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Abstract: To better understand the relationship between different types of firm ownership and management turnover, this study classifies ownership along two dimensions: the type of owner and the concentration of ownership. Within this framework, a unique data set is used to study the impact of management turnover on a company's performance. This study, in addition to confirming some of the results from previous studies, includes interesting and important new results. Most importantly, it finds evidence that the sensitivity of CEO turnover to performance is weaker in state-controlled firms than in non-state firms, and varies according to different subtypes of private ownership. We also demonstrate that the turnover–performance relationship is curvilinear in ownership concentration, but that this relationship moves in opposite directions under state and private ownership. Important policy implications of these findings are discussed.

Keywords: Executive Turnover, state ownership, performance, concentrated ownership
JEL code: J33, J63

1. Introduction

In public corporations, there are two common agency problems: (1) the classic owner–manager agency problem arising from the separation of ownership and management, as described in Berle and Means (1932) and Jensen and Meckling (1976); and (2) the agency problem as a result of the different interests of large controlling shareholder and minority shareholders, referred to as "tunneling" (Johnson et al., 2000; Bebchuk, 1999; La Porta et al. 1998, 2000b). Both the type of ownership – whether state, private, or family – and the size of the ownership stake have significant implications for agency problems. For example, the owner–manager agency problem is thought to be more severe in state-owned companies (SOEs) than in private companies. This is because the owner, in this case "the state", may have objectives other than profit maximization (Shleifer and Vishney, 1999; Shleifer 1998; Frye and Shleifer, 1997; Laffont and Tirole 1993). The state may also, as a result of diffused ownership, lack incentives either to motivate or discipline managers (Shleifer, 1998; Megginson and Netter, 2001). The extent of tunneling may also be more prevalent in state-controlled companies because the state is able to use political power to secure its interest in ways that may hurt the interests of small shareholders. When it comes to private ownership, family shareholders and bank or corporate shareholders, may face different agency problems. Individuals or families may have greater incentives to monitor managers, which mitigates the managerial incentive problem. However, they may also be more likely to expropriate non-family shareholders, thus intensifying the problem of tunneling. (Villalonga and Amit, 2006, 2009). In addition to the type of ownership, the size of the ownership stake is relevant to the formation of agency problems. A large ownership stake implies greater incentives for both monitoring managers and expropriating small investors (Shleifer and Vishny, 1986; La Porta et al. 1998, 2000a,b).

Many empirical studies have examined the effect of ownership type and concentration on corporate governance behavior, financial performance, and firm value. However, these studies have focused either on ownership type (such as state versus private ownership) or on concentrated ownership. Our study adopts a new framework and makes use of a unique data set of China's listed companies. In our two-by-two framework, the four categories of firms are defined as follows: **Type I** consists of firms in which the state is the largest owner and ownership is concentrated. If there is no private ownership in the firm, the firm has a hundred percent state ownership. This is the case for traditional SOEs. **Type II** consists of firms in which a private investor is the largest owner and ownership is concentrated. **Type III** consists of firms in which the state is the largest owner, but the absolute size of state ownership is relatively small. **Type IV** consists of firms in which a private investor is the largest owner and ownership is relatively dispersed. There may be fundamental differences between these four groups in terms of industry, size, and other firm characteristics. In the study, we provide summary information and control for firm characteristics in the regression analysis. Using this new more general framework, we can study the effect of state ownership by comparing firms in categories 1 and 3 with those in categories 2 and 4. At the same time, we can examine the effect of concentrated ownership, distinguishing between those cases where the largest owner is the state and those where it is a private investor by comparing firms in categories 1 and 2 with those in categories 3 and 4.

Our study confirms the finding that the link between management turnover and firm performance is weaker in state-controlled than in privately controlled companies, given a similar level of controlling shares. We interpret this result as the indication of the weaker monitoring effect in state-controlled firms. In addition, we find that the size of the ownership stake does matter. The relationship between ownership concentration and turnover–performance sensitivity is inversely U-shaped when the largest shareholder is a

private investor; this supports the entrenchment effect under large ownership. This finding is similar to the concentration–performance relationship found by Morck et al. (1988). Based on our estimates, entrenchment may be an even more serious problem when the largest owner is the state. We also find that the turnover–performance sensitivity differs across various subtypes of private ownership. Family ownership, for example, is associated with a significantly lower executive turnover rate and a weaker CEO turnover–performance link.

The results and insights obtained from our study not only contribute to the literature studying the impact of ownership on the sensitivity of management turnover to performance but also have great practical significance. It is worth noting that most national economies in today's world display significant state ownership in some important sectors. In recent years, however, such state ownership is more likely to take a new and flexible form. China is a major example of a country where the state is either the majority or a minority owner of newly incorporated SOEs. Incorporation of SOEs has also taken place in Australia under the policy of New Public Management (Wettenhall, 2001). Some scholars, Bardham and Roemer (1992) being the most prominent, believe that dominance of state ownership in new and flexible forms is a viable and necessary foundation for an efficient and equitable economy. Our study casts doubt on this belief.

The paper is structured as follows: Section 2 reviews relevant research and explains the difference between our study and previous studies. Section 3 summarizes China's experience in SOE reform to provide the institutional background for this study. Section 4 describes the data. Section 5 presents descriptive statistics and the regression results. Finally, section 6 discusses the policy implications of our findings and summarizes the paper.

2. Literature Review

Agency theories suggest that different ownership structures lead to different corporate governance behaviors, financial performance, and firm value, facts which have been supported by a large body of empirical literature. With respect to state ownership, empirical studies find that private companies are significantly more profitable than SOEs (Mengistae and Xu, 2004; Dewenter and Malatesta, 2001; La Porta et al., 2000; Tian, 2000; Ehrlich et al., 1994; Vining and Boardman, 1992; Boardman and Vining, 1989). [1] This finding confirms the agency theory that SOEs may be less effective than private companies in terms of corporate governance and managerial incentives.

When it comes to large ownership and tunneling, there are no direct quantitative measures. Nevertheless, since the controlling shareholder is more likely to expropriate small investors in countries with weak legal systems, some authors have used the degree of emphasis of the legal system on protecting small investors as the measure of the degree of tunneling and have found evidence that the legal system affects both dividend policies and firm value (La Porta et al., 2000a, 2002). Others have considered the deviation of control rights from cash flow rights as a proxy for the likelihood of expropriation, and have investigated various control-enhancing mechanisms used by the large shareholder, finding that these measures do impact dividend policy, firm valuation, and profitability (Cheung et al., 2006; Baek et al., 2004; Lemmon and Lins, 2003; Joh, 2003; Bae et al., 2002; Bertrand et al., 2002; Claessens et al., 2002; Faccio, et al., 2001).

One important measure of corporate governance effectiveness is the sensitivity of executive turnover to performance. Table 1 provides the summary of data, methodology, and main findings of the studies concerning the effect of ownership on the turnover-performance link. Some authors such as Kaplan (1994) and Franks and Mayer (2001) find that the turnover–performance link has little relation to ownership concentration or owner type, attributing this finding to the offset between monitoring and the

[1] See the summary in Megginson and Netter (2001).

entrenchment effects of ownership. Others find that ownership types and concentration do matter. Denis et al. (1997) and Volpin (2002) show that managerial ownership and control weaken the turnover-performance link, supporting the entrenchment effect. However, the increased ownership stake of the controlling shareholder strengthens the link, which is evidence of greater monitoring benefit from ownership concentration (Volpin, 2002). Using Chinese data, studies generally find that state ownership, especially direct government ownership, is associated with weaker disciplining of managers, which confirms the prediction of the agency theory (Groves et al., 1995; Aivazian et al., 2005; Firth et al., 2006). There is relatively little evidence on the effect of ownership concentration on the performance–turnover sensitivity in China. The exception is Kato and Long (2006) who find some evidence in favor of the positive effect of concentrated private shareholding for Chinese firms.

Most of the papers cited in Table 1 have separately studied the effect of state versus private ownership and the effect of concentrated ownership on turnover. A distinctive feature of our study is that it classifies all firms simultaneously along two dimensions of ownership, i.e., state vis-à-vis private ownership (the "who" or "type" dimension) and that of concentrated vis-à-vis dispersed ownership (the "how much" dimension). This creates a two-by-two framework allowing us to study some traditional questions of interest from new angles and also new questions that have not been studied before, as we will further explain soon.

3. State enterprise reform in China.

China started to reform its SOEs in the late 1970s with the inception of economic reform. In the 1980s, the effort focused mainly on providing better incentives to SOE managers (see Groves et al., 1994, 1995). In the 1990s, to deepen the reforms, a greater effort was made towards restructuring SOE governance (Qian, 1996, 2000). One of the

most important measures in this regard was the enactment of the Company Law in 1993. The Law has since been amended three times – most recently in 2005. It grants SOE managers the right to run their enterprise without governmental interference and also encourages them to incorporate so that they can have a formal governance structure similar to that of modern corporations in the West. Since then, a large number of SOEs, including many of the largest and most important ones, have been incorporated and listed on the Shanghai or Shenzhen Stock Exchange. The effect of over a decade of incorporation has turned China into the eighth largest stock market in the world with more than 1300 listed companies and a total issued capital of over $90 billion in May 2006.[2] The continuous reform effort and measures introduced in the 1980s and the 1990s accelerated the growth of many SOEs. By one measure, the total fixed assets of China's state enterprises grew from RMB 345 billion Yuan in 1980 to 2009 billion Yuan in 2003,[3] this despite the fact that during the same time period the share of the state sector in GDP declined from 76 to 35 percent.[4]

It is critical to understand that incorporation is not equivalent to privatization and that rapid growth does not equal high efficiency. When an SOE is being incorporated, the government may allow it to sell partial ownership to private investors.[5] The state will, however, typically maintain a significant or dominant ownership stake in the firm. In this way, the state can maintain its control over the firm. The figures in Table 2 show that, in 2005, 83 percent of China's listed companies had a share block exceeding 25 percent of ownership, and in one third of cases this exceeded 50 percent. These figures suggest that,

[2] The data can be found at the Shenzhen and Shanghai Stock Exchanges websites.
[3] Data source: China Statistics Yearbook, 1981, p. 260, and 2004, pp. 534–536. Data of both years are deflated to the 1978 constant RMB value using Retail Price Index (RPI). RPI is reported in China Statistics Yearbook 2004, Table 9-2.
[4] Data source: the total output value for state and non-state sectors are reported in China Statistics Yearbook, 1981, p. 53, and 2004, p. 208. Based on these data, the share of state sector in economy is calculated for the two years.
[5] Li, Wu and Li (2004) name the phenomenon of partial privatization of China's SOEs as "privatization in the margin".

in terms of ownership concentration, listed companies in China are more similar to their German and Japanese counterparts, with shares often concentrated in the hands of large block holders, whereas in the United States shares are usually more diversely held. The difference is that, in China, the block shareholders are typically the state, whereas in Germany and Japan, they are typically institutions, e.g., banks, families or other companies. . As can be seen from the numbers in parentheses in Table 2, the government is the largest shareholder in most of China's listed companies that have block holding.

All listed companies in China have a similar corporate governance structure irrespective of ownership, as these companies are subject to the same set of laws. The structure consists of the shareholders' assembly, the board of directors, and the management. Under the terms of the Company Law, the term of a director may be no more than three years. A director may, however, serve consecutive terms if reelected. The board of directors is composed of 5 to 19 members. Boards may appoint or dismiss the chief executive officers (CEO) and decide on their compensation. The CEO is directly responsible to the board and may recommend vice presidents and other senior executives to the board. Thus, in China's listed companies, the CEO is placed above other managers in the hierarchy. In this respect, Chinese companies are similar to US companies where the CEO has a greater power in corporate issues than other executives. In contrast, German companies have two boards: the board of directors and the management board. The entire management board is responsible for daily operation of a company, while the CEO does not have much more authority than other managers in the board. Recognizing this difference, we followed the lead of previous U.S. studies and examined CEO turnover rather than management board turnover.

In China, a government agency known as the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) represents the state to perform the right of ownership. SASAC was established in 2003 by the State Council to

supervise central government-owned enterprises. Provincial SASACs have also been formed to supervise state enterprises controlled by provincial governments. SASAC's mission is to maximize the value of state assets. It is this agency which appoints and disciplines executives representing the state, decides on their compensation, and influences the strategic decisions of a company.[6] In reality, the Chinese Communist Party (CPC) committee and the party Organization Department control the key personnel decisions in state-controlled listed companies and SASAC merely rubber stamps the appointment after the decisions are made. McNally (2002) provides a vivid example in which a Shanghai city party committee along with the party Organization Department and various city agencies in charge of manufacturing, foreign trade, and commerce decide the appointment of chair, vice-chair of the board of directors, CEO, vice CEO, and chief finance, accounting, and human resource managers in newly established state held textile, steel, and automobile corporations. Many executives appointed to these state held corporations were not professional managers, but former bureaucrats from the economic bureaucracies who oversaw these industries. Wong et al. (2004) presented empirical evidence that the CPC exerts greater control over personnel decisions than strategic and financial decisions, in state-controlled listed companies.

Considering the differing objectives of party, government and its bureaucrats on the one hand, and private investors and their agents on the other, one can expect different processes and outcomes of personnel decisions in SOEs and private firms. Bai et al. (1997) discuss the quantity objective of SOEs. In 2000, they see SOEs as agents with multiple tasks including employment and social concerns (Bai et al., 2000). The purpose of the incorporation of SOEs is to separate the state from enterprise management, so that managers in state-owned or controlled companies can focus solely on maximizing profit,

[6] The central government SASAC's website is www.sasac.gov.cn. The website shows personnel changes in state enterprises directly under the supervision of SASAC.

as is the case with their counterparts in private companies. The reform effort has greatly improved the incentives of SOE managers and led them to focus more on profit maximization. However, since the Party and government agencies ultimately control executive appointments and dismissals, executives of state-controlled listed companies are still more likely to have objectives other than profit maximization, which may explain the lower profit-turnover link in state-controlled companies.

4. Data and Variables

The data in the study are based on the financial statements of companies listed on China's two stock exchanges and stored in the Tsinghua Financial Database (THFD) developed by the China Center for Financial Research at Tsinghua University. These data are ideal for our study as China's strategy to reform its inefficient SOEs is akin to a controlled experiment. The essence of this strategy is to avoid massive privatization, and instead to try and make SOEs more efficient by incorporating them, introducing managerial incentives, and mimicking the governance structure of publicly traded companies in mature market economies in the West. While a significant level of state ownership in the economy is maintained, especially in sectors deemed critical for national interests, investment in SOEs by foreign or domestic private investors of various sizes is allowed. This has transformed China into an economy in which firms with exclusive state ownership, exclusive private ownership and those with mixed state and private ownership, coexist side by side, each making up a significant portion of the economy. Furthermore, we are able to compare the governance structure of listed companies with different ownership types due to the legal requirements imposed by the Government and its supervisory agency, the Chinese Security Regulation Committee (CSRC). Thus differences in executive turnover are more directly attributable to ownership than to specific features of corporate governance.

The dataset used here comprises complete information on a company from the year it was listed to the year it was delisted, or 2005 whichever date is later. Thus the data are an unbalanced panel, consisting, on average, of five years' of data for 1500 companies. For individual companies, the number of years listed ranges from 1–16. Financial performance variables included comprise total sales, total assets, and profit before taxes, return to assets, and annual return to stock.

There are two measures of executive turnover: the turnover of board directors and that of CEOs. Director turnover is measured by the taking, as a percentage, the number of directors of the total number at the beginning of the year who experienced involuntary turnover in that year, i.e., who left the board for reasons other than illness, retirement, death, or resignation. We also consider leaving the board at the completion of a term as an example of involuntary turnover because, according to the Company Law, directors can be re-elected. If a director is not re-elected, there can only be one reason: the supervising government authority does not want this.

CEO turnover equals one if the CEO of a company left involuntarily. Otherwise it is zero. We exclude voluntary turnover because it does not reflect corporate control. However, some supposedly voluntary turnover may be in fact involuntary. With hints from the board, executives may choose to resign to avoid embarrassment. By excluding all voluntary turnovers, we may underestimate here the extent of truly involuntary turnover. [7]

The dataset has three ownership variables: the largest owner of a company, the percentage of shares owned by the largest owner, and the total percentage of shares owned by different kinds of owners. The largest shareholder may be a government

[7] Since involuntary turnover may be more difficult to observe in state-owned companies than in other companies, we have also carried out the analysis using all turnovers. CSRC requires that listed companies report CEO changes. If a CEO changes, we code turnover to be one. We exclude the very few cases where the CEO is clearly indicated to be dead and a new CEO takes over. The results are similar.

agency, e.g., the Ministry of Finance and SASAC, which directly control the listed company. In these cases, we have coded the largest shareholder as "the state". Increasingly, the Government controls the listed company through an unlisted state corporation which it fully or predominantly owns and controls. The state corporation then owns a large block of the stock of the listed company and controls it. In such cases, the state corporation is documented as the largest shareholder of the listed company. In a few other cases, the largest shareholder is a public institute such as a university or research institute. In China, these institutes are publicly funded and owned by the state. This is, therefore, another form of state ownership.

For some other listed companies, an individual is listed as the largest shareholder. Where family members hold shares of a listed company, we calculate the total shares controlled by the family and code the largest shareholder as "family owner". An example is Kingfa Sci. & Tech. (Shanghai Stock Exchange Code #600143). The largest owner is Yuan Zhimin, with 21.58 percent of the shares. The third largest owner is Yuan's wife who owns 7.6 percent. With other family members holding shares, Yuan's family owned a total of 29.18 percent of Kingfa shares as the end of 2005.

In a few cases, a foreign company is listed as the owner. The foreign company is often a Hong Kong, Taiwanese, or Thai company that has formed a joint venture with a Chinese company. The joint venture becomes listed on the Shanghai or Shenzhen Stock Exchange. In these cases, the largest shareholder is coded as "foreign".

The most common non-state owner is a private company (unlisted), often known as the "mother" company of the listed company. Since this "mother" company is not listed and hence not required to disclose detailed ownership and control information, there are very limited data on the mother company. Here, we have conducted company

research, supplementing the dataset from other sources. [8] Our company research suggests several ways that a private company can come into being: the company may be founded and brought up by individuals and their families; it may be converted from a former collectively-owned Township and Village Enterprise (TVE) or SOE. If two independent sources indicate that the "mother" company is predominantly owned and controlled by an individual or family, then we code the largest shareholder as "family owner"; if the "mother" company is not under foreign or family control, and the state neither holds a significant share block nor controls the company, we then consider the company as a private company, and the largest owner is coded as "Private Corporation". An example is Supor (Shenzhen Stock Exchange code #002032), a well-known kitchenware and cookware manufacturer in China. In the company's 2005 statement, Zhejiang Supor Co., LTD was listed as the largest shareholder holding 40.14 percent of the Supor shares. Company research shows that the "mother" company, Zhejiang Supor Co., LTD, is largely owned and controlled by Su Zengfu. Su Zengfu also directly owned 16.97 percent of the shares of the listed company. In addition, Su Zengfu's son and daughter own 1.7 and 1.22 percent, making the Su family the largest and controlling owner of Supor.

Table 3 shows the percentage of companies with the largest owner being: (1) government or SASAC; (2) a state corporate; (3) a public institute; (4) a private company; (5) a family or individual or; (6) a foreign company. In most cases, a state corporate is the largest owner, holding, on average, 50 percent of the shares of a listed company. Private companies are the most common type of non-state owners. In general, the ownership stake of controlling private owners is smaller than that of the state; however, it is still

[8] The data sources include the company's website on which some companies give an introduction to their history and organizational structure, and several widely used company research websites in China such as http://finance.sina.com.cn/, http://www.stockstar.com/. Company information is considered to be reliable if it is verified by at least two sources.

high compared with the number in the United States. Thus, there may be few truly widely held companies in China.

On the other hand, when we compare the frequency of different ownership types in 1995 with that of 2005, we find that the percentage of state-controlled companies (with the largest shareholder being the state) has declined, while that of those controlled by a family or private company has increased.[9] Among the state-controlled companies, the percentage of those directly owned and controlled by government or SASAC has declined, while the fraction of those owned and controlled by a state corporate has increased.

The primary objective of this study is to examine the differences between state- and non-state ownership in terms of the relationship between executive turnover and performance. We also examine whether there are differences between sub-types of ownership. Therefore, we first group the six kinds of owners into two broad categories: state and non-state. The largest owner is deemed to be the "state" if it consists of a government agency, SASAC, a state corporate, or a public institute. It is considered to be "non-state" if it is a private company, a family or individual, or a foreign company. Then, based on the nature and shares of the largest owner, we create four dummy variables:

- Type I: Companies with a large ownership stake controlled by the state, i.e., the largest owner = the state, and the shares of the largest owner $\geqq 25\%$;
- Type II: Companies with the large ownership controlled by a non-state investor, i.e., the largest owner = non-state, and the shares of the largest owner $\geqq 25\%$;
- Type III: Dispersed shareholding with the state as the largest shareholder, i.e., the largest owner = the state, and the shares of the largest owner $< 25\%$;

[9] It is worth noticing that the fraction of companies controlled by a family or individual may be underestimated, since some of the companies with a private corporation listed as the largest owner may actually be controlled by a family, just the information is not available to the researchers.

- Type IV: Dispersed shareholding with a non-state investor as the largest shareholder, i.e., the largest owner = non-state, and the shares of the largest owner < 25%.

Different cut-off levels are used to define concentrated shareholding, specifically 50%, 33%, and 25%.[10] Over time, a firm may switch types. If this switch is triggered by performance, the classification of a company by ownership into one of the four categories is endogenous. An examination of the data reveals that a change of categories is not frequent. Of 12549 company-year observations, only 1.82 percent or 228 had moved from Type I to Type III, which is the most common kind of move (Figure 1). The second most frequent move is from Type III to Type IV. Generally speaking, however, the listed companies remain in their ownership categories.

In order to ascertain the impact on a company of switching from one ownership type to another, we calculate the average profit in the three years leading to this switch and that after the switch, and test whether the difference is significant using *t*-tests of mean differences. To make the result more informative, we use industry-adjusted profit to measure performance, with industry-adjusted profit calculated as percentage differences between the firm's profit and the industry average level of profit weighted by the assets. Industry information is provided by the Standard Classification of Industries of the CSRC. The result is also reported in Figure 1. It suggests that the change in performance after switching ownership types varies across firms, and there is no clear evidence that this switching is associated with increased performance. A calculation of the change in performance from one year before switching to one year after switching found similar results. Neither is switching ownership necessarily triggered by performance. Future research will be needed to determine why a firms change ownership types, and how these changes affect performance.

[10] "Dispersed shareholding" is a relative term here. It means less concentrated. We do not use the typical 5% cut-off level because in China there are few companies with the largest owner holding no more than 5 percent of shares.

The four groups of firms (as defined above) may differ significantly in terms of size, industry, and other characteristics. Table 4 shows that state-controlled companies tend to be larger when measured either by total assets or annual sales. Based on the Chi2 test, there are also significant differences between the four groups in terms of industry. The state-controlled firms are more likely to be in utility industries generally considered monopolistic and having a higher profit level. There is also a relatively high percentage of state-controlled firms in the manufacturing, construction, wholesale, retail, finance and insurance, and social service sectors. Interestingly, however, in manufacturing and construction, the state tends to hold a large share block (over 50 percent) whereas in the wholesale, retail, finance and insurance, and social service industries, while the state remains the largest shareholder, it has a smaller ownership stake. Non-state controlled firms, in contrast, are more likely to be found in the information technology, real estate, media and entertainment industries.

Table 4 also shows differences in CEO characteristics between the four groups. CEOs in state companies tend to be older and are less likely to have post-college education, but also less likely to be educated to junior high level or lower. This description seems to fit the profile of most CEOs in large state-controlled companies. In addition, CEOs in state-controlled companies are more likely to be selected from within the system of state enterprises and agencies in the related industry (McNally, 2002). They enter the system after graduating from college and work their way up to executive or equivalent positions in the bureau, and thus tend to be older and have similar educational attainments. In contrast, CEOs of private listed companies are more likely to be company founders being either highly educated founders of high-tech companies, or educated to a lower level but highly able and motivated participants in traditional industries (Djankov, Qian, Roland, Zhuravskaya, 2006).

5. Main Results

5.1 Descriptive Results

In this section, we provide some initial evidence of performance and executive turnover of the four groups of companies. As can be seen in Table 4, companies with concentrated state shareholding (Type I) have the best financial performance, except in terms of sales growth. Next come the concentrated private shareholding (Type II), diversified state (Type III) and diversified private groups (IV). The *t*-test results show that the performance differences between companies with concentrated state ownership (Type I) and other types of ownership are significant. Despite better performance, Type I companies have higher director and CEO turnover rates than those with concentrated private shareholding (Type II).[11] Both CEO and director turnover rate differences between companies are statistically significant.

5.2 Regression Results

In the regression model, Type I, Type II, Type III, and Type IV, indicate the four groups of firms defined as above. Type IV is used as the base group for comparison. The model is specified as follows:

$$\begin{aligned}\text{Turnover} = {} & \alpha + \beta_1 \text{Type I} + \beta_2 \text{Type II} + \beta_3 \text{Type III} \\ & + \beta_4 \text{Type I} * \text{Performance} + \beta_5 \text{Type II} * \text{Performance} \\ & + \beta_6 \text{Type III} * \text{Performance} + \beta_7 \text{TypeIV} * \text{Performance} \\ & + \kappa X_i + + \sum_j \tau_j \text{Year}_j + \varepsilon \qquad (1)\end{aligned}$$

In the model, *Turnover* denotes director or CEO turnover and *Performance* the company's one-year lag industry-adjusted profit, where the industry-adjusted profit is the percentage difference between the firm's pre-tax profit and the asset-weighted industry-average pre-tax profit. Industries are given by the CSRC Standard Classification of

[11] The CEO turnover rate calculated here is lower than that of Firth et al. (2006a) and Kato and Long (2006). Kato and Long (2006) documented the average 24 percent of CEO turnover rate. Firth et al. (2006a) estimated an average turnover rate of chairmen of the board of 45 percent with 20 percent was "forced." We use a much longer panel data than these two studies. In earlier years, executive turnover was less common. Also, we use a more restrictive definition of involuntary turnover. Both factors lead to the estimated lower turnover rates.

Industries. Explanatory variables include dummy variables of the three company groups and the interaction of the four group dummies with performance. Our main interest was in the coefficient estimates of the four interaction variables. These suggest how executive turnover changes in line with the company's performance in the four kinds of companies. The estimates are generally expected to have a negative sign, suggesting reduced executive turnover with better performance. However, the size of the estimates may differ across groups. F-tests were conducted to test whether these estimates are significantly different across groups. Control variables in the model included the size of the company with size approximated by a natural logarithm of total assets, and sales growth. Year dummies were also included to control for all time-specific factors such as the business cycle. In the CEO turnover estimation, CEO's personal characteristics such as age, gender, party membership, education attainment, and job tenure were also included as additional control variables.

In another variation, the model is specified as follows:

$$\begin{aligned}\text{Turnover} = {} & \alpha + \beta\text{Performance} + \gamma\text{State\_Sharepct} + \varphi\text{State\_Sharepct2} \\ & + \delta\text{Nonstate\_Sharepct} + \eta\text{Nonstate\_Sharepct2} \\ & + \mu\text{State\_Sharepct*Performance} + \nu\text{State\_Sharepct2*Performance} \\ & + \rho\text{Nonstate\_Sharepct*Performance} + \xi\text{Nonstate\_Sharepct2*Performance} \\ & + \kappa X_i + \sum_j \tau_j \text{Year}_j + \varepsilon \qquad (2)\end{aligned}$$

The main feature of model 2 is the inclusion of *sharepct* to measure continuous changes in shareholding. The value of *sharepct* equals the percentage of shares held by the largest owner in a company. To allow for the curvilinear effect of ownership concentration on executive turnover, we also included the squared term, *sharepct2*. To distinguish state and non-state block holdings, *State_ Sharepct* is used to indicate the share percentage held by the largest shareholder where the largest shareholder is the state. *Nonstate_Sharepct* is used for the share percentage held by the largest shareholder where the largest shareholder is non-state. The interaction of *State_Sharepct* and

Nonstate_Sharepct with performance demonstrates the impact of increased ownership concentration on executive turnover where the largest shareholder is state and non-state, respectively. The interaction between *state_ or nonstate_sharepct2* and *performance* captures the curvilinear effect of ownership concentration on executive turnover when performance improves.

To examine whether the differences between the state and non-state ownership can be attributed to family or other specific forms of non-state ownership, we estimate the following regression:

$$\begin{aligned}\text{Turnover} = &\alpha + \beta\text{State} * \text{Performance} + \gamma\text{Family} + \varphi\text{Family*Performance} \\ &+ \delta\text{Foreign} + \eta\text{Foreign*Performance} + \mu\text{Private Co.} + \nu\text{Private Co.*Performance} \\ &+ \kappa\text{X}_\text{i} + \sum_j \tau_j \text{Year}_\text{j} + \varepsilon \qquad (3)\end{aligned}$$

In this model, *State*, *Family*, *Foreign*, and *Private Co.* indicate that the nature of largest shareholder. The dummy variable, *State*, is excluded as the reference group. The interaction of the group dummies with performance is included in the model. Executive turnover may be lower in family firms regardless of performance, because the executive is likely to be a family member. If this hypothesis is supported, we expect a negative coefficient estimate of γ. If, in family firms, executive turnover is also less sensitive to performance, then we will find the smaller negative or positive estimate of φ. In the U.S. context, Villalonga and Amit (2006, 2009) show that the family uses various mechanisms to enhance the control over the firm, with these having different impacts on firm value. They also find that the conflict between family and nonfamily shareholders of the firm (the entrenchment effect) is highly relevant, although the owner–manager agency problem (the managerial incentive issue) may be reduced in family firms. The estimates of equation (3) would show whether these hypotheses concerning family ownership are also supported in China.

As checks for robustness, we utilized the panel data to estimate the fixed effect specification of the above models. The cross-sectional model was estimated with both within- and across-company variation. The effect of performance on executive turnover is identified by comparing turnover in two companies with different performance as well as turnover in the same company in different years. In contrast, only the within-company variation is used to estimate the fixed effect model. The fixed effect estimates are reported along with the cross-sectional estimates.

We have also estimated equations (1) to (3), using several alternative measures of ownership and performance. First, different cut-off levels are employed to classify the Type I, Type II, Type III, and Type IV firms, specifically, 50%, 33%, and 25%. The results are reported in Table 5A, 5B, and 5C respectively. Second, instead of making state ownership equal one if the largest shareholder is the state, we let state ownership equal one if there is any state share in a company, i.e. when it is greater than zero. Similarly, by interacting with shares held, we create the four group dummies. Third, we estimate the models using absolute profit rather than industry-adjusted profit, but at the same time control for industry dummies. In the fourth instance, the models are estimated with two- and three-year lag pre-tax profit and other performance variables such as annual return to stock and return to assets. The results are similar to those that have been reported in this paper. [12]

Tables 5A, 5B, and 5C show the estimates of model (1) with the cut-off level for concentrated ownership set at 50%, 33%, and 25% respectively. In these tables, the effects of state ownership conditional on different levels of share concentration are compared. The estimates of the interaction terms suggest that Type II firms with concentrated private shareholding have the most sensitive performance-turnover link of the four groups of firms. F-test results indicate that, given the similar level of

[12] For brevity, these results are not reported in the paper. They are available upon request.

concentrated shareholding, Type II firms have significantly more sensitive turnover to performance ratings than Type I firms. This suggests the effect of ownership type. The differences between Type I and Type III firms suggest the effect of concentrated state ownership while the differences between Type II and IV firms suggest the effect of concentrated private ownership. F-test statistics show that the performance–turnover link is significantly stronger in Type II firms than in Type IV firms, suggesting that large private ownership may be effective. This result confirms the finding of Kato and Long (2006). Nevertheless, since the effect of concentrated ownership may be curvilinear and further analysis is needed.

In Table 6, we show the effect of state vis-à-vis non-state ownership on executive turnover allowing for continuous effect of concentrated ownership (Model 2). The results suggest that shareholding concentration has a different impact on the performance-turnover sensitivity under state and private ownership. Under private ownership, the presence of block holding enhanced the performance–turnover link but the effect was curvilinear, suggesting an inverse U-shaped relationship between control effectiveness and the private ownership concentration. This result is consistent with Morck et al. (1988, 2005) who argued that the entrenchment effect may become greater than the monitoring effect when private ownership becomes overly concentrated. Under state ownership, increased shareholding leads to less sensitive CEO turnover to performance, and that the director turnover results are similar to those seen under non-state ownership but are much weaker. Taken together, this finding suggests the entrenchment effect may be greater when the largest owner is the state.

The differences between state and private ownership in terms of the entrenchment and managerial disciplining effects may be caused by some subtype of private ownership, such as family ownership. To test this hypothesis, we estimated equation (3) and report the results in Table 7. The OLS estimates show that family ownership is associated with

lower director and CEO turnover than state ownership. When the largest owner is a private corporation, executive turnover rates are fairly high. Foreign ownership has a negative impact on director turnover but an insignificant impact on CEO turnover. The fixed effect estimates are not as strong as the OLS results, but the pattern is similar. Overall, the results suggest that different subtypes of private ownership have distinct executive turnover rates. In family owned and controlled firms, executive turnover is rather low.

It is unclear whether executive turnover is less sensitive to performance in family-controlled firms. Table 7 suggests that director turnover may be sensitive to performance in family-controlled listed companies but CEO turnover in such family firms is the least sensitive to performance of all the firms types examined here. These results are understandable since the CEO in a family firm is often a family member, whereas the turnover of non-family directors may be highly sensitive to performance.

6. Summary and Conclusion

Adopting a new and more general framework and using a unique data set, we have more thoroughly examined the effect of state versus private ownership and concentrated versus dispersed ownership on the sensitivity of executive turnover to a company's performance. With regard to private ownership, our study suggests that various subtypes of private ownership differ in their executive turnover rates and in the sensitivity of executive turnover to performance. With regard to state ownership, our study suggests that the turnover–performance link is weaker, and the sensitivity of CEO turnover to performance further declines as ownership becomes more concentrated, while the opposite is true in private firms.

In conclusion, there are significant differences between state and private ownership in terms of managerial discipline and entrenchment, and there are also

important differences between subtypes of private ownership, such as that between family and private corporate shareholding.

The results of this study have some important policy implications. Our findings are consistent with previous studies showing that the incorporation reform has had a positive effect on the efficiency of China's SOEs. At the same time, however, our findings suggest that this positive effect is not a reason for complacency or an argument against privatization, since the link between executive turnover and performance of state-owned firms is not as sensitive as that in private firms. These findings cast doubts on the view of Bardham and Roemer (1992) who argue that, in terms of improving efficiency, state ownership can be as efficient as private ownership. In addition, this study raises the concern that not all private ownership is equally effective in corporate governance in China. Family ownership may be associated with weaker managerial discipline and greater entrenchment.

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Table 1: Recent Empirical Studies on Ownership, Performance and Executive Turnover

Studies from other countries	Sample description, study period, and methodology	Main findings
Kaplan (1994)	The sample consists of 61 German firms taken from the *Fortune Magazine's* list of 500 largest foreign companies in 1980.	Neither concentrated ownership nor different ownership types, e.g. bank control, family or managerial ownership, is significantly related to the turnover-performance link.
Denis, Denis, and Sarin (1997)	The sample consists of 5545 firm-year observations over the period of 1985-1988, involving 1394 U.S. firms selected from the Value Line Investment Survey.	Managerial ownership weakens the sensitivity of CEO turnover to stock price performance.
Franks and Mayer (2001)	The sample consists of 75 quoted industrial and commercial firms collected from Hoppenstedt Stockguide in 1990.	Ownership concentration or the type of concentrated owner does not affect the turnover-performance link.
Volpin (2002)	The sample contains the total of 205 Italian firms and 1611 firm-year observations over the period of 1986-1997. The data are collected from several issues of ''Il Taccuino dell'Azionista''.	Concentrated ownership and family ownership increase the sensitivity of top executive turnover to performance if the controlling shareholder or the family owner is not on the executive board. The turnover-performance link is also stronger when the controlling shareholder also owns a large stake in the firm.
Studies in China		
Groves, Hong, McMillan, and Naughton (1995)	The sample consists of 769 SOEs surveyed in four provinces during the period of 1980-1989.	The economic reform led to the stronger turnover-performance relations in SOEs. Managers could be, and were, fired in response to poor performance.
Aivazian, Ge, and Qiu (2005)	The sample contains 432 SOEs from four provinces during the period of 1994-1999. The data are collected from the Enterprise Survey conducted by the Chinese Academy of Social Science in 2000.	Incorporation of SOEs strengthens the link between management turnover and performance. Management turnover is more sensitive to performance in incorporated SOEs than in those never incorporated.
Firth, Fung, and Rui (2006)	The sample consists of 2886 firm-year observations of China's listed companies during 1998-2002.	Chairman turnover is more sensitive to performance in the firms controlled by legal entities than in those controlled by the state. Foreign ownership has an insignificant impact on either turnover or turnover-performance sensitivity.
Kato and Long (2006)	The sample consists of 638 Chinese listed companies and the total of 2181 firm-year observations during 1999-2002.	CEO turnover is more sensitive to stock returns in private companies than in state-controlled companies. Ownership concentration is associated with the stronger turnover-performance link when the largest owner is private.

Table 2: Concentration of Ownership and State Ownership

Year[1]	Number of Listed Companies	Proportion of Companies with a share block greater than 25%	The largest shareholder being State[2]	Proportion of Companies with a share block greater than 50%	The largest shareholder being State[2]	Proportion of Companies with a share block greater than 75%	The largest shareholder being State[2]
1993	219	75.8	(70.48)	35.16	(74.03)	2.74	(100.00)
1994	345	81.45	(73.67)	40.58	(74.29)	6.09	(80.95)
1995	381	83.46	(75.16)	40.94	(81.41)	4.99	(94.74)
1996	599	85.31	(76.91)	41.4	(81.85)	4.01	(95.83)
1997	821	85.87	(80.43)	44.21	(84.57)	4.26	(97.14)
1998	931	87.33	(79.46)	45.33	(84.83)	4.73	(95.45)
1999	1031	88.07	(78.52)	45.59	(85.96)	4.85	(96.00)
2000	1193	87.43	(78.81)	45.43	(86.35)	4.61	(92.73)
2001	1256	86.23	(78.39)	43.79	(86.36)	3.98	(90.00)
2002	1327	86.44	(74.89)	42.5	(84.93)	3.84	(94.12)
2003	1388	84.51	(70.08)	40.13	(80.43)	3.39	(91.49)
2004	1487	82.58	(66.61)	38.6	(78.22)	4.17	(90.32)
2005	1476	82.52	(63.14)	34.55	(73.73)	1.29	(89.47)

Note：Due to the limited number of companies, summary statistics prior to 1993 were not reported. In parenthesis is the percentage of companies with the state being the largest shareholder among those that have a large share block of at least 25, 50, or 75%.

Source: Authors' calculations using THFD data.

Table 3: The Largest Shareholder

The Largest Shareholder is:	Percentage in the Sample (%)	Median Shares Held (%)	Percentage in 1995 (%)	Median Shares Held in 1995 (%)	Percentage in 2005 (%)	Median Shares Held in 2005 (%)
State						
Government or SASAC	11.76	40.24	34.20	45.76	4.78	39.36
State Corporate	64.53	50.14	47.56	45.39	61.72	46.28
Public institute	1.72	45.17	1.95	45.30	2.28	44.21
Non-state						
Private Company	19.84	29.41	12.38	30.08	28.14	29.28
Family or individual	0.65	27.00	0.33	27.45	2.13	28.55
Foreign	1.51	30.48	3.58	30.48	0.96	33.40
Number of observations	12549		381		1476	

Note: The table shows the fraction of firms in the sample and in 1995 and 2005 respectively with different types of the largest shareholder, and the percentage of shares held by the largest shareholder. The total number of firm-year observations is 12549.
Source: Authors' calculations using THFD data.

Table 4: Descriptive Statistics of the Four Types of Firms

	Type I The largest owner=**state** & shares≥50%	**Type II** The largest owner=**Non-state** & shares ≥50%	**Type III** The largest owner=**state** & shares<50%	**Type IV** The largest owner=**Non-state** & shares<50%
Financial Variables				
Sales (RMB billion Yuan)	2.10***	1.43	0.84	0.85
Asset (RMB billion Yuan)	2.83**	2.39	2.34	2.20
Sales growth	0.22**	0.28	0.33	1.20
Pre-tax profit (RMB billion Yuan)	0.18***	0.11	0.06	0.05
Industry-adjusted profit	-0.50**	-0.74	-0.69	-0.85
Return to Asset	0.044***	0.029	0.024	-0.02
Average Yearly Return to Stock	0.068***	0.060	0.048	0.01
Industry (%)				
Agriculture	1.78	1.72	2.53	2.31
Mining	2.02	2.12	0.75	0.42
Manufacturing	65.62	58.53	48.98	51.68
Utility	4.52	2.02	4.84	2.13
Construction	2.51	2.22	0.84	1.26
Transportation, storage	4.31	4.34	3.73	3.29
Information technology	4.27	6.96	5.17	9.34
Wholesale and retail	5.72	6.05	13.51	4.62
Finance and insurance	0.02	0.2	1.33	0.98
Real estate	3.05	6.26	4.13	5.31
Services	2.74	0.71	4.47	3.6
Median and entertainment	0.94	2.52	0.5	1.33
Diverse	2.51	6.36	9.22	13.74
Executive turnover				
Average board of director turnover[3]	0.023*	0.018	0.026	0.033
CEO turnover[4]	0.10*	0.04	0.10	0.10
CEO Characteristics				
CEO age	47.60*	45.80	47.58	45.14
CEO job tenure	5.22*	6.56	5.33	5.06
CEO female	0.03	0.03	0.04	0.03
CEO communist party member	0.28	0.24	0.31	0.24
CEO having more than college degree	0.20***	0.26	0.22	0.30
CEO having college degree	0.78***	0.72	0.76	0.67
CEO having high school degree	0.02	0.02	0.02	0.03
CEO having less than high school degree	0.001***	0.002	0.005	0.005
Number of observations	3688	874	4047	2327

Note: Director turnover indicates the average percentage of directors being displaced per year of all the firms. CEO turnover indicates the percentage of companies with CEO being displaced in a year. *, **, and *** indicate the 10, 5, and 1 percent significance level for t-tests of mean differences between type I and the rest firms. The total number of company-year observations drops to 10936 due to the use of lag-values in calculating sales growth. Some CEO characteristics variables have missing values, so the total number of observations used in the CEO characteristics summary is 9617.

Source: Authors' calculations using THFD data.

Table 5A: Executive Turnover and Profit: Four Types of Firms

	OLS		Fixed Effect	
	Director Turnover	CEO Turnover	Director Turnover	CEO Turnover
Type I	-0.002	-0.026**	-0.012**	-0.023
	(0.002)	(0.011)	(0.005)	(0.024)
Type II	0.003	-0.038*	0.001	0.014
	(0.006)	(0.021)	(0.010)	(0.049)
Type III	-0.003	-0.033***	-0.010***	-0.051***
	(0.002)	(0.011)	(0.004)	(0.018)
Type I * Industry-Adjusted Profit_ lag 1	-0.002**	-0.0004	0.0001	0.003
	(0.001)	(0.003)	(0.001)	(0.004)
Type II* Industry-Adjusted Profit_ lag 1	-0.075*	-0.035**	-0.008***	-0.053***
	(0.043)	(0.014)	(0.003)	(0.014)
Type III * Industry-Adjusted Profit_ lag 1	-0.004	-0.001	-0.0001	0.0003
	(0.009)	(0.004)	(0.001)	(0.002)
Type IV * Industry-Adjusted Profit_ lag 1	-0.006	0.001	-0.0001	0.001
	(0.011)	(0.003)	(0.001)	(0.004)
Ln(asset)_lag1	-0.002**	-0.010**	-0.004**	0.002
	(0.001)	(0.004)	(0.002)	(0.010)
Sales growth	-0.004	0.010	-0.004	-0.017
	(0.008)	(0.040)	(0.010)	(0.052)
Constant	-0.001	0.252***	0.005	0.203***
	(0.003)	(0.035)	(0.009)	(0.049)
Year Dummies	yes	yes	yes	yes
Control for CEO characteristics		yes		yes
Adjusted R-square	0.12	0.09		
Number of observations	10936	9617	10936	9617
P-value of F-test:				
Type I * Profit = Type II * Profit	0.007***	0.018**	0.005***	0.001***
Type I * Profit = Type III * Profit	0.809	0.860	0.866	0.618
Type III * Profit = Type IV * Profit	0.344	0.618	0.994	0.944
Type II * Profit = Type IV * Profit	0.005***	0.013***	0.006***	0.002***

Note: Type I refers to the firms whose largest shareholder is **the state** and the largest shareholder owns **50% or more** shares; Type II refers to the firms whose largest shareholder is **non-state** and the largest shareholder owns **50% or more** shares; Type III refers to the firms whose largest shareholder is **the state** and the largest shareholder owns **less than 50%** shares; Type IV refers to the firms whose largest shareholder is **non-state** and the largest shareholder owns **less than 50%** shares. Industry-adjusted profit is the percentage difference between the firm's pre-tax profit and the asset-weighted industry-average pre-tax profit. For the CEO turnover, the coefficient estimates of linear probability model with White-corrected standard errors are reported. CEO characteristics include CEO's age, gender, education, job tenure, and party membership status. The total number of firm-year observations used in director turnover regressions is 10936 due to the use of lag-values. Because of the missing values in CEO characteristics variables, the total number of firm-year observations further drops to 9617 in CEO turnover regressions. * p<0.1; ** p<0.05, and *** p<0.01.
Source: Authors' calculations using THFD data.

Table 5B: Executive Turnover and Profit: Four Types of Firms

	OLS		Fixed Effect	
	Director Turnover	CEO Turnover	Director Turnover	CEO Turnover
Type I	-0.004*	-0.042***	-0.012***	-0.046**
	(0.002)	(0.013)	(0.004)	(0.022)
Type II	-0.004	-0.045***	0.004	-0.015
	(0.003)	(0.016)	(0.006)	(0.030)
Type III	-0.003	-0.047***	-0.007	-0.055***
	(0.003)	(0.014)	(0.004)	(0.021)
Type I * Industry-Adjusted Profit_ lag 1	-0.0002	-0.002	0.0001	0.0003
	(0.0002)	(0.004)	(0.0004)	(0.002)
Type II* Industry-Adjusted Profit_ lag 1	-0.002*	-0.006	-0.002*	-0.012*
	(0.001)	(0.007)	(0.001)	(0.007)
Type III * Industry-Adjusted Profit_ lag 1	-0.0004	0.002	-0.0001	0.002
	(0.0003)	(0.003)	(0.0008)	(0.004)
Type IV * Industry-Adjusted Profit_ lag 1	0.0001	0.001	-0.0001	0.0004
	(0.0003)	(0.004)	(0.0008)	(0.004)
Ln(asset)_lag1	-0.002*	-0.009**	-0.004**	0.001
	(0.001)	(0.004)	(0.002)	(0.010)
Sales growth	-0.003	0.016	-0.004	-0.015
	(0.008)	(0.040)	(0.011)	(0.052)
Constant	0.001	0.268***	0.005	0.213***
	(0.003)	(0.036)	(0.010)	(0.050)
Year Dummies	yes	yes	yes	yes
Control for CEO characteristics		yes		yes
Adjusted R-square	0.12	0.09		
Number of observations	10936	9617	10936	9617
P-value of F-test:				
Type I * Profit = Type II * Profit	0.174	0.605	0.183	0.092*
Type I * Profit = Type III * Profit	0.737	0.410	0.868	0.648
Type III * Profit = Type IV * Profit	0.288	0.861	0.977	0.730
Type II * Profit = Type IV * Profit	0.107	0.349	0.265	0.125

Note: Type I refers to the firms whose largest shareholder is **the state** and the largest shareholder owns **33% or more** shares; Type II refers to the firms whose largest shareholder is **non-state** and the largest shareholder owns **33% or more** shares; Type III refers to the firms whose largest shareholder is **the state** and the largest shareholder owns **less than 33%** shares; Type IV refers to the firms whose largest shareholder is **non-state** and the largest shareholder owns **less than 33%** shares. Industry-adjusted profit is the percentage difference between the firm's pre-tax profit and the asset-weighted industry-average pre-tax profit. For the CEO turnover, the coefficient estimates of linear probability model with White-corrected standard errors are reported. CEO characteristics include CEO's age, gender, education, job tenure, and party membership status. The total number of firm-year observations used in director turnover regressions is 10936 due to the use of lag-values. Because of the missing values in CEO characteristics variables, the total number of firm-year observations further drops to 9617 in CEO turnover regressions. * $p<0.1$; ** $p<0.05$, and *** $p<0.01$.

Source: Authors' calculations using THFD data.

Table 5C: Executive Turnover and Profit: Four Types of Firms

	OLS		Fixed Effect	
	Director Turnover	CEO Turnover	Director Turnover	CEO Turnover
Type I	-0.002	-0.031*	-0.007	-0.026
	(0.003)	(0.016)	(0.006)	(0.028)
Type II	-0.0002	-0.011	0.004	0.012
	(0.004)	(0.019)	(0.006)	(0.029)
Type III	-0.002	-0.052***	-0.008	-0.065**
	(0.004)	(0.019)	(0.006)	(0.030)
Type I * Industry-Adjusted Profit_ lag 1	-0.0003	-0.002	0.0001	0.001
	(0.0002)	(0.004)	(0.0004)	(0.002)
Type II* Industry-Adjusted Profit_ lag 1	-0.001	-0.006	-0.001	-0.007
	(0.001)	(0.005)	(0.001)	(0.005)
Type III * Industry-Adjusted Profit_ lag 1	-0.0001	0.002	-0.0001	0.002
	(0.0002)	(0.004)	(0.0008)	(0.004)
Type IV * Industry-Adjusted Profit_ lag 1	0.0001	0.005	-0.0002	0.002
	(0.0004)	(0.004)	(0.001)	(0.006)
Ln(asset)_lag1	-0.002*	-0.009**	-0.004**	0.001
	(0.001)	(0.004)	(0.002)	(0.010)
Sales growth	-0.003	0.015	-0.004	-0.017
	(0.008)	(0.044)	(0.011)	(0.052)
Constant	-0.0002	0.256***	0.005	0.195***
	(0.004)	(0.037)	(0.010)	(0.053)
Year Dummies	Yes	yes	Yes	yes
Control for CEO characteristics		yes		yes
Adjusted R-square	0.12	0.09		
Number of observations	10936	9617	10936	9617
P-value of F-test:				
Type I * Profit = Type II * Profit	0.335	0. 422	0.388	0.118
Type I * Profit = Type III * Profit	0.693	0.458	0.829	0.856
Type III * Profit = Type IV * Profit	0.695	0.556	0.946	0.897
Type II * Profit = Type IV * Profit	0.179	0.061*	0.632	0.167

Note: Type I refers to the firms whose largest shareholder is **the state** and the largest shareholder owns **25% or more** shares; Type II refers to the firms whose largest shareholder is **non-state** and the largest shareholder owns **25% or more** shares; Type III refers to the firms whose largest shareholder is **the state** and the largest shareholder owns **less than 25%** shares; Type IV refers to the firms whose largest shareholder is **non-state** and the largest shareholder owns **less than 25%** shares. Industry-adjusted profit is the percentage difference between the firm's pre-tax profit and the asset-weighted industry-average pre-tax profit. For the CEO turnover, the coefficient estimates of linear probability model with White-corrected standard errors are reported. CEO characteristics include CEO's age, gender, education, job tenure, and party membership status. The total number of firm-year observations used in director turnover regressions is 10936 due to the use of lag-values. Because of the missing values in CEO characteristics variables, the total number of firm-year observations further drops to 9617 in CEO turnover regressions. * p<0.1; ** p<0.05, and *** p<0.01.
Source: Authors' calculations using THFD data.

Table 6: Executive Turnover and Profit: Ownership Concentration

	OLS		Fixed Effect	
	Director Turnover	CEO Turnover	Director Turnover	CEO Turnover
Adjusted Profit_lag 1	0.009	-0.034	0.019	-0.038
	(0.018)	(0.046)	(0.023)	(0.115)
State Share Percentage	-0.022	0.001	-0.101**	0.081
	(0.021)	(0.091)	(0.039)	(0.198)
State Share Percentage Squared	0.025	0.018	0.103*	-0.035
	(0.022)	(0.094)	(0.040)	(0.198)
Non-state Share Percentage	-0.014	0.203	-0.090*	0.359
	(0.030)	(0.132)	(0.049)	(0.245)
Non-state Share Percentage Squared	0.028	-0.297	0.173***	-0.366
	(0.046)	(0.196)	(0.066)	(0.332)
State Share Percentage * Adjusted Profit_ lag 1	-0.047	0.054	-0.068	0.107
	(0.050)	(0.135)	(0.074)	(0.376)
State Share Percentage Squared * Adjusted Profit_ lag 1	0.041	-0.022	0.044	-0.124
	(0.037)	(0.109)	(0.056)	(0.282)
Non-state Share Percentage * Adjusted Profit_ lag 1	-0.141	-0.014	-0.161	-0.330
	(0.312)	(0.648)	(0.167)	(0.830)
Non-state Share Percentage Squared * Adjusted Profit_ lag 1	0.082	-0.487	0.137	0.226
	(0.687)	(0.307)	(0.265)	(0.291)
Ln(asset)_lag1	-0.002*	-0.008*	-0.004*	0.004
	(0.001)	(0.005)	(0.002)	(0.010)
Sales growth	-0.003	0.004	-0.004	-0.020
	(0.008)	(0.043)	(0.011)	(0.052)
Constant	-0.003	0.207***	0.024	0.163*
	(0.006)	(0.039)	(0.018)	(0.091)
Year dummies	yes	yes	yes	yes
Control for CEO characteristics		yes		yes
Adjusted R-square	0.12	0.09		
Number of observations	10936	9617	10936	9617

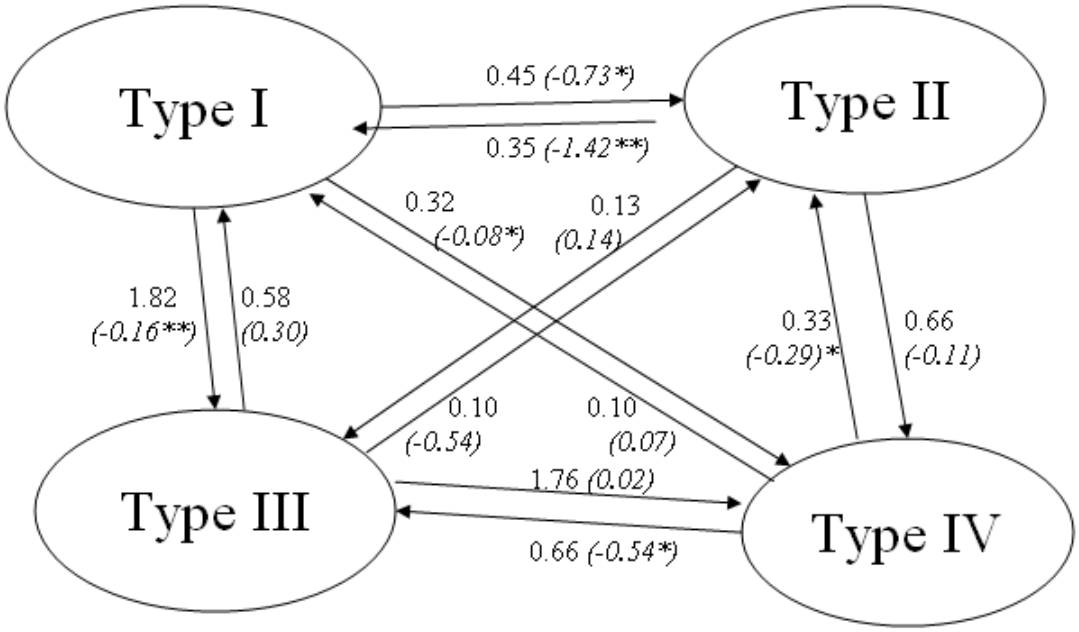
Note: State share percentage equals the percentage of shares held by the largest shareholder when the largest shareholder is the state. Non-state share percentage equals the percentage of shares held by the largest owner when the largest owner is non-state. Industry-adjusted profit is the percentage difference between the firm's pre-tax profit and the asset-weighted industry-average pre-tax profit. For the CEO turnover, the coefficient estimates of linear probability model with White-corrected standard errors are reported. CEO characteristics include CEO's age, gender, education, job tenure, and party membership status. The total number of firm-year observations used in director turnover regressions is 10936 due to the use of lag-values. Because of the missing values in CEO characteristics variables, the total number of firm-year observations further drops to 9617 in CEO turnover regressions. * $p<0.1$; ** $p<0.05$, and *** $p<0.01$.
Source: Authors' calculations using THFD data.

Table 7: Executive Turnover and Profit: Family, Foreign, and Private Corporate Shareholding

	OLS		Fixed Effect	
	Director Turnover	CEO Turnover	Director Turnover	CEO Turnover
State * Adjusted Profit_lag 1	-0.002**	-0.006	-0.006	-0.041*
	(0.001)	(0.004)	(0.005)	(0.024)
Family	-0.029***	-0.147**	-0.015	-0.079
	(0.009)	(0.057)	(0.042)	(0.311)
Family * Adjusted Profit_lag 1	-0.262***	0.529	-0.310	0.508
	(0.096)	(0.467)	(0.575)	(0.299)
Foreign	-0.006**	0.033	-0.002	-0.050
	(0.003)	(0.028)	(0.014)	(0.070)
Foreign * Adjusted Profit_lag 1	-0.004	0.159	0.017	0.091
	(0.020)	(0.117)	(0.033)	(0.159)
Private Co.	0.005**	0.027**	0.012***	0.053***
	(0.002)	(0.011)	(0.004)	(0.018)
Private Co. * Adjusted Profit_lag 1	-0.022*	-0.147*	-0.012	-0.117*
	(0.012)	(0.084)	(0.014)	(0.069)
Ln(asset)_lag1	-0.002*	-0.007	-0.004*	-0.005
	(0.001)	(0.005)	(0.002)	(0.010)
Sales growth	-0.003	0.005	-0.004	0.020
	(0.008)	(0.044)	(0.011)	(0.052)
Constant	-0.005	0.212***	0.005	0.192**
	(0.005)	(0.036)	(0.016)	(0.078)
Year dummies	yes	yes	yes	yes
Control for CEO characteristics		yes		yes
Adjusted R-square	0.12	0.09		
Number of observations	10936	9617	10936	9617

Note: State, family, foreign, and private Co. denotes the largest shareholder being the state, a family, a foreign company or individual, or a Chinese private company. Industry-adjusted profit is the percentage difference between the firm's pre-tax profit and the asset-weighted industry-average pre-tax profit. For the CEO turnover, the coefficient estimates of linear probability model with White-corrected standard errors are reported. CEO characteristics include CEO's age, gender, education, job tenure, and party membership status. The total number of firm-year observations used in director turnover regressions is 10936 due to the use of lag-values. Because of the missing values in CEO characteristics variables, the total number of firm-year observations further drops to 9617 in CEO turnover regressions. * $p<0.1$; ** $p<0.05$, and *** $p<0.01$.
Source: Authors' calculations using THFD data.

Figure 1: Switching Ownership Types



Note: Type I refers to the firms whose largest shareholder is **the state** and the largest shareholder owns **50% or more** shares; Type II refers to the firms whose largest shareholder is **non-state** and the largest shareholder owns **50% or more** shares; Type III refers to the firms whose largest shareholder is **the state** and the largest shareholder owns **less than 50%** shares; Type IV refers to the firms whose largest shareholder is **non-state** and the largest shareholder owns **less than 50%** shares. The number outside the parenthesis indicates the percentage of observations switching types following the arrow's direction. The number in the parenthesis indicates the change in the industry-adjusted profit after switching. *, **, and *** indicates that the change in the industry-adjusted profit after switching is significant at the 10, 5 and 1 percent level based on the t-test of mean differences. Industry-adjusted profit is the percentage difference between the firm's pre-tax profit and the asset-weighted industry-average pre-tax profit.
Source: Authors' calculations using THFD data.