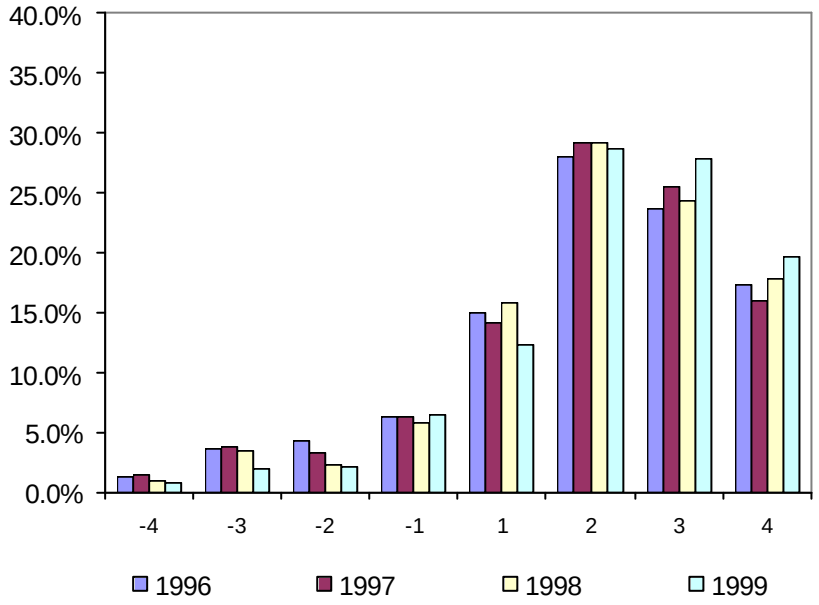

Figure 4 Distribution of the number of enterprises among eight profitability groups (1996-1999)

Table 1 Sample clearing

	YEAR			
Unit: Number of firms	1996	1997	1998	1999
Original sample	1000	1000	1000	1000
Cleaned sample	892	909	909	877
Deleted problem observations	108	91	91	123
Problem observations by catagory				
(1) not in full operation	3	4	1	21
(2) input scale too small	9	16	10	9
(3) accounting balance violated	82	61	68	81
(4) suspicious data	11	6	13	17
(5) other data problems	7	7	5	6

Table 2: Key Statistics for the Chinese Large Enterprises in the Sample

Unit: 1000 yuan or %	1996	1997	1998	1999	1996-99
YCURR	1,729,715	1,869,231	1,976,770	2,047,388	1,905,347
LABOR	11,249	10,709	9,976	9,099	10,264
NVFIXA	1,155,632	1,314,454	1,482,261	1,595,372	1,386,166
TA	2,849,448	3,297,319	3,621,210	3,717,239	3,370,691
VA	660,390	688,911	747,218	724,908	705,396
W	159,083	163,137	162,010	153,327	159,442
FC	74,654	74,998	81,045	74,346	76,262
CURRD	114,962	124,272	127,557	142,577	127,264
P	324,423	347,353	389,007	350,714	352,687
TAX	199,931	211,803	215,868	204,076	207,987
ATP	128,556	132,231	172,867	153,716	146,605
TP	109,561	120,323	101,328	110,990	110,551
VA/YCURR	38.20%	36.90%	37.80%	35.40%	37.00%
VA/LABOR	59	64	75	80	69
VA/NVFIXA	57.10%	52.40%	50.40%	45.40%	50.90%
VA/TA	23.20%	20.90%	20.60%	19.50%	20.90%
W/VA	24.10%	23.70%	21.70%	21.20%	22.60%
FC/VA	11.30%	10.90%	10.80%	10.30%	10.80%
CURRD/VA	17.40%	18.00%	17.10%	19.70%	18.00%
P/VA	49.10%	50.40%	52.10%	48.40%	50.00%
TAX/VA	30.30%	30.70%	28.90%	28.20%	29.50%
ATP/VA	19.50%	19.20%	23.10%	21.20%	20.80%
TP/VA	16.60%	17.50%	13.60%	15.30%	15.70%
TROTA	15.30%	14.90%	14.40%	16.10%	15.20%
PROTA	12.90%	13.00%	12.50%	14.30%	13.20%
NROTA	5.70%	5.70%	5.60%	7.10%	6.00%
NRONS	5.60%	6.00%	6.30%	7.20%	6.30%
NROE	15.20%	14.10%	15.30%	18.60%	15.80%
MKTR	103.70%	103.60%	105.20%	106.00%	104.60%
CR	115.20%	122.60%	121.00%	126.10%	121.20%
EIR	1775.90%	2413.80%	1941.10%	2192.80%	2081.00%
GCFTLR	31.90%	32.70%	34.90%	36.70%	34.00%
QFLOW	176.70%	193.90%	212.40%	227.10%	201.60%
ALR	59.20%	57.80%	57.90%	56.00%	57.70%
DER	206.90%	188.70%	185.60%	164.00%	186.60%
WAGE	15.3864	16.814	18.9327	20.5527	17.9132
VAL	112.3318	124.3726	154.8174	178.7591	142.427
KL	163.0325	187.0582	253.6421	307.1931	227.3364

Table 3 Distribution of number of enterprises and total assets among four productivity groups across industry: 1996-1999

Industry	productivity index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Coal Mining and Dressing	-2	13	11	11	15	25.5%	24.3%	25.8%	35.7%
	-1	12	12	17	15	23.7%	24.5%	34.9%	40.2%
	1	13	13	5	4	29.2%	28.2%	22.0%	11.8%
	2	5	5	4	2	21.6%	22.9%	17.3%	12.3%
	total	43	41	37	36	100.0%	100.0%	100.0%	100.0%
Petroleum and Natural Gas Extraction	-2	1	0	0	1	0.8%	0.0%	0.0%	0.6%
	-1	4	1	1	2	5.5%	2.9%	0.9%	1.8%
	1	4	6	4	4	7.6%	11.5%	6.4%	8.7%
	2	11	11	14	11	86.0%	85.6%	92.7%	88.9%
	total	20	18	19	18	100.0%	100.0%	100.0%	100.0%
Ferrous Metals Mining and Dressing	-2	0	0	1	0	0.0%	0.0%	29.2%	0.0%
	-1	1	2	2	1	92.1%	100.0%	70.8%	100.0%
	1	1	0	0	0	7.9%	0.0%	0.0%	0.0%
	2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	total	2	2	3	1	100.0%	100.0%	100.0%	100.0%
Nonferrous Metals Mining and Dressing	-2	0	0	2	1	0.0%	0.0%	58.7%	40.4%
	-1	2	2	1	0	100.0%	100.0%	41.3%	0.0%
	1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	2	0	0	0	1	0.0%	0.0%	0.0%	59.6%
	total	2	2	3	2	100.0%	100.0%	100.0%	100.0%
Food Processing	-2	11	11	8	11	32.2%	44.6%	35.7%	45.0%
	-1	3	6	6	5	11.4%	26.7%	21.0%	16.4%
	1	4	4	4	1	21.7%	12.7%	22.7%	11.5%
	2	6	5	2	6	34.8%	16.0%	20.5%	27.1%
	total	24	26	20	23	100.0%	100.0%	100.0%	100.0%
Food Production	-2	0	0	2	2	0.0%	0.0%	12.5%	25.0%
	-1	2	3	3	2	11.4%	13.1%	29.3%	18.1%
	1	5	4	5	6	52.9%	17.5%	21.8%	48.7%
	2	4	5	1	2	35.7%	69.4%	36.3%	8.1%
	total	11	12	11	12	100.0%	100.0%	100.0%	100.0%
Beverage Production	-2	2	5	3	2	5.8%	12.1%	5.9%	3.3%
	-1	5	5	7	7	15.1%	8.4%	25.1%	18.6%
	1	10	11	6	9	40.0%	34.8%	15.4%	39.3%
	2	10	13	12	10	39.1%	44.6%	53.7%	38.8%
	total	27	34	28	28	100.0%	100.0%	100.0%	100.0%
Tobacco Processing	-2	0	1	0	0	0.0%	1.0%	0.0%	0.0%
	-1	1	0	1	1	1.8%	0.0%	1.7%	1.0%
	1	5	3	2	2	5.6%	4.4%	2.7%	4.4%
	2	41	44	42	34	92.6%	94.6%	95.6%	94.6%
	total	47	48	45	37	100.0%	100.0%	100.0%	100.0%
Textile Industry	-2	16	9	8	11	41.6%	30.7%	23.6%	30.9%
	-1	4	4	15	15	8.1%	13.6%	56.8%	45.7%
	1	7	10	6	5	29.1%	46.9%	19.6%	20.1%
	2	6	3	0	1	21.3%	8.8%	0.0%	3.2%
	total	33	26	29	32	100.0%	100.0%	100.0%	100.0%
Garments and Other Fiber Products	-2	2	2	1	1	17.9%	29.7%	9.3%	13.3%
	-1	1	4	1	2	5.6%	35.8%	15.8%	13.5%
	1	4	1	2	1	35.3%	2.9%	44.5%	23.5%
	2	3	2	1	2	41.2%	31.5%	30.4%	49.6%
	total	10	9	5	6	100.0%	100.0%	100.0%	100.0%
Leather, Furs, Down and Related Products	-2	0	1	1	1	0.0%	53.8%	38.1%	25.5%
	-1	1	0	1	1	39.4%	0.0%	13.0%	10.2%
	1	0	2	0	1	0.0%	28.0%	0.0%	12.8%
	2	2	1	2	2	60.6%	18.2%	49.0%	51.5%
	total	3	4	4	5	100.0%	100.0%	100.0%	100.0%

Table 3 Distribution of number of enterprises and total assets among four productivity groups across industry: 1996-1999

Industry	productivity index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Timber, Bamboo, Cane, Palm Fiber & Straw	-2	0	1	2	0	0.0%	10.7%	100.0%	0.0%
	-1	2	3	0	1	75.5%	45.6%	0.0%	38.0%
	1	1	1	0	0	24.5%	43.7%	0.0%	0.0%
	2	0	0	0	1	0.0%	0.0%	0.0%	62.0%
	total	3	5	2	2	100.0%	100.0%	100.0%	100.0%
Papermaking and Paper Products	-2	1	1	1	1	17.7%	29.8%	41.8%	35.0%
	-1	4	3	4	3	47.4%	46.3%	39.1%	33.1%
	1	2	2	1	2	10.8%	23.9%	19.1%	25.5%
	2	2	0	0	1	24.1%	0.0%	0.0%	6.3%
	total	9	6	6	7	100.0%	100.0%	100.0%	100.0%
Printing and Record Medium Reproduction	-2				0				0.0%
	-1				2				100.0%
	1				0				0.0%
	2				0				0.0%
	total				2				100.0%
Cultural, Educational and Sports Goods	-2	0	0	1	0	0.0%	0.0%	9.3%	0.0%
	-1	1	1	2	0	15.6%	38.1%	52.2%	0.0%
	1	2	1	0	2	38.4%	18.0%	0.0%	82.5%
	2	2	1	2	1	46.0%	43.9%	38.5%	17.5%
	total	5	3	5	3	100.0%	100.0%	100.0%	100.0%
Petroleum Processing and Coking	-2	5	6	13	10	6.7%	4.5%	9.9%	8.3%
	-1	5	4	5	6	7.0%	2.4%	4.8%	9.1%
	1	4	8	8	3	8.5%	14.1%	26.6%	9.3%
	2	23	23	14	17	77.8%	78.9%	58.7%	73.3%
	total	37	41	40	36	100.0%	100.0%	100.0%	100.0%
Raw Chemical Materials and Chemical	-2	26	27	26	28	31.1%	35.0%	39.8%	52.3%
	-1	15	15	15	12	17.7%	12.8%	16.3%	14.7%
	1	9	11	10	12	14.8%	19.7%	30.8%	18.6%
	2	9	11	7	4	36.4%	32.5%	13.1%	14.5%
	total	59	64	58	56	100.0%	100.0%	100.0%	100.0%
Medical and Pharmaceutical Products	-2	2	1	1	2	13.7%	6.2%	6.6%	10.7%
	-1	3	2	5	3	15.9%	10.2%	28.8%	17.1%
	1	3	5	7	7	14.5%	28.7%	50.0%	51.1%
	2	7	8	5	6	55.9%	54.9%	14.7%	21.1%
	total	15	16	18	18	100.0%	100.0%	100.0%	100.0%
Chemical Fiber	-2	6	11	9	15	18.2%	31.1%	28.7%	33.6%
	-1	3	2	5	5	28.6%	22.6%	39.4%	21.3%
	1	6	2	1	2	21.7%	15.7%	0.6%	5.1%
	2	1	2	2	3	31.5%	30.6%	31.3%	40.0%
	total	16	17	17	25	100.0%	100.0%	100.0%	100.0%
Rubber Products	-2	1	1	1	4	5.5%	3.7%	4.8%	46.7%
	-1	4	2	5	4	19.6%	12.8%	35.0%	37.3%
	1	6	9	5	1	41.5%	56.1%	31.8%	5.7%
	2	3	2	2	2	33.5%	27.4%	28.4%	10.4%
	total	14	14	13	11	100.0%	100.0%	100.0%	100.0%
Plastic Produ	-2	1	2	2	6	44.6%	51.6%	67.8%	83.4%
	-1	2	1	0	0	36.6%	17.6%	0.0%	0.0%
	1	1	1	2	2	18.8%	16.8%	32.2%	16.6%
	2	0	1	0	0	0.0%	14.0%	0.0%	0.0%
	total	4	5	4	8	100.0%	100.0%	100.0%	100.0%
Nonmetal Mineral Products	-2	3	5	3	4	51.0%	65.6%	51.9%	77.2%
	-1	5	3	3	1	33.8%	28.4%	36.2%	17.1%
	1	2	2	0	0	15.2%	6.0%	0.0%	0.0%
	2	0	0	2	1	0.0%	0.0%	11.9%	5.6%
	total	10	10	8	6	100.0%	100.0%	100.0%	100.0%

Table 3 Distribution of number of enterprises and total assets among four productivity groups across industry: 1996-1999

Industry	productivity index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Smelting & Pressing of Ferrous Metals	-2	37	38	28	27	18.8%	18.9%	15.6%	14.8%
	-1	19	13	20	22	8.6%	7.6%	19.5%	17.2%
	1	11	11	13	17	7.2%	13.5%	10.1%	20.3%
	2	21	19	15	11	65.4%	60.0%	54.8%	47.7%
	total	88	81	76	77	100.0%	100.0%	100.0%	100.0%
Smelting & Pressing of Nonferrous Metals	-2	17	19	14	16	42.4%	44.8%	35.2%	36.3%
	-1	14	11	14	12	33.5%	30.8%	57.7%	45.9%
	1	5	5	2	3	17.3%	24.5%	7.0%	13.6%
	2	1	0	0	1	6.8%	0.0%	0.0%	4.2%
	total	37	35	30	32	100.0%	100.0%	100.0%	100.0%
Metal Products	-2	5	2	2	3	62.9%	16.9%	16.1%	22.8%
	-1	4	3	2	2	37.1%	40.5%	20.9%	27.2%
	1	0	3	5	2	0.0%	18.5%	32.1%	20.6%
	2	0	3	3	1	0.0%	24.2%	30.9%	29.4%
	total	9	11	12	8	100.0%	100.0%	100.0%	100.0%
Ordinary Machinery Manufacturing	-2	12	9	14	7	36.0%	28.3%	36.7%	16.2%
	-1	11	13	11	14	29.4%	31.6%	26.7%	41.0%
	1	7	13	8	7	18.9%	32.2%	20.1%	21.6%
	2	7	2	6	5	15.6%	8.0%	16.5%	21.2%
	total	37	37	39	33	100.0%	100.0%	100.0%	100.0%
Special Purposes Equipment Manufacturing	-2	8	9	12	10	35.8%	45.4%	58.9%	58.9%
	-1	10	4	3	4	37.9%	19.2%	16.3%	12.9%
	1	2	7	5	5	5.2%	33.1%	10.8%	13.2%
	2	3	2	3	4	21.1%	2.3%	14.0%	14.9%
	total	23	22	23	23	100.0%	100.0%	100.0%	100.0%
Transport Equipment Manufacturing	-2	23	18	23	21	15.9%	9.6%	11.6%	12.8%
	-1	20	21	18	15	18.5%	16.5%	16.2%	23.2%
	1	13	13	15	17	18.2%	22.5%	21.3%	20.4%
	2	23	16	18	19	47.4%	51.4%	50.9%	43.6%
	total	79	68	74	72	100.0%	100.0%	100.0%	100.0%
Electric Equipment and Machinery	-2	10	13	14	5	16.5%	24.6%	21.0%	6.6%
	-1	10	9	12	11	14.5%	14.6%	18.4%	22.0%
	1	9	9	10	11	21.8%	14.8%	21.8%	18.2%
	2	21	17	14	16	47.2%	46.1%	38.9%	53.2%
	total	50	48	50	43	100.0%	100.0%	100.0%	100.0%
Electronic and Telecom Equipment	-2	10	19	18	22	10.3%	21.6%	10.5%	12.0%
	-1	7	7	17	12	7.8%	4.7%	10.6%	8.5%
	1	10	11	16	13	16.8%	15.1%	16.2%	9.7%
	2	24	27	31	41	65.1%	58.7%	62.7%	69.8%
	total	51	64	82	88	100.0%	100.0%	100.0%	100.0%
Instruments, Cultural & Office Machinery	-2	0	2	1	1	0.0%	43.1%	22.3%	27.5%
	-1	1	3	4	0	39.3%	56.9%	50.1%	0.0%
	1	1	0	2	3	60.7%	0.0%	14.1%	43.2%
	2	0	0	3	1	0.0%	0.0%	13.5%	29.3%
	total	2	5	10	5	100.0%	100.0%	100.0%	100.0%
Other Manufacturing	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	1	1	2	1	1	54.8%	88.5%	79.7%	43.8%
	2	2	1	1	2	45.2%	11.5%	20.3%	56.2%
	total	3	3	2	3	100.0%	100.0%	100.0%	100.0%
Electric Power, Steam and Hot Water	-2	40	40	34	35	29.3%	23.7%	16.3%	26.2%
	-1	31	21	30	16	31.2%	13.3%	25.3%	12.6%
	1	18	27	26	29	17.4%	28.4%	22.4%	26.6%
	2	4	16	19	20	22.1%	34.6%	36.0%	34.6%
	total	93	104	109	100	100.0%	100.0%	100.0%	100.0%

Table 3 Distribution of number of enterprises and total assets among four productivity groups across industry: 1996-1999

Industry	productivity index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Gas Production and Supply	-2			1	1			100.0%	100.0%
	-1			0	0			0.0%	0.0%
	1			0	0			0.0%	0.0%
	2			0	0			0.0%	0.0%
	total			1	1			100.0%	100.0%
Tap Water Production and Supply	-2	0	0	1	2	0.0%	0.0%	45.7%	74.7%
	-1	0	1	0	0	0.0%	100.0%	0.0%	0.0%
	1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	2	1	0	1	1	100.0%	0.0%	54.3%	25.3%
	total	1	1	2	3	100.0%	100.0%	100.0%	100.0%
Total	-2	252	264	258	265	18.6%	18.9%	17.8%	20.2%
	-1	207	181	230	196	16.3%	12.9%	19.9%	17.8%
	1	166	197	171	172	14.6%	19.4%	17.3%	17.2%
	2	242	240	226	229	50.5%	48.8%	45.0%	44.8%
	total	867	882	885	862	100.0%	100.0%	100.0%	100.0%

Table 4 Distribution of number of enterprises and total assets among four productivity groups across region: 1996-1999

Region	productivity index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Beijing	-2	9	10	8	13	18.1%	30.2%	25.3%	39.1%
	-1	4	1	9	3	13.0%	0.6%	43.5%	4.1%
	1	3	3	4	4	4.1%	6.5%	4.4%	9.1%
	2	7	7	4	6	64.8%	62.6%	26.8%	47.7%
	total	23	21	25	26	100.0%	100.0%	100.0%	100.0%
Tianjin	-2	11	11	19	17	36.6%	43.2%	40.8%	34.6%
	-1	7	5	3	6	8.9%	7.3%	7.2%	10.0%
	1	5	4	4	3	11.3%	16.0%	14.3%	2.9%
	2	8	7	6	6	43.2%	33.5%	37.6%	52.5%
	total	31	27	32	32	100.0%	100.0%	100.0%	100.0%
Hebei	-2	11	15	13	20	22.4%	23.3%	19.4%	23.7%
	-1	11	8	13	13	17.8%	17.4%	22.7%	23.7%
	1	10	9	8	10	22.4%	21.3%	22.1%	23.1%
	2	8	8	7	11	37.5%	37.9%	35.8%	29.5%
	total	40	40	41	54	100.0%	100.0%	100.0%	100.0%
Shanxi	-2	12	12	11	6	37.1%	38.4%	31.1%	26.2%
	-1	5	4	5	5	10.9%	10.5%	30.5%	43.7%
	1	7	5	5	4	20.3%	17.5%	38.5%	29.1%
	2	2	4	0	1	31.6%	33.6%	0.0%	1.0%
	total	26	25	21	16	100.0%	100.0%	100.0%	100.0%
Inner Mongolia	-2	4	4	3	4	17.4%	16.1%	13.9%	15.8%
	-1	2	0	3	2	4.9%	0.0%	13.8%	64.5%
	1	1	5	2	4	9.4%	20.2%	8.4%	13.6%
	2	2	1	2	1	68.3%	63.7%	63.8%	6.1%
	total	9	10	10	11	100.0%	100.0%	100.0%	100.0%
Liaoning	-2	30	26	25	26	25.3%	18.7%	18.0%	24.3%
	-1	22	17	23	11	19.4%	13.9%	22.0%	12.9%
	1	6	17	12	10	7.5%	28.1%	21.8%	31.6%
	2	8	9	8	7	47.8%	39.3%	38.2%	31.2%
	total	66	69	68	54	100.0%	100.0%	100.0%	100.0%
Jilin	-2	6	4	4		11.5%	4.2%	3.3%	
	-1	3	4	3		4.7%	8.5%	7.4%	
	1	3	2	1		3.6%	2.8%	34.8%	
	2	4	4	3		80.2%	84.5%	54.4%	
	total	16	14	11		100.0%	100.0%	100.0%	
Heilongjiang	-2	12	16	13	10	36.9%	48.2%	45.3%	43.7%
	-1	7	8	10	6	27.3%	21.8%	23.6%	21.9%
	1	4	2	3	2	8.8%	2.1%	7.7%	5.9%
	2	4	4	1	2	27.1%	27.8%	23.4%	28.5%
	total	27	30	27	20	100.0%	100.0%	100.0%	100.0%
Shanghai	-2	9	16	25	17	6.6%	11.0%	11.8%	9.4%
	-1	13	11	17	8	5.3%	6.8%	9.7%	3.8%
	1	15	10	20	19	12.8%	7.1%	9.3%	12.0%
	2	20	21	27	32	75.3%	75.1%	69.2%	74.8%
	total	57	58	89	76	100.0%	100.0%	100.0%	100.0%
Jiangsu	-2	21	24	18	24	14.4%	20.5%	16.7%	20.4%
	-1	26	28	34	22	24.0%	21.5%	28.8%	15.2%
	1	18	21	24	19	21.6%	19.4%	27.5%	24.2%
	2	26	26	22	28	40.0%	38.6%	27.0%	40.2%
	total	91	99	98	93	100.0%	100.0%	100.0%	100.0%
Zhejiang	-2	9	11	15	21	12.7%	20.0%	22.8%	34.2%
	-1	11	6	8	9	23.6%	11.9%	14.9%	12.4%
	1	8	12	11	11	16.9%	21.9%	26.5%	16.6%
	2	12	9	8	6	46.8%	46.1%	35.8%	36.8%
	total	40	38	42	47	100.0%	100.0%	100.0%	100.0%
Anhui	-2	5	8	7	4	10.5%	12.9%	29.4%	23.3%
	-1	10	9	6	6	34.3%	37.3%	24.9%	29.8%
	1	6	4	1	3	19.9%	28.8%	9.7%	13.1%
	2	7	10	6	6	35.3%	21.0%	36.0%	33.9%
	total	28	31	20	19	100.0%	100.0%	100.0%	100.0%
Fujian	-2	6	3	2	3	33.6%	7.7%	5.2%	11.9%
	-1	4	5	1	2	24.1%	20.7%	10.5%	10.3%
	1	5	5	3	2	23.2%	45.7%	42.0%	27.2%
	2	5	6	8	8	19.2%	25.9%	42.4%	50.6%
	total	20	19	14	15	100.0%	100.0%	100.0%	100.0%
Jiangxi	-2	6	6	4	5	45.2%	45.4%	25.1%	42.3%
	-1	1	1	3	1	13.3%	11.4%	47.4%	21.1%
	1	2	2	1	0	23.9%	18.0%	1.4%	0.0%
	2	3	3	4	4	17.5%	25.2%	26.0%	36.6%
	total	12	12	12	10	100.0%	100.0%	100.0%	100.0%
Shandong	-2	13	12	18	21	10.8%	8.8%	11.2%	13.2%
	-1	12	11	14	28	11.0%	6.8%	17.9%	25.8%
	1	18	24	18	18	16.3%	25.8%	18.6%	14.0%
	2	23	21	15	22	62.0%	58.5%	52.3%	47.0%
	total	66	68	65	89	100.0%	100.0%	100.0%	100.0%

Table 4 Distribution of number of enterprises and total assets among four productivity groups across region: 1996-1999

Region	productivity index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Henan	-2	13	7	7	11	20.5%	13.5%	17.3%	21.8%
	-1	9	7	8	9	10.9%	10.4%	20.1%	19.1%
	1	12	13	6	7	26.1%	38.2%	10.4%	10.1%
	2	12	10	13	12	42.6%	38.0%	52.1%	49.0%
	total	46	37	34	39	100.0%	100.0%	100.0%	100.0%
Hubei	-2	11	11	12	8	15.4%	14.7%	15.9%	11.9%
	-1	6	5	10	9	11.8%	6.0%	18.2%	23.3%
	1	5	5	5	6	11.2%	11.9%	7.7%	13.6%
	2	9	12	8	3	61.6%	67.4%	58.2%	51.3%
	total	31	33	35	26	100.0%	100.0%	100.0%	100.0%
Hunan	-2	9	4	0	2	17.3%	12.3%	0.0%	7.4%
	-1	5	4	7	5	20.9%	22.3%	32.6%	25.9%
	1	5	4	3	3	22.5%	53.0%	50.5%	17.7%
	2	5	4	4	5	39.3%	12.4%	16.8%	49.0%
	total	24	16	14	15	100.0%	100.0%	100.0%	100.0%
Guangdong	-2	17	31	26	25	8.3%	19.1%	12.0%	13.5%
	-1	23	21	26	26	22.1%	12.0%	16.8%	15.7%
	1	17	27	22	25	22.5%	21.4%	17.3%	19.0%
	2	41	34	40	40	47.1%	47.4%	53.9%	51.8%
	total	98	113	114	116	100.0%	100.0%	100.0%	100.0%
Guangxi	-2	5	4	3	1	63.7%	52.2%	22.8%	32.0%
	-1	2	1	5	1	21.6%	23.7%	54.6%	36.4%
	1	1	2	1	0	1.9%	14.6%	11.3%	0.0%
	2	2	2	3	3	12.7%	9.5%	11.2%	31.6%
	total	10	9	12	5	100.0%	100.0%	100.0%	100.0%
Hainan	-2	0	1	1	0	0.0%	38.0%	14.1%	0.0%
	-1	1	0	1	0	22.9%	0.0%	44.4%	0.0%
	1	1	0	2	2	29.6%	0.0%	27.3%	76.2%
	2	1	2	1	1	47.5%	62.0%	14.3%	23.8%
	total	3	3	5	3	100.0%	100.0%	100.0%	100.0%
Sichuan	-2	9	12	11	13	19.2%	21.4%	22.2%	31.2%
	-1	8	11	6	10	15.2%	18.4%	7.2%	15.7%
	1	7	7	9	8	15.6%	19.3%	16.2%	15.7%
	2	11	14	14	9	50.0%	41.0%	54.4%	37.3%
	total	35	44	40	40	100.0%	100.0%	100.0%	100.0%
Guizhou	-2	8	1	1	1	44.4%	3.2%	11.5%	6.7%
	-1	2	3	3	2	24.4%	32.2%	60.3%	30.4%
	1	1	2	1	2	2.3%	23.2%	3.7%	21.0%
	2	4	5	3	3	28.9%	41.4%	24.5%	42.0%
	total	15	11	8	8	100.0%	100.0%	100.0%	100.0%
Yunnan	-2	6	2	3	1	21.7%	5.9%	13.6%	5.7%
	-1	3	5	3	4	10.4%	22.0%	12.6%	30.7%
	1	0	2	1	2	0.0%	6.8%	5.2%	32.8%
	2	8	7	8	5	67.8%	65.3%	68.6%	30.8%
	total	17	16	15	12	100.0%	100.0%	100.0%	100.0%
Shaanxi	-2	2	2	1	1	8.6%	8.2%	6.4%	1.8%
	-1	3	3	4	1	19.6%	32.3%	33.1%	10.2%
	1	3	2	1	4	42.8%	25.8%	20.6%	31.0%
	2	4	4	5	3	29.0%	33.6%	39.9%	56.9%
	total	12	11	11	9	100.0%	100.0%	100.0%	100.0%
Gansu	-2	4	5	2	3	9.7%	17.2%	14.3%	20.5%
	-1	2	1	3	3	26.0%	0.9%	31.9%	35.4%
	1	2	4	0	1	17.6%	44.2%	0.0%	6.9%
	2	3	2	3	2	46.7%	37.7%	53.8%	37.2%
	total	11	12	8	9	100.0%	100.0%	100.0%	100.0%
Xinjiang	-2	2	2	2	4	3.6%	3.6%	3.2%	6.5%
	-1	1	0	0	2	10.5%	0.0%	0.0%	14.9%
	1	0	1	2	0	0.0%	3.0%	15.8%	0.0%
	2	3	4	3	3	85.9%	93.4%	81.1%	78.6%
	total	6	7	7	9	100.0%	100.0%	100.0%	100.0%
Tibet Qinghai Ningxia	-2	2	4	4	4	33.8%	30.3%	48.1%	27.3%
	-1	4	2	2	2	51.3%	45.0%	17.8%	12.5%
	1	1	3	1	3	15.0%	24.7%	34.2%	60.2%
	2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	total	7	9	7	9	100.0%	100.0%	100.0%	100.0%
Total	-2	252	264	258	265	18.6%	18.9%	17.8%	20.2%
	-1	207	181	230	196	16.3%	12.9%	19.9%	17.8%
	1	166	197	171	172	14.6%	19.4%	17.3%	17.2%
	2	242	240	226	229	50.5%	48.8%	45.0%	44.8%
	total	867	882	885	862	100.0%	100.0%	100.0%	100.0%

Table5 Distribution of number of enterprises and total assets among four productivity groups across ownership: 1996-1999

Onwership	productivity index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Non state-owned	-2	65	80	96	115	16.8%	18.4%	18.2%	19.7%
	-1	66	66	96	95	18.0%	14.5%	20.7%	18.1%
	1	61	93	90	99	17.6%	26.8%	18.5%	17.8%
	2	106	99	101	123	47.5%	40.3%	42.6%	44.4%
	total	298	338	383	432	100.0%	100.0%	100.0%	100.0%
State-owned	-2	187	184	162	150	19.1%	19.1%	17.6%	20.4%
	-1	141	115	134	101	15.8%	12.4%	19.7%	17.6%
	1	105	104	81	73	13.8%	17.2%	16.9%	17.0%
	2	136	141	125	106	51.4%	51.4%	45.9%	45.0%
	total	569	544	502	430	100.0%	100.0%	100.0%	100.0%
Total	-2	252	264	258	265	18.6%	18.9%	17.8%	20.2%
	-1	207	181	230	196	16.3%	12.9%	19.9%	17.8%
	1	166	197	171	172	14.6%	19.4%	17.3%	17.2%
	2	242	240	226	229	50.5%	48.8%	45.0%	44.8%
	total	867	882	885	862	100.0%	100.0%	100.0%	100.0%

Table 6 Distribution of number of enterprises and total assets among four profitability groups across industry: 1996-1999

Industry	profitability index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Coal Mining and Dressing	-2	5	8	7	4	12.1%	23.4%	19.4%	12.1%
	-1	12	7	3	11	31.2%	16.8%	7.7%	40.4%
	1	17	21	24	15	47.2%	53.4%	68.5%	39.0%
	2	6	4	3	4	9.5%	6.4%	4.4%	8.5%
	total	40	40	37	34	100.0%	100.0%	100.0%	100.0%
Petroleum and Natural Gas Extraction	-2	0	1	0	0	0.0%	0.8%	0.0%	0.0%
	-1	1	2	0	2	1.9%	6.8%	0.0%	18.0%
	1	10	8	8	7	34.9%	27.3%	27.9%	29.7%
	2	12	10	13	11	63.2%	65.1%	72.1%	52.4%
	total	23	21	21	20	100.0%	100.0%	100.0%	100.0%
Ferrous Metals Mining and Dressing	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	1	0	1	0	92.1%	0.0%	29.2%	0.0%
	1	1	2	2	1	7.9%	100.0%	70.8%	100.0%
	2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	total	2	2	3	1	100.0%	100.0%	100.0%	100.0%
Nonferrous Metals Mining and Dressing	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	1	2	2	2	0	100.0%	100.0%	73.3%	0.0%
	2	0	0	1	2	0.0%	0.0%	26.7%	100.0%
	total	2	2	3	2	100.0%	100.0%	100.0%	100.0%
Food Processing	-2	1	1	4	0	1.9%	11.4%	17.9%	0.0%
	-1	4	3	0	1	14.7%	12.6%	0.0%	7.4%
	1	3	6	3	5	17.5%	30.9%	13.3%	34.3%
	2	15	12	13	15	66.0%	45.0%	68.8%	58.3%
	total	23	22	20	21	100.0%	100.0%	100.0%	100.0%
Food Production	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	1	3	0	1	3	31.9%	0.0%	7.0%	75.0%
	2	7	11	7	4	68.1%	100.0%	93.0%	25.0%
	total	10	11	8	7	100.0%	100.0%	100.0%	100.0%
Beverage Production	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	1	0	0	0	5.1%	0.0%	0.0%	0.0%
	1	7	6	7	7	28.3%	23.3%	36.9%	36.2%
	2	14	21	15	16	66.6%	76.7%	63.1%	63.8%
	total	22	27	22	23	100.0%	100.0%	100.0%	100.0%
Tobacco Processing	-2	0	1	0	0	0.0%	0.8%	0.0%	0.0%
	-1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	1	29	32	23	23	51.2%	56.1%	38.4%	73.5%
	2	12	12	17	9	48.8%	43.1%	61.6%	26.5%
	total	41	45	40	32	100.0%	100.0%	100.0%	100.0%
Textile Industry	-2	3	2	0	0	10.2%	8.3%	0.0%	0.0%
	-1	4	1	1	2	11.3%	1.6%	4.5%	5.6%
	1	7	5	9	7	18.7%	25.8%	37.2%	26.5%
	2	17	17	18	22	59.8%	64.3%	58.2%	67.9%
	total	31	25	28	31	100.0%	100.0%	100.0%	100.0%
Garments and Other Fiber Products	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	1	2	1	0	0	17.9%	27.1%	0.0%	0.0%
	2	8	7	5	4	82.1%	72.9%	100.0%	100.0%
	total	10	8	5	4	100.0%	100.0%	100.0%	100.0%
Leather, Furs, Down and Related Products	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	0	0	1	0	0.0%	0.0%	20.9%	0.0%
	1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	2	2	2	2	3	100.0%	100.0%	79.1%	100.0%
	total	2	2	3	3	100.0%	100.0%	100.0%	100.0%
Timber, Bamboo, Cane, Palm Fiber & Straw	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	1	1	1	0	0	25.9%	24.5%	0.0%	0.0%
	2	2	3	2	2	74.1%	75.5%	100.0%	100.0%
	total	3	4	2	2	100.0%	100.0%	100.0%	100.0%

Table 6 Distribution of number of enterprises and total assets among four profitability groups across industry: 1996-1999

Industry	profitability index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Papermaking and Paper Products	-2	0	0	1	0	0.0%	0.0%	6.5%	0.0%
	-1	0	1	1	0	0.0%	31.9%	48.3%	0.0%
	1	6	2	2	2	74.7%	39.4%	29.3%	49.5%
	2	3	2	2	5	25.3%	28.6%	16.0%	50.5%
	total	9	5	6	7	100.0%	100.0%	100.0%	100.0%
Printing and Record Medium Reproduction	-2				0				0.0%
	-1				0				0.0%
	1				0				0.0%
	2				1				100.0%
	total				1				100.0%
Cultural, Educational and Sports Goods	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	1	1	0	1	0	30.4%	0.0%	18.6%	0.0%
	2	4	3	2	3	69.6%	100.0%	81.4%	100.0%
	total	5	3	3	3	100.0%	100.0%	100.0%	100.0%
Petroleum Processing and Coking	-2	1	0	0	1	4.0%	0.0%	0.0%	0.4%
	-1	0	1	2	3	0.0%	2.2%	5.2%	7.3%
	1	22	26	35	26	55.6%	74.3%	91.7%	78.3%
	2	13	13	2	7	40.3%	23.5%	3.1%	14.0%
	total	36	40	39	37	100.0%	100.0%	100.0%	100.0%
Raw Chemical Materials and Chemical	-2	3	1	2	0	5.2%	4.2%	5.0%	0.0%
	-1	4	6	5	8	6.9%	13.8%	20.6%	30.5%
	1	30	33	29	27	75.4%	73.5%	66.8%	58.2%
	2	17	16	14	15	12.5%	8.5%	7.5%	11.4%
	total	54	56	50	50	100.0%	100.0%	100.0%	100.0%
Medical and Pharmaceutical Products	-2	0	0	1	0	0.0%	0.0%	3.2%	0.0%
	-1	3	1	1	0	27.5%	9.3%	4.3%	0.0%
	1	2	6	6	6	11.4%	58.9%	60.5%	56.9%
	2	6	6	7	9	61.0%	31.8%	32.0%	43.1%
	total	11	13	15	15	100.0%	100.0%	100.0%	100.0%
Chemical Fiber	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	2	3	2	2	8.2%	11.9%	6.6%	3.8%
	1	8	11	9	12	47.5%	55.6%	57.1%	43.3%
	2	6	3	6	11	44.2%	32.6%	36.3%	52.9%
	total	16	17	17	25	100.0%	100.0%	100.0%	100.0%
Rubber Products	-2	1	0	0	0	7.0%	0.0%	0.0%	0.0%
	-1	0	0	0	1	0.0%	0.0%	0.0%	25.0%
	1	8	5	6	4	68.8%	32.7%	60.2%	35.9%
	2	5	9	7	6	24.2%	67.3%	39.8%	39.1%
	total	14	14	13	11	100.0%	100.0%	100.0%	100.0%
Plastic Produ	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	0	1	0	1	0.0%	27.0%	0.0%	19.8%
	1	1	1	1	1	44.6%	24.6%	54.6%	46.6%
	2	3	3	3	5	55.4%	48.4%	45.4%	33.6%
	total	4	5	4	7	100.0%	100.0%	100.0%	100.0%
Nonmetal Mineral Products	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	0	2	0	0	0.0%	54.0%	0.0%	0.0%
	1	4	5	4	5	68.0%	39.1%	82.8%	94.4%
	2	4	2	2	1	32.0%	6.9%	17.2%	5.6%
	total	8	9	6	6	100.0%	100.0%	100.0%	100.0%
Smelting & Pressing of Ferrous Metals	-2	2	5	4	6	1.3%	3.5%	6.9%	3.7%
	-1	15	11	7	8	8.0%	8.5%	4.3%	7.9%
	1	53	48	48	47	81.0%	77.4%	80.9%	81.4%
	2	17	16	12	16	9.7%	10.6%	7.9%	7.0%
	total	87	80	71	77	100.0%	100.0%	100.0%	100.0%
Smelting & Pressing of Nonferrous Metals	-2	0	1	1	1	0.0%	4.1%	1.2%	2.1%
	-1	6	4	7	3	25.5%	14.0%	30.0%	10.2%
	1	26	25	20	25	69.6%	78.4%	67.8%	79.4%
	2	5	5	2	3	4.9%	3.6%	1.0%	8.3%
	total	37	35	30	32	100.0%	100.0%	100.0%	100.0%

Table 6 Distribution of number of enterprises and total assets among four profitability groups across industry: 1996-1999

Industry	profitability index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Metal Products	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	1	4	3	2	2	55.5%	43.9%	23.2%	15.9%
	2	4	7	9	6	44.5%	56.1%	76.8%	84.1%
	total	8	10	11	8	100.0%	100.0%	100.0%	100.0%
Ordinary Machinery Manufacturing	-2	1	2	0	1	4.8%	8.5%	0.0%	1.7%
	-1	7	5	4	3	24.3%	18.5%	12.3%	9.6%
	1	13	13	18	12	47.1%	43.6%	61.5%	42.5%
	2	13	17	13	15	23.8%	29.4%	26.2%	46.3%
	total	34	37	35	31	100.0%	100.0%	100.0%	100.0%
Special Purposes Equipment Manufacturing	-2	2	1	1	1	9.7%	7.2%	8.3%	9.1%
	-1	3	2	1	1	15.7%	25.6%	25.5%	27.2%
	1	6	7	7	4	49.5%	47.4%	32.8%	20.3%
	2	11	11	11	14	25.0%	19.8%	33.4%	43.4%
	total	22	21	20	20	100.0%	100.0%	100.0%	100.0%
Transport Equipment Manufacturing	-2	3	3	4	2	3.8%	4.0%	3.8%	1.6%
	-1	10	8	7	7	7.0%	7.4%	9.6%	11.4%
	1	34	32	28	29	48.4%	70.6%	51.3%	51.1%
	2	28	20	28	27	40.8%	17.9%	35.3%	35.9%
	total	75	63	67	65	100.0%	100.0%	100.0%	100.0%
Electric Equipment and Machinery	-2	4	4	0	0	6.1%	8.6%	0.0%	0.0%
	-1	4	5	3	2	6.5%	11.1%	4.7%	3.0%
	1	11	10	17	6	23.9%	24.1%	41.4%	19.9%
	2	31	26	28	34	63.4%	56.2%	54.0%	77.1%
	total	50	45	48	42	100.0%	100.0%	100.0%	100.0%
Electronic and Telecom Equipment	-2	3	5	5	4	2.1%	3.2%	4.2%	2.5%
	-1	4	6	5	4	3.7%	8.4%	6.2%	5.3%
	1	12	13	16	13	16.6%	20.9%	15.5%	17.1%
	2	30	40	51	57	77.7%	67.4%	74.1%	75.1%
	total	49	64	77	78	100.0%	100.0%	100.0%	100.0%
Instruments, Cultural & Office Machinery	-2	0	1	1	0	0.0%	18.6%	14.4%	0.0%
	-1	0	1	0	0	0.0%	24.5%	0.0%	0.0%
	1	0	0	2	1	0.0%	0.0%	41.4%	28.7%
	2	2	3	6	3	100.0%	56.9%	44.2%	71.3%
	total	2	5	9	4	100.0%	100.0%	100.0%	100.0%
Other Manufacturing	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	2	3	3	2	3	100.0%	100.0%	100.0%	100.0%
	total	3	3	2	3	100.0%	100.0%	100.0%	100.0%
Electric Power, Steam and Hot Water	-2	10	5	3	1	29.6%	18.3%	11.0%	7.5%
	-1	7	8	14	7	5.0%	5.6%	12.8%	14.9%
	1	28	27	27	23	41.9%	38.6%	31.7%	25.9%
	2	34	35	30	29	23.5%	37.5%	44.6%	51.6%
	total	79	75	74	60	100.0%	100.0%	100.0%	100.0%
Gas Production and Supply	-2	1	1	1	1	100.0%	100.0%	100.0%	100.0%
	-1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	total	1	1	1	1	100.0%	100.0%	100.0%	100.0%
Tap Water Production and Supply	-2		1	1			65.6%	100.0%	
	-1		0	0			0.0%	0.0%	
	1		1	0			34.4%	0.0%	
	2		0	0			0.0%	0.0%	
	total		2	1			100.0%	100.0%	
Total	-2	40	43	36	22	6.0%	6.3%	5.3%	3.0%
	-1	88	78	65	66	8.6%	8.6%	7.9%	12.6%
	1	351	352	357	313	53.1%	55.4%	55.2%	51.8%
	2	334	339	333	362	32.3%	29.6%	31.6%	32.6%
	total	813	812	791	763	100.0%	100.0%	100.0%	100.0%

Table 7 Distribution of number of enterprises and total assets among four profitability groups across region: 1996-1999

Region	profitability index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Beijing	-2	3	4	7	2	21.1%	25.5%	49.0%	18.8%
	-1	2	4	4	5	2.4%	16.8%	13.0%	8.2%
	1	12	7	5	8	66.6%	50.2%	22.6%	62.0%
	2	5	5	9	8	9.9%	7.6%	15.5%	11.0%
	total	22	20	25	23	100.0%	100.0%	100.0%	100.0%
Tianjin	-2	1	5	2	2	0.8%	10.9%	2.0%	4.9%
	-1	5	2	4	3	9.5%	2.6%	14.8%	11.0%
	1	13	12	16	16	64.5%	78.8%	78.6%	77.0%
	2	9	7	5	9	25.2%	7.7%	4.6%	7.1%
	total	28	26	27	30	100.0%	100.0%	100.0%	100.0%
Hebei	-2	1	1	2	0	1.4%	1.6%	2.2%	0.0%
	-1	4	3	4	4	11.9%	11.4%	7.1%	21.7%
	1	19	27	22	24	44.6%	64.6%	57.2%	61.9%
	2	16	9	8	12	42.1%	22.4%	33.5%	16.4%
	total	40	40	36	40	100.0%	100.0%	100.0%	100.0%
Shanxi	-2	1	1	1	0	7.8%	7.9%	7.7%	0.0%
	-1	6	4	5	5	21.2%	9.5%	20.4%	34.2%
	1	11	13	13	7	63.3%	72.1%	70.7%	54.7%
	2	4	5	1	4	7.7%	10.5%	1.2%	11.0%
	total	22	23	20	16	100.0%	100.0%	100.0%	100.0%
Inner Mongolia	-2	0	1	0	0	0.0%	4.9%	0.0%	0.0%
	-1	1	0	1	1	5.3%	0.0%	4.7%	63.8%
	1	3	4	4	3	72.2%	80.0%	79.1%	13.4%
	2	5	4	4	5	22.5%	15.1%	16.2%	22.8%
	total	9	9	9	9	100.0%	100.0%	100.0%	100.0%
Liaoning	-2	5	6	2	2	7.0%	6.9%	0.8%	2.6%
	-1	12	10	6	8	9.6%	8.7%	12.2%	14.0%
	1	34	37	37	26	65.3%	68.4%	67.6%	65.6%
	2	17	13	19	18	18.1%	16.0%	19.4%	17.7%
	total	68	66	64	54	100.0%	100.0%	100.0%	100.0%
Jilin	-2	0	0	0		0.0%	0.0%	0.0%	
	-1	3	1	2		5.1%	2.3%	3.2%	
	1	5	8	5		41.1%	95.2%	85.6%	
	2	6	3	2		53.9%	2.4%	11.2%	
	total	14	12	9		100.0%	100.0%	100.0%	
Heilongjiang	-2	2	2	3	2	7.1%	8.9%	14.1%	15.1%
	-1	4	5	2	4	13.2%	7.6%	3.5%	21.6%
	1	15	18	18	8	25.7%	30.9%	42.5%	52.6%
	2	5	6	4	5	53.9%	52.6%	39.9%	10.8%
	total	26	31	27	19	100.0%	100.0%	100.0%	100.0%
Shanghai	-2	5	6	7	6	18.4%	9.2%	5.7%	4.0%
	-1	4	5	11	4	2.7%	5.1%	7.4%	4.2%
	1	25	21	29	22	51.5%	47.6%	49.3%	47.8%
	2	22	23	34	37	27.4%	38.1%	37.6%	44.0%
	total	56	55	81	69	100.0%	100.0%	100.0%	100.0%
Jiangsu	-2	3	0	1	1	1.6%	0.0%	3.0%	1.9%
	-1	3	3	0	4	2.6%	5.2%	0.0%	8.1%
	1	25	26	26	19	57.2%	56.5%	64.9%	39.2%
	2	57	53	48	52	38.5%	38.3%	32.1%	50.8%
	total	88	82	75	76	100.0%	100.0%	100.0%	100.0%
Zhejiang	-2	1	0	1	0	3.6%	0.0%	0.8%	0.0%
	-1	0	1	1	2	0.0%	2.1%	7.7%	3.2%
	1	12	14	16	15	38.5%	43.7%	50.1%	45.8%
	2	25	22	22	27	57.9%	54.2%	41.3%	51.0%
	total	38	37	40	44	100.0%	100.0%	100.0%	100.0%
Anhui	-2	1	2	0	1	0.8%	15.7%	0.0%	3.8%
	-1	3	1	3	2	32.3%	8.7%	23.3%	22.5%
	1	12	12	10	10	54.5%	56.5%	64.3%	61.9%
	2	8	10	6	5	12.3%	19.1%	12.4%	11.8%
	total	24	25	19	18	100.0%	100.0%	100.0%	100.0%
Fujian	-2	1	1	0	0	3.5%	3.4%	0.0%	0.0%
	-1	0	1	1	0	0.0%	3.4%	3.9%	0.0%
	1	10	6	4	4	70.7%	46.6%	35.7%	45.2%
	2	7	10	8	9	25.8%	46.7%	60.4%	54.8%
	total	18	18	13	13	100.0%	100.0%	100.0%	100.0%
Jiangxi	-2	1	1	0	0	6.8%	5.7%	0.0%	0.0%
	-1	3	3	2	2	36.2%	25.0%	17.4%	22.5%
	1	5	7	6	6	44.9%	57.2%	62.6%	63.1%
	2	2	2	4	2	12.1%	12.1%	20.0%	14.4%
	total	11	13	12	10	100.0%	100.0%	100.0%	100.0%
Shandong	-2	1	1	0	1	0.8%	0.5%	0.0%	1.8%
	-1	3	3	4	5	4.9%	3.9%	8.4%	9.5%
	1	22	22	27	22	27.8%	43.6%	47.8%	29.0%
	2	36	37	29	56	66.5%	52.0%	43.9%	59.8%
	total	62	63	60	84	100.0%	100.0%	100.0%	100.0%

Table 7 Distribution of number of enterprises and total assets among four profitability groups across region: 1996-1999

Region	profitability index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Henan	-2	2	2	2	0	2.4%	6.9%	4.3%	0.0%
	-1	7	2	2	3	16.3%	4.7%	9.0%	9.8%
	1	20	16	12	18	57.4%	62.9%	39.1%	65.7%
	2	14	16	15	14	23.9%	25.6%	47.5%	24.5%
	total	43	36	31	35	100.0%	100.0%	100.0%	100.0%
Hubei	-2	2	1	2	1	3.2%	1.2%	1.4%	0.8%
	-1	1	2	1	3	4.5%	6.3%	4.6%	7.5%
	1	14	12	14	9	78.4%	72.7%	64.0%	59.4%
	2	9	13	12	11	13.9%	19.8%	30.0%	32.2%
	total	26	28	29	24	100.0%	100.0%	100.0%	100.0%
Hunan	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	4	2	1	0	6.2%	6.7%	4.8%	0.0%
	1	13	12	11	11	63.8%	88.8%	94.0%	77.2%
	2	5	2	1	3	30.1%	4.5%	1.2%	22.8%
	total	22	16	13	14	100.0%	100.0%	100.0%	100.0%
Guangdong	-2	4	3	3	3	1.2%	3.0%	0.5%	3.0%
	-1	5	9	4	2	2.8%	6.4%	3.9%	1.9%
	1	22	23	23	26	48.3%	54.5%	38.4%	37.3%
	2	55	55	60	58	47.7%	36.0%	57.2%	57.8%
	total	86	90	90	89	100.0%	100.0%	100.0%	100.0%
Guangxi	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	1	1	1	1	23.7%	23.7%	18.1%	32.0%
	1	7	5	6	2	65.2%	55.8%	54.6%	43.5%
	2	2	3	5	2	11.1%	20.5%	27.3%	24.5%
	total	10	9	12	5	100.0%	100.0%	100.0%	100.0%
Hainan	-2	1	0	0	0	30.9%	0.0%	0.0%	0.0%
	-1	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	1	1	0	1	0	39.0%	0.0%	46.6%	0.0%
	2	1	2	3	2	30.1%	100.0%	53.4%	100.0%
	total	3	2	4	2	100.0%	100.0%	100.0%	100.0%
Sichuan	-2	1	2	0	1	5.9%	6.0%	0.0%	1.5%
	-1	7	8	2	5	11.3%	36.9%	2.3%	38.0%
	1	14	16	18	18	48.3%	18.5%	56.4%	38.5%
	2	12	17	17	12	34.5%	38.5%	41.3%	22.0%
	total	34	43	37	36	100.0%	100.0%	100.0%	100.0%
Guizhou	-2	1	0	0	0	7.2%	0.0%	0.0%	0.0%
	-1	2	0	1	0	20.1%	0.0%	37.0%	0.0%
	1	8	9	7	6	68.3%	89.0%	55.2%	81.2%
	2	1	2	2	2	4.5%	11.0%	7.7%	18.8%
	total	12	11	10	8	100.0%	100.0%	100.0%	100.0%
Yunnan	-2	0	1	0	0	0.0%	3.3%	0.0%	0.0%
	-1	1	3	2	0	3.3%	6.7%	4.5%	0.0%
	1	11	5	7	10	34.2%	16.1%	32.6%	94.6%
	2	4	8	7	1	62.6%	73.8%	62.9%	5.4%
	total	16	17	16	11	100.0%	100.0%	100.0%	100.0%
Shaanxi	-2	0	0	0	0	0.0%	0.0%	0.0%	0.0%
	-1	2	1	0	0	9.0%	5.9%	0.0%	0.0%
	1	5	5	5	6	54.8%	56.3%	62.3%	88.1%
	2	4	4	4	3	36.1%	37.8%	37.7%	11.9%
	total	11	10	9	9	100.0%	100.0%	100.0%	100.0%
Gansu	-2	1	1	2	0	17.3%	18.3%	13.8%	0.0%
	-1	3	2	0	1	13.0%	9.9%	0.0%	16.7%
	1	7	8	7	6	49.5%	69.8%	86.2%	51.0%
	2	1	2	0	2	20.1%	2.0%	0.0%	32.3%
	total	12	13	9	9	100.0%	100.0%	100.0%	100.0%
Xinjiang	-2	1	1	0	0	2.2%	2.5%	0.0%	0.0%
	-1	0	0	1	2	0.0%	0.0%	2.1%	12.6%
	1	3	2	3	3	75.5%	23.8%	28.8%	7.3%
	2	1	4	3	3	22.2%	73.7%	69.2%	80.1%
	total	5	7	7	8	100.0%	100.0%	100.0%	100.0%
Tibet Qinghai Ningxia	-2	1	1	1	0	30.3%	30.0%	29.9%	0.0%
	-1	2	2	0	0	31.7%	31.5%	0.0%	0.0%
	1	3	5	5	8	26.2%	33.0%	58.9%	100.0%
	2	1	2	1	0	11.7%	5.4%	11.1%	0.0%
	total	7	10	7	8	100.0%	100.0%	100.0%	100.0%
Total	-2	40	43	36	22	6.0%	6.3%	5.3%	3.0%
	-1	88	78	65	66	8.6%	8.6%	7.9%	12.6%
	1	351	352	357	313	53.1%	55.4%	55.2%	51.8%
	2	334	339	333	362	32.3%	29.6%	31.6%	32.6%
	total	813	812	791	763	100.0%	100.0%	100.0%	100.0%

Table 8 Distribution of number of enterprises and total assets among four profitability groups across ownership: 1996-1999

Onwership	profitability index	Number of enterprises				distribution of total assets(%)			
		1996	1997	1998	1999	1996	1997	1998	1999
Non state-owned	-2	15	11	13	7	6.1%	3.0%	1.7%	1.2%
	-1	21	24	18	22	5.4%	9.1%	6.8%	9.5%
	1	68	79	99	105	36.9%	41.4%	39.1%	34.7%
	2	176	186	208	247	51.6%	46.5%	52.3%	54.6%
	total	280	300	338	381	100.0%	100.0%	100.0%	100.0%
State-owned	-2	25	32	23	15	6.0%	7.2%	6.3%	3.7%
	-1	67	54	47	44	9.4%	8.5%	8.3%	13.8%
	1	283	273	258	208	57.3%	59.0%	59.9%	58.8%
	2	158	153	125	115	27.3%	25.3%	25.5%	23.7%
	total	533	512	453	382	100.0%	100.0%	100.0%	100.0%
Total	-2	40	43	36	22	6.0%	6.3%	5.3%	3.0%
	-1	88	78	65	66	8.6%	8.6%	7.9%	12.6%
	1	351	352	357	313	53.1%	55.4%	55.2%	51.8%
	2	334	339	333	362	32.3%	29.6%	31.6%	32.6%
	total	813	812	791	763	100.0%	100.0%	100.0%	100.0%

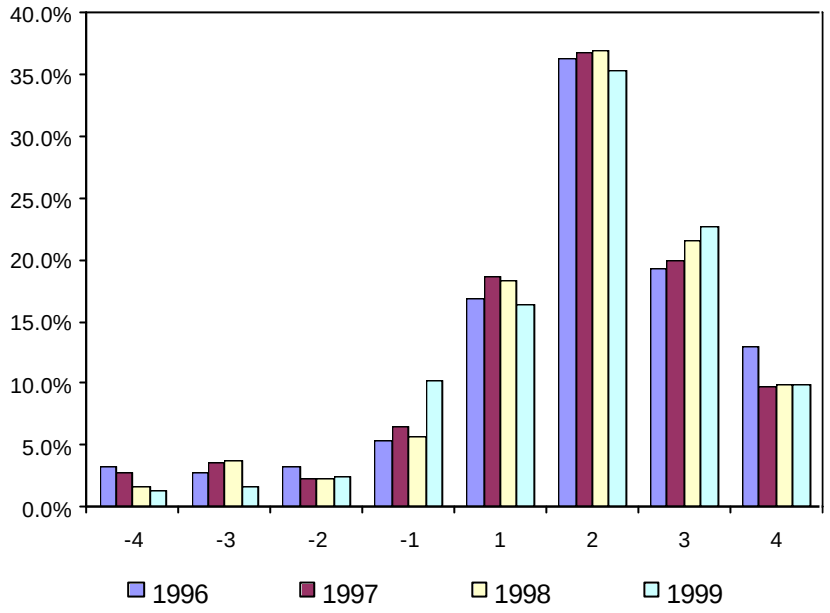

Figure 5 Distribution of total assets of enterprises among eight profitability groups (1996-1999)

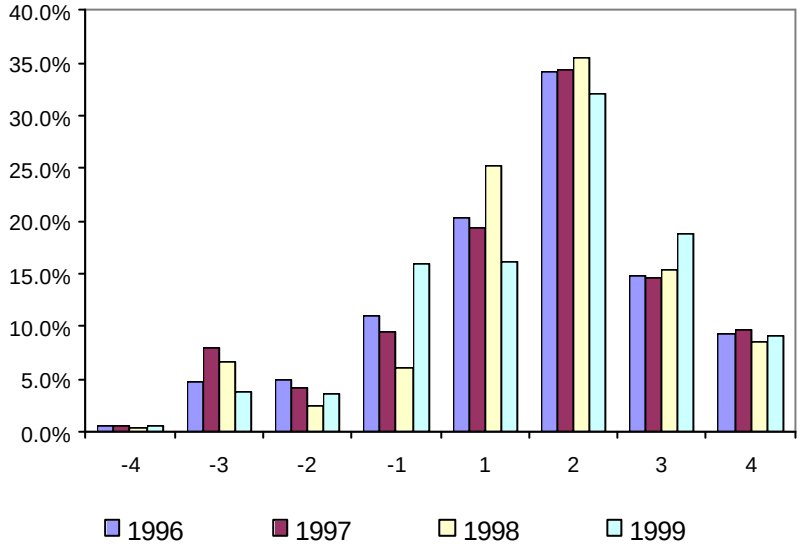

Figure 6 Distribution of labor force of enterprises among eight profitability groups (1996-1999)

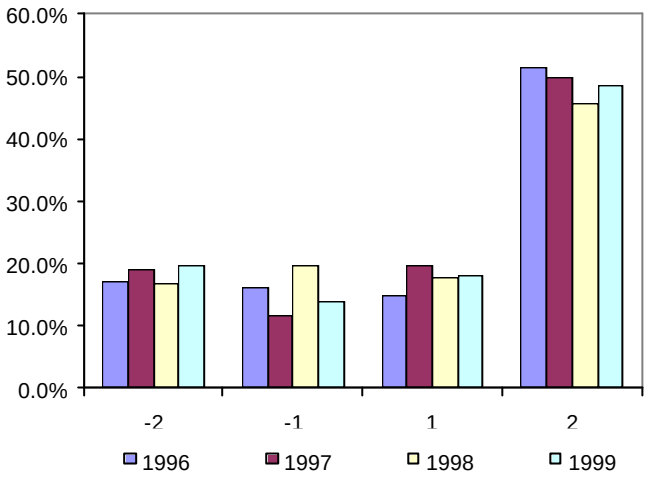

Figure 7 Distribution of total assets among four productivity groups in eastern district (1996-1999)

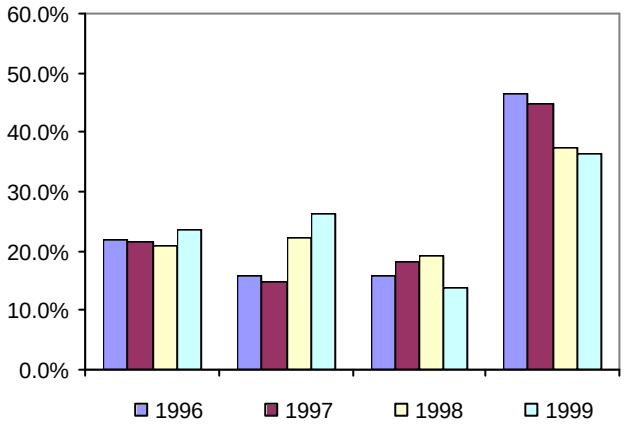

Figure 8 Distribution of total assets among four productivity groups in middle district (1996-1999)

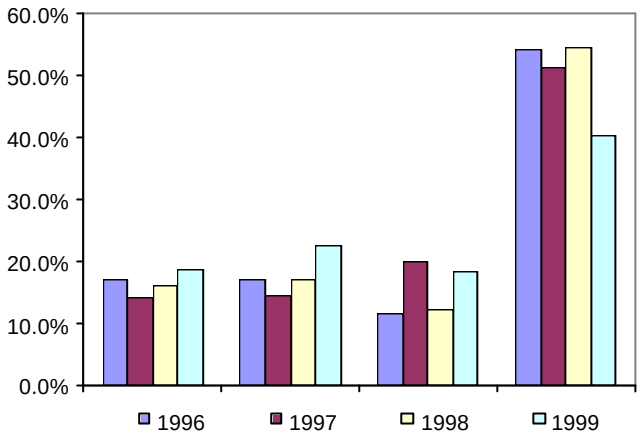

Figure 9 Distribution of total assets among four productivity groups in western district (1996-1999)