The Impact of State Policies on the Relation between Ownership and Firm Value: The Evidence of Chinese Listed Firms

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Abstract

This study posits that the state policies play a critical role in the casual relation between ownership concentration and firm value in Chinese listed firms and is also the main reason why the previous studies find inclusive evidence. We argue that the state influences simultaneously affect both firm value and ownership. The results of 2SLS estimation show that ultimate state control does not always affect firms negatively, but become so only if the company shares are highly concentrated. In the case of highly concentrated ownership, the stock trading liquidity enhances firm value. In addition, although negotiated share transfers from the state affiliations to non-affiliated institutional shareholders increase firm value, the benefit diminishes as the level of ownership concentration increases. After controlling for the effects of state policies and economic factors, we conclude that ownership concentration shows a negative impact on firm value.

1. Introduction

The literature on ownership structure widely addresses the relationship between ownership and firm performance. While some evidence supports the incentive-alignment hypothesis (Shleifer and Vishny, 1986; McConnell and Servaes, 1990), other results are consistent with the entrenchment hypothesis (Fama and Jensen, 1983; Jensen and Ruback, 1983). These inconsistent empirical results have been attributed to the endogenity caused by some unobservable firm-specific characteristics (Demstz, 1983; Himmelberg, Hubbard, and Palia, 1999; Palia, 2001; Demsetz and Villalonga, 2001). Although these empirical studies provide researchers and practitioners with relatively well-structured theories and evidence, the firms covered are mainly associated with diverse ownership structures, which is rarely the case in countries other than the UK and the US (La Porta, Lopez-de-Silanes, and Shleifer, 1999).

For instance, through a series of economic reforms, many firms listed on Chinese stock markets are state-controlled corporations. This characteristic has attracted research onto the relation between this ownership structure and firm performance, but the findings are inconclusive (Xu and Wang, 1999; Chen, 2001; Sun and Tong, 2003; Wei and Varela, 2003; Wei, Xie, and Zhang, 2005). We argue that this is because these studies ignore the fundamental differences in ownership structure between China and other countries. Because the unique ownership structure in China is a consequence of the country's rapid economic reforms, the impact of state policies and political interference may be more important than other firm-specific characteristics in determining firm value as well as the ownership structure. In this case, if these common factors are not carefully considered, the empirical analysis on the relation between ownership and firm value may lead to inappropriate conclusions. The assertion is based on the following reasons.

First, because financing for state-owned enterprises (SOEs) was one of the major

objectives of establishing the Chinese stock markets, the state actively managed the process of initial public offerings (IPOs), including selecting firms for listing. In order to better impose its policies, the state still holds a controlling stake in most listed firms and restricts the trading of the majority of shares on the stock exchanges. In this case, whether or not the state is the ultimate controlling shareholder affects the magnitude of its influence. Most of the pervious studies on this topic measure state control simply by considering the level of state ownership (Chen, 2001; Xu and Wang, 1999; Sun, Tong, and Tong, 2002; Sun and Tong, 2003; Wei *et al*., 2005). However, when the ultimate controlling shareholders of a firm are neither the state nor state agencies, the government's influence may not be that significant, even though its level of ownership is still high (Shleifer and Vishney, 1997; La Porta, Loped-De-Silanes, Shleifer and Vishny, 2000; Bradford, Chen, and Zhu, 2007).

Second, the SOEs chosen for public listing are always the profitable ones with growth opportunities. Consequently, such firms have a higher demand for capital to finance their future growth, and so additional equity offerings are likely to be conducted after their IPOs. However, the state is often unable to participate in new share issuances due to the lack of incentives and funds. Even though the level of state-controlled ownership decreases as the state does not participate in new share offerings, its control over these firms remains because the state-controlled ownership is still the majority after the offerings.

Third, even though the state has controlling power over the previously state-owned listed firms, the lack of monitoring on appointed managers often leads to managerial expropriation. Consequently, the state has made moves to reduce its level of ownership in some firms by transferring its non-tradable shares to unaffiliated institutional investors, with the aim of improving both corporate governance and the subsequent performance of these enterprises. Providing support for this policy, some empirical studies find that listed firms usually perform better than unlisted SOEs (Vining and Boardman, 1992; Megginson, Nash

and Randenborgh, 1994; Sun *et al.,* 2002), and that when the ownership of the previously state-owned listed firms becomes more dispersed through negotiated share transfers, unaffiliated institutional shareholders demand greater information transparency, resulting in better governance (Chen, Chung, Lee and Liao, 2007).

Furthermore, as a controlling shareholder, the state often has multiple and conflicting objectives. On the one hand, the state wants the firms that it controls to be as competitive and efficient as non-state-controlled ones. On the other hand, state-controlled firms may also have to follow the government's principle of providing social welfare (Shleifer and Vishny, 1994; Boycko, Shleifer and Vishny, 1996; Frydman, Gray, Hessel and Rapaczynski, 1999), and thus may not always operate as efficiently as non-state-controlled firms. However, when the state requires such firms to implement its policies, it may also provide them with some preferential benefits, such as better access to external funds (Brandt and Li, 2003; Fan, Wong and Zhang, 2005; Wang, Wong and Xia, 2007), direct financial assistance (Kornai, 1993; Shaffer, 1995; Fan *et al.*, 2005; Wang *et al.*, 2007), the benefits of entry barriers in some monopoly or oligopoly industries (Shaffer, 1995; Sun *et al.*, 2002; Sun and Tong, 2003; Fan *et al.*, 2005), and generally enhancing firm value (Hillman, Keim, and Schuler, 2004). Consequently, the net influence of the state being the ultimate controlling shareholder on firm performance may be positive or negative. However, previous studies that ignore the influence of state policies usually find that firms controlled by the state or with political connections have poorer performance than those operating more independently (Xu and Wang, 1999; Chen, 2001; Sun and Tong, 2003; Faccio, Masulis, and McConnell, 2006).

This study examines how the state being the ultimate controlling shareholder and how some state policies affect the relation between ownership concentration and firm value. Because of the profound influence of state policies in the Chinese economy, ownership concentration and firm value should be simultaneously determined. This paper thus

investigates whether there is an endogenous relationship between ownership and firm value by performing the Hausman test. If an endogenous relationship exists, then we will consider whether the effects of state influence on ownership concentration and on firm performance change when endogenity is taken into account. Furthermore, as mentioned above, significant state control may provide firms with both costs and benefits. Therefore, we also investigate whether the preferential benefits outweigh such costs for the listed firms.

This study contributes to the literature in several ways. In the environment where business operations are highly influenced by the government, the relationship between ownership and firm value is not the same as that in the environment where business operations are more associated with internal management and legal system than government involvement. This paper identifies that the interference of the state policies affects the relation between ownership and firm value in China. In addition, this paper finds that firms are not always harmed when the state is the ultimate controlling shareholder in China. Although the state may impose social welfare burdens on such firms, it also offers some benefits to compensate for this. If the state does not interfere too much in management decisions, then the advantages of being closely connected to the state can outweigh the negative impact of social welfare burdens. After controlling for state policies and economic factors, this study finds a negative relationship between ownership concentration and firm performance. Indeed, it is the endogenous relationship between ownership concentration and firm value that explains the inconsistent results of earlier research.

The remainder of the paper is organized as follows: We introduce the development of security markets in China in Section 2, and discuss the relationship between ownership and firm performance in Chinese listed firms in Section 3. We describe the empirical design used in this work and present the sample selection and empirical analyses in Section 4. To verify the validity of the empirical analyses, three more additional tests are performed in Section 5.

Finally, a conclusion is presented in Section 6.

2. The Development of Security Markets in China

In 1978, China began a process of economic reforms in order to make the transition from a centrally planned to a socialist market-planned economy. Through these reforms, managers of SOEs gained greater authority than before, and, after decentralization, such problems as fiscal pressure, political interference, inefficient management, severe agency problems, and poor performance motivated the government to partially privatize some SOEs (Lardy, 1998; Cao, Qian and Weingest, 1999; Li, Li and Zhang, 2000; Wei and Varela, 2003; Xu, Zhu and Lin, 2005; Liu, Sun and Woo, 2006). In addition, to meet such firms' increasing demand for capital, the government allowed them to issue shares on the primary market, leading to the establishment of security markets in Shanghai and Shenzhen in 1990 and 1991, respectively (Lee and Rui, 2000).

However, while anxious to raise capital from private sources, the Chinese government has been reluctant to relinquish control of its newly privatized firms. To this end, the state not only retains high level of ownership, but also restricts the trading of most of the listed firms' shares. Unlike in many other countries, the shares offered in China are relatively complex arrangements. Approximately two thirds of shares are non-tradable and are mostly held by the state, institutions, employees, and other insiders, while the other third can be traded on the exchanges and are mostly held by individual investors (referred to as A-shares) and foreign investors (referred to as B-shares and H-shares).

As the ownership of listed firms is mostly concentrated in the hands of the state or state agencies, the state influence may show in two opposing ways. On the one hand, since the ultimate owners of the state shares of privatized firms — the Chinese citizens — are unable to manage and monitor company operations, the State-owned Assets Supervision and

Administration Commission of the State Council (SASAC) has the responsibility of managing all state assets. The SASAC usually appoints individuals to manage the firms via central or local asset management institutions. Since these appointed managers often own only a very tiny proportion of company shares and exert a high level of control over company assets, they are unlikely to take actions that are in the best interests of all shareholders. Moreover, since the SASAC and designated local agencies do not closely monitor the privatized SOEs, managers are often able to expropriate shareholder wealth via the use of perk consumption and the tunneling of assets to other entities. Accordingly, privatized firms are believed to perform poorly when the level of state share remains high.

On the other hand, state control may provide firms with some preferential benefits (Kornai, 1993; Li, 2003; Brandt and Li, 2003; Fan *et al.*, 2005; Faccio *et al.*, 2006; Wang *et al.*, 2007), and thus have a positive impact on performance (Sun *et al.*, 2002). In addition, the need to raise funds was one of the main reasons why SOEs went public, and such firms had poor performance then investors would have less incentive to subscribe to their IPOs. Consequently, in order to ensure successful IPOs that would raise the necessary capital, the state chose firms with better performance or firms had been carved out of state solely owned enterprises to go public. Even though such firms may not necessarily maintain their good performance after their initial offerings, the state's method of selecting companies for IPOs suggests a bias towards those that are likely to continue to perform well. State influence may thus have both negative and positive impacts on privatized firms in China.

As the economy gradually developed and became more market-oriented, the government decided that it should gradually loosen its control in some competitive industries. Consequently, the Chinese government has declared its intention to reduce the proportion of state shares in strategic industries and to withdrawal capital from poorly performing firms. Accordingly, state shares are allowed to transfer to unaffiliated institutional shareholders or

new institutional shareholders under negotiated terms. By means of such negotiated share transfers, new institutional shareholders are able to access equity markets for their original firms, and privatized SOEs benefit from the more diversified ownership structure and the improved governance mechanisms that are associated with it, as in more traditional market economies.

3. Ownership Concentration and Firm Performance of Chinese Listed Firms

A few studies examine the relation between ownership structure and firm value for Chinese listed firms. Xu and Wang (1999) find a positive relation between ownership concentration and firm performance. They also find that firm performance is negatively related to state shares, but positively related to institutional shares, and thus conclude that institutional ownership is beneficial whereas state ownership leads to inefficiency. In addition, Chen (2001) and Sun and Tong (2003) find a similar impact of ownership structure on firm performance in Chinese listed firms. On the other hand, Wei *et al*. (2005) complicate the issue by arguing that institutional shares are somehow indirectly controlled by the state, and thus have the same effect as state shares on firm performance, and their empirical evidence supports this contention.

Since the majority of the shares of previously state-owned listed firms are controlled by the state (Zhang, Zhang and Zhao, 2001; Xu *et al*., 2005; Liu and Sun, 2005; Wei *et al*., 2005; Liu *et al*., 2006; Jefferson and Su, 2006), the influence of the government on firm performance may dominate the impact of other institutional shares. Research that does no consider the full influence of state policies often concludes that state control leads to poor performance (Qi, Wu and Zhang, 2000; Chen, 2001; Wei *et al*., 2005), although Xu and Wang (1999) and Chen (2001) reach the opposite conclusion. Such discrepancies among the existing empirical research suggests that the positive relation between ownership

concentration and firm performance reported on the basis of an exogenous relationship in prior studies may not always be true. Where the state does still control most listed firms, we argue that political influence and state policy may directly affect the firms' ownership structure and their performance for the following reasons.

First, the decision to undertake an IPO in China has both political and financial considerations (Ting and Tse, 2006), because raising capital on stock market for the state is the major motivation behind the privatization of SOEs. However, since the government does not want to lose control of privatized firms, it not only retains a certain proportion of ownership, but also restricts the trading of their shares. Only one third of shares can be floated on stock exchanges, and the others are non-tradable shares held by the state, institutions, employees, and other insiders. In China, the state and state agencies own about 47 percent of total shares (Chen, 2001; Liu and Sun, 2005). Consequently, firm value may be affected by state policies because the state may keep interfering in the operations of privatized firms and imposing the burdens of social welfare on them (Shleifer and Vishny, 1994; Boycko *et al.*, 1996; Frydman, *et al.*, 1999). Therefore, a firm's value may not be significantly improved after share-issuing privatization.

Second, as rapid economic growth leads to an increasing demand for capital, seasoned equity offerings (SEOs) have become increasingly common within a few years following the IPOs. However, the owners of existing non-tradable shares, the state and affiliated institutional shareholders, usually have less incentive to participate in SEOs because they still hold majority stakes in such firms even they don't participate in such offerings. Meanwhile, the existing non-tradable shareholders can enjoy an increased value of non-tradable shares due to the high premium of offering prices whether or not they subscribe to the offerings. Furthermore, the state holding the majority of shares mostly lacks the cash necessary to participate in SEOs, and thus the fraction of tradable shares increases and ownership

concentration is diluted.

According to the literature on IPOs and based on the signaling hypothesis, high quality firms will issue new shares in the years following their initial offerings (Welch, 1996). Moreover, firms intending to issue new shares should first meet the criterion of profitability. Although the state has a lack of incentive to subscribe to SEOs as they already hold the controlling stake, profitable firms still attract more investors to participate in subsequent equity offerings and thus have a higher proportion of tradable shares. Moreover, increasing the proportion of tradable shares can strengthen corporate governance and thus increase the power of the markets to deter managers acting only in their own best interests. With a higher proportion of corporate shares traded on the market, managers may be more cautious in making decisions since any poor managerial decision may result in a negative market reaction. Furthermore, increasing the proportion of tradable shares increases the liquidity of a company's shares, thus providing access to more flexible financing in the long run. The policy of reducing the state shareholdings can thus be seen as a way to increase management efficiency and improve the corporate governance, thus positively impacting firm value (Chen, Ho, Lee, and Shrestha, 2004).

Third, the state recognizes that a high level of state ownership is the main reason for inefficient management. With numerous SOEs and privatized SOEs to deal with at once, the state is unable to closely monitor the actions taken by each appointed manager, who thus have the opportunity to expropriate corporate resources through tunneling. Since 1999, the Chinese authorities have been working to reduce the proportion of state shares in competitive industries and unprofitable firms in order to solve the problem of poor corporate governance resulting from ownership concentration. When ownership becomes more dispersed through share transfers, non state-affiliated institutional shareholders demand increased transparency and possibly even the replacement of unsuitable managers, resulting in better corporate

governance (Chen *et al.*, 2007). The policy of reducing state shareholdings via the negotiated transfer of shares can thus reduce ownership concentration and thus have a positive impact on firm value.

Therefore, we argue that state policies have a definite impact on ownership concentration and firm performance, and it is necessary to take these effects into account when examining the relationship between them. While some empirical findings suggest that higher state ownership indicates stronger political influence and thus harms firm performance (Qi *et al*., 2000), no studies have considered the ways that ownership structure may also be affected by political influence.

Since increasing the proportion of tradable shares, transferring state shares to other investors and the state being an ultimate shareholder are all factors that have direct impact on firm performance and may change the a company's ownership structure, firm performance and ownership concentration should be endogenously determined. Accordingly, this study aims to econometrically investigate whether there is an endogenous relation between ownership concentration and firm performance, taking into account the impacts of state policy.

4. Empirical Analysis

4.1 Empirical Design

The first research objective of this study is to examine the effects of state influences, including state ultimate control and state policies, on both the ownership concentration and performance for Chinese listed firms. As stated earlier, the state influences may affect ownership concentration and firm performance simultaneously, in which case a regression analysis assuming exogenous a relationship between these two factors may not be appropriate. We thus hypothesize that the reason for the mixed results in prior studies (e.g. the positive

relationship in Xu and Wang (1999) and Chen (2001), and the negative relationship in Wei *et al.* (2005) may be because the endogenous relationship was not taken into account. Thus, the following two simultaneous equations are adopted.

$$
\begin{aligned}
\text{Tobin's } Q_{i,t} = {} & \beta_0 + \beta_1 H5_{i,t} + \beta_2 Ultimate_{i,t} + \beta_3 Tradable_{i,t} + \beta_4 Transfer_{i,t} + \beta_5 H5 \times Ultimate_{i,t} \\
& + \beta_6 H5 \times Tradable_{i,t} + \beta_7 H5 \times Transfer_{i,t} + \beta_8 Tobin's Q_{i,t-1} + \beta_9 Size_{i,t-1} \\
& + \beta_{10} LEV_{i,t-1} + \beta_{11} Meeting_{i,t} + \beta_{12} Independent_{i,t} + \beta \sum YD_{i,t} + \varepsilon_i
\end{aligned} \tag{1}
$$

$$
\begin{aligned}
H5_{i,t} = {} & \beta_0 + \beta_1 Tradable_{i,t} + \beta_2 Transfer_{i,t} + \beta_3 Ultimate_{i,t} + \beta_4 Size_{i,t-1} + \beta_5 Sigma_{i,t-1} \\
& + \beta_6 Utility_{i,t} + \beta_7 Media_{i,t} + \beta_8 Age_{i,t-1} + \beta \sum YD_{i,t} + v_i
\end{aligned} \tag{2}
$$

We use the lag term of a firm's characteristics, such as firm size, firm performance, leverage, stock volatility, and firm age, as the instrument variables to estimate the predicted value of *Tobin's Q* (*H5*). *Tobin's Q_t* and *Tobin's Q_{t-1}* are estimated by the ratio of market value to the replacement (book) value of total assets at time t and t-1. The market value of total assets is the sum of the market value of tradable shares, book value of non-tradable shares, and book value of liabilities. *$H5_t$* is the Herfindahl Index that measures the ownership concentration of the largest five shareholders, taking into account the power of ownership concentration by using the square of the proportion of shares held by each of the top five individual investors[1]. *$Ultimate_t$* is a dummy variable that equals one if the ultimate shareholder is the state or state-affiliated agencies at time t, and zero otherwise. *$Tradable_t$* is the proportion of a firm's shares allowed to be traded on the exchanges at time t. *$Transfer_t$* is a dummy variable that equals one if the negotiated share transfer occurs at time t, and zero otherwise. Finally *H5×Ultimate*, *H5×Tradable*, and *H5×Transfer* are the interaction of ownership concentration and the state policies.

$Size_{t-1}$ is the firm size, as measured by the nature logarithm of total assets at time t-1. *LEV_{t-1}* is a firm's leverage ratio, as measured by the ratio of total liabilities to total assets at

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[1] We also use the aggregate shareholdings of the largest five shareholders (*CR5*) to measure ownership concentration. Since the correlation between *H5* and *CR5* is about 0.8, but *H5* is a better index to measure the power of ownership concentration than *CR5*, we only report the results of the former.

time t-1. *Meeting*$_t$ is the meeting frequency, as measured by the natural logarithm of the sum of the number of meetings between a firm's directors and supervisors at time t. *Independent*$_t$ is the numbers of independent directors and supervisors for a firm, as measured by the natural logarithm of the sum of the number of these at time t. *Sigma* $_{t-1}$ is the stock volatility, representing a firm's risk at time t-1. *Utility*$_t$ is a dummy variable that equals one if a firm is in the utility industry at time t, and zero otherwise. *Media*$_t$ is a dummy variable that equals one if a firm is in the media industry at time t, and zero otherwise. *Age* $_{t-1}$ is a firm's age on the basis of the natural logarithm of firm age at time t-1. Finally, *YD*$_t$ is the year dummy variable to control for time variation.

In this paper, we use the ultimate control dummy variable (*Ultimate*), the fraction of tradable shares (*Tradable*), and share transfer (*Transfer*) to represent state interference. As, noted above, there are both advantages and disadvantages for firms that are closely connected to the state, and thus we do not predict the sign of *Ultimate*. The reason we use the proportion of tradable shares (*Tradable*) as a proxy of state policy is that issuing more tradable shares via IPOs would reduce the degree of ownership concentration, suggesting lower state control and leading to a more efficient corporate governance mechanism and potentially higher firm value. The last proxy of state policy is the dummy variable of negotiated share transfer (*Transfer*). As selling shares to non state-affiliated institutional investors reduces ownership concentration and can be expected to enhance corporate governance. *Transfer* is thus expected to have a positive effect on firm performance.

Some explanatory variables are included in the model. Prior studies indicate that firm size is related to firm performance (Lang and Stulz, 1994; Cho, 1998; Qi *et al*., 2000; Chen, 2001; Wei *et al*. 2005), and is usually used to represent the unobservable characteristics of firms. We use the natural logarithm of a firm's total assets to represent firm size. Furthermore, creditors can undertake more efficient monitoring on firms with higher

liabilities, thus reducing the incidence of shirking by managers and increasing firm value (Grossman and Hart, 1982; Chen, 2001).The leverage ratio is therefore included in the model. In the literature on corporate governance, Vafeas (1999) shows that board meeting frequency is positively related to firm performance and Yermark (1996) and Tan, Li, Li, Zheng, Wu and Liang (2007) show that independent directors also have an influence on firm performance. *Meeting* and *Independent* are thus included in equation (1). A proxy of growth opportunity is included because firms facing more growth opportunities should have higher value (Chen, 2001), and we use the ratio of the market value of equity to the book value of equity to measure this.

Finally, four control variables are included to estimate the predicted value of *H5*. First, Demsetz and Lehn (1985) argue that an unstable environment increases ownership concentration, while Cho (1998) finds that the volatility of earnings affects ownership. We thus use the annualized standard deviation of daily stock returns in a year to measure the stability of the environment (*Sigma*). Second, higher regulation causes more diffuse ownership due to greater limitations on the discretionary factor of control and stricter monitoring by regulatory authorities (Demsetz and Lehn, 1985; Demsetz and Villalonga, 2001). Therefore, the dummy variable of *Utility* is included in the ownership concentration (*H5*) model. Third, Demsetz and Lehn (1985) also argue that controlling shareholders with more shareholdings would be provided with more amenity consumption in the media industry, so a dummy variable, *Media,* is included. Fourth, a firm's ownership tends to become more dispersed as the firm ages following its public listing, so we expect to see a negative relation between firm age and ownership concentration, and thus we include the variable *Age* to measure this.

4.2 Data and Sample

The data is collected from the database of the China Center for Economic Research in Peking

University, published by Sinofin Information Service Ltd. (hereafter the CCER database). In addition, we identify whether the state is a firm's ultimate controlling shareholder based on the information disclosed in both annual reports and the CCER database, with the former collected from the websites of the Shanghai and Shenzhen Stock Exchanges.

The sample covers all non-financial firms listed on the Shanghai and Shenzhen Stock Exchanges from 1998 to 2004, because the information of board meeting frequency and the number of independent directors and supervisors is not available until 1998 and the split share structure reform started on May 8, 2005, and this policy change could interfere with our results. After eliminating missing values, our sample contains 4,912 firm-year observations.

(Table 1 inserted here)

Table 1 shows the descriptive statistics of all the variables. The mean of Tobin's Q is 1.994. The average proportion of the largest five shareholders (*CR5*) is 57.7 % and the average Herfindahl Index of the largest five owners (*H5*) is 0.230, which is close to 0.25, implying that on average the largest shareholder holds almost a half of company shares. Further investigation reveals that the largest five shareholders are either state agencies or are indirectly controlled by the state, which confirms the findings from previous studies that the largest shareholder holds more than 47 % of total shares on listed firms (Chen, 2001; Liu and Sun, 2005). Thus, we can infer that the state substantially controls most of the listed firms.

Most Chinese listed firms are under state control, but in order to examine the differences between firms operating with and without ultimate state control, either directly or through state-affiliated agencies, the sample is divided into two subgroups by the nature of the ultimate controlling shareholder (*Ultimate*). The descriptive statistics for firms with and without the state being the ultimate controlling shareholder are reported in Table 2. Both ownership concentration variables, *CR5* and *H5*, are significantly different for these two groups. In state-controlled firms, the average ownership held by the top five shareholders is

near 60 % and the mean of *H5* is 0.254, indicating that the state controls more than a half of the total shares and that ownership of these firms is highly concentrated in the hands of some specific owners. On average, state-controlled firms have fewer tradable shares and are less likely to transfer their shares by negotiated transfers than those not controlled by the state, consistent with our expectations. If a majority of state-owned shares are transferred to private firms, the government will lose control of these firms and thus we observe that state-controlled firms experience fewer share transfers. If firms are larger, have fewer board meetings and fewer independent directors and supervisors, have less leverage, are younger, and are classified as utilities firms, then they are more likely to be controlled by the state. Nevertheless, firm performance, measured by *Tobin's Q,* and some control variables, such as *Sigma* and *Media*, do not show significant differences between two groups.

(Table 2 inserted here)

4.3 Hausman Test to Examine the Existence of an Endogenous Relationship between Firm Performance and Ownership Concentration

Before performing the simultaneous equations (1) and (2), we first confirm the existence of an endogenous relationship between firm performance and ownership concentration using the Hausman specification error test (Gujarati, 2003). The test is performed as follows: First, as presented in Equation (3), regress *H5* on all the exogenous variables in equations (1) and (2), which includes $Ultimate_t$, $Tradable_t$, $Transfer_t$, $Size_{t-1}$, LEV_{t-1}, $Meeting_t$, $Independent_t$, $Sigma_{t-1}$, $Utility_t$, $Media_t$, Age_{t-1}, and year dummy variables, to estimate the predicted value of ownership concentration (*H5hat*) and its residual value ($\hat{v}$).

$$
\begin{aligned}
H5_{i,t} = {} & \beta_0 + \beta_1 Ultimate_{i,t} + \beta_2 Tradable_{i,t} + \beta_3 Transfer_{i,t} + \beta_4 Size_{i,t-1} + \beta_5 LEV_{i,t} \\
& + \beta_6 Meeting_{i,t} + \beta_7 Independent_{i,t} + \beta_8 Sigma_{i,t-1} + \beta_9 Utility_{i,t} + \beta_{10} Media_{i,t} \\
& + \beta_{11} Age_{i,t-1} + \beta \sum YD_{i,t} + v_i
\end{aligned} \tag{3}
$$

Then regress *Tobin's Q_t* on *H5hat*, the residual value of H5 ($\hat{v}$) and the control variables,

as shown in Equation (4), to examine whether firm performance (*Tobin's Q*) and $\hat{v}$ are correlated.

$$\begin{aligned} \text{Tobin's } Q_{i,t} = {} & \beta_0 + \beta_1 H5hat_{i,t} + \beta_2\hat{v}_{i,t} + \beta_3 Ultimate_{i,t} + \beta_4 Tradable_{i,t} + \beta_5 Transfer_{i,t} \\ & + \beta_6 Size_{i,t-1} + \beta_7 LEV_{i,t} + + \beta_8 Meeting_{i,t} + \beta_9 Independent_{i,t_i} + \beta\sum YD_{i,t} + \varepsilon_i \end{aligned} \tag{4}$$

If there is no simultaneous relationship between ownership concentration and firm value, *Tobin's Q* and $\hat{v}$ should be uncorrelated. On the other hand, if there is an endogenous relationship between them, then *Tobin's Q* and $\hat{v}$ will be correlated. Based on the results of the Hausman test in Table 3, we find that the coefficient of $\hat{v}$ significantly differs from zero, supporting our argument that ownership concentration and firm performance are simultaneously determined.

The Hausman test confirms the endogenous relation between ownership concentration and firm value. In such a case, using the ordinary least squares (OLS) regression to estimate the relationship between ownership concentration and firm performance may introduce an estimation bias. Therefore, we apply two-stage least squares (2SLS) and three-stage least squares (3SLS) to examine their relationship[2].

(Table 3 inserted here)

4.4 The Effects of State Policies on the Relation between Firm Performance and Ownership Concentration

Table 4 shows the results of OLS and 2SLS estimations for the two main research issues: (1) the relationship between ownership concentration and firm performance, and the most importantly (2) the effects of state influences on firm performance and on the relationship between ownership concentration and firm performance.

Although the Hausman test has demonstrated the endogenous relationship between ownership concentration and firm performance, the OLS estimations are still conducted in

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[2] The results of 3SLS are similar to those of 2SLS, so we only report the results of 2SLS to save space.

order to ensure the validity of our sample in comparison with those of prior studies. By controlling for state influence and some economic factors, we examine the effect of ownership concentration on firm performance, as shown in Equation (1), but the variables used in the OLS models are all present values instead of lagged values. The model (1) of OLS in Table 4 shows results that are consistent with previous studies (e.g., Xu and Wang, 1999; Chen, 2001), verifying that the quality of our sample is comparable to that in these earlier works.

(Table 4 inserted here)

We then investigate the impact of state influences by examining the effects of ownership concentration (*H5*) interacting with the state policy variables, and the results are reported in the second column of Table 4. In model (2), when the interactions of *H5* with the state policy variables are included, the coefficient of *H5* turns from positive to negative. This finding indicates that the relationship between ownership concentration (*H5*) and firm value (*Tobin's Q*) is sensitive to the state policy variables and the estimation could be baised, and thus supports the validity of our motivation to investigate the effects of state influences on the relationship between these two items.

The last three models of Table 4 are the 2SLS estimations controlling for the endogenous relationship between ownership concentration and firm performance. We find that the coefficients of *H5* are negative, whether or not the interaction terms with the state policy variables are included. The negative coefficient of *H5* also indicates that firms perform poorly when their ownership is highly concentrated with the largest five shareholders. This finding verifies the result of Wei *et al.* (2005) and is against the positive results found in Xu and Wang (1999) and Chen (2001).

The coefficient of *Ultimate* is significant and positive, but its interaction with *H5* is negative in the 2SLS models. This indicates that the effect of *Ultimate* on performance is

sensitive to *H5*, and the negative influence of the latter outweighs the positive influence of the former. This finding is consistent with our observation that ultimate state control provides the firms with preferential benefits, even though it imposes social welfare burdens on them. However, if state ultimate control is also associated with high ownership concentration, then the costs outweigh the benefits. This finding is not only consistent with the argument of Wei *et al*. (2005), but also showing that the negative impact of state control only occurs when ownership of the company is highly concentrated in the hands of the state and the other four largest shareholders.

In addition, the coefficient of *Tradable* is significant and positive, indicating that firm performance is better when more shares are traded on the market. This finding is consistent with the market liquidity hypothesis, and may also imply that more market participants improve the quality of external monitoring, leading in turn to better performance. The positive impact of *Tradable* remains in its interaction term with *H5*, which further verifies its importance in determining firm performance. Although *H5* itself has a negative impact on firm performance, the positive impact of tradable shares floated on the markets outweighs this.

In the results of the 2SLS in Table 4, we also find a positive impact of *Transfer* on firm performance, indicating that this performance is improved when non-tradable shares are transferred to non-affiliated institutional shareholders. This positive relationship is likely to be because share transfers make ownership more dispersed and new shareholders play a relatively active role in monitoring managers. The effect of negotiated share transfer becomes negative when the firms' ownership is highly concentrated in the hands of largest five shareholders. This indicates that the effect of *Transfer* on performance is sensitive to the effect of *H5*, and that the negative impact of the latter can dominate the positive effect of share transfer on firm performance.

The results of Table 4 can be summarized as follows. (1) The effect of ownership concentration on firm performance is sensitive to the effect of state policies. The change of sign for the coefficient of *H5* also verifies the invalid estimation of the OLS models. (2) When an endogenous relationship between ownership concentration and firm performance is considered or when the effects of state influences on the relationship between these two factors are taken into account, ownership concentration among the largest five shareholders will reduce firm performance. (3) Ultimate state control is not always negative for firms, but will become so only if company shares are highly concentrated in the hands of the five largest. (4) When ownership of company shares is highly concentrated, high trading liquidity further enhances firm performance. (5), although negotiated share transfers from the state to non-affiliated institutional shareholders increase firm value, the benefits diminish if the level of ownership concentration remains high.

All of the control variables have a significant and positive impact on firm performance, but the influence of *LEV* is negative.

4.5 The Effect of Executive Compensation

Since the State Council cannot manage and monitor all SOEs and state-controlled listed firms, SAMAC or local asset management institutions assign some individuals to act as managers. However, these managers usually own only a very small amount of shares, and thus they have strong incentives to pursue their own interests. According to the interest alignment hypothesis, executive compensation in the form of stocks or options may provide managers with more incentive to pursue the interests of shareholders, and thus we include the variable of executive compensation in the 2SLS model. Because the data for executive compensation is only available after 2001, model (2) of 2SLS in Table 4 uses only 2,746 observations from 2001 to 2004. The *Compensation* variable is measured by the natural logarithm of the compensation for the top three executives. The results are shown in the last column of Table 4,

and it is seen that executive compensation has a positive impact on firm performance, supporting the interest alignment hypothesis.

5. Additional Tests

5.1 The Results for the Two Sub-samples Covering the Periods Before and After 2001

Most previous studies examining the relationship between ownership concentration and firm performance for listed firms in China concentrate their sampling in the years prior to 2001, while our sample period covers 1998 to 2004. In order to compare our findings with those of prior research, we divide our sample into two groups: one from 1998 to 2001, and the other from 2002 to 2004. The first sub-sample consists of 1,834 firm-year observations and the second consists of 3,078 firm-year observations. The results of 2SLS for the two sub-samples are reported in Table 5. During the period from 2002 to 2004, the results are mostly similar to those for the 2SLS in Table 4, in that the influences of ownership concentration (*H5*) and ultimate shareholder (*Ultimate*) are still negatively and positively related to firm performance, respectively.

However, during the period from 1998 to 2001, while we observe the positive and negative impact of *H5* and *Ultimate* on firm value, respectively, they are both insignificant at the 10% significance level. This can be explained by the following reasons. First, during the initial stage of establishing the Chinese stock market, the state was reluctant to surrender control over the newly privatized firms and remained the ultimate shareholder after privatization. Recently more and more private firms go public, if a firm was still controlled by the state, it is not only more likely to be listed, but also enjoyed some preferential benefits from it's government connections. Consequently, a firm with state control might have better performance and thus the type of ultimate shareholder becomes an important factor affecting

firm value. Second, it was eventually realized that some firms operate less efficiently with state control, and thus the government started to reduce its holdings through negotiated share transfers. Since investors of non-tradable shares usually have less incentive to participate in SEOs, as their shares cannot be freely traded on the stock market, since 2000 a firm that met the requirements of profitability could issue new shares to new investors[3]. In addition, if a firm performs well, it attracts more investors, and thus the ownership of such companies has gradually become more diluted. As a result, before 2001, the variables of ownership concentration (*H5*) and the ultimate shareholder (*Ultimate*) in most listed firms are similar, and are not the important factors affecting firm value. Moreover, in the first subsample, *Meeting* and *Independent* do not have significant influences on firm performance, because the corporate governance mechanisms did not operate efficiently at the early stage of establishing stock markets.

(Table 5 inserted here)

5.2 Consideration of the Nonlinear Impact of Ownership Concentration on Firm Value

Wei *et al*. (2005) argue that there is a nonlinear relationship between the ownership concentration and the value of listed firms in China. In their OLS estimations, they find a negative effect of state and institutional shares and a positive effect of the square term of state and institutional shares on Tobin's Q. In the 2SLS estimations, they find the predicted value of state ownership is significantly and negatively related to firm performance, although the predicted value of Tobin's Q is not significantly related to state ownership. Consequently, they conclude that there is no endogenous relationship between ownership and firm value. To confirm our argument that both the ownership concentration and firm performance are simultaneously determined by the state influences, we perform an additional test taking into

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[3] Before 2000, a firm could raise capital from rights issue when it had capital demand. The new issue shares were subscribed by existing shareholders. Since 2000, if a firm met the requirements of profitability, it could choose to issue new shares to other investors who were not the original shareholders.

account such a nonlinear relationship, and the results are reported in Table 6.

In both models of Table 6, including the square term of ownership concentration (*SqrH5*) does not change the effects of ownership concentration and the state policy variables much when compared to the results in Table 4. In Table 6, we find the coefficient of *H5* is still negative, but the coefficient of *SqeH5* is not significant at 10% significance level. That is, we find no evidence to support the existence of a nonlinear effect of *H5* on firm performance. This result differs from that contained of Wei *et al*. (2005), which finds a negative impact of ownership concentration on firm performance at the first order, which then becomes positive in the second order. This difference can be attributed to the fact that Wei *et al*. (2005) do not control the state policies on firm performance and ownership concentration. This difference suggests a cautious approach should be applied in drawing conclusions based on prior studies, because they omitted the influence of state policies and economic factors on firm performance and ownership concentration. On the basis of the evidence of the Hausman test and the identification of possible misspecification in the modeling, our empirical analyses are robust when compared to prior studies.

(Table 6 inserted here)

6. Summary and Conclusion

Since 1978, China has implemented a great number of economic reforms and evolved from a centrally planned economy to a socialist market-planned economy. However, the Chinese government has been reluctant to surrender control over newly privatized firms, and the ownership structure remains highly concentrated in the nation's stock markets. As the state has come to realize that it cannot adequately manage and monitor a huge number of firms, it wants to withdraw capital from poorly performing enterprises and thus it has progressively reduced its shareholdings by transferring shares to unaffiliated institutional investors since 1999. Nevertheless, the state is still the dominant for most listed firms' operations, and thus in

this paper we consider the impact of state policies on firm performance. When the state is the ultimate controlling shareholder, it may bring both preferential benefits and the costs of social welfare, and thus have an impact on firm value. Consequently, in this paper the condition of ultimate state control is considered one proxy of state influences.

The development of stock markets in China provides the state with a good source of capital to financially support its SOEs by partially privatization. To keep control of the previously state-controlled firms, the government remains the major shareholder. However, since many firms use SEOs to acquire the necessary capital for future growth, and because the state usually does not participate in such offerings due to both a lack of sufficient funds and incentives, the proportion of tradable shares increases and ownership structure changes. In this study, proportion of tradable shares is another factor that proxies state policy.

Since 1999 the Chinese authorities have been working to reduce the proportion of state ownership to improve corporate governance. This is because when ownership becomes more dispersed through negotiated shares transfers, non state-affiliated institutional shareholders demand greater information transparency from the management, and thus firm performance is likely to improve. As a result, share transfer is also used to proxy state policy.

Based on the reasons outlined above, it is clear that state policies play important roles in influencing both performance as well as ownership structures in Chinese listed firms. However, prior studies usually ignored the impact of such actions when examining the relationship between ownership and firm value. Moreover, all of these earlier studies assumed the existence of an exogenous relationship and used OLS regression to estimate it, leading to mixed results. In this paper, we argue that state policies simultaneously affect the ownership and value of privatized firms in China. The results of 2SLS estimation show that ultimate state control is not always negative for firms, but will become so only if the shares are highly concentrated in the hands of largest five shareholders. When ownership of

company shares is highly concentrated, high trading liquidity further enhances firm performance. In addition, although negotiated share transfers from the state to non-affiliated institutional shareholders increase firm value, the benefits diminish if the level of ownership concentration remains high. After controlling for the effects of state policies and economic factors, we conclude that ownership concentration has a negative effect on firm performance, as expected, confirming that the mixed results of prior studies are due to model misspecification.

This study contributes to the literature as follows. First, it finds that state policies impact the ownership concentration and performance of privatized firms in China. Second, controlling for state policies and economic factors, the relationship between ownership concentration and firm performance differs from the results of prior studies. Third, there exists an endogenous relationship between ownership concentration and firm value, and this explains the mixed results of prior studies. Finally, the state as an ultimate shareholder in China does not harm firm value, because it will offer preferential benefits to partially privatized firms to compensate for the negative impact of the social welfare burden, consequently improving firm value. Since state control is prevalent in China and firm value may increase as long as the ownership concentration remains low, it is possible that this type of ownership control may be well-suited to the nation's transforming economy.

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Table 1
Descriptive Statistics for Full Sample

This table summarizes the descriptive statistics of the variables used in this paper. Tobin's Q is the ratio of market value to the replacement value of total assets; *H5* is the Herfindahl Index that measures the ownership concentration of the largest five shareholders, while *CR5* is the aggregate shareholdings of these; *Tradable* is the proportion of a firm's shares that are allowed to be traded on exchanges; *Transfer* is a dummy variable that equals one if the negotiated share transfer occurs and zero otherwise; *Ultimate* is a dummy variable that equals one if the ultimate shareholder is the state or state-affiliated agents; *Size* is the firm size, as measured by the natural logarithm of a firm's total assets; *LEV* is a firm's leverage ratio, as measured by the ratio of total liabilities to total assets; *Meeting* is the meeting frequency, measured by the sum of the frequency of meetings between a firm's directors and supervisors; *Independent* is the number of independent directors and supervisors for a firm; *Age* is a firm's age; *Sigma* is the annualized standard deviation of the daily stock returns for a year; *Utility* is a dummy variable that equals one if a firm is in the utility industry and zero otherwise; and *Media* is a dummy variable that equals one if a firm is in the media industry and zero otherwise.

Variable	Mean	Median	Std Dev	Minimum	Maximum
Tobin's Q	1.994	1.334	3.743	0.799	83.463
H5	0.230	0.197	0.147	0.000	0.723
CR5	0.577	0.588	0.137	0.030	0.960
Tradable	0.402	0.384	0.125	0.087	1.000
Transfer	0.223	0.000	0.416	0.000	1.000
Ultimate	0.768	1.000	0.422	0.000	1.000
Size	21.049	20.991	0.929	16.884	26.855
LEV	0.525	0.481	0.595	0.008	23.799
Meeting	2.281	2.303	0.384	0.693	3.611
Independent	0.684	0.693	0.553	0.000	2.197
Age	1.832	1.792	0.395	0.693	2.708
Sigma	0.023	0.023	0.006	0.000	0.045
Utility	0.042	0.000	0.200	0.000	1.000
Media	0.005	0.000	0.070	0.000	1.000

Table 2
Descriptive Statistics for Firms with and without the State as an Ultimate Shareholder

This table summarizes the descriptive statistic for firms divided by the type of ultimate shareholder (*Ultimate*). Tobin's Q is the ratio of market value to the replacement value of total assets; *H5* is the Herfindahl Index that measures the ownership concentration of the largest five shareholders, while *CR5* is the aggregate shareholdings of these; *Tradable* is the proportion of a firm's shares that are allowed to be traded on exchanges; *Transfer* is a dummy variable that equals one if the negotiated share transfer occurs and zero otherwise; *Ultimate* is a dummy variable that equals one if the ultimate shareholder is the state or state-affiliated agents; *Size* is the firm size, as measured by the natural logarithm of a firm's total assets; *LEV* is a firm's leverage ratio, as measured by the ratio of total liabilities to total assets; *Meeting* is the meeting frequency, measured by the natural logarithm of the sum of the frequency of meetings between a firm's directors and supervisors; *Independent* is the number of independent directors and supervisors for a firm, measured as the natural logarithm of the sum of these; *Age* is a firm's age on the basis of the natural logarithm of firm age; *Sigma* is the annualized standard deviation of the daily stock returns for a year; *Utility* is a dummy variable that equals one if a firm is in the utility industry and zero otherwise; and *Media* is a dummy variable that equals one if a firm is in the media industry and zero otherwise.

Variable	Firms does not controlled by the State		Firms controlled by the State		Difference (3)=(1)-(2)	t value
	Mean (1)	Std Dev	Mean (2)	Std Dev		
Tobin's Q	1.992	3.066	1.994	3.925	-0.002	(-0.02)
H5	0.149	0.099	0.254	0.150	-0.106***	(-27.8)
CR5	0.532	0.132	0.590	0.136	-0.058***	(-12.8)
Tradable	0.428	0.140	0.395	0.119	0.033***	(7.29)
Transfer	0.293	0.455	0.201	0.401	0.091***	(6.09)
Size	20.766	0.905	21.134	0.920	-0.367***	(-11.9)
LEV	0.614	1.003	0.498	0.393	0.116***	(3.81)
Meeting	2.359	0.386	2.258	0.381	0.101***	(7.82)
Independent	0.775	0.510	0.656	0.562	0.119***	(6.73)
Age	1.899	0.387	1.812	0.396	0.087***	(6.51)
Sigma	0.023	0.006	0.023	0.006	0.000	(0.27)
Utility	0.017	0.128	0.050	0.217	-0.033***	(-6.33)
Media	0.004	0.066	0.005	0.071	-0.001	(-0.28)
N	1,138		3,774			

Asterisks (***, ** and *) denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 3
Hausman Test to Examine Whether an Endogenous Relationship Exists

This table shows the result of the Hausman test to examine whether an endogenous relationship exists. We first use instrumental variables of *H5* to estimate the predicted value of ownership concentration (*H5hat*) and its residual value ($\hat{v}$). We then regress *Tobin's Q* on *H5hat*, the residual value of *H5* ($\hat{v}$) and control variables to examine whether the firm performance (*Tobin's Q*) and $\hat{v}$ are correlated. Tobin's Q is the ratio of market value to the replacement value of total assets; *H5* is the Herfindahl Index that measures the ownership concentration of the largest five shareholders; $\hat{v}$ is the residual value of ownership concentration from the results of the first step; *Ultimate* is a dummy variable that equals one if the ultimate shareholder is the state or state-affiliated agents and zero otherwise; *Tradable* is the proportion of a firm's shares that are allowed to be traded on exchanges; *Transfer* is a dummy variable that equals one if the negotiated share transfer occurs and zero otherwise; *Size* is the firm size, as measured by the natural logarithm of a firm's total assets; *LEV* is a firm's leverage ratio, as measured by the ratio of total liabilities to total assets; *Meeting* is the meeting frequency, measured by the natural logarithm of the sum of the frequency of meetings between a firm's directors and supervisors; *Independent* is the number of independent directors and supervisors for a firm, as measured by the natural logarithm of the sum of these.

Variables	Coefficient	t value
Intercept	1.850	(1.24)
H5hat	9.210***	(3.31)
$\hat{v}$	0.934***	(1.93)
Ultimate	-0.291	(-1.31)
Tradable	9.187***	(4.96)
Transfer	0.850***	(4.20)
Size	-0.298***	(-2.70)
LEV	0.899***	(5.92)
Meeting	0.353***	(2.28)
Independent	0.542***	(2.76)
Fixed Year Effect	Yes	
Adj-R^2	0.059	
N	4,912	

Asterisks (***, ** and *) denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4
Results of OLS and Simultaneous Regression

This table shows the effect of ownership concentration, fraction of tradable shares, state share transfer, and ultimate shareholder on firm performance using OLS and simultaneous regressions. *Tobin's Q* is estimated by the ratio of market value to the replacement (book) value of total assets; *H5* is the Herfindahl Index that measures the ownership concentration of the largest five shareholders; *Ultimate* is a dummy variable that equals one if the ultimate shareholder is the state or state-affiliated agencies; *Tradable* is the proportion of a firm's shares allowed to be traded on the exchanges; *Transfer* is a dummy variable that equals one if the negotiated share transfer occurs and zero otherwise; *H5×Ultimate*, *H5×Tradable*, and *H5×Transfer* are the interactions of ownership concentration and the state policies; *Size* is the firm size, measured by the natural logarithm of total assets; *LEV* is a firm's leverage ratio as measured by the ratio of total liabilities to total assets; *Meeting* is the meeting frequency, as measured by the natural logarithm of the sum of the frequency of meetings between a firm's directors and supervisors; *Independent* is measured as the natural logarithm of the sum of the numbers of independent directors and supervisors.

	OLS				2SLS				The result with executive compensation	
	The results for the total sample				The results for the total sample					
	Model 1		Model 2		Model 1		Model 2		Model 2	
Variables	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value	Coefficient	t value
Intercept	-4.620***	(-3.16)	-4.559***	(-3.05)	-10.523***	(-6.02)	-11.097***	(-6.23)	-17.764***	(-6.02)
H5	1.107**	(2.34)	-3.494**	(-2.10)	-4.815***	(-3.18)	-5.822***	(-3.81)	-7.594***	(-3.05)
Ultimate	0.317**	(2.42)	0.148	(0.63)	0.355***	(2.74)	0.494***	(2.65)	0.523*	(1.73)
Tradable	3.471***	(6.64)	1.744***	(2.63)	2.164***	(4.82)	1.738***	(3.11)	2.607***	(2.76)
Transfer	0.377***	(2.90)	0.783***	(3.47)	0.330***	(2.54)	0.859***	(3.77)	0.855**	(2.24)
H5*Ultimate			0.781	(0.66)			-1.597**	(-2.04)	-2.287*	(-1.78)
H5*Tradable			13.539***	(4.37)			10.005***	(4.46)	15.755***	(4.33)
H5*Transfer			-2.049**	(-2.08)			-2.317**	(-2.32)	-2.731*	(-1.63)
Tobin's	0.627***	(7.25)	0.655***	(7.55)	0.876***	(9.20)	0.881***	(9.18)	0.911***	(5.77)
Size	0.162**	(2.37)	0.188***	(2.74)	0.533***	(5.83)	0.549***	(5.88)	0.692***	(4.38)
LEV	0.342***	(3.36)	0.347***	(3.42)	-0.339*	(-1.84)	-0.310*	(-1.68)	-0.268	(-0.90)
Meeting	0.384***	(2.53)	0.386***	(2.54)	0.398***	(2.56)	0.392***	(2.52)	0.542**	(1.98)
Independent	0.455	(2.35)	0.407***	(2.11)	0.389**	(1.98)	0.373*	(1.89)	0.651**	(2.04)
Compensation									0.189*	(1.79)
Fixed Year Effect	Yes		Yes		Yes		Yes		Yes	
Adj R-Sq	0.074		0.078		0.073		0.077		0.072	
N	4,912		4,912		4,912		4,912		2,746	

Asterisks (***, ** and *) denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5
The Results for the Two Sub-samples: before and after the Year 2002

This table shows the effect of ownership concentration, fraction of tradable shares, state share transfer, and ultimate shareholder on firm performance by 2SLS estimations. *Tobin's Q* is estimated by the ratio of market value to the replacement (book) value of total assets; *H5* is the Herfindahl Index that measures the ownership concentration of the largest five shareholders; *Ultimate* is a dummy variable that equals one if the ultimate shareholder is the state or state-affiliated agencies; *Tradable* is the proportion of a firm's shares allowed to be traded on the exchanges; *Transfer* is a dummy variable that equals one if the negotiated share transfer occurs and zero otherwise. *H5×Ultimate*, *H5×Tradable*, and *H5×Transfer* are the interactions of ownership concentration and the state policies; *Size* is the firm size, as measured by the natural logarithm of total assets; *LEV* is a firm's leverage ratio, as measured by the ratio of total liabilities to total assets; *Meeting* is the meeting frequency, as measured by the natural logarithm of the sum of the frequency of meetings between a firm's directors and supervisors. *Independent* is measured as the natural logarithm of the sum of the numbers of independent directors and supervisors.

Variables	1998-2001		2002-2004	
	Coefficient	t value	Coefficient	t value
Intercept	4.337^{***}	(9.44)	-20.215^{***}	(-7.19)
H5	0.012	(0.03)	-8.627^{***}	(-3.61)
Ultimate	-0.034	(-0.70)	0.675^{**}	(2.31)
Tradable	0.860^{***}	(6.22)	2.649^{***}	(2.94)
Transfer	0.203^{***}	(3.62)	1.187^{***}	(3.23)
H5*Ultimate	0.415^{**}	(2.09)	-2.677^{**}	(-2.16)
H5*Tradable	-0.970^{*}	(-1.67)	16.515^{***}	(4.71)
H5*Transfer	-0.368	(-1.51)	-3.315^{**}	(-2.07)
Tobin's Q	0.619^{***}	(22.34)	1.037^{***}	(6.76)
Size	-0.208^{***}	(-8.93)	0.920^{***}	(6.18)
LEV	0.219^{***}	(3.19)	-0.456	(-1.59)
Meeting	0.039	(1.10)	0.633^{**}	(2.41)
Independent	0.067	(1.31)	0.677^{**}	(2.19)
Fixed Year Effect	Yes			
Adj R-Sq	0.525		0.082	
N	1,834		3,078	

Asterisks (***, ** and *) denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6
Additional Test for the Nonlinear Impact of Ownership Concentration on Firm Value

This table shows the nonlinear impact of ownership concentration, fraction of ultimate shareholder, tradable shares, and share transfer on firm performance by 2SLS estimations. This table shows the effect of ownership concentration, fraction of tradable shares, state share transfer, and ultimate shareholder on firm performance by 2SLS estimations. *Tobin's Q* is estimated by the ratio of market value to the replacement (book) value of total assets; *H5* is the Herfindahl Index that measures the ownership concentration of the largest five shareholders; *Ultimate* is a dummy variable that equals one if the ultimate shareholder is the state or state-affiliated agencies; *Tradable* is the proportion of a firm's shares allowed to be traded on the exchanges; *Transfer* is a dummy variable that equals one if the negotiated share transfer occurs and zero otherwise. *H5×Ultimate*, *H5×Tradable*, and *H5×Transfer* are the interactions of ownership concentration and the state policies; *Size* is the firm size, as measured by the natural logarithm of total assets; *LEV* is a firm's leverage ratio, as measured by the ratio of total liabilities to total assets; *Meeting* is the meeting frequency, as measured by the natural logarithm of the sum of the frequency of meetings between a firm's directors and supervisors. *Independent* is measured as the natural logarithm of the sum of the numbers of independent directors and supervisors.

Variables	Model 1		Model 2	
	Coefficient	t value	Coefficient	t value
Intercept	-10.211***	(-5.80)	-11.096***	(-6.22)
H5	-5.003***	(-3.30)	-5.804***	(-3.79)
SqrCR5	1.111	(1.44)	-0.702	(-0.40)
Ultimate	0.319**	(2.41)	0.432*	(1.78)
Tradable	2.549***	(4.88)	1.710***	(3.03)
Transfer	0.361***	(2.75)	0.856***	(3.75)
H5*Ultimate			-1.214	(-0.98)
H5*Tradable			10.064***	(4.48)
H5*Transfer			-2.309**	(-2.31)
Tobin's Q	0.862***	(9.03)	0.881***	(9.18)
Size	0.511***	(5.52)	0.550***	(5.89)
LEV	-0.326*	(-1.77)	-0.308*	(-1.67)
Meeting	0.390***	(2.51)	0.392***	(2.52)
Independent	0.396**	(2.02)	0.371*	(1.88)
Fixed Year Effect	Yes		Yes	
Adj R-Sq	0.073		0.076	
N	4,912		4,912	

Asterisks (***, ** and *) denote statistical significance at the 1%, 5%, and 10% levels, respectively.