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# Initial Public Offering and Corporate Governance in China's Transitional Economy

Chen Chien-Hsun and Shih Hui-Tzu

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## 7.1 Introduction

During periods of institutional transformation—given that informal constraints such as culture, rules, and values are difficult to change once formed, and that the transformation may result in the development of an inefficient system—there could be obstacles to transformation that lock the institution into its original path of evolution. Other institutions displaying better performance consequently would be unable to emerge (North 1991, 1994). An efficient institution thus can be beneficial to institutional transformation and to the spontaneous evolution of society (Hayek 1960).

In the process of institutional transformation, whereby China gradually has moved away from a centrally planned economy toward a market economy, the emphasis has been on the establishment of a sound system of property rights and a stable financial system. The reform of the financial system has attracted the most attention. The financial system is closely bound up with the reform of state-owned enterprises (SOEs) and of the fiscal system; thus the reform of the financial system will have a significant impact on the institutional transformation of China's economy as a whole. The establishment of the Shanghai Stock Exchange in December 1990 was a landmark in the development of the stock market in China. As the necessary infrastructure was established, the calls for a direct-financing market grew louder. The stock market began to blossom, and there was rapid development within a relatively short period of time.

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The types of shares traded in China's stock market can be divided into three main categories: A-, B-, and H-shares. A-shares are available to domestic holders, B-shares are available exclusively to foreign investors and certain authorized domestic securities firms, and H-shares are listed on the Hong Kong Stock Exchange.<sup>1</sup> Since 1987, A-shares have steadily become more popular; as of December 2000, the total amount raised through the issuing of new shares and allotment shares came to 324.213 billion renminbi (RMB). As regards B-shares, since they were first issued in 1992, they have become one of the main means by which China secures its foreign investment. However, the amount of money raised through B-shares has been less than the amount raised from A-, H-, or N-shares (N-shares are listed on the New York Stock Exchange). H-shares were first issued in 1993 as another means by which the stock markets could secure foreign capital. By 2000, the total amount of funds secured by the issuing of new shares and allotment shares came to RMB 225.226 billion (see the China Securities Regulatory Commission Web site: [www.csrc.gov.cn](http://www.csrc.gov.cn)).<sup>2</sup>

Several recent empirical studies have provided evidence of the performance of initial public offerings (IPOs) for China's stock markets; for example, Mok and Hui (1998) found that A-share IPOs in Shanghai were 289 percent underpriced between 19 December 1990 and 31 December 1993, due to the excessive demand for the limited supply of negotiable shares. B-share IPOs were only 26 percent underpriced. Different ownership structures, a long time-lag between offering and listing, and information asymmetry all contributed to IPO underpricing. Using data on 308 firm-commitment IPOs from 1 January 1987 through to 31 December 1995, Su and Fleisher (1999) found that IPO underpricing was a strategy for firms to signal their value to investors. From a sample of eighty-three IPOs completed between 1992 and 1995, Aharony, Lee, and Wong (2000) found that the median firm return on assets (ROA) peaked in the IPO year and declined thereafter. The post-IPO decline in ROA is statistically insignificant in protected industries such as petrochemicals, energy, and raw materials; firms in the protected industries are favored by the Chinese government in the selection process. Chen, Firth, and Kim (2000) considered 277 A-share and 65 B-share IPOs during the 1992–1995 period, with their results showing that B-share IPOs underperformed A-share IPOs during the postissue periods for up to three years.

In this paper, we extend the prior works on Chinese IPOs and empirically examine IPO performance. Our sample consists of 437 companies listed on the Shanghai Stock Exchange, and 447 companies listed on the Shenzhen exchange (for a longer time period) from 1995 to 1999. Investigation of China's IPOs is appealing and timely, since most of the listed companies are

1. From 20 February 2001, B-shares were made available to domestic residents.

2. Xu (2000) indicates there is no significant evidence of any causal relationship between volume and volatility for Shanghai B-shares. Sun and Tong (2000) also find foreign investors are more sensitive to currency risk.

SOEs, and establishing effective corporate governance of SOEs has become a key priority for China's policymakers during the transitional period.

The remainder of the paper is organized as follows. Section 7.2 contains a discussion on equity structure and the corporate governance mechanism. Section 7.3 establishes financial indicators to evaluate the operational performance of listed companies. The empirical results of IPOs' performance are reported in section 7.4, with section 7.5 providing concluding remarks to this study.

## 7.2 Equity Structure and Corporate Governance

The methods by which stocks are listed and shares issued in China's stock markets violate the market principle. Equity in listed companies is artificially divided into different categories of shares in the same stock that have different rights: state shares, legal person shares, public shares, and internal employee shares. State shares are held by the state and its varied ministries, bureaus, and regional governments; legal person shares are kept by other SOEs; public shares are retained by individuals or private entities; and internal employee shares are maintained by managers and employees. For example, holders of state shares can transfer their allotment rights in part or in whole to the holders of public shares; while holders of state shares can maintain their right to share in the benefits from share allotment, or choose not to participate in share allotment, thereby transferring the risk onto the shoulders of the holders of public shares. By contrast, the holders of public shares can buy and sell shares only on the secondary market.

Table 7.1 provides details of the equity structure of listed companies in China and the changes to that structure during the period from the end of 1992 to the end of 2000.

State shares remained the dominant proportion of total shares, but the proportion of state shares in the equity structure of listed companies fell from 41.38 percent to 38.90 percent, a decrease of 2.48 percent. The reasons for this decline were as follows: (1) Owing to the fall in central government revenue, China stopped increasing the capitalization of SOEs; however, listed companies were constantly implementing capital increments to increase the proportion of public shares, which therefore caused the proportion of state shares to fall. (2) In the last few years there has been a series of cases of state shares' being privately transferred to legal persons, which has increased the proportion of legal person shares.

The reform of SOEs is nevertheless still making use mainly of state-owned holding companies, with the government insisting that listed companies must still be subsidiaries of a state-owned holding company. The reform of the SOEs therefore does not involve wholesale privatization, and state shares therefore continue to play an important role.

As far as founders' stocks are concerned, the proportion of domestic legal person shares has risen from 13.14 percent to 16.94 percent, an increase

**Table 7.1 Equity Structure of Stocks Listed on China's Stock Markets**

Share Type	End 1992		End 1997		End 1998		End 1999		End 2000	
	Billions of Shares	%	Billions of Shares	%	Billions of Shares	%	Billions of Shares	%	Billions of Shares	%
Shares not yet in circulation	4.769	69.25	127.124	65.44	166.485	65.89	200.71	65.02	243.743	64.28
Founder's stock	4.035	58.59	107.826	55.50	142.934	56.57	174.709	56.60	216.54	57.11
State shares	2.850	41.38	61.228	31.52	86.551	34.25	111.607	36.16	147.513	38.90
Domestic legal person shares	0.905	13.14	43.991	22.64	52.806	20.90	59.051	19.13	64.255	16.94
Foreign legal person shares	0.280	4.07	2.607	1.34	3.577	1.42	4.051	1.31	4.62	1.22
Fund-raising legal person shares	0.649	9.42	13.049	6.72	15.234	6.03	19.01	6.16	21.421	5.65
Internal employee shares	0.085	1.23	3.962	2.04	5.170	2.05	3.671	1.19	2.429	0.64
Other (transferred allotment)	0.00	0.00	2.287	1.18	3.147	1.25	3.32	1.08	2.462	0.65
Shares in circulation	2.118	30.75	67.144	34.56	86.194	34.11	107.965	34.98	135.427	35.72
Domestically listed Renminbi shares (A-shares)	1.093	15.87	44.268	22.79	60.803	24.06	81.318	26.34	107.817	28.44
Domestically listed foreign capital shares (B-shares)	1.025	14.88	11.731	6.04	13.396	5.30	14.192	4.60	15.157	4.00
Overseas-listed foreign capital shares (H-shares)	0.00	0.00	11.145	5.74	11.995	4.75	12.454	4.03	12.454	3.28

Sources: China Securities Regulatory Commission (CSRC; 2000, 189) and the CSRC Web site ([www.csrc.gov.cn](http://www.csrc.gov.cn)).

Note: Each share has a face value of RMB 1.00.

of 3.80 percent, while the proportion of fund-raising legal person shares has fallen from 9.42 percent to 5.65 percent, a decrease of 3.77 percent. The reasons for this are as follows:

1. Most listed companies have been transformed from SOEs; listing is usually implemented as part of the restructuring of SOEs, and the proportion of total capitalization accounted for by the former SOEs' internal reserves is defined as founder's stock after listing.

2. Many listed companies are the profitable parts of SOEs which were spun off, with the SOEs retaining founder's stock; this has led to a significant increase in the proportion of founder's stock.

3. Owing to the general decline in enterprise performance over the last few years, and the restrictions on the circulation of legal person shares, the market for legal person shares is not sufficiently lively and market prices are unattractively low; as a result, there has been a general decrease in mutual investment between unrelated legal persons, so that the proportion of fund-raising legal person shares has fallen gradually.

The proportion of employee shares in unlisted companies rose from 1.23 percent to 2.04 percent, and then declined to 0.64 percent. This reflects the way in which, during the process of institutional transformation, enterprises have used employee stock options as a means of improving employee welfare.

With regard to the proportion of total equity accounted for by the various types of shares, the continual implementation of capital increments to increase the number of public shares and the private transfer of state shares to legal persons has caused the proportion of listed company equity accounted for by state shares to fall from 41.38 percent in 1992 to 38.0 percent in 2000. State shares are, however, still the most numerous category of shares. At the same time, because shares that cannot be traded freely (including state shares) account for 60 percent of total equity, company managers do not have to worry that poor management may cause their enterprises' stock prices to fall, or that their company will be faced with the threat of being taken over. In other words, holders of public shares cannot "vote with their feet" and managers are not concerned about the rights of public shareholders (Xu and Wang 1999).

In 2000, the Chinese government began undertaking reform of its SOEs in the petrochemical,<sup>3</sup> communications,<sup>4</sup> rail transport, and electric power

3. China Petroleum and Natural Gas Ltd. implemented an IPO using H-shares and American depository receipts (ADR) in both Hong Kong and New York in March 2000, after which the state shares in the company held by its parent company, China National Petroleum Corporation (CNPC), was reduced to 90 percent (Wu 2001).

4. In June 2000, following reorganization, Zhong Lian Tung secured a stock market listing in both Hong Kong and New York using "red chip" shares and ADR. The amount of capital raised was US\$6.278 billion, making this the largest IPO ever involving an Asian company (other than Japanese companies). Following the IPO, the shares in Zhong Lian Tung held by the state fell by 80 percent (Wu 2001).

sectors, seeking to reorganize the entire industry and establish a regulated company system. The aim was to have these reorganized companies listed on the domestic and overseas stock markets, establishing a regulated framework for corporate governance and turning the old SOEs into real businesses.

The developing capital markets can, on the one hand, enable enterprises to increase their capitalization; while at the same time change in enterprises' equity and corporate governance structures can be used to create a solid foundation for dealing with the underlying causes of indebtedness. However, China's capital markets have not had long to develop, and their overall level of development is still low. Too little in-depth thinking has gone into directing the course of their development, and various levels of disparity exist in certain areas. Furthermore, theoretically speaking, the corporate governance structure requires a separation between investors and managers; a set of incentive mechanisms and restrictive mechanisms need to be developed to reduce agency costs and ensure that the investors receive a return on their investment. However, there are inherent weaknesses in the governance structure of China's SOEs. First of all, as far as incentive mechanisms are concerned, despite twenty years of reform there has been no systematic improvement in the incentive mechanisms of China's SOEs, and their attempts to imitate the incentive mechanisms of private enterprises have run into two major problems. First of all, it is very difficult to find suitable indicators for implementing rewards and punishments in SOEs, wherein both the starting point and the policy burden are different; and second, there is a lack of faith in the commitments made. The SOEs' restrictive mechanisms are characterized by excessive administrative interference and the simultaneous existence of excessive internal controls.<sup>5</sup> As a result, enterprise management tends to become divorced from the owners' interest. It is therefore not enough to rely on the capital markets alone to transform the SOEs; a strategic withdrawal is needed from state involvement in the economy, and a favorable environment for privatization has to be created. This is the only way in which the reform of the SOEs can really be facilitated (Wu and Zhao 2000).

### **7.3 The Operational Performance of Listed Companies**

We will explore the operational performance of listed companies in China in terms of the growth, profitability, and stability of these companies, taking into consideration differences between stock exchanges and industries. The selection of financial indicators is based on (1) the use of

5. One example is Zhonguo Yituo Ltd. in Henan Province. Although Zhonguo Yituo succeeded in securing RMB 1.6 billion through the stock market in 1997, the lack of sound management mechanisms led to errors being made with respect to the company's expansion, and consequently, the company's operational performance was poor.

listed companies' operating revenue and net profit growth rates to explore the performance of listed companies in terms of growth, as well as the differences between stock exchanges and industries; (2) the use of listed companies' earnings per share (EPS) and return on equity (ROE, which equals net profit/shareholders' equity) to explore listed companies' performance in terms of profitability, as well as the differences between stock exchanges and industries; and (3) the use of listed companies' quick ratios ( $(\text{current asset} - \text{inventory})/\text{current ratio}$ ) and current ratio ( $\text{current asset}/\text{current liability}$ ) to explore listed companies' performance in terms of stability, as well as the differences between stock exchanges and industries. Empirical verification is then undertaken with regard to the impact of IPOs on the operational performance of listed companies, to determine the impact of the stock market on China's economic development as it progresses through this period of institutional transformation.

### 7.3.1 Data Description and Methodology

Listed companies' interim financial reports for 1999 published by China Securities Regulatory Commission (CSRC) were used for empirical estimation. The data given covered the period from mid-1995 to mid-1999. The CSRC data include listed companies' operating revenue, net profit rates, EPS, ROE, quick ratio, and current ratio. The sample consisted of 884 companies (including both A-shares and B-shares); 437 of the companies were listed on the Shanghai Stock Market and 447 were listed on the Shenzhen Stock Market.

As regards industry classification, the Shanghai Stock Market divides all listed companies into five categories: industrial, commercial, real estate, public utilities, and general. The Shenzhen Stock Market divides all listed companies into six categories: industrial, commercial, financial, real estate, public utilities, and general. Such classifications are inappropriate, partly because the two stock exchanges use different classification systems, and partly because the classifications are not sufficiently precise. If the industry data produced by the Shanghai and Shenzhen stock markets are used, not only is the classification too precise, but the disparity between the numbers of enterprises in each category is too obvious. To facilitate comparison, for the purposes of this study all listed companies were divided into twenty-one industries: agriculture; mining; food, textiles, and garments; printing and papermaking; metals and metal products; chemical industry; pharmaceuticals; construction materials; machinery; electronics and electrical appliances; precision instruments; vehicles; miscellaneous; public utilities; transportation; finance; real estate and construction; travel and hotels; commerce; foreign trade; and information (see table 7.2).

The data cover the period 1995–1999, during which both the Asian financial crisis and China's economic recovery occurred. Therefore it is inappropriate to compare the data for different years. In addition, regarding



**Table 7.2**     **Sample Data Industry Categories**

Industry Category	Original Category	Industry Category	Original Category
Agriculture	Agriculture	Commerce	Commerce
	Forestry		Rental
	Fisheries		Packaging
	Livestock		General
Mining	Mining	Information	Computers
Machinery	Agricultural machinery		Communications
	Machinery	Foreign trade	Trade
	Milling machines and materials	Food, textiles, and garments	Food
	Textile machinery		Textiles
Electronics and electrical appliances	Electromechanical	Printing and papermaking	Garments
	Electronic appliances	Chemical industry	Printing
	Wire and cable		Paper industry
	Refrigeration equipment		Chemicals
	Home appliances	Construction materials	Artificial fiber
Precision instruments	Instruments and meters		Paints
	Medical instruments		Glass
Vehicles	Bicycles		Construction materials
	Motorcycles	Real estate and construction	Cement
	Auto accessories		Materials
	Auto manufacturing		Ceramics
	Shipbuilding		Basic construction
	Aircraft manufacturing		Highway construction
Metals and metal products	Iron and steel	Public utilities	Harbor construction
Pharmaceuticals	Metallurgy		Industrial districts
	Pharmaceuticals		Real estate
	Biotechnology		Building contractors
Miscellaneous	Pens		Public utilities
	Toys	Transportation	Energy
	Jewelry		Water supply
	Sports		Warehousing
	Industrial		Transportation
Travel and hotels	Travel	Finance	Containers
	Hotels		Finance
	Brewing		

the comparison of financial indicators between listed companies, a reasonable level of comprehension already has been achieved with respect to listed companies' financial statements; thus the main emphasis in the following analysis will be on the comparison of industry performance in each year and on industry performance within the sample as a whole.

The industries to which listed companies belong are grouped into five categories: (1) those industries that have performed very well by comparison with the average for all industries (e.g., the financial indicator for the industry in question was 50 percent higher than the average for all indus-

tries for that year or period); (2) those industries that performed better than the average for all industries (e.g., the financial indicator for the industry in question was higher than—but less than 50 percent higher than—the average for all industries for that year or period); (3) those industries that performed worse than the average for all industries (e.g., the financial indicator for the industry in question was lower than—but less than 50 percent lower than—the average for all industries for that year or period); (4) those industries that performed significantly worse than the average for all industries (e.g., the financial indicator for the industry in question was less than 0.5 percent of the average for all industries for that year or period); (5) those industries that performed markedly worse than the average for all industries (e.g., the financial indicator for the industry in question was less than 0.1 percent of the average for all industries for that year or period).

To assess the pre- and post-IPO operational performance of listed companies, according to Greene (1993), the analysis of variance (ANOVA) tests the null hypothesis that all coefficients of the regression other than the intercept are zero; the ANOVA test rather than regression method can be used to conduct empirical assessment. Therefore, the ANOVA method was utilized to verify the impact of the IPOs on the operational performance of listed companies, to determine whether the null hypothesis could be accepted—the null hypothesis was that a listed company's operational performance would not change after its IPO; namely, there would be no difference in the financial indicators between the average values of the IPO year and the average values of the subsequent three years.

We begin by analyzing the overall operational performance of the industries to which China's listed companies belong, from the points of view of growth, profitability, and stability. First, we conduct a combined analysis of operating revenue and profitability by industry. Then we calculate the overall financial indicator ratings for each stock exchange and each industry, in order to evaluate the overall relative operational performance of listed companies in China.

Regarding the analysis of overall industry operating revenue and profitability, the financial indicators that can best represent a listed company's operating revenue and profitability are the operating revenue growth rate and ROE (Li 1999). The industry's growth rate in operating revenue is taken as the horizontal axis, with ROE as the vertical axis, and the relevant values from the Shanghai and Shenzhen stock exchanges are then plotted on the graph. The average value for all companies listed on the two exchanges is taken as the demarcation point, and all industries are divided into four categories: (1) industries with high growth and high profits (the first quadrant on the graph); (2) industries with low growth but high profits (the second quadrant); (3) industries with low growth but low profits (the third quadrant); and (4) industries with high growth and low profits

(the fourth quadrant). Those industries with high growth and high profits have the highest overall revenue and profitability; those industries with low growth and low profits have the lowest overall revenue and profitability; those industries with high growth and low profits or low growth and high profits lie between the two (see figs. 7.1 and 7.2).

*Industries with High Growth and High Profitability*

This category includes public utilities and trade. Their chief characteristics are that they have a large potential market and good development potential.

*Industries with Low Growth and High Profitability*

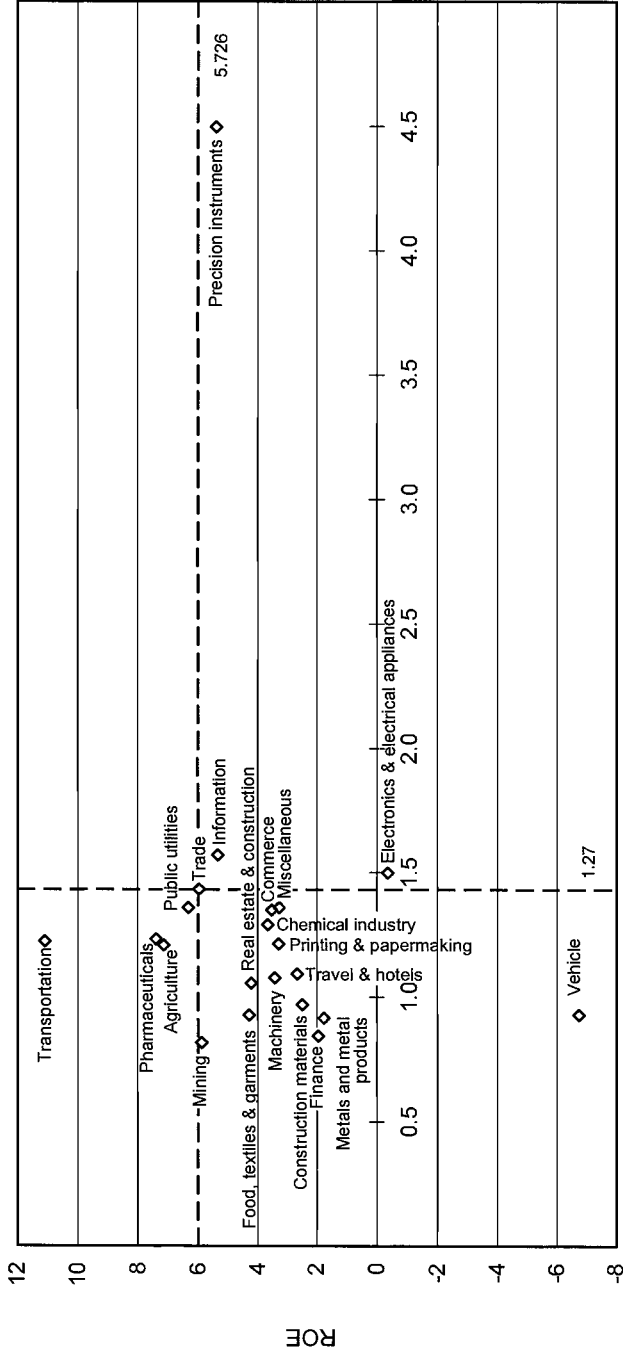
This category includes transportation, pharmaceuticals, agriculture, and mining. These industries have stable market prices, and while they do experience temporary slumps, overall they are stable, mature industries with high profitability.

*Industries with High Growth and Low Profitability*

On the Shanghai Stock Exchange, this category includes a total of six industries: precision instruments, information, electronics and electrical appliances, the chemical industry, commerce, and miscellaneous. On the Shenzhen Stock Exchange it includes a total of five industries: food, textiles, and garments; pharmaceuticals; printing and papermaking; machinery; and information. The chief characteristic of these industries is that competition is very fierce within each industry. Although overall demand is still increasing, the rate of increase in supply is far higher than the rate of increase in demand. As a result, price-cutting competition is causing earnings to fall, and there is market polarization in the performance of companies in the industry. However, the prospects for the industry as a whole are still good, and there is considerable potential for development in the medium and long terms.

*Industries with Low Growth and Low Profits*

On the Shanghai Stock Exchange this category includes a total of nine industries: real estate and construction; travel and hotels; construction materials; metals and metal products; finance; vehicles; machinery; food, textiles, and garments; and printing and papermaking. On the Shenzhen Stock Exchange, it includes a total of fourteen industries: real estate and construction, travel and hotels, construction materials, metals and metal products, finance, vehicles, electronics and electrical appliances, the chemical industry, commerce, miscellaneous, agriculture, precision instruments, trade, and transportation. The main characteristic of these industries is that many of them are primary industries. In recent years, the prices of raw materials and energy in China have risen, but the price of finished



Operating Revenue Growth Rate

Fig. 7.1 Distribution of ROE and operating revenue growth rate for companies listed on the Shanghai Stock Exchange, by industry

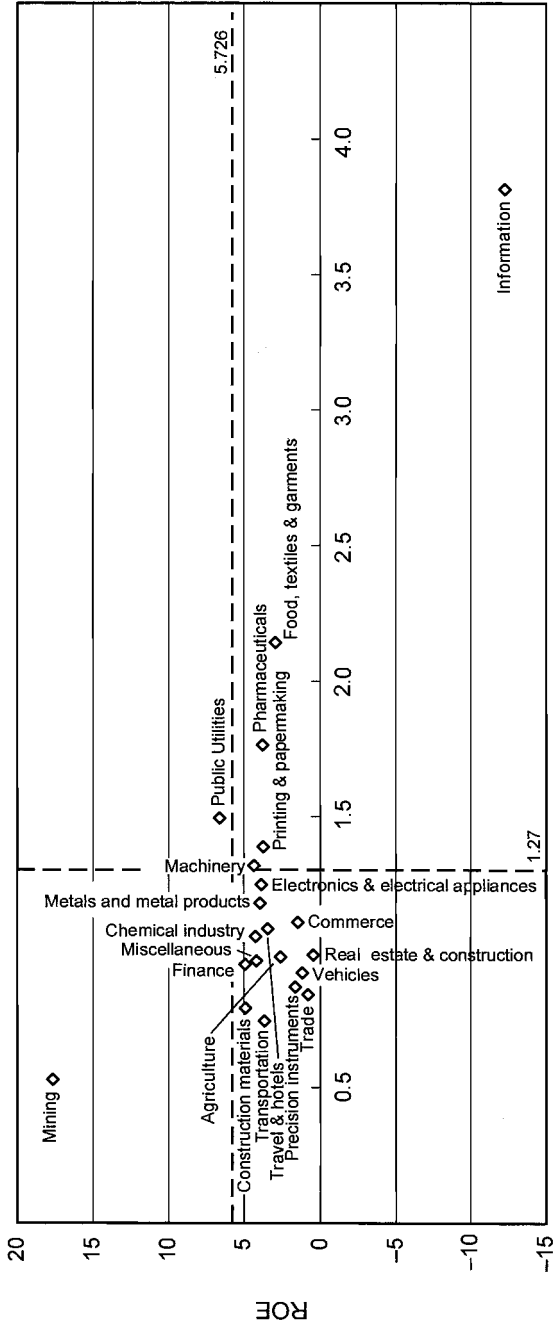


Fig. 7.2 Distribution of ROE and operating revenue growth rate for companies listed on the Shenzhen Stock Exchange, by industry

products has fallen. As a result, the market has contracted, competition has become much fiercer, and overall industry performance has fallen.

Finally, we calculate the overall financial indicator scores for each stock exchange and each industry in order to evaluate the overall relative operational performance of listed companies in China. The standard for evaluation is based on the principles of analysis described above. Those industries displaying good performance are awarded 5 points, those displaying acceptable performance are awarded 4 points, those displaying relatively poor performance are awarded 3 points, those displaying bad performance are awarded 2 points, and those displaying very bad performance are awarded just 1 point.

The only industries to display good overall performance (with a total score of 4 or higher) are the public-utility, transportation, and finance industries. In terms of the stock exchange, for the Shanghai Stock Exchange those industries that displayed relatively good performance were the public-utility, chemical, trade, and precision instruments industries; for the Shenzhen Stock Exchange they were the transportation and finance industries. Clearly, the overall operational performance of most industries is poor, and those that demonstrate better performance are China's "sunrise" industries. Furthermore, of the companies listed on the Shanghai Stock Exchange, the overall performance of those in agriculture; food, textiles, and garments; metals and metal products; chemical industry; pharmaceuticals; precision instruments; miscellaneous; public utilities; real estate; commerce; trade; and information is superior to that of those listed on the Shenzhen Stock Exchange (see tables 7.3–7.5).

#### 7.4 The Impact of IPOs on Listed Companies

In the previous section, we undertook structural analysis of the financial indicators of listed companies in China. However, more analysis is needed to determine whether an IPO does in fact have a positive impact on a company's operations.<sup>6</sup> In this study, we use the ANOVA method, which is applied to the data for the year of IPO and the subsequent three years, to undertake a mean value parity assumption verification analysis with respect to companies' operating revenue growth rate, net profit growth rate, EPS, and ROE. The results are shown in table 7.6. The results of the ANOVA analysis show that following IPO, the only financial indicators in which there is any statistically significant change are ROE and EPS (for companies listed on the Shanghai Stock Exchange only); in other words, only in the profitability indicators is there any change.

6. According to Chinese Company Law, the stock shares of listed companies shall not be less than 5,000 shares. If they reach 5,000 shares, there is no need to issue new shares; therefore, a dilution effect by IPOs does not exist. Otherwise, if there were less than 5,000 shares, the dilution effect may be pervasive.

**Table 7.3            Overall Financial Indicator Ratings, Listed Companies in China**

Name of Industry	Operating Revenue	Net Profit Rate	ROE	EPS	Quick Ratio	Current Ratio	Average
Agriculture	3	3	3	3	4	4	3.33
Mining	2	3	5	4	4	3	3.50
Food, textiles, and garments	2	3	3	3	4	4	3.17
Printing and papermaking	2	3	3	3	4	4	3.17
Metals and metal products	5	4	3	3	3	3	3.50
Chemical industry	4	4	3	3	4	4	3.67
Pharmaceuticals	3	3	3	3	4	3	3.17
Construction materials	2	3	3	3	3	3	2.83
Machinery	3	3	3	3	3	4	3.17
Electronics and electrical appliances	5	5	3	4	3	3	3.83
Precision instruments	2	4	3	5	4	4	3.67
Vehicles	5	3	2	3	3	3	3.17
Miscellaneous	2	3	4	4	4	4	3.50
Public utilities	3	5	4	4	4	4	4.00
Transportation	4	3	4	4	5	5	4.17
Finance	4	5	4	5	3	3	4.00
Real estate and construction	3	4	3	3	3	3	3.17
Travel and hotels	3	4	3	4	4	4	3.67
Commerce	3	3	5	3	3	3	3.33
Foreign trade	5	3	3	4	4	4	3.83
Information	3	4	2	4	4	4	3.50

*Notes:* Those industries displaying superior performance are given 5 points; those displaying reasonable performance are given 4 points; those displaying relatively poor performance are given 3 points; those displaying poor performance are given 2 points; and those displaying very bad performance are given 1 point.

We further classify the industry into six subcategories: agriculture, manufacturing, public utilities, real estate and construction, finance and commerce, and general. The results of ANOVA in table 7.7 indicate that following IPO, the financial indicators in which there are statistically significant changes are ROE for manufacturing and for finance and commerce, since they are state monopolies. If the listed companies are grouped by share classes (as in table 7.8), the results of ANOVA indicate that only ROE has any significant change for both A-shares and B-shares.

If the financial indicators for listed companies before and after IPO are grouped in sets of two years, regardless of whether the company is listed on the Shanghai or Shenzhen Stock Exchange, we can see from the results that (1) operating revenue growth rate tends to decline sharply after IPO, with a clear disparity with the annual statistics reported at the time of IPO; (2) net profit growth rate tends to decline sharply after IPO, with a clear disparity with the annual statistics reported at the time of IPO; (3) ROE tends

**Table 7.4 Overall Financial Indicator Ratings, Companies Listed on the Shanghai Stock Exchange**

Name of Industry	Operating Revenue	Net Profit Rate	ROE	EPS	Quick Ratio	Current Ratio	Average
Agriculture	3	4	4	4	4	4	3.83
Mining	2	3	4	3	3	3	3.00
Food, textiles, and garments	2	3	4	4	4	4	3.50
Printing and papermaking	2	3	3	3	3	3	2.83
Metals and metal products	5	4	3	3	3	3	3.50
Chemical industry	5	5	4	3	4	4	4.17
Pharmaceuticals	3	3	4	4	3	3	3.33
Construction materials	2	2	3	2	3	3	2.50
Machinery	3	3	3	3	3	4	3.17
Electronics and electrical appliances	4	4	3	4	3	3	3.50
Precision instruments	3	3	4	4	5	5	4.00
Vehicles	4	3	2	3	3	3	3.00
Miscellaneous	2	3	4	4	4	4	3.50
Public utilities	3	5	5	4	4	4	4.17
Transportation	3	3	5	4	4	4	3.83
Finance	2	5	4	5	3	3	3.67
Real estate and construction	3	4	4	4	3	3	3.50
Travel and hotels	2	3	3	3	4	4	3.17
Commerce	3	3	4	4	3	3	3.33
Foreign trade	5	4	4	5	4	4	4.33
Information	3	4	4	4	3	3	3.50

Notes: See table 7.3.

to fall sharply after IPO, with a clear disparity with the financial statements submitted at the time of IPO; and (4) EPS tend to fall sharply after IPO; in the case of companies listed on the Shanghai Stock Exchange, there is a clear disparity with the financial statements submitted at the time of IPO, while for companies listed on the Shenzhen Stock Exchange this is not the case, and some improvement can be seen in the tendency for earnings per share to fall.

The above analysis shows that for enterprises in China's stock markets, IPO does not present any marked benefits with respect to operational performance, and in fact performance tends to worsen. One of the reasons for this is that in order to implement the IPO and secure a stock market listing, companies tend to submit inflated figures in the financial statements that they are required to provide; the real situation is reflected gradually after the company has secured a listing. In addition, the state still retains a majority share in most listed SOEs in China; thus, the fundamental character of these enterprises is unchanged and the influence of the original SOE



**Table 7.5 Overall Financial Indicator Ratings, Companies Listed on the Shenzhen Stock Exchange**

Name of Industry	Operating Revenue	Net Profit Rate	ROE	EPS	Quick Ratio	Current Ratio	Average
Agriculture	3	2	2	3	4	4	3.00
Mining	2	3	5	4	5	4	3.83
Food, textiles, and garments	2	2	2	2	3	3	2.33
Printing and papermaking	3	3	2	3	4	4	3.17
Metals and metal products	5	4	2	3	3	3	3.33
Chemical industry	4	3	3	3	3	3	3.17
Pharmaceuticals	3	2	2	3	4	4	3.00
Construction materials	3	3	3	4	4	4	3.50
Machinery	4	3	3	4	3	4	3.50
Electronics and electrical appliances	5	5	3	4	3	3	3.83
Precision instruments	2	4	2	5	4	4	3.50
Vehicles	5	4	2	3	3	3	3.33
Miscellaneous	2	3	4	5	3	3	3.33
Public utilities	3	5	3	4	4	4	3.83
Transportation	4	4	3	4	5	5	4.17
Finance	5	5	4	4	3	3	4.00
Real estate and construction	3	4	2	3	3	3	3.00
Travel and hotels	3	5	3	4	4	4	3.83
Commerce	3	2	5	3	3	3	3.17
Foreign trade	3	2	2	2	3	3	2.50
Information	3	4	1	4	4	4	3.33

Notes: See table 7.3.

**Table 7.6 Empirical Results of ANOVA, by Stock Exchange**

Financial Indicator	Shanghai		Shenzhen	
	<i>F</i> value	Pr > <i>F</i> value	<i>F</i> value	Pr > <i>F</i> value
Operating revenue growth rate	0.16	0.926	0.86	0.4600
Net profit growth rate	0.16	0.926	1.07	0.3602
EPS	8.10	0.0001*	1.15	0.3340
ROE	9.12	0.0001*	10.55	0.0001*

\*Significant at the 1 percent level.

systems and structures is not erased. In particular, the government still directly appoints, or interferes in the appointment of, senior managers for some companies; a company chairman or president is frequently appointed by government authorities. In their governance structure, therefore, many listed companies retain an agency relationship within the company, rather than a property-ownership relationship. At best, governance

**Table 7.7 Empirical Results of ANOVA, by Industry**

Financial Indicator	Agriculture		Manufacturing		Public Utilities		Real Estate and Construction		Finance and Commerce		General	
	<i>F</i>	Pr > <i>F</i>	<i>F</i>	<i>F</i>	Pr > <i>F</i>	<i>F</i>	Pr > <i>F</i>	Pr > <i>F</i>	<i>F</i>	Pr > <i>F</i>	<i>F</i>	Pr > <i>F</i>
Operating revenue growth rate	3.34	0.048	1.26	0.2860	0.43	0.732	0.51	0.677	0.234	0.878	0.06	0.981
Net profit growth rate	0.75	0.480	0.50	0.6570	1.28	0.297	0.91	0.442	0.79	0.502	0.41	0.743
EPS	1.51	0.229	0.82	0.4850	1.79	0.162	4.01	0.011	1.50	0.215	2.83	0.042
ROE	1.24	0.310	10.59	0.0001*	0.78	0.511	3.64	0.017	5.47	0.001*	0.07	0.977

*Notes:* Agriculture includes the agriculture, forestry, fisheries, and livestock sectors. Manufacturing includes the mining, food, textiles, and garments; printing and papermaking; chemical industry; pharmaceuticals; construction materials; machinery; electronics and electrical appliances; precision instruments; vehicles; metals and metal products; information; and miscellaneous sectors. General includes the transportation, travel and hotels, and foreign trade sectors.

\*The null hypothesis is rejected within a 1 percent level of significance.

**Table 7.8**                      **Empirical Results of ANOVA, by Share Class**

Financial Indicator	A-Share		B-Share	
	<i>F</i>	Pr > <i>F</i>	<i>F</i>	Pr > <i>F</i>
Operating revenue growth rate	0.83	0.478	0.53	0.595
Net profit growth rate	1.55	0.200	0.61	0.552
EPS	2.49	0.059	3.20	0.034
ROE	15.93	0.001*	6.83	0.001*

\*The null hypothesis is rejected within a 1 percent level of significance.

in these companies is a mixture of political interest and economic interest. What's more, the control that holders of "state shares" exercise over the company tends to be weak in economic terms but strong in political terms. As a result, in their role as "agents," the managers tend to be opportunistic with respect to political matters, and to be affected by moral hazard with respect to economic matters. Using firm-level data from over 300 stock companies from 1993 to 1995, Xu and Wang (1999) found that there was a relationship between ownership structure and corporate performance, indicating the positive role of legal person shares and the negative role of state shares. Chen (2001) used a sample of 434 manufacturing firms listed on the Chinese stock exchange; his findings showed that state shares play a negative role in corporate governance, while domestic institutional and managerial shareholdings improve firm's performance.

Owing to the dual identity of the manager-agent, the mechanism for encouragement and sanction by the company's managers cannot lead to the maximization of benefits for the company. There are further serious problems, such as the fact that internal control of company personnel is not kept within reasonable limits (Li and Huang 1999). In other words, the inherent defects of the governance structure of Chinese companies led to poor operational performance (He and Liu 2000; Wu and Zhao 2000). For example, it is unclear how much control the ownership of "state shares" confers, there is too much insider trading, the responsibilities of the boards of directors are not sufficiently defined, there is too much administrative interference, too many problems of internal control, and so on. As a result, although working capital may have increased after listing, there has been no corresponding improvement in operational management. Consequently, the improvement in the company's operational performance as a result of IPO is not that dramatic. Of course, operational performance is also affected by other factors not directly related to the company itself, such as the business cycle, the government's industrial policy, and developments in related industries; that is to say, the fact that the Asian financial crisis and a weakening of demand in China occurred during the period cov-

ered by the sample is another reason for the sudden fall in the financial indicators.

## 7.5 Conclusions

Whether one looks at growth, profitability, and stability individually or all together, it can be seen that the only industries in China in which listed companies display strong performance are the public utilities, transportation, and finance; that is to say, China's "sunrise" industries. The overall operational performance of all other industries is clearly unsatisfactory, and poor performance is particularly widespread with respect to growth. Owing to the weak demand within China, there is excessive supply, intra-industry competition has become increasingly fierce, and enterprises' profit margins have been squeezed. In reality, the majority of enterprises in most industries have lost their ability to secure further financing, making it difficult for them to develop their operations further. In other words, listed companies have been willing to trade reduced profits for increased operating revenue and market share, which has affected their ability to secure financing.

An examination of the changes in listed companies' financial indicators following IPO reveals that, with the exception of earnings-related indicators (EPS and ROE), there is no significant change. What's more, the financial indicators tend to fall rapidly year on year. This means that the IPO is of little obvious help to companies' operational performance, and may actually make it worse. One of the reasons for this is that, in order to implement the IPO and secure a stock market listing, companies tend to submit inflated figures in the financial statements they are required to provide; the real situation is only gradually reflected after the company has secured a listing. Another possible factor is the poor corporate-governance characteristics of Chinese enterprises. For example, it is unclear how much control the ownership of "state shares" confers, there is too much insider trading, the responsibilities of the boards of directors are not sufficiently defined, and there is too much administrative interference and too many problems of internal control. As a result, although working capital may increase after listing, there is no corresponding improvement in operational management. Consequently, the improvement in the company's operational performance as a result of IPO is not that dramatic. Of course, another factor causing the financial indicators to fall rapidly is the fact that the Asian financial crisis and a falling-off in domestic demand occurred during the period covered by the sample.

The quality of listed companies is a prerequisite and a foundation for the development of capital markets. Only when listed companies display strong performance and growth can the ongoing development of the mar-

ket be maintained. One of the things that needs to be done in order to improve the quality of listed companies is to select for listing those companies that display strong performance, have strong development potential, and occupy a leading or advantageous position within their industries, encouraging hi-tech enterprises and companies in other emerging industries to make use of the capital markets. The second task is to ensure that the capital raised through IPO is used more efficiently; companies' listing plans should be in conformity with their inventory and asset adjustment and their technology upgrading. Third, listed companies need to thoroughly transform their management mechanisms, establishing efficient corporate governance structures and corresponding stock option incentive mechanisms. Furthermore, the operations of listed companies need to be improved. Support can be provided for listed companies to improve their asset and liability structures through debt-for-equity swaps and refinancing, and the Chinese government could encourage interregional, cross-industry mergers; acquisitions; and asset reorganization between listed companies as well as between listed and nonlisted companies, and between companies with different ownership structures. In this way, it will be possible to improve the operational efficiency of listed companies, cultivating a group of large listed companies with strong capabilities that will be competitive in international markets, making listed companies the core element in the market and allowing them to exercise the function of market stabilization.

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## Comment Deunden Nikomborirak

The objective of this paper is to determine, with the use of empirical data on listed companies, whether getting listed in the stock market improves the financial performance of enterprises. The conclusion reached is that financial performance actually deteriorates after the listing year for four main reasons:

1. Initial figures tend to be inflated.
2. Despite privatization, state corporate control remains.
3. Listed companies in the Chinese stock markets are not subject to market discipline since equity shares in listed companies are divided up into state shares, legal person shares, public shares, and internal employee shares. Public shares can be traded only in the secondary market and state shares are not traded freely.
4. The Asian crisis may have contributed to the overall inferior financial performance of listed companies.

While these are valid reasons for explaining the lack of improvement in the financial performance of listed companies, they are not supported by the empirical tests undertaken. This is because the empirical study fails to disaggregate each of these effects. It simply confirms that there is a negative change in the EPS and ROE after the listing. On this note, I would like to make some suggestions with regard to how the effects may be disaggregated so that the authors' conclusions may be better supported.

First, to examine the extent of the inflation of the initial figures, one may use the difference in the financial figures (i.e., the ROE and EPS) of newly listed companies and those of the incumbents in the market in a similar industry. Second, to isolate the impact of sustained state control of former SOEs, dummies may be introduced for listed companies that are former SOEs. Third, to determine whether the listed company is subject to sufficient market discipline, the proportion of equity shares that are traded on the stock exchange may be used as a proxy. Finally, the impact of the Asian crisis may be isolated by using the average industry's performance as a benchmark.

### **Comment**     Changqi Wu

This is an interesting and timely paper addressing an important issue in the process of China's economic development, namely, the role of stock markets. In China's effort to establish a market economy in the last two decades, hardly any other industry or institution has caught so much attention and debate as the development of stock markets. It has been more than ten years since China reestablished its first stock exchange. China's two stock exchanges in Shanghai and Shenzhen are featured permanently in Asia's financial market. But the problems abound. From the very beginning of the economic reform, the role of the stock market has been controversial. This is also a thorny and hotly debated issue within China.

In the industrialized economies, stock markets are an important component of the overall market institutions. As part of the financial system, stock markets facilitate resource allocation within the economy and help companies to raise capital. In addition, the stock prices transmit and reflect information on firms' performance to the general public. Stock markets also impose discipline on managers' behavior.

In the case of China and other emerging markets, because of underdevelopment of the market institutions and lack of sophisticated and transparent financial systems, the stock markets may not be able to play those roles. The two authors address some of those problems in their paper.

The authors try to assess the impact of stock listing on the performance of the listed companies in two stock exchanges in China. They find that the performance of those companies depends critically on industrial characteristics. Those firms operating in less competitive industries perform better than others. The authors do not find any significant improvement in performance before and after the stock listing. Instead, the listed firms'

performance deteriorated across the board after their IPOs, despite the injection of new capital into those companies. The authors suggest that the deterioration in performance may be attributable to manipulation of accounts and bad corporate governance. They argue that improving corporate governance is essential to improving the performance of listed companies.

My comments on this paper are focused on three issues: measurement, data methodology, and results. I hope that my comments can be useful to the authors.

### **Measurement**

The authors have used three indicators to measure the performance of companies immediately before and after the IPOs: growth of net profit, ROE, and quick ratio. These indicators are all calculated based on accounting information available. They are clearly useful and reflect the performance of those companies to a large extent, although attention is called to a few specific factors that are unique in the operating environment in China.

For instance, the authors use ROE as the performance of the listed companies. As is well known, ROE is influenced strongly by the debt-equity ratio. Moreover, ROE may not reflect the efficient use of total capital employed by the company. As in the case of China, the SOEs benefit from indirect government subsidies through subsidized loans from the state-owned banks. That may distort the measure of ROE. One should also note that China experienced double-digit inflation in the first half of 1990s; using the ROE as the performance measure in the high inflation environment may build in an upward bias.

The authors use the quick ratio and the current ratio as firms' stability measures. Both ratios measure the possibility of default of the listed companies. A unique feature of listed companies in China's stock markets is that the majority of the listed companies are SOEs. Those SOEs often are under the protection of the various levels of government. Although it is theoretically possible for an SOE to go under, practically speaking it is very difficult for this to happen because the government agencies will try all means to keep the company afloat.

### **Data and Methodology**

The authors examine the performance of listed companies using data from the China Securities Regulatory Commission, covering a five-year period from 1995 to 1999. The advantage of skipping the early period of IPO data is obvious. The nature of the emerging stock markets in China may not warrant the availability and quality of the data. It is up to the authors to choose which time period to use in their study. There are other databases available in the market. For instance, the electronic database



developed by the *Taiwan Economic Journal* covers a longer period, 1991 to 2000. That database also contains financial market information, such as stock prices and trading volumes.

The authors use the ANOVA method to detect the impact of IPO on performance with panel data. An alternative is to use the event-study method that can capture the impact of IPOs. For instance, if the performance data cover a six-year period, with the first three years covering the operations prior to the time of the IPO and the second three years covering data after the IPO, that may make the results more significant.

## **The Results**

In the introduction and conclusion, the authors interpret the better performance of listed companies in industries such as utilities and finance as the result of their being “sunrise” industries. The reason is that those industries are underdeveloped; therefore the early movers can enjoy a better return. I would consider that the term “sunrise industry” is not a good explanation for those companies’ outperformance of the others. An alternative explanation that is plausible is that, because those sectors are protected by the government, those firms are enjoying the monopoly rent.

The authors construct figure 7.1 to map the clusters of companies in the coordinates with the vertical axis denoting ROE, representing current performance, and the horizontal axis, growth rate of profit, representing the future growth potential. When the authors calculate the industry average, the means of all listed companies of both variables are used. This runs the risk of possible selection bias. A better benchmark is the average of all firms in China, not only the listed companies, which are not representative of all enterprises in China. Moreover, alternative combinations can be made between current profitability and Tobin’s Q-ratio. The latter may reflect the monopoly rent or future unrealized profit.

Tables 7.3 to 7.5 show how the industry proxy is calculated. We must be very careful when summing measures of different natures together. Because of incompatibility among these individual measures, it is hard to make meaningful adjustments for the weight in each category. The equal-weight method looks arbitrary.

The authors report that the statistically significant indicators are EPS and ROE. That result is expected, because IPOs of an ongoing concern will introduce a dilution effect on both EPS and ROE because more shares are being issued. The result essentially indicates that an IPO has no economically significant impact on the performance of the privatized firms.

I now come back to the question in the title of the paper: What is corporate governance? In its narrow sense, the question of corporate governance should include the following issues: What is the composition of the board and the voting rules? Who are the board members? How are decisions

made? How can the small shareholder's interests be protected? The authors do not address this problem directly.

The authors point out that corporate governance of those listed companies does not change much despite the so-called partial privatization. It is largely because the core of corporate governance does not change. The large shareholders are still government agencies and other SOEs. Only when ownership and corporate governance are changed fundamentally can one hope that China's stock markets will function as they should.

To sum up, the authors have done some interesting work. They show that stock market listings without fundamental change in the nature of the enterprises may not induce improvement in efficiency and performance of enterprises in China. Given that the majority of listed firms in China is still state owned and operated, this result does not seem surprising. Nevertheless, the results call for an effort to reform those enterprises.

