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Ownership Structure and Market Valuation: Evidence from Chinese Equity Market

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This study aims to study the impact of different forms of shareholding, e.g. government shareholding and legal-person ownership, on the market value of firms listed on the Chinese stock market. The results seem to suggest that market value of listed companies is decreased with the proportion of government shares when the government holds low percentage of shares and is increased when the government shareholding is high. Furthermore, the market value of the listed companies tends to go up with the increase in the proportion of shares held by the legal persons, and after reaching a certain level a further increase in the legal-person shareholding leads to decline in the market value.

Keywords: Ownership Structure, Market Valuation, Chinese Equity Market

1. Introduction

Ownership structure has been found to be significantly associated with firm value. Prior research in China and elsewhere indicates that the ownership structure, among the other factors related to corporate governance, has a significant impact on firm performance. Using pooled firm-level data from 1993 to 1995, Xu and Wang (1999) investigate whether ownership structure significantly affects the performance of publicly listed companies within the framework of Chinese corporate governance. They find that the firm's profitability is positively correlated with the proportion of legal-person shares, but is either negatively correlated or uncorrelated with the proportions of state shares and tradable A-shares held mostly by individuals. Focusing upon the government shareholding, Tian (2001) documents the large equity holdings of the government and found that corporate value decreases with an increased size of government shareholding when the government is a small shareholder. When the government shareholding is sufficiently large, corporate value goes up with the increased government shareholding.

China's reform on the state-owned enterprises (SOEs), started in the early 1980s, has gradually evolved to the experiment of introducing stockholding system in the SOEs, which has eventually given rise to the emergence of listed companies and equity market. Fuelled by the benefits arising from the shareholding system, listed companies have emerged in China since the early 1990s with the establishment of the Shanghai and Shenzhen stock exchanges in December 1990.

Because the stockholding system is a rather recent development in China, the ownership structure of Chinese listed companies has some unique features not found in the stock markets of most developed economies. Shares of listed companies are normally classified as A-shares designated for domestic investors

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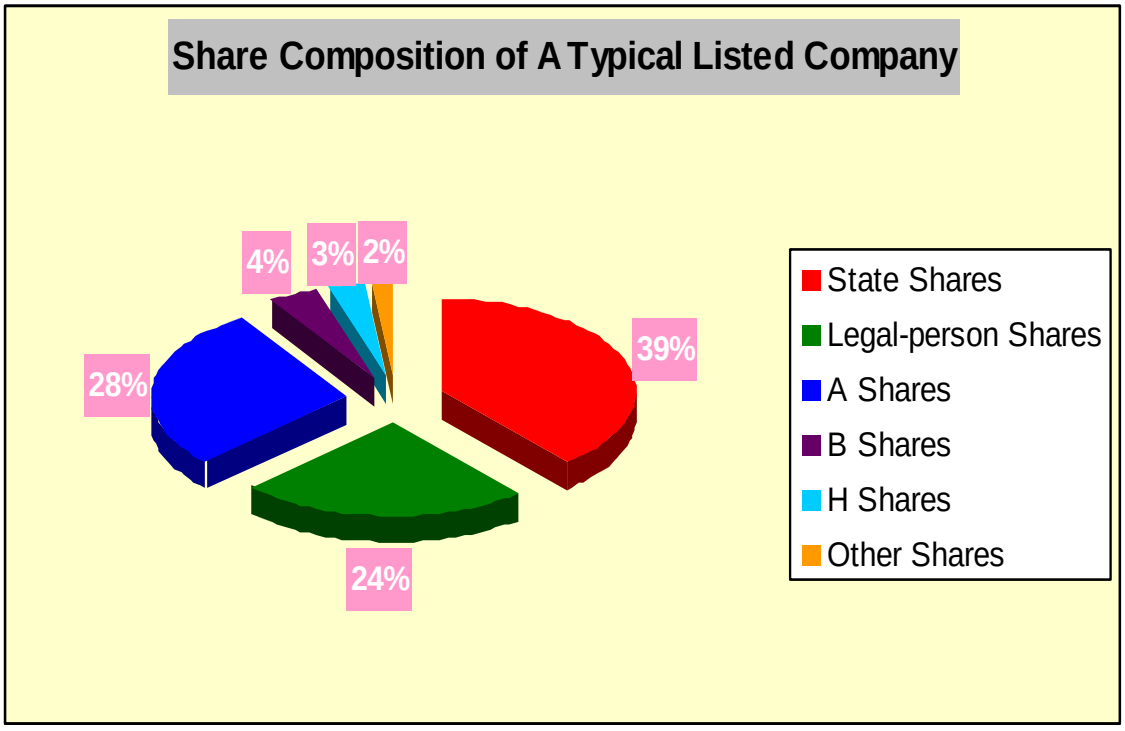
and B-, H- and N-shares designated for overseas investors. A-shares are further divided into state shares, legal-person shares and tradable A-shares, and employee shares. State shares are those owned by the state, i.e., the central government and local governments. Legal-person shares are those held by domestic legal enterprises, and non-bank financial institutions. Both state shares and legal-person shares are not tradable on the stock exchanges, but the latter can be transferred to other legal persons upon the approval of the China Securities Regulatory Commission (CSRC). Tradable A-shares, which can be held by Chinese citizens and institutions, are the only class of share that can be traded among domestic investors.

B-, H- and N-shares are those that can only be held and traded by foreign investors[i]. The market for B-shares is separated from the A-share market. They are denominated in US dollars on the Shanghai Stock Exchange and in Hong Kong dollars on the Shenzhen Stock Exchange. H- and N-shares are similar to B-shares in nature, except that they are listed and traded on the Hong Kong Stock Exchange and the New York Stock Exchange, respectively.

At present, a typical listed firm has a mixed ownership structure. The state, legal persons and domestic individual investors are the dominant groups of stockholders, each accounting for 30% of total shares outstanding. Many listed firms do not have employee and foreign shares, and even if they do, these shares on average consist of less than 10% of total shares outstanding when combined (Qi et al., 2000). Although a company has a mix of multiple categories of shares, however, the holder of a share is entitled to the same cash flow and voting right regardless of the share type. The share composition of a typical listed company is illustrated by Figure1.

Figure 1: Share composition of a typical listed company in China



Source: Data are from www.csrc.gov.uk, the website of the China Securities Regulatory Commission.

Such unique ownership structure of Chinese listed companies provides an excellent laboratory for investigating the impact of ownership by type of shareholder on firm performance. In particular, with non-tradable shares accounting for nearly two thirds of the whole market, state shares and legal-person shares have attracted a great deal of interest around the world. Therefore examining how the Chinese market interprets the roles of these types of shareholdings is the focal point in this study. The central task of this study is to investigate whether there is significant association between the market value of listed firms and different types of shareholding, in particular, the state shareholding and legal-person shareholding. This study attempts to address three questions:

1) Is the government shareholding as a whole (state and legal-person shareholding) playing a significant role in explaining the market values of listed firms? If yes, what exactly is the association between the government shareholding and market values?

2) If the state ownership is taken alone, does it influence the market value of listed firms? Again, if the answer is yes, how doe it associate with the market values?

3) Do legal persons play a significant role in explaining the market value of listed firms in China? If yes, does the role of legal persons differentiate from that of the state?

This remainder of this study is organised as follows. Section 2 reviews the arguments in the existing literature surrounding the effects of ownership structure on the firm value. Section 3 introduces the data and methodology taken in the study. Empirical results and findings are discussed in detail in Section 4.

2. Ownership Structure, Market Value and Prior Research

2.1 State Ownership and Market Value

The existing literature on the relationship between state ownership and firm performance can be broadly broken into two schools of thoughts. While some argue that state ownership is the underlying cause of all sorts of problems faced by the listed firms, some others assert that state shareholding is not always bad (Sun et al., 2002, Xu and Wang, 1999, Megginson et al., 1994, Megginson and Netter, 2001, Chen and Wang, 2004, Bai et al., 2004, Tian, 2001). On the whole, these arguments seem to suggest that the government shareholding has a complicated impact on investors' perceptions of firm value.

On the one hand, some economists argue that, in a competitive market without significant externalities, government ownership is inferior to private ownership (Sun et al., 2002). Megginson, Nash and Van Randenborgh (1994), among others, provide the empirical evidence for the proposition that government ownership is less efficient than private ownership. Furthermore, Megginson and Netter (2001) point out that privatisation results in improved performance. In particular, the dominance of state shares in the Chinese listed companies has been widely criticised for the excessive intervention of government, lack of liquidity, and the continuation of bureaucratic management style (Chen and Wang, 2004, Wang and Jiang, 2004, Bai

et al., 2004). In the context of Chinese listed companies, the core problem with the existence of state share lies in that the corporate governance cannot function efficiently within the listed firms. Although nearly all listed companies have established a whole set of corporate governance mechanisms copying their Western counterparts in the industrial countries, they frequently encounter great difficulties when implementing these rules (GTA, 2002). The primary reason for this is that, with the bulk of shares in the hands of the state, management cannot be substantially separated from ownership and the government still enjoys direct and/or indirect control over the board to influence corporate policies. Ironically, this is contrary to the ultimate objective of the government's SOE reform scheme aiming at liberalising management from the intervention of government. Tian (2001) argues that the newly-established publicly listed companies continue to be more bureaucratically than commercially-oriented even after transformation. As a consequence, poor governance practice is still rampant among the Chinese listed companies.

Another fatal flaw of state ownership in the listed companies is political interference (Tian, 2001). Based on the voting rights from the majority holding shares, the government enjoys direct control over the corporate management. In some listed companies, with the state being the dominant shareholder, even directors and board members are appointed by the government. However, the profit-seeking objective of the company does not always coincide with the political needs of the government. When political objectives conflict with corporate goals, the government always pursues its political interests by forcing management to compromise. And this usually comes at the expense of corporate profitability and efficiency. For example, it is well known that the long-standing problem of inefficiency of state-owned companies can be attributed to severe overstaffing in the state firms. However, the Chinese government frequently finds itself in a dilemma in seeking for a solution to the problem. To improve the efficiency of the state-owned companies, tens of millions of workers need to be laid off; on the other hand, sky-high unemployment level will undoubtedly give rise to social unrest. In a country where stability overrides everything, to improve the efficiency of state-owned companies simply by making employee redundant will have to give way to the political challenge — to keep the social stability[ii].

On the other hand, state ownership may not necessarily be bad because the companies with substantial state shares could also enjoy a series of benefits that are likely to increase corporate value. Firstly, the government may provide the state-controlled firms with a wide range of preferential treatments (Wang, 2005). In China, the benefit of getting the political support from the government is extremely important. Backed up by the government, firms with a substantial proportion of state shares are frequently seen as an advantage in obtaining bank loans, establishing credibility in the general public, and providing better protection to shareholders' value, etc. Furthermore, the fact that government is holding a majority of shares could also send a strong signal to the market that the company is in a state-monopolised industry, i.e. utility, petroleum and telecommunication industries. Companies in these industries always enjoy extraordinary profits largely thanks to the protection of the government policies. Even more importantly, the Chinese government has put forth a series of policies to revitalise the companies with

substantial state share (Sun et al. 2002). These include reducing the tax burden, injecting capital to repay part of the debt, and debt-for-equity swap measure.

Secondly, government can also help monitor the management of listed companies. Agency problems (Jensen and Meckling, 1976) arise from the disparity in objectives between shareholders and managers. Monitoring management is one way to reduce such an agency conflict. In developing economies such as China where the development of markets is at its infancy, the legal system to protect shareholders is under construction, information asymmetry is severe, and monitoring management is particularly important (Sun et al., 2002). Especially, in the listed companies with a majority of state shareholding and vastly dispersed individual shareholders, the government is a powerful force to take up the monitoring role in the listed companies. In fact, the government has created a set of mechanisms to monitor the behaviour of management. A governmental body, the Bureau of State Property Management (BSPM), was established at the central and local levels to fulfil the commitment to preserving and increasing the value of state assets in the listed companies. Although the effectiveness of the BSPM is criticised by some researchers such as Xu and Wang (1999), the BSPM has more or less filled in a vacuum in monitoring the management.

Although it is hard for the above arguments to lead to one simple conclusion, the existence of various propositions suggests that government ownership has complicated impacts on the market value of listed companies in China. The difficulty in establishing effective corporate governance and conflicting interests between the government and management frequently pose serious threats to the corporate performance, leading researchers to argue that the excessive state shareholding is destroying the value of listed companies. Tian (2001) documents that corporate value decreases with an increased size of government shareholding when the government is a smaller shareholder. Hovey et al. (2003) document a negative relationship between firm value and state ownership. Bai et al (2005) finds that the largest shareholder being the government has negative effects on the firms' market value. However, the monitoring role and potential preferential policies provided by the government shareholding may also to some extent offset the problems produced by the government ownership, and even boost the performance of listed companies. Contrary to other researchers, Sun et al (2002) find that government ownership is actually positively related to firm performance and this positive relationship holds for firms listed on the Shanghai Stock Exchange as well as those on the Shenzhen Stock Exchange. It holds no matter whether government ownership is represented by state share ownership or by legal person share ownership. Such mixed results may simply reflect the complexity of the issue. Therefore the exact relationship between state ownership and corporate value is an empirical issue.

2.2 Legal-Person Ownership and Market Value

The legal-person identity was created by the policy makers to aid the transition from SOEs to share-based firms. The legal person shareholder category is a mix of various domestic institutions. Legal persons in the Chinese contest normally comprise private companies, state-owned enterprises and non-bank financial institutions such as investment funds and security companies (Xu and Wang, 1997).

Legal-person ownership is a unique type of ownership in China and is of particular interest in that it combines the merits of both institutional investor shareholding in the industrial countries and state shareholding characterised in China.

Legal-person shareholders in China are somehow acting like the institutional investors in the U.S. and the U.K. markets. Compared with domestic individual investors, legal persons are better equipped with the power, experience, and expertise to monitor the firm's performance (Tan, 2002). In addition, legal-person shareholders frequently have access to corporate inside information, and the right to question chief officers at any time about the operations of the firm. In comparison with government, a legal-person shareholder does not have to consider the same political objectives that are important considerations faced by state shareholders (Claessens et al., 2000). Consequently, legal person shareholders in China are more economically oriented and geared towards profit-seeking. They also have relatively more freedom than state shareholders in deciding how to allocate profits, and in formulating and implementing firm strategy.

However the state-shareholding nature of legal-person ownership deserves the same level of attention. Although legal persons are a mixture of financial institutions, other forms of companies and even private individuals, in practice most of them are largely owned and/or controlled by the government. Delios and Wu (2005) further classify the legal person as state-related legal persons and non-state-related legal persons. They find that the average concentration of state-related legal-person ownership was 27 per cent of all ownership through 1991 to 2001, while non-state-related legal-person owners accounted for 4.5% of all ownership in the same period. More importantly, legal-person ownership suffers the same illiquidity problem as state ownership — both legal-person shares and state shares are not tradable on the open market. Under the existing regulations, legal-person shares are not permitted to trade on the market but transfer of legal-person shares among legal persons is allowed upon the approval of the CSRC. Because of the illiquidity problem shared by both state shares and legal-person shares, it is not surprising to see some researchers such as Sun et al. (2002) even put state shares and legal-person shares into the same category — government shareholding.

Similar to the arguments on state shareholding, legal-person ownership also has complex impacts on the firm value. Firstly, legal-person shareholders play an active role in monitoring the management, thus helping align the interests between the principal-(shareholders) and agents (management). In developing countries as China with relatively weak protection of shareholders and severe information asymmetry, agency problems resulting from the separation of management from ownership are likely to be more serious than in industrial countries. The monitoring role is therefore extremely important. Sun et al. (2002) argue that legal-person shareholders in China are not only better motivated, but also equipped with power, to control and monitor the management. Unlike individual investors who have no control of the management, legal-person shareholders may ensure managers to work in the interests of shareholders through direct control. Compared with state shareholders, legal person shareholders' role in monitoring the management appears to be more effective and less politically-driven. The government exerts its control over the management though the BSMP, however, the BSMP's role in monitoring the management is severely restricted in that the representatives of the

BSMP are government officials who have little know-how and incentive to effectively monitor the operation of management (Xu and Wang 1999). By contrast, legal-person shareholders are more likely to better monitor the firm's management. Besides, legal-person shareholders are largely profit-seeking entities whose interests are closely associated with the performance of the company in which they have interest.

Furthermore, the legal-person shareholder's role in monitoring management appears to be even more important in the context of China where there is no effective external control mechanism due to the lack of an active takeover market (Xu and Wang 1999). An active takeover market plays an essential role in disciplining the management simply because the firm with poor performance is likely to become the target of takeover and managers then face great risks losing their jobs. However, the active takeover market virtually does not exist in China because nearly two-thirds of listed companies' shares are controlled by the government and legal persons, and these shares are not tradable on the open market. Mergers and acquisitions have frequently taken place in China since the early 1990s. However, most of these activities are directly or indirectly operated by the government (Zhang and Jiang, 2002). The lack of an active takeover market gives the China's managers substantial discretionary power to use the firm's resources for personal gains at the expense of shareholders.

Although legal-person ownership can encourage better monitoring, when the concentration of legal-person shareholding reaches a certain high level, it is likely that legal-person shareholders are exposed to the lure to expropriate minority shareholders. A second type of agency problem (principal-principal problem) can arise between large shareholders (legal persons) and minority shareholders (Claesssens et al., 2000). Academic studies have provided empirical evidence for the large shareholders' expropriation hypothesis in both industrialised and emerging markets. La Porta et al. (1999) show that greatest source of agency problem stems from controlling shareholders expropriating value from non-controlling shareholders. In East Asian countries, Claessens et al. (2002) find that expropriation of minority shareholders is a rule rather than an exception. Delios and Wu (2005) argue that this exposure is particularly relevant in the context of China as there are weak corporate governance regulations and an under-developed institutional environment. Anecdotal evidence suggests that large shareholders expropriating minority shareholders is a fairly common phenomenon in the Chinese equity market.

Based upon the above, one can see that the existence of legal-person ownership has complicated impacts on corporate value. On the one hand, legal-person shareholders are likely to help increase the value of the company simple because legal persons play a crucial role in monitoring the management and limiting the manager's managerial discretion, hence mitigating the type I agency problem (principal-agent problem) between shareholders and management. In China this role is irreplaceable at present in that no other investors can possibly do a better job than legal persons. Investors may see the existence of legal-person ownership as a value-adding factor and thus pay a premium for the firms with substantial legal-person ownership. On the other hand, when the concentration of legal-person ownership reaches a certain level, the type Π agency problem (principal-principal problem) arises (La Porta et al., 1999). Legal persons may create conflicts of

interests within the firm and collude with managers to benefit themselves at the expense of other shareholders, hence destroying the firm value. Therefore, the exact relationship between legal-person ownership and market value of the listed companies is an empirical issue.

Currently there is a large volume of literature examining the effects of legal-person shareholding on corporate value. Xu and Wang (1999), Sun et al. (2002), Bai (2003) Delios and Wu (2005), and Wang (2005) have carried extensive research on the legal-person shareholders and how they affect the corporate performance. Xu and Wang (1999) find that firm's profitability is positively correlated with the fraction of legal-person shares. Sun et al. (2002) obtain the similar finding and document the legal persons, along with state shareholders, has a positive and significant impact on firm's performance. Hovey et al (2003) find that the concentration of legal-person shareholding is positively correlated with firm's profitability. By examining changes in the operating performance of Chinese listed companies around their public offerings, Wang (2005) documents a curvilinear relation between legal-person ownership and performance changes. His finding seems to suggest that performance of the firm with low and high levels of legal-person ownership is positively associated with the legal-person shareholding, while firms with an intermediate legal-person ownership experience a negative relationship between ownership and performance changes. Delios and Wu (2005) provide the evidence for a U-shaped relationship between legal-person shareholding and firm performance. Their finding seems to suggest that legal persons have a positive monitoring effect on the firm's management, but only at high levels of legal-person ownership.

In summary, although the above studies adopt different methodologies and produce various findings on the association between state/legal-person ownership and firm performance, there is one thing in common: they all find that shareholding structure has significant impact on the performance of the firm. However, it seems that the most of the existing studies in this area are inclined to measure firm performance based on profitability, an accounting figure which can be easily manipulated, in particular in China where the public investor's protection is seriously lacking. It is therefore worth considering conducting the study on the association between ownership structure and firm performance from the perspective of market valuation, as market value in an efficient market can serve a better devise to gauge the performance the company.

3. Methodology and Data

3.1 Models Development

This study aims to explore the issue of ownership structure applying the market valuation theory in the context of Chinese listed companies. In particular, the emphasis of this study is placed on discovering the effect of ownership structure and ownership concentration on the market value of listed firms in China. As discussed previously, various categories of shares were created by the policy-makers to aid the transformation from SOEs to share-based companies (Hovey et al., 2003). The non-tradable nature of state and legal-person shares could provide an assurance for the government to exert effective control over the listed companies.

However, the effects of these types of shares on the market value remain unclear, or at least inconclusive, among the existing studies.

To study the relationship between market value and ownership structure of listed companies in China, a basic model is constructed as follows:

$$MV_{it} = \alpha_0 + \alpha_1 BV_{it} + \alpha_2 NP_{it} + \alpha_3 P_{it} + \varepsilon \quad (1)$$

Whereby:

MV_{it}: Market value of firm *i* at the end of accounting year *t*;

BV_{it}: Book value of firm *i* at the end of accounting year *t*;

NP_{it}: Net profit for firm *i* at the end of accounting year *t*;

P_{it}: Proportion of different types of shares in firm *i* at the end of accounting year *t*;

Before testing the above model, two important methodology issues are worth discussing. Firstly, most existing studies examining the impact of ownership of listed firms in China establish the basic model as follows (Xu and Wang, 1999, Sun et at., 2002, Hovey et al., 2003, Bai et al., 2004, Delios and Wu, 2005):

$$P_{it} = \alpha + \alpha_1 P_{it} + \alpha_2 GR_{it} + \alpha_3 GEAR_{it} + \alpha_4 SALES_{it} + \varepsilon$$

Whereby:

P_{it}: Performance of firm *i* at the end of accounting year *t*;

P_{it}: Proportion of different types of shares in firm *i* at the end of accounting year *t*;

GR_{it}: Growth rate of firm *i* at the end of accounting year *t*;

$GEAR_{it}$: Gearing Ratio for firm *i* at the end of accounting year *t*;

$SALES_{it}$: Sales of firm *i* at the end of accounting year *t*.

Different studies use the above model in slightly different ways, but the principal is the same. In general, these studies choose Tobin's Q and market-to-book value ratios as the proxy for the company performance and use sales growth rate, gearing ratios and sales as the control variables to control the effects of company growth, gearing and firm size. However, this paper did not take the conventional methods for two reasons. First, the objective of this section is to examine the relationship between the market value of firms and ownership structure. Tobin's Q and market-to-book value ratio are commonly used to measure the firm performance; however, these measures are highly related to accounting issues since the calculation of these measures significantly involves accounting figures such as book value of assets etc. Therefore these measures are actually the combination of market and accounting figures and they are prone to the biases stemming from the accounting issues. For this reason they might not be the appropriate proxy for the market value of the firms. By contrast, market capitalisation is directly obtained from the market and is not subject to the changes resulting from accounting polices. Therefore using

market capitalisation to proxy market value appears to be more objective[iii]. This study focuses on the effect of ownership structure on market valuation by looking into issues beyond accounting information based upon the results obtained from previous work. It can be seen that Model 1 is constructed by adding an extra variable, P_{it}, into the modified Ohlson model, the foundation model of this study. With both accounting (net profits and book value) and corporate governance information (proportion of shares held by different types of shareholders) being put in the same model, BV_{it} and NP_{it} are treated as the control variables and P_{it} is added to examine the effects of different types of shareholding on market value.

Secondly, as discussed in the existing literature, the impact of different types of shareholding on market valuation is complex (Xu and Wang, 1999, Sun et at., 2002, Hovey et al., 2003, Bai et al., 2004, Delios and Wu, 2005). The complexity is mainly reflected on the existence of non-linear relationship between various types of ownership and market performance. Sun et al (2002) document the relationship between government ownership and firm performance in China follows an inverted U-shape pattern. Xu and Wang (1999) identify a U-shaped curve between legal-person shareholding and the performance of companies measured by market-to-book value ratio, ROE and ROA. Similarly, Delios and Wu (2005) also find that the relationship between legal-person ownership and firm performance follows a U-shape pattern. To explore the possible non-linear relationship between different types of ownership and market value, the quadratic and cubic terms are introduced into the model and Model 1 is further developed into the models as follows:

$$MV_{it} = \alpha_0 + \alpha_1 BV_{it} + \alpha_2 NP_{it} + \alpha_3 P_{it} + \alpha_4 P_{it}^2 + \varepsilon \quad (2)$$

$$MV_{it} = \alpha_0 + \alpha_1 BV_{it} + \alpha_2 NP_{it} + \alpha_3 P_{it} + \alpha_4 P_{it}^2 + \alpha_5 P_{it}^3 + \varepsilon \quad (3)$$

If α_4 and α_5 are found to be statistically significant, it could suggest that non-linear relationship exists between the market value and different types of ownership.

3.2 Description of the Data

The sample of listed companies used in this study was obtained from the China Stock Market and Accounting Research Database (CSMSAR database) jointly produced by the Research Centre for China Accounting and Finance Hong Kong Polytechnic University and Shenzhen GTA Information Technology Limited Corporation, and China Corporate Governance Research Database (CCGR Database) produced by the Shenzhen GTA Information Technology Limited Corporation. The database consists of enterprises which issued A-shares on both Shanghai Stock Exchange and Shenzhen Stock Exchange from 1992 to 2001. However, this study selects a period spanning from 1994 to 2001 for two reasons. Firstly, China experienced a substantial change in its accounting practices in 1993 following the promulgation of ASBE –Basic Standard by the MoF, which became effective on 1st July 1993 (Sun and Tong, 2003). In effect, ASBE – Basic Standards brought China's accounting practices much in line with international conventions. This study excludes the data before 1994 to ensure the relative consistency of the accounting regime and to facilitate the comparability of the data across years.

Secondly, China established the Shanghai and Shenzhen stock exchanges in December 1990. At the early stage of development of the stock markets, the number of listed companies was significantly smaller than that in later years. In fact, there were altogether 10, 14, 53 and 183 listed companies on both the stock exchanges in 1990, 1991, 1992 and 1993 respectively. These are negligible by comparison with more than 1000 listed companies after 2000. This study excludes the data in the earlier years to eliminate the problems caused by small samples and to ensure the steadiness of the data.

For a firm to enter into any annual cross-section, it must satisfy, for that year, the following condition:

1. All the required data described above must be available for that calendar year from the CSMAR Database.

2. Firms in the financial sector (insurance, banks, investment companies etc.) are excluded from the data due to their unique characteristics. Accounting practice for these firms is so distinct that their valuation parameters are likely to be substantially different from that for industrial firms.

3. Firms with negative book value are also excluded from the data because negative book value derived from the above formula is mainly caused by the extraordinary losses for the year, but bears no economic sense.

It should be stressed that data in year 1994 are used in this study; however, they are not presented in the tables for analytical purposes. This is because the opening market value (MV_{t-1}) is used to deflate all the variables in the regression models. Following the methods taken by Stark and Thomas(1998), all the variables in the regression models are deflated by the opening market value (MV_{t-1}) to correct the heteroscedasticity problem. Data in year 1994 cannot be used for analytical purposes because the closing market value data (MV_t) in 1993 are needed to get the deflated data for 1994. However, data before 1994 are not included in the databank used by this study for the reasons mentioned earlier.

The sample selection criterion results in sample size of 174 firms in 1995, 243 in 1996, 362 in 1997, 493 in 1998, 594 in 1999, 740 in 2000 and 914 in 2001. In total, the pooled number of observations for this study is 3520. The distribution of sample firms by exchanges and years is presented in Table 1.

Table 1: Sample distribution of firms by years and stock exchanges

Year	Shanghai Stock Exchange	Shenzhen Stock Exchange	Total
Total	1823	1697	3520
1995	97	77	174
1996	144	99	243
1997	209	153	362
1998	261	232	493
1999	306	288	594
2000	357	383	740
2001	449	465	914

The summary descriptive statistics of the variables used in the study are presented in

2.

Table 2: Basis descriptive statistics for variables

Variable	Mean (million)	S.D. (million)	Minimum (million)	Median (million)	Maximum (million)
Panel A: Pooled data					
MV	3,261.20	5,744.47	195.00	2,247.63	299,123.42
BV	834.67	2,385.38	-1,923.00	508.50	139,040.00
NP	59.00	261.79	-2,257.00	38.91	14,018.00
STATE	29.71	25.68	0	30.00	88.58
LP	30.99	25.71	0	30.00	93.97
Panel B: Data in different years					
1994					
MV	1,469.27	2,165.33	195.00	832.65	14,997.00
BV	610.77	1,100.50	68.12	345.83	10,586.00
NP	79.51	141.36	-26.06	41.20	1,493.47
STATE	37.26	25.10	0	41.06	88.83
LP	22.15	25.18	0	32.98	88.98
1995					
MV	1,281.30	1,962,13	205.25	672.11	14,803.00
BV	651.89	1,143.26	65.80	353.75	10,565.00
NP	64.71	167.40	-254.10	28.18	2,126.80
STATE	37.62	24.40	0	40.00	85.86
LP	22.30	23.05	0	15.00	93.97
1996					
MV	2,210.24	3,993.95	301.98	1,260.46	43,005.00
BV	599.55	1058.23	51.43	333.97	11,940.00
NP	48.36	96.65	-234.22	30.07	1,144.82
STATE	34.26	25.87	0	38.40	86.85
LP	26.18	24.87	0	18.04	88.31
1997					
MV	2,580.63	3,419.07	397.78	1,608.21	31,860.00
BV	661.12	1037.52	7.80	393.54	12,593.00
NP	53.85	98.49	-515.64	39.48	794.35
STATE	30.97	25.37	0	31.51	88.58
LP	29.84	25.08	0	23.82	91.32
1998					
MV	2,463.74	2435.84	292.30	1742.29	20,880.00
BV	713.77	963.42	-320.07	465.84	12,581.00
NP	44.03	134.80	-1044.00	41.16	809.46
STATE	26.62	25.07	0	25.98	88.58
LP	34.04	25.81	0	32.26	93.87
1999					
MV	3,050.67	3,123.91	572.84	2191.13	31,992.00
BV	749.56	995.48	-1285.00	509.68	12,959.00
NP	56.51	120.31	-956.98	41.94	834.60
STATE	27.40	25.97	0	26.39	88.58
LP	34.08	25.78	0	32.44	93.87

2000					
MV	4,783.25	4,452.26	965.76	3,558.77	69,942.00
BV	919.74	1,364.24	-1,320.00	592.08	25,282.00
NP	68.80	176.30	-934.79	44.91	2,992.10
STATE	26.56	25.07	0	25.95	88.58
LP	34.08	25.78	0	32.44	93.87
2001					
MV	3,985.55	9,943.44	573.09	2660.15	299,120.00
BV	1,132.12	4,520.33	-1,923.00	635.37	139,040.00
NP	62.56	483.04	-2,257.00	35.71	14,048.00
STATE	26.47	25.09	0	25.79	88.58
LP	24.15	25.08	0	32.62	93.87

3. Findings and Discussion

The regression results are presented in

Table 2. As can be seen from Table 2, four models are constructed to carry out the tests. The benchmark model takes the original form of the modified Ohlson model and acts as the benchmark in the tests. Model 1 is used to test whether there is a linear relationship between market value and different types of shareholding. Model 2 and 3 are developed to examine the possible non-linear relationship between market value and ownership. In Panel A, the proportion of both state shares and legal-person shares in the listed companies is used to represent P_{it}. The reason to put state shares and legal-person shares together is that these two types of shares bear substantial similarity in terms of liquidity and ownership. As discussed earlier, both state shares and legal-person shares are not allowed to be traded on the open market. More importantly, both types of shares are ultimately owned by the government. Although some legal persons are private owners, overall their control over the listed companies is at present negligible. Some researchers even treat the combination of state share and legal-person shares as government shares (Sun et al., 2002 and Tian, 2003). For simplicity, I also name the congregate state shareholding and legal-person shareholding as government shareholding in this study[iv].

In order to obtain a picture on the effect of government shareholding on the market value in a broad sense, I first put state shares and legal-person shares in the same category as government shares. I then investigate the impact of state shares and legal-person shares on the market value of firms respectively by differentiating the former from the latter. As discussed earlier, although state shares and legal-person shares are widely regarded as the shares owned by the government, significant differences do exist between the two. Therefore, it would be expected that they play different roles in explaining the firm value.

Table 3: Regression of market value on various types of shareholding

Model	α_0	α_1	α_2	α_3	α_4	α_5	*Adjusted* R^2 (%)	F	No. of obs.
Panel A: P_{it} = State + Legal Person									
BM	0.31*** (9.87)	2.57*** (23.81)	2.14*** (5.80)				51.40	439.44	835
1	0.17** (2.29)	2.62*** (24.07)	2.09*** (5.68)	0.35** (2.09)			51.70	298.01	835
2	0.47*** (5.16)	2.64*** (24.71)	2.05*** (5.67)	-2.08*** (-4.35)	3.86*** (5.40)		53.20	238.38	835
3	0.46*** (4.79)	2.64*** (24.64)	2.08*** (5.71)	-2.30*** (-4.10)	5.35** (2.49)	-1.97 (-0.74)	53.20	190.71	835
Panel B: P_{it} = State									
4	0.32*** (8.82)	2.57*** (23.81)	2.13*** (5.78)	-0.051 (-0.50)			51.20	292.78	835
5	0.32*** (8.78)	2.58*** (23.98)	2.08*** (5.67)	-0.59*** (-3.06)	1.44*** (3.28)		51.80	224.96	835
6	0.33*** (8.55)	2.58*** (23.98)	2.07*** (5.65)	-0.56** (-2.76)	0.82 (0.89)	0.97 (0.75)	51.80	179.90	835
Panel C: P_{it} = Legal Person									
7	0.27*** (6.95)	2.58*** (23.77)	2.11*** (5.72)	0.19* (1.81)			51.20	292.47	835
8	0.29*** (6.91)	2.57*** (23.66)	2.12*** (5.74)	-0.05 (-0.20)	0.45 (1.05)		51.20	219.65	835
9	0.29*** (6.82)	2.57*** (23.68)	2.13*** (5.78)	-0.38 (-1.23)	2.36** (2.05)	-2.21* (-1.79)	51.30	176.83	835

Benchmark Model: $MV_{it} / MV_{i(t-1)} = \alpha_0 + \alpha_1 BV_{it} / MV_{i(t-1)} + \alpha_2 NP_{it} / MV_{i(t-1)} + \varepsilon$

Model 1: $MV_{it} / MV_{i(t-1)} = \alpha_0 + \alpha_1 BV_{it} / MV_{i(t-1)} + \alpha_2 NP_{it} / MV_{i(t-1)} + \alpha_3 P_{it} + \varepsilon$

Model 2: $MV_{it} / MV_{i(t-1)} = \alpha_0 + \alpha_1 BV_{it} / MV_{i(t-1)} + \alpha_2 NP_{it} / MV_{i(t-1)} + \alpha_3 P_{it} + \alpha_4 P_{it}^2 + \varepsilon$

Model 3: $MV_{it} / MV_{i(t-1)} = \alpha_0 + \alpha_1 BV_{it} / MV_{i(t-1)} + \alpha_2 NP_{it} / MV_{i(t-1)} + \alpha_3 P_{it} + \alpha_4 P_{it}^2 + \alpha_5 P_{it}^3 + \varepsilon$

Notes:

MV_{it} : Market value of the equity for firm i at the end of fiscal year t;

$MV_{i(t-1)}$: Market value of the equity for firm i at the beginning of fiscal year t;

P_{it} : Proportion of different types of shares in firm *i* at the end of accounting year *t*;

NP_{it} : Reported net profit for firm i for fiscal year t;

BV_{it} : Reported book value for firm i for fiscal year t;

All variables are scaled by opening market values. Numbers in parenthesis are t-statistics; * statistical significance at 0.10 level; ** statistical significance at 0.05 level; *** statistical significance at 0.01 level;

3.1 Government Ownership and Market Value

Panel A in

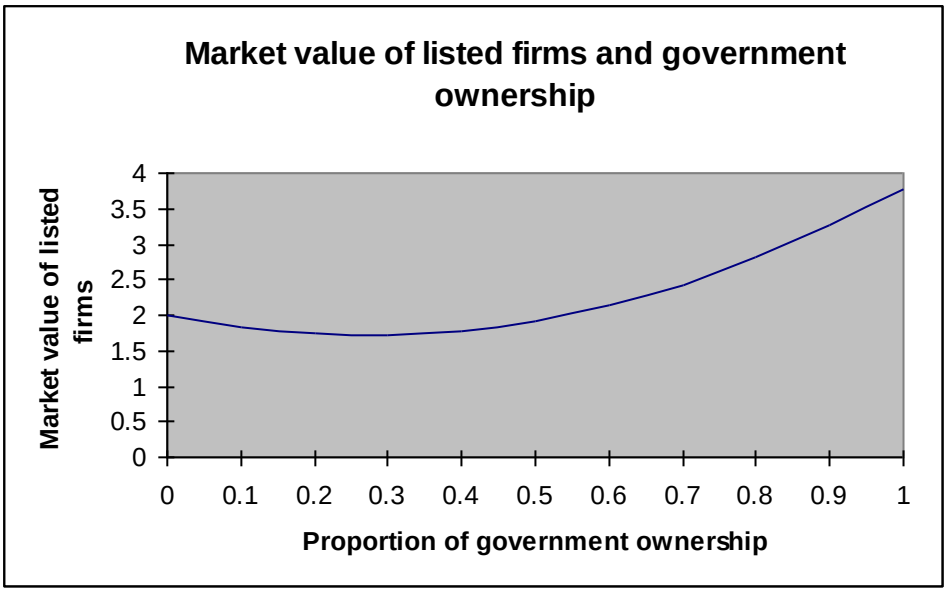
Table 3 presents the empirical results of examining the relationship between government ownership and the market value of listed firms in the Chinese equity market. From Model 1, it can be seen that the coefficient for proportion of government shares in a listed company (α_3 = 0.35) is significant different from zero at α <0.05 level. The sign of the coefficient and the significance level lead me to draw a preliminary conclusion that when state ownership and legal-person ownership are treated as a whole they are positively associated with the market value of the listed firms. The significant impact of government ownership on the market value of listed firms is in support of Sun et al. (2002) who argue that the signalling effect, monitoring role and policy role resulted from government ownership in the Chinese listed companies could assist boost the performance of the listed companies. They document that the government ownership has a significant and positive impact on firm performance. It can also be found from Model 1 that the coefficient for book value, α_1, is 2.62 with a t-statistic of 24.07 and the coefficient for net profit, α_2, is 2.06 with t-statistic of 5.68, hence providing an indication that book value and net profit are still significantly and positively associated with the market value of listed firms in China even after the ownership variable is introduced.

The possible non-linear relationship between government ownership and market valuation is explored by introducing the quadratic and cubic terms in Model 2 and 3. One striking finding is that α_3 is -2.08 and α_4 is 3.86 at α <0.01 level in Model 2. There appears to be a quadratic relation between the market value and state ownership and legal-person ownership combined in the Chinese equity market. Interestingly, this quadratic relation has been strengthened by the results from Model 3. As can be seen from the regression results from Model 2 and 3, the signs of the coefficients do not change as the cubic term is introduced in Model 3 with α_3 equal to -2.30 α <0.01 level and α_4 is 5.35 at α <0.05 level. The coefficient for the cubic term is insignificant with a t-statistic of -0.74. It therefore can be concluded that a quadratic relation exists between government ownership and market value. It is worth noting, however, that the signs of estimated coefficients with P_{it} and P_{it}^2 indicate a U-shaped curve, thus suggesting that the value of firms decreases with

the proportion of state shares and legal-person shares combined when P_{it} is low and increases when P_{it} is high. It can also be found from the coefficients of α_3 and α_4 in Model 2 and 3 that the turning points are relatively stable in the 22-27% range of shareholding by the state and legal persons. This U-shaped relationship between market value and government ownership is best depicted by

Figure . This finding lends further support for Tian (2001) who documents that the firms are valued lower when the shareholding stake of the government is higher, but after a certain threshold corporate value increases with the size of state's shareholding stakes.

Figure 2: Government ownership and market value of listed firms in China



The U-shaped relationship between the firm value and shares held by the government can be explained by the arguments existing in the literature on ownership and market valuation. As discussed previously, with state and legal-person ownership having both positive and detrimental impacts on the value of the firm, the company's market value is then dependent upon the trade-off of two competing forces. When the government (state and legal persons) owns a small stake in a company, the detrimental effect of state ownership seems to dominate the positive impact, thus destroying the value of listed firms. As argued by Morck et al. (1988)，when a legal person or the government owns a small stake in a company, it may try to collude with management for undertaking business operations or investments that will benefit itself but harm the firm's value. The monitoring role that the government and legal persons could play in the listed company may be severely restricted due to their relatively small interest in the company and the resulting voting rights. As a consequence, management in a company with small proportion of state shares and legal-person shares are likely to enjoy more discretionary power to obtain personal gains at the expense of shareholders. Furthermore, the fact that the government holds a small stake in a listed company also seems to send a strong message to the equity market that the company is unlikely to get preferential treatments from the government. The 'policy role' played by the government argued by Sun et al. (2002) and 'helping hand' offered by the state proposed by Tian (2001) seem to be less effective in a company with small government ownership. It has to be stressed that the government is playing a vital role in the business environment of China. In a country such as China where the government enjoys the absolutely unchallenged power to lead the economy, the support of the government frequently adds extremely valuable merits in determining the value of the firms. Therefore, based upon the above, it is not surprising to observe that the market value of the firm decreases with the size of the government ownership when the government owns a small proportion in the listed company.

When the government's equity holding in the firm increases to a certain level the rising positive impacts of the government ownership begin to dominate the detrimental effects. In a company with majority state and legal-person shareholding, the block-holder's goal coincides with that of outside shareholders — to maximise the firm's value. The market value of the firm is therefore likely to increase with the government ownership because investors anticipate the convergence of interest at a high level of government shareholding. The high proportion of state and legal-person shares in a listed company may also provide an incentive for the government to effectively monitor the management of the company simply because the government's interests are highly associated with the performance of the company. Note that the monitoring role in the current Chinese equity market is extremely important given the weak corporate governance, severe information asymmetry and a lack of legal protection for minority shareholders (Wang 2005). Investors therefore place heavy weight on whether the company is subject to effective monitoring when making investment decisions. Legal persons are believed to be equipped with expertise and power to perform the monitoring role, therefore investors would rather pay a premium to the company with high level of government equity holding. What's more, companies with substantial government and legal-person shareholding are also likely to win the political and economic support from the government. As discussed earlier, the core objective of the SOE reform is to

revitalise the poorly-performing state owned companies. To facilitate the transition from state-owned enterprises to listed companies the government has taken a series of measures. These include reducing the tax burden, injecting capital to repay part of the debt, and the debt-to-equity swap. All these measures have been taken on board by the equity market and seem to have contributed to the increase in the market value of the listed companies.

It is worth mentioning that the linear relationship between government ownership and market value observed from Model 1 may not necessarily contradict with the U-shaped curve illustrated from Model 2 and 3 when the quadratic and cubic terms are introduced. Note that the turning point the U-shaped curve derived from Model 2 and 3 is in a range between 22-27 per cent, meaning that when the government ownership of a listed firm falls below 22-27 per cent, the market value of the company decreases with the size of the government ownership. However, when the government ownership reaches this threshold, increased government equity holding tends to push the market value up. However, this threshold of 22-27 per cent is far lower than the average government shareholding of 58.67 per cent in the sample, as shown in **Error! Reference source not found.**. The Q1 value of 50.20 per cent for the government shareholding further means that over 75 per cent of the listed companies in the sample have more than half of their equity owned by the government. Therefore it can be concluded that overall the U-shaped curve exists between government ownership and firm value and this curve has a longer tail towards the right. The linear relationship observed from Model 1 without including the quadratic and cubic terms captures only part of the curve after the government ownership reaches the turning point.

3.2 State Ownership and Market Value

Panel B of

Table 2 presents the results of investigating the relationship between state shareholding and market value. After discovering the impacts of the government ownership by combining the state and legal-person shareholders together, it is worthwhile to split up the state and legal-person shareholding and explore the effects of these two types of ownership separately. After all, distinct differences exist between state shareholders and legal-person shareholders, especially when one sees legal persons as business entities with the ultimate goal of profit maximisation and the state shareholders as the government representatives who frequently have to put the social welfare objectives as number one priority.

As shown in Model 4, the coefficient for state ownership, α_3, is -0.051. However it cannot be rejected that α_3 is not significantly different from 0 because the t-statistic is -0.50. Therefore, state ownership alone in this model does not seem to provide any explanation to the market value of the listed firms. This result is strikingly different from what is obtained from Model 1 when the state and legal-person ownership are combined together. However, this result seems to be consistent with

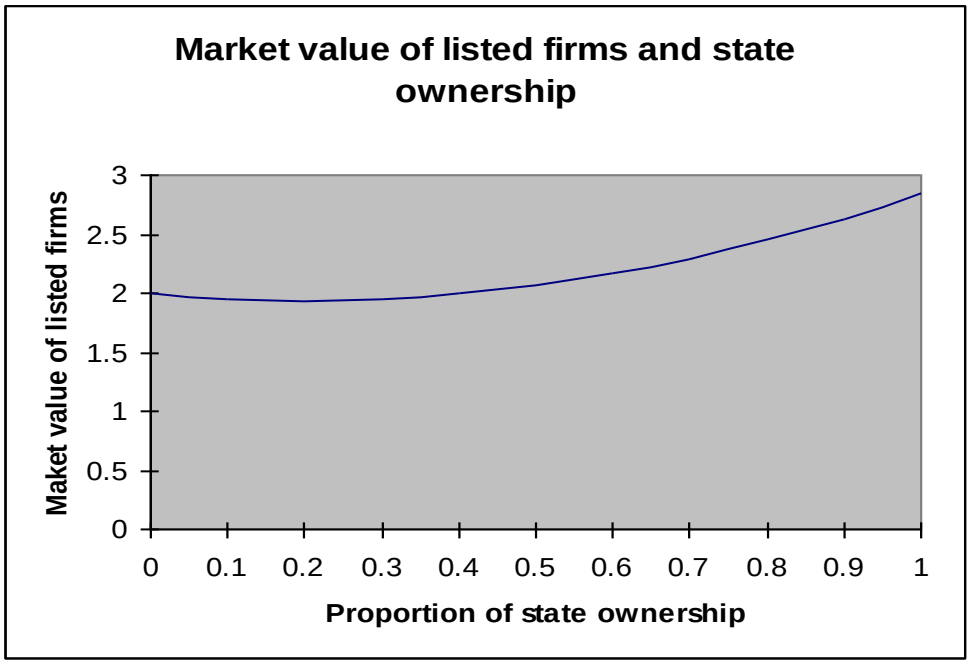
the findings of Xu and Wang (2002), Hovey et al. (2003), and Wang (2005) whose studies suggest state ownership alone is not associated with the corporate profitability and performance.

Following the method used in Panel A, the quadratic and cubic terms are included in the model to further investigate the possible non-linear relationship between state ownership and market value of listed firms. As shown in Panel B of

Table 5, the coefficients for P_{it} and P_{it}^2 (α_3=-0.59; α_4=1.44) in Model 5 are both statistically significant at α < 0.01 level. In Model 6, α_3 is significant at α <0.05 level, but neither α_4 nor α_5 shows any statistical significance at all. All these suggest that there appears to be a quadratic relationship existing between the proportion of state shares in the listed company and the firm value. It is worth noting that the signs of estimated coefficients for P_{it} and P_{it}^2 indicate that this relationship is graphically a U-shaped curve with the turning point occurring at P_{it} equal to 20 per cent. This suggests that firm value first declines with the increase in the proportion of state shares, then goes up with the increase in state ownership, when the state's equity holding surpasses the 20 per cent level. This relationship is better seen from

Figure .

Figure 3: State ownership and market value of listed firms in China



The U-shaped association between state ownership alone and firm value seems to be consistent with the finding obtained from Panel A when state and legal-person ownership are combined together. It therefore can be understood that this finding has strengthened the conclusion drawn in the preceding section: the U-shaped relationship exists between government ownership and firm value and this conclusion holds not only when state and legal-person ownership are combined together but also when state shareholding is considered alone.

3.3 Legal-Person Ownership and Market Value

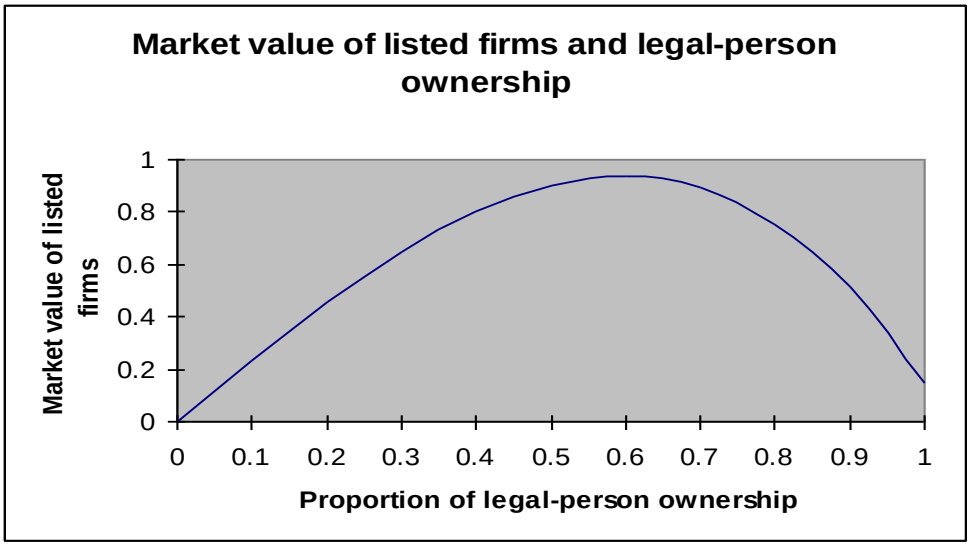
When the initial investigation on the possible linear relationship is carried out in Model 7, a moderate positive relationship between legal-person shareholding and firm value is reported as evidenced by α_3 which is significant at $\alpha < 0.1$ level in Panel C of

Table 5. This finding offers preliminary evidence that legal-person shareholding tends to increase the market value of listed firms. It comes as no surprise as it reinforces the findings of most literature studying the impact of ownership structure in the context of Chinese equity market. Using three-year data from 1997 to 1999, Hovey et al. (2003) find that the level of ownership of shares by legal persons has a positive relationship with corporate performance as measured by Tobin's Q. Xu and Wang (1999) also document that the firm's profitability is positively correlated with the fractions of legal-person shares.

Like in the previous sections, the existence of possible non-linear relations between firm value and the level of legal-person shareholding is further explored by embracing the quadratic and cubic terms into the model. As can be seen from Panel C of

Table 5, the coefficients for P_{it} and P_{it}^2 (α_3= -0.05; α_4=0.45) in Model 8 are both insignificant. However, the estimation of Model 9 has produced some interesting results with α_4 being significant at α < 0.01 level and α_5 at α < 0.10 level. This seems to suggest that a curvilinear relationship has been detected between the market value of the listed company and the level of legal-person equity holding[v]. This relationship is best depicted by Figure 4.

Figure 4: Legal-person ownership and market value of listed firms in China



This hump-shaped curve between market value and legal-person shareholding is obviously opposite to the U-shaped relation found in the previous sections when the impacts of government ownership and state ownership are combined and examined. It clearly suggests that the market value of listed companies goes up with the increase in the proportion of shares held by legal persons and after reaching a turning point a further increase in the legal-person shareholding would lead to a

decline in the market value. This finding is of particular interest because the largest legal persons in Chinese listed companies are usually institutions ultimately controlled by the government (Hovey 2003). And more importantly, legal-person shares, together with state shares, are in a same category labelled as non-tradable shares. Therefore intuitively it should be expected that association between legal-person shareholding and market value would follow the same pattern as that between state shareholding and market value.

The hump-shaped relationship between legal-person ownership and market value can be explained by the particular roles that legal persons play in the context of Chinese equity market. As discussed earlier, legal persons can have both beneficial and adverse impacts upon the performance and market value of listed companies depending on the percentage of shareholding. When the legal persons' equity holding falls below the turning point, it can be expected that the beneficial effects dominate the adverse effects. Investors thus anticipate that an increase in legal person ownership will lead to an increase in the market value of the listed firm. In fact, legal persons in Chinese listed companies are widely believed to be playing an active role in monitoring management to ensure that managers act in the interests of shareholders. What is more, legal-person owners in practice help to increase or strengthen the alignment of interests between managers and shareholders (Hovey et al. 2003). They do this via their direct control. When they have a substantial representation in a company's board of directors, they have the power to change the management team when it is needed. Empirically, Xu and Wang (1999), Sun et al (2002), and Bai et al. (2004) all found that the concentration of legal person shareholding is positively correlated with firm performance, which is consistent with the idea that legal-person shareholders are playing an effective role in monitoring the firm's management.

The fact that legal-person ownership helps to increase the market value of listed firms through playing the monitoring role does not necessarily mean that the higher concentration of legal-person ownership will lead to higher market value of the firm. When the level of legal-person shareholding reaches a certain high level, 60 per cent in this study, the type Π agency problem (principle-principle) arises between majority shareholders and minority shareholders (La Porta et al., 1999). As shown in the study, when legal persons' ownership exceeds 60 per cent, an increase in the shareholding would lead to a decline in the market value. This suggests that investors in the Chinese equity market welcome legal persons to own the shares up to a certain level. However, too many shares owned by legal persons tend to gives rise to the fear that legal person might be exposed to the lure to expropriate minority shareholders.

From the investors' perspective, the hump-shaped relationship between legal-person ownership and market value also reflects the complication in the market's attitude towards legal person shareholders. Investors need legal-person shareholders because the market relies on legal persons to monitor management but in the meantime minority investors also fear legal persons because too many shares in the hands of majority shareholders would expose them to the risks being expropriated by block holders. It is this mixed attitude towards legal persons that change the directions of the hump-shaped curve.

Note that a U-shaped relationship between government ownership and market value is discovered when legal-person and state shareholding are combined together and when state ownership is considered alone. However, when legal-person ownership is separated from state ownership, the relationship between legal-person ownership and market value appears to be a hump shape. This is a rather interesting finding because it strengthens the idea that legal-person shareholders in the Chinese equity market actually have dual characteristics. It carries distinct features of state owners in that both state and legal-person shares are non-tradable and most of legal persons are directly and indirectly controlled by the government. It is therefore no surprise to discover that the U-shaped relationship between state shareholding and market value remains unchanged even when both state and legal-person ownership is incorporated into the model. Including legal-person ownership as a part of government ownership appears not to affect the overall relationship. On the other hand, when legal-person ownership is separated from state ownership and is treated as a stand-alone variable in the model, its unique feature, the resemblance to institutional investors, appears to emerge. That is, at low levels of ownership, legal persons tend to perform the monitoring role in the listed firms. When legal persons' equity shareholding exceeds a certain proportion they are prone to the lure to expropriate the minority shareholders.

4. Summary and Concluding Remarks

This study focuses on the issues of value-relevance and the application of the market valuation theory to assess the relation between different types of shareholding and the market value of the listed firms in the Chinese emerging stock market.

The results seem to suggest that when government shareholding (the combination of state shareholding and legal-person shareholding) is considered, a U-shaped curve is identified between the government shareholding and market value. This indicates that the market value of a firm decreases with the proportion of government shares when the government holds low level of ownership and increases when the government shareholding is high. The turning point in the U-shaped curve is found to be between 22 and 27 per cent, implying that the range between 22 to 27 per cent is the optimal government shareholding for listed companies. This finding lends a further support for Tian (2001) who documents that the firms are valued lower when the shareholding stake of the government is higher, but after the threshold corporate value increases with the size of the government's shareholding stakes.

If the state shareholding is considered alone, the result from the previous test does not change too much. Again, a U-shaped curve is found to exist between state ownership and the firm's market value. This seems to be consistent with the finding obtained from the previous test when state and legal-person ownership is combined together. It therefore can be understood that this finding has strengthened the conclusion drawn in the preceding section: the U-shaped relationship exists between government ownership and firm value and this conclusion holds not only when state and legal-person ownership are combined together but also when state shareholding is considered alone.

As a final point, when it comes to legal-person shareholding, however, the result seems to support the hump-shaped curve between market value and legal-person shareholding. This finding is obviously opposite to the U-shaped relation observed in the previous tests when the impacts of government ownership and state ownership are examined. It clearly suggests that the market value of a listed company goes up with the increase in the fraction of shares held by legal-persons and after reaching the turning point a further increase in the legal-person shareholding would lead to a decline in the market value. This finding is of particular interest as legal-person ownership is widely regarded as a form of government ownership because the largest legal persons are usually institutions ultimately controlled by the government (Hovey 2003). And more importantly, legal-person shares, together with state shares, are in a same category labelled as non-tradable shares. Therefore intuitively it should be expected that legal-person shareholding would have the same impact on the market value, or at least similar to, as the government ownership. However, the hump-shaped curve obtained in this test suggests that although most legal persons are directly or indirectly controlled by the government, they are playing different roles from the government in explaining the market value.

Clearly, the findings of this study have both theoretical and practical implications. The significant association between the market value of listed firms and different types of shareholding is of particular importance in China's stock market. When the stock market was created in the early 1990s, the government's idea was simple: holding a majority of the shares could ensure the government to have a grim grasp on the listed companies. However, the empirical evidence of this study suggests that while a certain level of government ownership is beneficial to the company's market value, excessively high level of government shareholding damages the firm value. In this study, the optimal government ownership (including both state and legal-person shares) is found to be between 22 to 27 per cent. This finding seems to be consistent with the government's plan to reduce the government shareholding.

Endnotes

[i] These rules have recently been loosened up. Chinese investors have been allowed to invest in the B-share market from January 2001 onwards. As of 1st December 2000, foreign investors could be granted the permit to enter the A-share market under the scheme of Qualified Financial Institutional Investors (QFII).

[ii] The issue of providing unemployment benefits to laid-off workers has always been the biggest headache for the government to push ahead the SOE reform. In developed countries such as the U.K., laid-off workers can seek for benefits from the government. However, anecdotal evidence in China suggests that a great number of workers are laid off without receiving any benefits at all. To minimise the impact of unemployment on the society, the province-based security funds have been set up by the provincial governments. However, severe under-funding has always been a problem.

[iii] It can also be argued that market valuation models, e.g. the modified Ohlson model, are based on the linkage between market information and accounting information. The accounting information such as book value and net profit is somehow subject to managerial judgement and can not be absolutely objective. Therefore, the objectivity of variables discussed here may not pose a serious problem to the study.

[iv] For simplicity, the term ‘government shareholding’ or ‘government ownership’ represents the aggregation of state and legal-person shareholding and will be used throughout the study.

[v] It has to be admitted that this regression result of Model 9 has provided some evidence for the hump-shaped relationship between market value and legal-person shareholding; however, the relationship is not too significant.

References

Aharony, J, Lee, CJ and Wang, TJ 2000 'Financial packaging of IPO firms in China', *Journal of Accounting Research,* vol. 38, no. 1, pp. 103-126.

Allen, L 1997 *Capital markets and institutions: a global view.* John Wiley & Sons, New York.

Bai, CE, Liu, Q, Lu, J, Song, FM and Zhang, J 2004 'Corporate governance and market valuation in China', *Journal of Comparative Economics,* vol. 32, no. 4, pp. 599-616.

Brooks, RD and Ragunathan, V 2003 'Returns and Volatility on the Chinese stock markets', *Applied Financial Economics,* vol. 13, no. 10, pp. 747-752.

Chen, Z 2003 'Capital markets and legal development: the China case', *China Economic Review,* vol. 14, no. 4, pp. 451-472.

Claessens, S, Djankov, S, Fan, PH and Lang, L 2002 'Disentangling the incentive and entrenchment effects of large shareholdings', *Journal of Finance,* vol. 57, no. 6, pp. 2741-2772.

Claessens, S, Djankov, S and Lang, LHP 2000 'The separation of ownership and control in East Asian corporations', *Journal of Financial Economics,* vol. 58, no. 1-2, pp. 81-112.

Collins, DW, Maydew, EL and Weiss, IS 1997 'Changes in the value-relevance of earnings and book values over the past forty years', *Journal of Accounting and Economics,* vol. 24, no. 1, pp. 39-67.

Delios, A and Wu, ZJ 2005 'Legal person ownership, diversification strategy and firm profitability in China', *Journal of Management and Governance,* vol. 9, no. 2, pp. 151-169.

Feltenstein, A and Nsouli, SM 2003 *'Big bang' versus gradulism in economic reforms: an international analysis with an application to China.* IMF Staff Papers

Fong, WM and Lam, KCK 2005 'Privatisation and performance', *The Chinese Economy,* vol. 37, no. 4, pp. 5-27.

Fung, HG 2003 'A rise of capitalism in China', *China Business Review,* vol. 2, pp. 1, pp. 1-7.

Fung, HG., Kummer, D and Shen, J 2006 'China's privatisation reforms', *The Chinese Economy,* vol 39, no. 2, pp. 5-25.

Gao, S 2002 'China stock market in a global perspective', *Research Report for Dow Jones Indexes*.

Gu, AY 2003 'A trend towards being normal: the 'A' share experience on the Shanghai stock exchange', *Applied Financial Economics,* vol. 13, no. 5, pp. 379-385.

Hovey, M, Li, L and Naughton, T 2003 'The relationship between valuation and ownership of listed firms in China', *Corporate Finance,* vol. 11, no. 2, pp. 112-122.

Jenson, MC 1993 'The modern industrial revolution, exit, and the failure of internal control systems', *The Journal of Finance,* vol. 48, no. 3, pp. 831-880.

LaPorta, R, Lopes-de-Silanes, F and Shleifer, A 1999 'Corporate ownership around the world', *Journal of Finance,* vol. 54, no. 2, pp. 471-517.

Liu, GS and Garino, G 2001 'Privatisation or competition: a lesson learnt from the Chinese enterprise reform', *Economics of Planning,* vo. 34, no. 1-2, pp. 37-51.

Lu, X and Fu, H 2003 'Financial fraudulence in China's listed companies', *Shanghai Stock Exchange Research Report,* vol. 1, no. 1, pp. 1-93.

Megginson, WL, Nash, RC and Randenborgh, MV 1994 'The financial and operating performance of newly privatised firms: An international empirical analysis', *Journal of Finance,* vol. 49, no. 2, pp. 403-452.

Megginson, WL and Netter, JM 2001 'From state to market: a survey of empirical studies on privatisation', *Journal of Economic Literature,* vol. 39, no. 2, pp. 321-389.

Morck, R, Shleifer, A and Vishny, R 1988 'Management ownership and market valuation: An empirical analysis', *Journal of financial economics,* vo. 20, no. 1, pp. 293-315.

Nolan, P and Yeung, G 2001 'Large firms and catch-up in a transitional economy: the case of Shougang Steel Group in China', *Economics of Planning,* vol. 34, no. 1-2, pp. 159-178.

Ohlson, JA 1991 'The theory of value and earnings, and an introduction to the Ball-Brown Analysis', *Contemporary Accounting Research,* vol. 8, no. 1, pp. 1-19.

Ohlson, JA 1995 'Earnings, Book Values, and Dividends in equity Valuation', *Contemporary Accounting Research,* vol. 11, no. 2, pp. 661-687.

Qi, D, Wu, W and Zhang, H 2000 'Shareholding structure and corporate performance of partially privatised firms: Evidence from listed Chinese companies', *Pacific-Basin Finance Journal,* vol. 8, no. 5, pp. 587-610.

Stark, AW and Thomas, HM 1998 'On the empirical relationship between market value and residual income in the U. K.' *Management Accounting Research,* vol. 9, no. 4, pp. 445-460.

Sun, Q and Tong, WHS 2003 'China share issue privatisation: the extent of its success', *Journal of financial economics,* vol. 70, no. 2, pp. 183-222.

Sun, Q, Tong, WHS and Tong, J 2002 'How does government ownership affect firm performance? Evidence from China's privatisation experience', *Journal of Business finance and Accounting,* vol. 29, no. 1&2, pp. 1-27.

Tan, J 2002 'Impact of ownership type on environment-strategy linkage and performance: Evidence from a transitional economy', *Journal of Management Studies,* vol. 39, no. 3, pp. 333-354.

Tian, L 2001 'Government shareholding and value of China's modern firms', *William Davidson Working Paper No. 395*.

Wang, C 2005 'Ownership and operating performance of Chinese IPOs', *Journal of Banking & Finance,* vol. 29, no. 7, pp. 1835-1856.

Wang, S S and Jiang, L 2004 'Location of trade, ownership restrictions, and market illiquidity: Examining Chinese A- and H-shares', *Journal of Banking & Finance,* vol. 28, no. 6, pp. 1273-1297.

Xu, X and Wang, Y 1999 'Ownership structure and corporate governance in Chinese stock companies', *China Economic Review,* vlo. 10, no. 1, pp. 75-98.

Young, MN and McGuinness, PB 2001 'The missing link: why stock markets have been ineffective in Chinese SOE reform', *Business Horizons,* vol. 44, no. 4, pp. 55-62.