

## Firm Governance and the Chinese Stock Market

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With the signing of an agreement with the United States easing China's entrance into the World Trade Organization, November 1999 was a very good month for Hong Kong's stock market, especially for its A-share and China-related firms (EMDB, 1999). By 1999 year-end, the Hang Seng Index had risen more than 50% over the previous year, more than double the rise in the Dow Jones indices for the mainland markets, suggesting that investors were less optimistic about the prospects for future earnings from China's elite State-owned Enterprises. Though China's stock markets recently hit record highs due to new government signals about its intentions for accelerating reforms (in particular, a cut in the stamp tax on transactions and the formation of a new Sino-foreign mutual fund), past performance has been disappointing, and points out problems in corporate governance that the joint-stock system has not yet solved.

In 1993 at the Third Plenum of the Chinese Communist Party's 14th Central Committee, reforms were announced that intended to modernize management of State-Owned Enterprises in hopes of reducing their drain on the state's budget without sacrificing their position as the cornerstone of China's new "Socialist Market Economy" (*Jingji Ribao*, 1993). Fundamental to these reforms was the separation of ownership and management, along the lines of western forms of corporate governance; while small enterprises could be shut down, privatized, or leased to private entrepreneurs, medium and large enterprises were to be converted into either joint-stock or limited liability corporations. The largest and most promising State-Owned Enterprises who met certain standards were even allowed to sell shares on the new Shanghai and Shenzhen stock exchanges, and savers responded to these new offerings with enthusiasm.

Privatization was never the state's intention in these reforms, though there were high hopes that the western-style separation of ownership and management would produce western-style improvements in firm

profits. Instead, the primary intentions of China's joint-stock system were to allow the state access to private capital and to thereby harden the state firm's budget constraint, while also making it possible for new state firms to be created that did not share the old firms's social welfare burdens. The state is still the predominant owner of most joint-stock enterprises, however, and as a result it is still questionable whether it has effectively changed corporate governance. To answer this question, this paper examines several data sets of Chinese stock market data to determine whether there is any evidence that broadening ownership through stock market reforms is improving corporate governance.

### **Changing Governance of Chinese State Enterprises**

In an effort to boost productivity, economic reforms in the 1980s dismantled the state's monopoly over industrial production (Naughton, 1992), and allowed competition from, in chronological order, urban collectives, rural collective (township and village) enterprises, joint ventures, small individually-owned firms, larger privately-owned enterprises, and eventually wholly foreign-owned firms. By 1997, China's traditional State-Owned Enterprises (SOEs) were producing only 25% of the gross value of industrial output, down from over three-quarters of output at the beginning of reform, while employing 33% of the industrial workforce and receiving 52% of total investment in fixed assets. Some SOEs were also able to form new joint ventures with both foreign and domestic non-state firms, accounting for 4% of industrial output by 1997. Less than 1% of SOEs were able to convert to joint-stock ownership, though these were usually the largest and most successful firms (accounting for an additional 4% of output in 1997, and receiving 6% of investment). By far, the most stunning growth was in the township and village sector, which accounted for almost 40% of output by 1997.

After an initially significant improvement in productivity in the early years of reform, most of the traditional state enterprises have performed badly, for a variety of reasons. Perotti, Sun & Zou (1999) argue

that, relative to rural enterprises, SOEs have tax and pricing disadvantages, social responsibilities (which they suggest account for 40% of the profit differential), a tendency to invest for bureaucratic rather than economic reasons, a bias in statistical measurement, and a problem with capital being diverted towards other purposes. SOEs continue to be plagued by too many mothers-in-law, to use the Chinese expression. Prior to reform, in the words of Van Brabant (1995: 172):

These [State-owned Enterprises] were not run as orthodox enterprises. Rather, they were akin to loosely conceived departments of an enormously sprawling, ill-fitting, and badly managed economic bureaucracy in which rent seeking was the norm. Managing assets with a view to maximizing net asset values certainly was never the principal, let alone sole, task of state enterprises.

While reform has dismantled the planned economy and made profit a more important consideration, many enterprises have been unable to get out from under the demands of state officials. Even when managers were able to gain increased autonomy over economic decisions, state firms have significant social burdens (e.g., providing retirement, healthcare, education, housing, and even jobs for employees=offspring) that put them at a competitive disadvantage with other types of firms. Thus the newly competitive environment, which would be expected to reduce state profits anyway, was not necessarily a level playing field.

State enterprises also suffered from the effects of their history. Managers and workers who had accumulated human capital found their skills inappropriate to the new environment, and state institutions which controlled the firms also changed slowly. Parker (1995) argued that the lack of an effective bankruptcy mechanism for state firms allowed for the accumulation of inefficient technologies, inappropriate products, and an obsolete capital stock, resulting both in faster initial growth and eventual stagnation due to diminishing returns.

In particular, SOEs have suffered from incentive problems from agency problems that economic

reforms have not been able to cure, as Kornai (1992) expected. Government officials treat the enterprise as a cash cow through predatory taxes and fees for public expenditures or even bribery, managers strip its assets for personal use, and workers shirk (Jefferson, 1998). According to Zhu (1999, p. 532):

One does not need to look hard to find abundant examples of managerial misbehavior in China. Among the most common offenses are wining and dining on the enterprise, investing carelessly in plant expansion, using company funds to speculate in the property and stock markets, and diverting state assets to set up subsidiary companies for private gains.

Jefferson (1998) argued that the SOE was best understood as an impure public good, since the demands of many claimants over the property of the whole people are difficult to exclude, while assets are nondiminishing only in the sense that the firm's value is replenished through the state budget and bank loans.

Of course, Alchian & Demsetz (1972) wrote the classic paper on corporate governance problems, arguing that the firm was best understood as a set of contracts for monitoring the performance of input suppliers. With a residual claimant responsible for monitoring, information can be best enhanced by competition of inputs with each other. In the SOE, however, neither the manager, the employees, nor the bureaucracy is a true residual claimant. This approach to corporate governance has been increasingly applied to firms in transitioning socialist enterprises, with mixed results. In particular, private ownership does not seem to have a consistent, positive effect on firm profitability in the transitioning Central and Eastern European economies. Buck, et al. (1999) finds little effect from employee or managerial ownership in the last years of the former Soviet Union, while Estrin & Rosevear (1999) examine a sample of firms in the Ukraine and find no evidence that ownership matters, at least when the firm's legal and institutional environment is weak. Claessens & Djankov (1999) find that, instead, concentration of ownership does matter, at least in the Czech Republic, regardless of ownership type.

## **Development of the Chinese Stock Market**

The recent development of stock markets in mainland China is not without historical precedent. According to Xu (1993), a Shanghai Sharebrokers Association was founded in 1891, and the Shanghai Stock Exchange was created in 1904, becoming the largest bourse in East Asia before the 1949 Revolution began the process of eliminating private ownership. Beginning in 1984, a number of state-owned firms began to issue stock to their staff as a way to meet tightening capital budgets; a year later, in response to complaints that these stock issuances represented unfair advantages to state staff, the government allowed the transfer of shares.

In December 1990, in order to channel idle funds into the slowing state sector, China's leadership sanctioned formal trading in stocks with the opening of the Shanghai Securities Exchange (Su 1999). In April 1991 another exchange was opened in the Shenzhen Special Economic Zone, on the border with Hong Kong, causing riots as citizens queued up to purchase new IPOs. Since reform began, Chinese savings rates are among the highest in the world, and initial demand for stocks was enormous. By July 1992, according to Xu (1993), Price-Earnings ratios in Shenzhen ranged from 22 (Baoan Holdings) to 102 (Huafa Electronics), and in Shanghai from 115 (Shanghai No. 2 Textiles) to 1030 (Aishi electronics), suggesting either fantastic growth possibilities or near-zero discount rates. Of course, the firms allowed to list on these markets were among the state's best performers. Minimum listing requirements included paid-up capital of 50 million yuan, over 1000 stockholders with 100 yuan each, firm profitability over the past three years, and profit rates of 10% (Mookerjee & Yu, 1995).

By mid-1992, market capitalization rose to USD \$12 billion from \$2 billion in 1990. By 1997, according to the World Bank (1999), the capitalization of China's stock markets had risen to approximately \$230 billion, or 26% of China's GDP. While this 1997 figure was much less than the capitalization ratios for Japan (53%), Malaysia (95%), Singapore (110%), or the U.S. (145%) at the time, it was almost as high as the ratio for the Russian Federation (29%) or the average for low and middle-income countries (31%).

In addition to firms which are able to trade their shares on the Shanghai and Shenzhen markets, a large number of SOEs have issued shares of stock that are not tradeable, usually to their controlling agencies. As early as 1991, over 3600 SOEs had experimented with the stock system (Mookerjee & Yu, 1995), and the government had announced plans to convert all SOEs to either joint-stock or limited liability corporations.

These numbers significantly overstate the size of the Chinese market, however. By 1999, only 829 domestic companies were listed on the exchanges, slightly less than 1% of all state-owned industrial enterprises. The state also continues to maintain control over its former enterprises; *state shares* still account for over 60% of outstanding stock on average (IFC 1999), while *legal person shares* are held by sanctioned firms, funds, and agencies. Only *public shares* are tradeable. By regulation, public shares must account for at least 25% of outstanding shares at the time of the IPO; however, a significant proportion of public shares may be issued at a substantial discount to employees (Xu & Wang, 1999).

Due to government fears of creeping foreign dominance, efforts to attract foreign capital have led to a further unusual market segmentation. Chinese nationals are allowed to own *A Shares* (which are designated as either *state*, *legal-person*, or *public* shares), while foreigners are only allowed to own *B Shares*. *A Shares* are denominated in Yuan (*Renminbi*), *B Shares* in Shanghai are denominated in U.S. Dollars, and *B Shares* in Shenzhen are denominated in Hong Kong Dollars. Chinese firms may also issue *H Shares*, which are listed in Hong Kong, while *N Shares* are listed on the New York Stock Exchange. Owners of *B Shares* receive the same dividends but have no voting rights, so in effect foreigners are purchasing ADRs. Moreover, foreigners are shielded from direct exchange rate risk by this *Airlock@* system, and the Yuan is shielded from capital account speculation and investor panic. Restrictions on foreign ownership and little control over poorly-performing enterprises led to disappointing results for the B Market, and by the end of 1999 the government was beginning to show signs of improving the opportunities for foreign investors. For example, a Growth Enterprise Market was recently created in

Hong Kong to bring foreign investors together with cash-starved, high-tech Chinese startups, with tougher disclosure rules but easier listing requirements (Leggett, 1999).

Key to the joint-stock system, at least in the official press, is the separation of ownership and management. In western capitalist economies, such separation is a necessary if lamentable outcome of the need to pool investment funds and the increased specialization of management, with the result that enormous resources are spent to minimize the resulting principal-agent conflict of interests. In China, such separation was naively promoted because of past experience with the poor decisions of state officials. Managers, it was hoped, would have better information and skills, and would so be better able to make prudent economic decisions. In practice, however, the state still maintains a majority dominance over most supervisory boards (Xu & Wang, 1999), and is also able to exert pressure in other ways, for example in forcing profit-making firms to merge with money-losers without being able to substantially restructure them, in order to improve the state's balance sheet (Zhu, 1999).

### **Performance of the Chinese Stock Market**

In the last couple of years, a flurry of articles have been published examining the efficiency of Chinese stock markets. Using a GARCH model to examine a sample of weekly returns from the opening of the markets to the end of 1996, for both A and B shares in both the Shanghai and Shenzhen exchanges, Su & Fleisher (1998) found that returns were low by international standards once the returns were adjusted for risk. Using their data, Figure 1 shows how an initial investment (index=100) at the opening would have performed in each of the four markets through November 27, 1996. Long-run annual yields in the A-shares markets during through 1996 were 1% or less. The B-shares markets had significant long-run returns (17% annualized yield in Shanghai, 10% in Shenzhen) during this period, but that was due to a runup in the last half of 1996 that would later collapse: by March, 1999, the B-share markets would reach all-time lows, according to the IFC (1999). Su (1999) finds that these return differentials can be explained

by a simple CAPM model, which implies that foreigners receive higher returns to compensate them for their better access to an international portfolio of less risky assets and the restrictions on their ownership rights. Chow, Fan, & Hu (1999) found that by 1996, investors in the Chinese markets were making better predictions, as stock prices at the start of 1996, 1997, and 1998 were well explained by a simple function of the expected dividend and its growth rate.

Ang & Ma (1999) examined forecast errors for the Chinese stock markets, and found standard deviations twice that of Hong Kong's market and larger than in any other Asia-Pacific economy. They argue that this results from less transparency in the reports and accounting methods of Chinese firms, and argue that this lack of transparency has a significant effect in dampening Chinese share prices.

The efficiency of IPO pricing has also been of considerable interest. Mok & Hui (1998) found significant underpricing of IPOs, especially in Shanghai. Su & Fleisher (1999) examined the evidence further with a different data set, and suggested that it could be a strategy to signal value, especially for firms with less established reputations. In particular, they considered discounts on B-share IPOs, and argued that firms which issue B-shares do so more to enhance their reputation and avoid currency controls than to raise capital. Poon, Firth & Fung (1998) found evidence that new issuances of B-shares had a negative impact on A-share prices, suggesting that markets may not be as segmented as the government desires. This evidence may also suggest that B-shares do not always have the reputation effect firms desire.

In their examination of the efficiency of both A-share markets, Liu, Song & Romilly (1997) found evidence that market prices behaved as a random walk individually, but also that the separate markets were cointegrated; in essence, they argued that markets were jointly inefficient in the transmission of information, and that the transmission was bidirectional, from Shanghai to Shenzhen and back. Chui & Kwok (1998) then considered the flow of information between A and B markets, and found evidence of cross-autocorrelation that they argued was consistent with internal information barriers from the state's

control over the press that make it possible for foreigners to receive information on Chinese firms faster.

Gul (1999) examined the effect of government ownership on managerial choices for Chinese firms listed on the Shanghai Stock Exchange, and found that firms which had a larger share of state ownership were more likely to borrow more, perhaps because they had better access to state banks, and more likely to have higher dividend payouts (as a proportion of profits). Gul also found that larger firms had a smaller investment opportunity set, which is interesting given that the state owns a greater proportion of larger firms (Xu & Wang 1999).

Finally, Xu & Wang (1999) consider the effect of ownership on firm performance. Consistent with Claessens & Djankov (1999), they find that ownership concentration matters. Since very few firms have individual investors among their top owners, this means in practice that firms which are largely owned by a single legal person, such as a trust, insurance, securities, or investment firm, a non-bank financial institution, a mutual fund, or even another enterprise with at least one non-state owner, are more likely to solve the free-ridership of small stockholders. They further find that firm performance is negatively correlated with the fraction of state ownership, at least for a large sample of firms in 1993-1995. This is consistent with the findings of Lee (1999) that corporatization lowered wages in SOEs by 11-15% and improved productivity by 6%.

### **An Analysis of Governance and Performance**

Figure 2 and 3 show performance measures for China's stock markets over different periods. Figure 2 includes the monthly International Finance Corporation's Global Price Index and Investable Price Index for 1993-1999. Figure 3 includes the weekly Shanghai Stock Exchange Composite (SSEC) Index from mid-1997 through the end of 1999. The IFCG index is based on monthly returns, including dividends, with Dec. 1992 equal to 100. Since 1993, the IFC has published their Investable Price Index, which is adjusted to reflect market accessibility of markets and the availability of individual stocks to

foreign investors. As a result, the IFCI is an appropriate measure of the performance of China's B-Market. While the IFCG shows positive overall performance (a 57% increase over 7 years, or almost a 7% annual yield), the IFCI shows a marked overall decline in spite of strong growth in 1999.

The SSEC Index, which does not include dividends, is a better measure of A-Share price changes. Performance was moribund over the past 2 2 years, except for a strong bull market in the Summer of 1999, as the government signalled in the *Renmin Ribao* (People's Daily) an intention to accelerate stock market reforms (Wall Street Journal, 1999), and a new Securities Law went into effect. Overall, the annualized yield over the period was approximately 10%.

In addition to the market price indices of Su & Fleisher (1998), as shown in Figure 1, and the SSEC Index in Figure 3, I examine two additional data sets: the first, provided by Chen Baizhu, includes a sample of weekly prices for 35 firms over three years in both markets, and each firm had both A and B shares; the second data set, collected by Shaoqiang Shi, includes semiannual prices over 3 2 years for a similar (but not identical) sample of firms selling both types of shares. Shi (1998) demonstrated that these prices were I(1) in logs with an Augmented Dickey-Fuller test, so that the log difference of the share prices yields a stationary series. The log difference is also a good measure of the fractional rate of change.

In Table 1, I show the results of a regression of the log-difference prices from Chen's weekly data set on variables for the market, time, and ownership. Since contemporaneous correlations are likely, I estimate the A-Share and B-Share equations simultaneously, using Zellner's seemingly unrelated regressions technique. The B-Share Price is multiplied by the exchange rate for comparability. The mean log-difference rate of change over the A sample is -0.25% per week (-0.35% in Shanghai, -0.12% in Shenzhen), for an approximate -12% annual yield over the sample. The rate of decline appears to slow over time, significantly so in Shenzhen's A-Market and both B-Markets. In contrast to the results of Xu & Wang (1999) above, in this sample the effect of ownership is insignificant. Neither the State share nor

the Legal person share has any measurable effect on A- or B-Share price changes, and as expected B-Share ownership has no impact because it has no rights. Since a small fraction of firms has no state ownership but are instead dominated by legal persons, I divide the sample into two sets of data, and the estimates are more or less identical.

In Table 2, I run the identical regression on the A-Share prices in Shi's semiannual sample (there are too many missing values among her B-Share prices). In this latter sample, the mean log-difference A-share price change is 1.3% (-2.0% in Shanghai, and +6.4% in Shenzhen), a 2.6% annual yield not including dividends. In Shanghai, the price decline is again slowing significantly. Again, ownership has no significant effect on price changes in this sample. Again, it makes no difference whether I separate firms with no state shares.

Why are my results dissimilar to those of Xu & Wang (1999)? Simply put, they find that ownership has a significant effect on the profitability of joint-stock firms, while I find that it has no effect on the rate of change in stock prices. Price changes are, in the steady state, equal to the growth rate of earnings, and if the stock price follows a random walk then changes in expectations, information, and discount rates should appear as white noise. Thus, joint-stock firms dominated more by legal persons are more likely to be more profitable than those dominated directly by the state, but not more likely to have those profits grow any faster (or decline any less quickly). Perhaps such firms have a lower social welfare burden, or have relatively newer and more productive capital. But there is no indication that these firms have solved their corporate governance problems.

So, what are the prospects for China's stock markets? If joint-stock corporations listing their shares on the Shanghai and Shenzhen markets continue to be dominated by the state, and if most state-owned enterprises continue to perform poorly relative to non-state firms, the prospects for China's stock markets appear bleak, at least on the surface. But after two decades of economic reform, China's leadership has proven itself to be nothing if not adaptable. Already, private firms are getting their shares listed on the

exchanges through the backdoor, by buying controlling shares in poorly-managed state-owned firms (Leggett, 1998). Chinese officials speaking off the record have suggested that many more private owners have purchased officially non-transferable state shares from cash-strapped state agencies; while the shares are still listed as state-owned, these private owners are beginning to exercise their voting rights through shadow proxies. If the Chinese stock market returns to its normal pattern of decline, it may only be a matter of time before the government acknowledges the need for further, more radical changes in corporate governance.

## References

- Alchian, Armen A., & Harold Demsetz, "Production, information costs, and economic organization," American Economic Review 62(5), 1972, pp. 777-795.
- Ang, James S., & Ma, Yulong, "Transparency in Chinese stocks: A study of earnings forecasts by professional analysts," Pacific-Basin Finance Journal 7, 1999, pp. 129-155.
- Buck, Trevor, Igor Filatotchev, Mike Wright, & Vladimir Zhukov, "Corporate governance and employee ownership in an economic crisis: Enterprise strategies in the former USSR," Journal of Comparative Economics 27(3), 1999, pp. 459-474.
- Chow, Gregory, Fan, Zhao-zhi, & Hu, Jin-yan, "Shanghai Stock Prices as Determined by the Present-Value Model," Journal of Comparative Economics 27(3), 1999, pp. 553-561.
- Chui, Andy C.W., & Chuck C.Y. Kwok, "Cross-autocorrelation between A Shares and B Shares in the Chinese stock market," Journal of Financial Research 21(3), 1998, pp. 333-354.
- Claessens, Stijn, & Simeon Djankov, "Ownership concentration and corporate performance in the Czech Republic," Journal of Comparative Economics 27(3), 1999, pp. 498-513.
- CSSB (Chinese State Statistical Bureau, Zhongguo Tongji Nianjian (China Statistics Yearbook)).
- Estrin, Saul, & Adam Rosevear, "Enterprise performance and corporate governance in Ukraine," Journal of Comparative Economics 27(3), 1999, pp. 442-458.
- Gul, Ferdinand A., "Government share ownership, investment opportunity set and corporate policy choices in China," Pacific-Basin Finance Journal 7, 1999: p. 157-172.
- IFC (International Finance Corporation), Emerging Markets Data Base [Online], <http://www.ifc.org/>

EMDB/MONTHLY/NEW/HTML/MONTHLY.HTM, Nov. 1999, June 1999.

Jefferson, Gary, AChina's state enterprises: Public goods, externalities, and Coase, @American Economic Review 88(2), 1998, pp. 428-432.

Jingji Ribao (Economic Daily), "Zhonggong Shisi Jie San Zhongquanhui Gongbao (Communique of the 14th CCP Third Plenum)," (Nov. 15, 1993), p. 1.

Kornai, Janos, The Socialist System: The Political Economy of Communism (Princeton University Press, 1992).

Lee, Young, AWages and employment in China's SOEs, 1980-1994: Corporatization, market development, and insider forces, @Journal of Comparative Economics 27(4), 1999, pp. 702-729.

Leggett, Karby, AChinese firms slip into the market BBackdoor listings position companies for growth, @Wall Street Journal, Dec. 3, 1998, p. A17.

Leggett, Karby, AForeign investors get a new bridge to Chinese shares, @Wall Street Journal, Dec. 21, 1999, p. C1.

Liu, Xiaming, Song, Haiyan, & Peter Romilly, AAre Chinese stock markets efficient? A cointegration and causality analysis, @Applied Economic Letters 4, 1997, pp. 511-515.

Mok, Henry M.K., & Y.V. Hui, AUnderpricing and aftermarket performance of IPOs in Shanghai, China, @Pacific-Basin Finance Journal 6, 1998, pp. 453-474.

Mookerjee, Rajen & Yu, Qiao, ACapital market reform on the road to a market-oriented economy: The case of stock markets in China, @Journal of Developing Areas 30, 1995, pp. 23-40.

Naughton, Barry, "Implications of the state monopoly over industry and its relaxation," *Modern China* 18, 1992, pp. 14-41.

Parker, Elliott, ASchumpeterian creative destruction and the growth of Chinese enterprises, @China Economic Review 6(2), 1995, 201-223.

Perotti, Enrico C., Sun, Laixiang, & Zou, Liang, AState-owned versus township and village enterprises in China, AComparative Economic Studies 41(2/3), 1999, pp. 151-179.

Poon, Winnie P.H., Michael Firth, & Hung-Gay Fung, AAsset pricing in segmented capital markets: Preliminary evidence from China-domiciled companies, @Pacific-Basin Finance Journal 6, 1998, pp. 307-319.

Shi, Shaoqiang, State Enterprise Reform, Stock Markets, and China's Financial Liberalization, unpublished M.A. thesis, University of Nevada, Reno, 1998.

Su, Dongwei, AOwnership restrictions and stock prices: Evidence from Chinese markets, @Financial Review

34, 1999, pp. 37-56.

Su, Dongwei & Belton M. Fleisher, Risk, return and regulation in Chinese stock markets, Journal of Economics and Business 50, 1998, pp. 239-256.

Su, Dongwei & Belton M. Fleisher, An empirical investigation of underpricing in Chinese IPOs, Pacific-Basin Finance Journal 7, 1999, pp. 173-202.

Van Brabant, Jozef M., Governance, evolution, and the transformation of Eastern Europe, in Kazimierz Z. Poznanski (ed.), The Evolutionary Transition to Capitalism (Westview Press, Boulder, 1995), pp. 157-182.

Wall Street Journal, China's stock market, June 17, 1999, p. A26.

World Bank, World Development Indicators, 1999, pp. 274-277.

Xu, Yao Ping, China, in Keith K.H. Park & Antoine W. Van Agtmael (eds.), The World's Emerging Stock Markets: Structure, Developments, Regulations and Opportunities (Probus Publishing Co., Chicago, 1993), pp. 243-262.

Xu, Xiaonian, & Wang, Yan, Ownership structure and corporate governance in Chinese stock companies, China Economic Review 10(1), 1999: pp. 75-98.

Zhu, Tian, China's corporatization drive: An evaluation and policy implications, Contemporary Economic Policy 17(4), 1999, pp. 530-539.

**Table 1 - Weekly Sample (January 1994 - January 1997)**

<u>Variable</u>	<u>Estimated Coefficient</u>	<u>Standard Error</u>	<u>Estimated Coefficient</u>	<u>Standard Error</u>
<u>(Endogenous Variable is <math>\Delta \ln A</math>: mean = -0.0025)</u>				
SHANGHAI (mean = -0.0035)				
Constant	-0.0074	(0.0049)	-0.0160	(0.0191)
Year	0.0026	(0.0028)	0.0026	(0.0028)
SHENZHEN (mean = -0.0012)				
Constant	-0.0258	(0.0056)**	-0.0317	(0.0160)**
Year	0.0163	(0.0032)**	0.0163	(0.0032)**
OWNERSHIP				
State Share			0.0075	(0.0194)
Legal Person Share			0.0053	(0.0190)
B-Market Share			0.0051	(0.0111)
Adjusted R <sup>2</sup>	0.0082		0.0083	

Endogenous Variable is  $\Delta \ln EB$ : mean = -0.0042)

SHANGHAI (mean = -0.0060)				
Constant	-0.0178	(0.0039)**	-0.0251	(0.0151)*
Year	0.0078	(0.0022)**	0.0078	(0.0022)**
SHENZHEN (mean = -0.0018)				
Constant	0.0232	(0.0045)**	-0.0285	(0.0127)**
Year	0.0141	(0.0026)**	0.0142	(0.0026)**
OWNERSHIP				
State Share			0.0074	(0.0154)
Legal Person Share			0.0057	(0.0151)
B-Market Share			0.0026	(0.0088)
Adjusted R <sup>2</sup>	0.0138		0.0139	

\*\* = significant at 5%

\* = significant at 10%

**Table 2 - Semiannual Sample (January 1995 - July 1998)**

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<u>Variable</u>	<u>Estimated</u> <u>Coefficient</u>	<u>Standard</u> <u>Error</u>	<u>Estimated</u> <u>Coefficient</u>	<u>Standard</u> <u>Error</u>
<u>(Endogenous Variable is <math>\Delta \ln A</math>: mean = 0.013)</u>				
SHANGHAI (mean = -0.0203)				
Constant	-0.2318	(0.0483)**	-0.1613	(0.2021)
Year	0.1063	(0.0217)**	0.1063	(0.0218)**
SHENZHEN (mean = 0.0639)				
Constant	0.0082	(0.0596)	0.0740	(0.1750)
Year	0.0279	(0.0267)	0.0279	(0.0268)
OWNERSHIP				
State Share			-0.0774	(0.2103)
Legal Person Share			-0.0935	(0.2111)
B-Market Share			0.0019	(0.1083)
Adjusted R <sup>2</sup>	0.0963		0.0867	

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\*\* = significant at 5%