



Governance with multiple objectives: Evidence from top executive turnover in China

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ABSTRACT

We examine the relationship between Chief Executive Officer (CEO) turnover and the performance of listed Chinese firms and obtain two results. First, we find a negative relationship between the level of pre-turnover profitability and CEO turnover when firms are incurring financial losses, but no such relationship when they are making profits. Second, there is an improvement in post-turnover profitability in loss-making firms, but no such improvement in profit-making firms. These results indicate the existence of a time-varying objective function, whereby shareholders have a greater incentive to discipline their CEOs on the basis of financial performance when their firms are incurring financial losses rather than profits.

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1. Introduction

Despite the massive waves of privatization in recent decades, many firms around the globe today, particularly in vital industries such as telecommunications, energy, public utilities, and banking, still remain at least partially state-owned.¹ Notwithstanding its importance, empirical evidence on the monitoring of managers in state-owned firms remains scarce. The existing studies on managerial turnover focus primarily on firms that are controlled by private owners. A substantial body of literature shows that forced managerial turnover is preceded by a large and significant decline in financial performance and is then followed by improved performance, which reflects the effectiveness of the various corporate control mechanisms at work in these firms (e.g., Kaplan, 1994; Denis and Denis, 1995; Denis et al., 1997; Kang and Shivdasani, 1995; Huson et al., 2001; Volpin, 2002; McNeil et al., 2004; Huson et al., 2004).²

This study examines the relationship between managerial turnover and firm performance in China's listed firms in which the majority of controlling shareholders are state-owned entities. Unlike the shareholders of typical listed firms, state shareholders are not real owners, but rather bureaucrats who run the firms on behalf of the government. As agents of the government, their decisions are subject to the influence and control of the government, which tends to use a firm's resources to promote social and political objectives (Shleifer and Vishny, 1994, 1997; Dixit, 1997). Similar to managers in the traditional agency model, state shareholders can possess multiple personal interests, such as the accumulation of personal wealth, job security, and others (Alchian, 1965; Shleifer and Vishny, 1997). A salient characteristic of state shareholders is therefore the existence of multiple

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¹ Bauer (2005) documents that 49.2% of fixed access lines were still operated by either fully or partially state-owned telecommunication operators at the end of 2004. Based on a study of the 10 largest banks in 92 countries, La Porta et al. (2002) document that 42% of their assets are controlled by state-owned banks.

² Conflicting evidence is provided by Dalton and Kesner (1983), Friedman and Singh (1989), and Davidson et al. (1990).

objectives. We explore how the existence of these multiple objectives on the part of state shareholders affects the relationship between managerial turnover and firm financial performance.

According to Jensen (2001), it is impossible to maximize more than one objective at any given time if there are tradeoffs among various objectives. Therefore, shareholders must place different levels of importance on these objectives and integrate them into a single objective function. We expect the level of importance that the state shareholders of listed Chinese firms attach to the objective of improving firm financial performance to be a function of actual firm performance and that they will attach greater importance to this objective when their firms are experiencing financial losses than they will in times of profit. We reason that, in general, state shareholders do not possess a strong incentive to maximize financial performance because the pursuit of political and/or personal objectives often lessens ex post firm profit (Dixit, 1997; Bai et al., 2000; Chang and Wong, 2004; Bai et al., 2006).³ However, controlling state shareholders are likely to face greater government pressure to improve financial performance when their firms are experiencing financial losses. This is because the government may eventually have to bail out loss-making firms through the provision of fiscal subsidies and/or low-cost loans (Qian and Roland, 1998). Therefore, the shareholders of loss-making firms, who are obliged to subscribe to the government's objective function, will have little choice in such circumstances but to attach greater importance to the objective of improving financial performance. The external pressure from government to improve financial performance also limits the latitude and resources available to state shareholders to serve their own personal objectives, such as on-the-job consumption and the accumulation of personal wealth, thus further increasing their incentive to dismiss relatively poorly performing managers. As a result, we expect the shareholders of firms in a loss-making state to have a greater incentive than their counterparts in profit-making state to monitor managers on the basis of firm performance.

In addition to being a determinant of managerial turnover, we expect the existence of multiple objectives in shareholders' objective functions to also affect post-turnover performance changes. This is because the different levels of importance to firm performance in shareholders' objective functions will lead to different incentives to fire the incumbent managers and to hire and monitor the new managers, which will in turn affect post-turnover performance changes.⁴ When shareholders attach a higher level of importance to firm performance, they have a greater incentive to remove the poorly performing managers and to identify managers with the ability to improve that performance. They also have a greater incentive to monitor new managers on the basis of it. The result is a greater likelihood of post-turnover operating performance improvements for loss-making firms. When shareholders attach a low level of importance to firm performance, in contrast, that performance may not be the major cause of managerial turnover in the first place. Instead, it may be due to such non-performance reasons as organizational politics or personal considerations. The existing literature suggests that factors other than performance (e.g., social and political factors) also play an important role in determining managerial turnover in private firms (Fredrickson et al., 1988; Gibelman and Gelman, 2002; Shen and Cannella, 2002). Such turnover is even more likely to occur in state-controlled firms, given the existence of multiple objectives and the weak profit motive on the part of state owners. As performance is not the major cause of managerial turnover, new managers are more likely to be selected and monitored on the basis of political connections and personal favoritism than on their ability to improve firm performance. This, in turn, means that post-turnover performance improvements are less likely in profit-making firms.

Based on a sample of the Chief Executive Officer (CEO) turnovers experienced by listed Chinese firms between 1995 and 2001, we provide two pieces of evidence on the turnover-performance relationship. First, there is a significant negative relationship between pre-turnover profitability and CEO turnover when firms are experiencing financial losses, but no such relationship when they are making profits. Second, there is significant improvement in the post-turnover profitability of loss-making firms, but not in that of profit-making firms. Overall, our results indicate that there are differences in the turnover-performance relationship between loss- and profit-making firms.

Our study provides a useful addition to the existing literature on the monitoring activities of state-owned firms. Groves et al. (1995) examine the relationship between labor productivity and managerial turnover for a sample of state-owned firms in China. They offer evidence that the managerial turnover is not associated with ex ante labor productivity but is followed by a significant increase in productivity. Kole and Mulherin (1997) study the managerial turnover and performance of 17 U.S. firms controlled by the federal government during and after World War II. They find that the turnover and performance did not differ significantly from those of private-sector firms. Based on a sample of Czech firms, Claessens and Djankov (1999) find that managers appointed by state asset management agencies are associated with weaker performance improvements than are managers appointed by private owners. Firth et al. (2006) find that managerial turnover in listed Chinese firms is inversely related to a firm's profitability. However, they do not find evidence of post-turnover performance improvement. Also based on a sample of listed Chinese firms, Kato and Long (2006) show that CEO turnover is significantly and negatively related to a firm's financial performance.

All of the aforementioned studies on the relationship between managerial turnover and firm performance in state-owned firms assume that shareholders have the same incentive structure to discipline managers under all circumstances. In this study, we

³ Bai et al. (2000) further demonstrate that, in addition to having a weak profit motive, state shareholders provide their managers with weak-profit incentives. Consistent with this theory, the compensation schemes of CEOs in China's listed firms are characterized by weak profit incentives, whereby the main component is a low and undifferentiated civil-service-ranked salary. Stock-based incentives are also weak, given that the average shareholding of managers in listed firms, as of the end of 1999, was only 0.006%, and stock options were non-existent until the early 2000s (Chang and Wong, 2004).

⁴ The improved management hypothesis and the scapegoat hypothesis on post-turnover performance changes both suggest that shareholders have an invariant incentive structure to hire and monitor the new managers. The improved management hypothesis suggests that managers differ in quality and that shareholders always have the incentive to identify and hire a new, superior manager who is capable of improving a firm's performance (Denis and Denis, 1995; Huson et al., 2004). The scapegoat hypothesis holds that the quality of managerial abilities does not vary significantly across different individuals, and therefore a newly hired manager is unable to alter a firm's fundamentals and improve its performance (Khanna and Poulsen, 1995; Huson et al., 2004).

assume, as well as provide evidence to support the assumption, that shareholders have a time-varying objective function that depends on firm performance. By estimating the performance–turnover sensitivities for profit- and loss-making firms separately, we show that the negative relationship between pre-turnover firm performance and turnover found by Firth et al. (2006) and Kato and Long (2006) exists only in loss-making firms, not in profit-making firms. Furthermore, we find a significant improvement in post-turnover profitability in loss-making firms.⁵

China is becoming increasingly integrated into the global financial market, with a growing number of Chinese firms seeking listing on overseas exchanges and an increasing number of international institutional investors being attracted to China's domestic market. Despite recent drastic attempts to reduce the percentage of state shareholding, China's government is still unlikely to fully privatize all of its listed firms in the foreseeable future (Wong, 2006). In light of this, the question of whether and how the state shareholders of listed firms in China have an incentive to exercise effective corporate control in order to strive for the maximization of their shareholders' wealth should be of great interest to international investors.

The remainder of this paper is structured as follows. Section 2 provides a brief discussion on the corporate governance and incentive structure of the state shareholders of China's listed firms. Section 3 discusses the data and research methods, and Section 4 presents the empirical results and robustness checks. Finally, Section 5 presents the study's conclusions.

2. Corporate governance and state shareholder incentive in China's listed firms

The majority of China's listed firms are controlled by state shareholders who retain their dominant control through the ownership of about two-thirds of total equity in the form of non-tradable state-owned shares (Sun and Tong, 2003). State-owned shares are officially classified into state shares and legal person shares.⁶ Earlier studies have taken the view that state shares are owned by government agencies and legal person shares are owned by state-owned commercial firms (for example, Xu and Wang, 1999; Sun and Tong, 2003; Firth et al., 2006). Recent studies, however, indicate that the official classification scheme does not yield valid measures of ownership identity. Delios et al. (2006), for example, find that the first-level owners of state and legal person shares can be either government agencies or state-owned commercial firms and that 39.7% of legal person shares are actually held by state asset investment bureaus. Liu and Sun (2005) find that the official classification of shares fails to identify the ultimate owners of listed firms and that legal person shares can ultimately be owned by either private or state entities.

China's Company Law of 1992 requires listed Chinese firms to adopt a formal governance structure whereby CEOs are monitored by boards of directors. In spite of this regulation, however, local governments maintain control over partially privatized listed firms not only through the formal voting power vested in the controlling shareholdings, but also through the formal authority to approve appointments and dismiss key personnel as recommended by the boards of directors (Wong et al., 2004). As a result, the decisions to appoint and remove CEOs in China's listed firms are in the hands of state controlling shareholders, which are ultimately controlled by the governments through their administrative controls over the state shareholders and their authority to approve CEO appointments.

Two different sets of assumptions have been made in studies analyzing the objective functions of state shareholders. The first assumption is that state shareholders are good stewards of government who seek to serve its interests—the main one being to promote social and political goals—such as by correcting market failures and providing additional employment opportunities and social security to the public (Shleifer and Vishny, 1994, 1997; Dixit, 1997). The second assumption is that these shareholders are motivated by self-interest and will, therefore, use state-owned firm resources to promote their own personal interests (Shleifer and Vishny, 1994, 1997; Jones, 1985; Krueger 1990). Both views suggest that state shareholders tend to have a weak incentive to maximize firm profits because they enjoy control rights but not cash flow right. Furthermore, as the pursuit of most political and personal objectives often detracts from a firm's financial performance, these shareholders face a tradeoff between the pursuit of political and personal objectives on the one hand and the delivery of higher ex post firm financial performance on the other (Dixit, 1997; Bai et al., 2000, 2006; Chang and Wong, 2004). Shareholders with a greater incentive to pursue political and personal objectives will attach less weight to financial performance in their objective function, and thus will have less incentive to monitor managers on the basis of it.

However, state shareholders will attach greater weight to financial performance when their firms are experiencing financial losses. Note that, although the government uses firms to serve its political objectives at the expense of their financial performance, it also has incentives to minimize the amount of the financial losses that firms incur. This is because the occurrence of consistent and significant financial losses will eventually backfire and ultimately place a burden on government budgets and on state-owned banks when the firms have to be bailed out with either government subsidies or bank loans (Qian and Roland, 1998). Loss-making firms thus face tremendous government pressure to improve their operational efficiency, and hence financial performance.

⁵ In addition to these published papers, there are three unpublished manuscripts that also examine the relationship between managerial turnover and firm performance in listed Chinese firms. Chen and Wang (2004) examine the relative effectiveness of government agencies and state-owned firms in monitoring CEOs, whereas Chen et al. (2006) analyze how the effects of the delegation of control rights affect performance–turnover links. Cheng et al. (2007) examine the responsiveness of turnover decisions to different accounting performances. All of these working papers estimate performance–turnover links for whole sample firms regardless of their financial performance.

⁶ According to official classification, state shares are created as a consequence of a government agency contributing its assets to the formation of a shareholding firm. Legal person shares, in contrast, represent the contribution by government-invested state-owned enterprises (SOEs) of their legally owned assets to the formation of a shareholding firm. To maintain the dominance of state ownership, these two types of shares were formerly not allowed to be traded on China's two stock exchanges. However, reforms were introduced in August 2005 to allow these shares to be traded on the exchanges after the state shareholders pay adequate compensation to and obtain consent from individual private investors.

Table 1

Annual CEO turnover rate and performance in China's listed firms: 1995–2001

	1995	1996	1997	1998	1999	2000	2001	1995–2001
Number of listed firms	307	510	715	821	918	1054	1136	5461
Total number of CEO turnovers	47	81	136	210	273	332	314	1393
Annual turnover rate	15.31%	15.88%	19.02%	25.58%	29.74%	31.50%	27.64%	25.51%
Number of CEO turnovers after consolidation	44	80	130	196	254	303	284	1291
Annual turnover rate after consolidation	14.33%	15.69%	18.18%	23.87%	27.67%	28.75%	25.00%	23.64%

This table reports CEO turnovers in China's listed firms from 1995 to 2001. The number of listed firms includes all non-financial firms listed on the A-share markets of the Shanghai and Shenzhen Stock Exchanges. The total number of CEO turnovers refers to the number of CEO turnovers, including multiple turnovers during a single year. The number of CEO turnovers after consolidation represents the number of CEO turnovers after multiple CEO turnovers for a given firm in a given fiscal year is consolidated into one observation.

In addition to concerns about their careers, state shareholders also have a stronger personal motive to improve firm performance during periods of financial loss than during those of financial gain. There exists an obvious incompatibility between delivering a higher ex post financial performance and the current and future resources available for state shareholders for the pursuit of their private interests. For firms that are already in the loss-making state, if there is no improvement in a firm's operation efficiency, the need to deliver higher financial performance would also significantly reduce the amount of resources available for state shareholders to serve their own interests. The state shareholders of loss-making firms, who are under government pressure to improve financial performance, therefore also have the personal incentive to replace poorly performing CEOs as a way of restoring the resource base for their pursuit of those interests. In this situation, the ability to improve performance will be an important consideration in the selection and appointment of replacement CEOs, who will also be more closely monitored with a focus on performance improvement. As a result, we hypothesize that managerial turnover in loss-making firms is more likely to be followed by significant improvements in performance.

In contrast, when firms are profitable, neither the government nor state shareholders seeks to maximize firm performance, and thus managerial turnover is more likely to have non-performance-related causes. As a result, the state shareholders of profit-making firms are less likely to have the incentive to seek out CEOs with the ability to improve firm performance and less likely to monitor new CEOs on the basis of that performance. As suggested by Zhang (2006), and Zhang (1998), the state shareholders in China's listed firms have little incentive to select CEOs who will ensure that firms are efficiently and profitably operated. Zhang (1998) further suggest that state shareholders too often base their selections of CEOs on personal connections (*guanxi*) because they want to appoint friendly CEO to facilitate their tunneling of firm resources. This shareholder incentive problem suggests that managerial turnover in profit-making firms is less likely to be followed by significant performance improvements.

3. Data, sample selection, and research methods

3.1. Data sources and classification of managerial turnovers

Our study is based on all of the non-financial firms listed on the Shanghai and Shenzhen Stock Exchanges from 1995 to 2001. We obtain our data on CEO turnover from the China Corporate Governance Research Database (CCGRD) developed by the GTA Information Technology Co. Persons holding the formal title of either General Manager or Chief Executive are identified as CEOs. Table 1 documents the extent of CEO turnover for all of the listed firms. Of the 1136 non-financial firms listed on the exchanges at

Table 2

Stated reasons for CEO turnover in China's listed enterprises

	Full sample		Consolidated sample	
	Number	Percentage of sample	Number	Percentage of sample
1. Change of job	442	31.73%	406	31.45%
2. Retirement	35	2.51%	33	2.56%
3. Contract expiration	255	18.31%	247	19.13%
4. Change in controlling shareholders	78	5.60%	78	6.04%
5. Resignation	175	12.56%	154	11.92%
6. Dismissal	64	4.59%	53	4.11%
7. Health	44	3.16%	41	3.18%
8. Personal reasons	4	0.29%	4	0.31%
9. Corporate governance reform	207	14.86%	198	15.34%
10. Legal disputes	11	0.79%	10	0.77%
11. No reason given	64	4.59%	56	4.34%
12. Completion of acting duties	14	1.01%	11	0.85%
Total number of observations	1393	100.00%	1291	100.00%

This table reports the frequencies of the stated reasons for CEO turnovers in China's listed firms between 1995 and 2001. The full sample refers to the total number of CEO turnovers, including multiple turnovers during a single year. The consolidated sample is obtained by consolidating multiple changes in a year into one single observation.

Table 3

Destinations of departing CEOs

Destination	No. of observations	Percentage of sample
1. Information unavailable	265	28.46%
2. New position ranked lower than CEO position	199	21.37%
3. CEO position taken up at an unlisted, smaller firm	11	1.18%
4. Arrested or under investigation	27	2.90%
5. Important government position taken up	26	2.79%
6. Remaining as board chairman or vice chairman	158	16.97%
7. Promoted to board chairman or vice chairman	173	18.58%
8. CEO position taken up at another listed firm or parent firm	64	6.87%
9. Health problems	5	0.54%
10. Going abroad to study	3	0.32%
Total	931	100.00%

This table reports the destinations of departing CEOs for which the stated reasons for turnovers fall under the categories of change of job, contract expiration and resignation, dismissal, personal reasons, completion of acting duties, and no reason given. This information is obtained from the China Economic News Database and the China's Listed Firms Database provided by Infobank, the annual reports of China's listed firms, the China's Listed Firms Database provided at <http://stock.sina.com.cn/>, and internet materials available at <http://www.baidu.com>.

the end of 2001, 755 had undergone at least one turnover between 1995 and 2001; the total number of turnovers was 1393. There was a significant increase in the annual turnover rate during the period, rising from 15.31% in 1995 to 27.64% in 2001. The average annual turnover rate is 25.51%, which is significantly higher than the rates documented by Denis and Denis (1995) and Huson et al. (2004) for U.S. firms (12.7% and 9.3%, respectively) and Kang and Shivdasani (1995) for Japanese firms (12.88%). In line with previous studies, we consolidate multiple turnovers for a given enterprise in a given fiscal year. Thus, if a firm underwent two or more turnovers in the same year, only one is recorded. This reduces the number of turnovers from 1393 to 1291 and the average annual turnover rate from 25.51% to 23.64% in our consolidated sample.

The CCGRD provides information on the reasons stated for a turnover (if any): (1) change of job, (2) retirement, (3) contract expiration, (4) change in controlling shareholders, (5) resignation, (6) dismissal, (7) health, (8) personal reasons, (9) corporate governance reform, (10) legal disputes, (11) no reason given, and (12) completion of acting duties. Table 2 summarizes the distribution of turnovers across different stated reasons for the full and consolidated samples. In the full sample, change of job is the most commonly stated reason, accounting for 31.73% of the turnovers. The second most commonly stated reason is contract expiration, which accounts for 18.31% of the turnover, and the third is corporate governance reform (14.86%).⁷ Only 4.59% the turnovers fall in the dismissal category. Our consolidated sample shows a similar distribution of turnovers across different stated reasons.

To assess the effectiveness of the corporate control exercised by shareholders, we distinguish between forced and non-forced turnovers because only the former reflect the disciplinary efforts of shareholders. As many researchers (e.g., Denis and Denis, 1995; Kang and Shivdasani, 1995; Huson et al., 2004) have recognized, it is difficult to distinguish between forced and non-forced turnovers based on publicly available information because very few press reports indicate clearly whether a turnover was voluntary or forced. We face similar identification problems. For example, a turnover for which the stated reason is a job change can either be forced or non-forced depending on the new job that the departing manager takes up. The turnover is likely to be non-forced if the new job is a better one, but forced if the new job is less desirable than the old one.

We adopt the following procedures and assumptions to identify forced turnovers. We first exclude from the forced turnover sample the 360 turnovers for which the stated reasons are retirement, health (including death), corporate governance reform, and a change in controlling shareholders.⁸ Additionally, we exclude those cases that involve legal disputes because these turnovers are not directly initiated by state shareholders as a result of their normal monitoring activities. For the remaining turnovers, we trace the destinations of the departing managers to ascertain their nature. We exclude those turnovers in which the departing managers subsequently take up a position that is better than their previous managerial position. Our search for the destinations of departing CEOs is based on five data sources: the annual reports of the firms, Infobank's China Economic News Database, Infobank's China's Listed Firms Database, China's Listed Firms Database, which is available at <http://www.sina.com.cn>, and internet materials available at <http://www.baidu.com>. The results are reported in Table 3.

Of the 931 turnovers in our original sample, we excluded 456 cases that we considered to be voluntary departures. These include 26 turnovers in which the CEOs left their firms to take up important government positions such as city governors and provincial leaders; 158 cases in which the departing CEOs retained their positions as board chairman or vice-chairman; 173 turnovers in which the CEOs were promoted to the position of board chairman or vice-chairman; 64 cases in which the departing CEO took up a new managerial position at another listed firm or at the listed firms' parent group; five cases in which they left

⁷ This refers to two types of turnovers that are unique to China's listed firms. The first type of turnover involves the division of the combined position of chairperson of the board of directors and CEO into two separate positions (i.e., the CEO resigns from his managerial position, but retains the chairperson position) with the stated objective of improving corporate governance. The second type of turnover refers to those that result from regulations imposed by the China Securities Regulatory Commission in 1999 that require CEOs who also hold senior managerial positions in the parent firms to retire from either position to minimize the conflict of interest between holding firms and minority shareholders.

⁸ We exclude those turnovers for which the stated reason was corporate governance reform because the departing CEOs either retained their positions as chairpersons of the board of directors or their key managerial positions in the parent firms.

Table 4
Summary statistics of variables

Variables	Number	Mean	Standard Deviation	Minimum	Maximum
<i>Panel A: Control variables</i>					
List	3916	3.763	2.211	1.000	10.000
Age	3916	48.242	7.188	26.000	72.000
Tenure	3916	2.435	1.506	0.000	11.500
Duality	3916	0.283	0.451	0.000	1.000
Leverage	3916	0.000	0.166	−0.457	0.615
Size	3916	20.815	0.868	18.543	24.784
State	3916	0.140	0.347	0.000	1.000
<i>Panel B: Performance variables</i>					
ROA	3916	0.040	0.056	−0.288	0.219
IROA	3916	−0.003	0.054	−0.325	0.209
MROA	3916	0.047	0.051	−0.271	0.240
MIROA	3916	0.001	0.050	−0.325	0.191

This table reports the number of observations, the mean, standard deviation, minimum, and maximum values for the variables used in our models. *List* is the number of years that a firm has been listed. *Age* is the age of a CEO. *Tenure* is the number of years a CEO has been in his or her current position. *Duality* is a dummy variable that equals 1 if a CEO is also a board chairperson and 0 otherwise. *Leverage* is the industry-adjusted capital structure of a listed firm, measured as the ratio of the book value of total debt over the book value of total assets less the median ratio in its industry. *Size* is the size of a listed firm, measured as the natural logarithm of the book value of total assets. *State* takes the value of 1 if a firm has a higher percentage of state shares relative to legal person shares, and 0 otherwise. *ROA* is the unadjusted return on assets, measured as the ratio of pretax operating income to the beginning period book value of total assets. *IROA* is the industry-adjusted return on assets, measured as ROA less the median value of ROA for all firms in the same industry. *MROA* is the moving average of ROA over a CEO's tenure. *MIROA* is the moving average of IROA over a CEO's tenure.

because of health problems; 27 cases in which they were arrested or placed under legal investigation⁹; and three cases in which they were reported as having gone abroad for further education.

We treat the remaining 475 turnovers as forced. These include 199 cases in which the departing CEOs took up new positions that were less prestigious than their former positions, 11 cases in which they took up managerial positions at unlisted and/or smaller-sized firms, and 265 cases in which we were unable to trace the destinations of the departing CEOs. We treat the turnovers for which no such information is available as forced because our data sources provide comprehensive information on the business activities of the major firms in China. It is highly unlikely that there would be no information available if a departing CEO were to take up a position better than his/her previous role. For this sample of forced turnovers, we exclude 77 cases in which the CEO's tenure was less than one year because CEOs with such a short tenure are unlikely to have left on account of poor performance. We add to our turnover sample two cases for which the stated reason was retirement, but the age of the departing CEO was less than 55. Our final sample contains 400 cases of forced turnovers, which represents 30.98% of all turnovers. This proportion is higher than the rates reported by Denis and Denis (1995) and Huson et al. (2004) for U.S. firms (13.3% and 18% respectively) and by Kang and Shivdasani (1995) for Japanese firms (24.14%).

3.2. Regression models for determinants of turnovers

We employ a logit regression model to examine the sensitivity of turnover to firm performance.

$$\text{Probability(Forced CEO turnover)} = f(\text{Performance, Control Variables}) \quad (1)$$

The dependent variable is a dummy variable that equals 1 if there was a forced turnover during the period in question. *Performance* denotes four performance measures. The first is the unadjusted return on assets (ROA), measured as the ratio of year-end pretax operating income to the beginning period book value of total assets. The second is the industry-adjusted return on assets (IROA), measured as ROA less the median value of ROA for all firms in the same industry.¹⁰ These two variables measure the recent accounting performance of a listed firm. In addition, we also use the three-year moving average of ROA over a CEO's tenure (MROA) and the three-year moving average of IROA over a CEO's tenure (MIROA) as two other measures of a CEO's performance. As previously discussed, the CEO turnover decisions in China's listed firms are made by bureaucrats who are ultimately concerned with their job security and employment prospects. As bureaucrats are expected to fulfill their assigned responsibilities by following a set of fixed rules and procedures, their decisions tend to be slow and pressure-driven to maintain prudence and conformity (Merton, 1940; Fligstein, 1987). Average performance is a lagging indicator of a manager's overall performance. Li and Zhou (2005) provide evidence that China's central government tends to evaluate provincial leaders by the average economic performance over their tenure rather than annual performance. We also expect that the shareholders of listed Chinese firms also rely more on average performance than on annual performance when evaluating their CEOs.

⁹ These 27 cases are not included the category of legal disputes in CSMAR's database because the stated reasons for these turnovers are related to legal disputes.

¹⁰ We use the industry classification system of the Chinese Securities and Regulatory Commission, which classifies all listed firms into 13 industries.

We follow [Huson et al. \(2001\)](#) in using current year performance if a turnover occurred in the last six months of the year and previous year performance if a turnover occurred in the first six months of the year. The use of a half-year lag allows us to partially deal with the issue of endogeneity. Furthermore, we use half-year rather than full-year lag performance measures because the average tenure of CEOs in China's listed firms is only 2.435 years (see [Table 4](#)).

We focus on accounting performance alone, rather than on stock price performance, for two reasons. First, stock prices are not good indicators of the performance of CEOs because of the prevalence of noise trading in China's emerging stock market. During the period of our investigation (1995–2001), the turnover velocity of stocks, defined as the total transaction volume divided by the total number of tradable shares, was about 500% ([Wong, 2006](#)). [Morck et al. \(2000\)](#) also find that 80% of the stocks listed on China's two exchanges move in the same direction, which suggests that the country's stock prices tend to capitalize on market-level information rather than on firm-specific information. Second, state-owned shares in China are not tradable on the stock exchanges, which suggest that state shareholders are less inclined to discipline their CEOs on the basis of stock prices.

We introduce a set of control variables to eliminate possible confounding effects. First, we control for the departing CEOs' age (*Age*), as earlier studies have found that managerial turnover is positively related to age (e.g., [Kang and Shivdasani, 1995](#)). Second, prior studies have shown that managerial turnover is negatively related to both a manager's number of years of service (e.g., [Kang and Shivdasani, 1995](#)) and whether he or she also holds the position of board chairperson ([Dalton et al., 1998](#)). Therefore, we control for the number of years that a CEO has served in a listed firm (*Tenure*) and the existence of a duality structure (*Duality*). Third, we control for three firm characteristics: capital structure, size, and the ownership nature of the largest shareholders. We control for capital structure (*Leverage*) and firm size (*Size*) because debtors play a role in disciplining managers ([Jensen, 1986](#)), and managers are more entrenched in larger firms ([Dalton and Kesner, 1983](#)).¹¹ In addition, [Sun and Tong \(2003\)](#) and [Wang et al. \(2004\)](#) show that the performance of a listed Chinese firm is worse if it is controlled by holders of state shares rather than holders of legal person shares. Although recent studies show that the official classifications of shares fail to identify the true identity of state shareholders ([Liu and Sun 2005](#); [Delios et al., 2006](#)), we nevertheless create a dummy variable (*State*) to indicate whether a listed firm is controlled by state shareholders or legal person shareholders. *State* takes the value of 1 if a firm has a greater percentage of state shares relative to legal person shares, and 0 otherwise. Finally, a series of dummy variables indicating the year of the turnover (*Year_dum*) and a variable indicating the number of years a listed firm has been listed (*List*) are also used to control for time-specific factors.

We estimate the coefficients for the profit- and loss-making samples separately. A listed firm is classified as profit-making if its current pre-tax operating income is non-negative and loss-making if its current pre-tax operating income is negative.

3.3. Post-turnover performance changes and mean reversion

In our analysis of the post-turnover performance changes, we follow [Huson et al. \(2004\)](#) in using control-group, adjusted-performance measures to isolate the component of a performance change that is attributable to the mean reversion of accounting performance. CEOs may attempt to manage reported earnings. Outgoing CEOs may have the incentive to increase reported earnings to save their jobs, and incoming CEOs may have the incentive to reduce reported earnings immediately upon taking office with the aim of blaming the poor performance on their predecessors. To alleviate the possible biases that are caused by earnings management, we follow [Denis and Denis \(1995\)](#) in using firm performance in both year 0 and year –1 as the benchmarks for evaluating post-turnover performance changes. Depending on the different benchmarks (year 0 or year –1), we create two separate control groups in which the control firms are matched on the basis of firm performance in the corresponding year. We first match each firm that has had a CEO turnover to a firm in the same industry whose firm performance in the corresponding year was within $\pm 20\%$ of the sample firm's performance but with no turnover occurring in the event year and in the three years preceding the turnover. If multiple firms satisfy these criteria, then we include the firm whose asset size is closest to that of the turnover firm as the control firm. Of our forced turnover sample, only 285 turnovers have complete financial data for the seven years surrounding the turnovers. For the control group in which year 0 (year –1) was used as the benchmark, we find only 158 (137) firms that are matched on the basis of both performance and industry. We then match performance within the filter bound, regardless of industry, for the remaining turnovers and obtain another 112 (138) performance-matched control firms. In our analysis of the changes in performance following managerial turnovers, we exclude 15 (10) turnover firms from the sample because they had no matching control firms.

4. Empirical results

4.1. Sample selection and descriptive statistics

There are a total of 5461 firm-year observations from 1995 to 2001 after excluding those firm-year observations that involve firms in the finance industry and firms listed only in the B-share market.¹² To focus on the monitoring activities of state shareholders, we exclude 615 firm-year observations for which the listed firms have private shareholders as the ultimate

¹¹ The data on capital structure and size are also obtained from the CSMAR Financial Databases. *Leverage* is measured by the industry-adjusted ratio of debt over total assets, and *Size* is measured by the logarithm of sales.

¹² The B-share market was formerly open to foreign investors, but not to domestic investors, although individual domestic investors have been allowed to invest in B-shares since February 2001.

controlling shareholders, because their objective function is likely to be different from that of state shareholders.¹³ We also exclude from this data 48 firm-year observations that involve firms with negative equity and 442 observations that involve firms which listed for less than six months. Our ROA and *Leverage* data have some extreme values. To minimize the possibility of biases in our results due to outliers, we winsorize these two variables at the 1st and 99th percentiles. After further eliminating observations with missing values in the variables included in our regression analysis, our final sample consists of 3916 firm-year observations.

Table 4 shows the summary statistics of the variables included in our model.

Our sample firms have been listed, on average, for 3.763 years. The average age and length of tenure of the managers are 48.242 and 2.435 years, respectively. Duality is not a common feature of the listed firms' corporate governance structure, with only 28.3% of CEOs also serving as board chairpersons. The average ROA for all of the listed firms is 4.0%, and the average MROA is 4.7%, which suggests that, on average, our sample firms experienced a performance decline during the study period.

Table 5 shows the average turnover rates and the turnover rates by quartiles of performance for all of the sample firms, the profit-making firms, and the loss-making firms. For our four performance measures, the average turnover rates of the loss-making firms are approximately 3.9% higher than those of the profit-making firms. Additionally, there is a greater dispersion of turnover rates between the best-performing and worst-performing firms if those firms are loss-making rather than profit-making. For example, in panel D, in which the firms are sorted by MROA, the best performing–worst performing turnover differential is 7.9% for loss-making firms but only 2.1% for profit-making firms. This seems to suggest that the turnover in loss-making firms is more sensitive to financial performance than it is in profit-making firms.¹⁴

4.2. Regression results on the determinants of turnovers

Two estimation issues are worth noting before we move to a discussion of our results. First, the *t*-statistics for MROA (MIROA) are potentially overstated, as there is a lack of independence across observations for a given CEO. We therefore estimate the model using the Huber/White/sandwich robust method with adjustment for within-cluster correlations for each CEO (Wooldridge, 2002).¹⁵ Second, we conduct a Pearson correlation test and find that all of the correlations among the variables included in our models are lower than 0.5. To further ensure that multicollinearity is not a problem, we calculate the variance inflation factors (VIF) for each independent variable. These VIFs never exceed 2, which suggest that our models are not prone to serious multicollinearity problems.

Tables 6 and 7 report our estimates of the performance–turnover sensitivities for the profit- and loss-making firms, respectively.¹⁶ For the profit-making samples, the coefficients for our four performance measures are statistically insignificant. For the loss-making firms, the coefficients for ROA and IROA are significantly negative at 10% and 5%, and those for MROA and MRIOA are significantly negative at 1%. These results are consistent with our hypothesis that state shareholders have a greater incentive to discipline their CEOs on the basis of financial performance when their firms are undergoing financial losses rather than making profits. Among the loss-making firms, the relationships between performance and turnover are statistically significant at the 10% and 5% level for the annual performance models and at the 1% level for average the performance models. This suggests that turnovers in Chinese listed firms are more sensitive to average performance than to annual performance. It is interesting to note that the coefficients for the control variables of *Duality* and *Tenure* are significantly negative at the 1% level in the sample of profit-making firms. For loss-making firms, the coefficients for *Duality* become statistically insignificant, and those for *Tenure* are statistically significant at 5% only in the two regressions in which annual performance measures are used. *Duality* and *Tenure* are measures of a CEO's formal and informal power in a listed firm. The results suggest that CEO turnover in profit- versus loss-making firms is associated with different political dynamics in which a CEO's power has different effects on the possibility of turnover.

4.3. Additional tests and robustness checks

We offer evidence of a non-linear relationship between performance and turnover and explain such relationship by the existence of a time-varying objective function whereby state shareholders attach greater importance to the objective of improving firm performance when their firms are incurring financial losses rather than making profits. Our hypothesis has additional implications for the sensitivities of performance to turnover in profit- and loss-making firms. When firms are making profits, state shareholders tend to place less emphasis on the objective of improving firm performance and are left with more room to serve different political and social objectives. The performance–turnover relationship in the profit-making firms is then likely to be

¹³ We obtained our data on private owners for the 1998–2001 period from the Ultimate Ownership of China's Listed Firms Dataset provided by Sinofin. For observations before 1998, we collected the information from the annual reports of the firms, Infobank's China Economic News Database, Infobank's China's Listed Firms Database, the China's Listed Firms Database available at <http://stock.sina.com.cn>, and internet materials available at <http://www.baidu.com>.

¹⁴ It should be noted that the performance spreads between the best-performing and worst-performing firms for the loss-making samples are greater than the corresponding spreads for the profit-making samples. The most obvious case is in Panel B in which performance is measured by IROA: the performance spread is 9.2% for profit-making firms, but 13.5% for loss-making firms. The best performing–worst performing turnover rate differential therefore has to be interpreted by taking the differences in performance spread into consideration. Nevertheless, the ratio of the best performing–worst performance turnover rate differential to performance spread is relatively larger in the loss-making sample than it is in the profit-making sample. Furthermore, in Panel C, in which the performance spreads of both the profit- and loss-making samples are comparable, there is still a substantial best performing–worst performing turnover rate differential between the profit- and loss-making firms.

¹⁵ Consistent results can be obtained if we make an adjustment for the within-cluster correlation for each firm.

¹⁶ For brevity, the year dummy coefficients are not reported.

Table 5

Turnovers rates and performance of China's listed firms

		(1) = lowest performance	(2)	(3)	(4)	(5) = highest performance	Overall turnover rate	Performance spread (5)–(1)	Turnover rate spread (5)–(1)	T test of Turnover rate spread
Panel A: Observations are sorted according to ROA										
All firms	median ROA	–0.010	0.020	0.042	0.063	0.100		0.110		
(obs.: 3916)	turnover rate	0.114	0.078	0.054	0.059	0.068	0.074		0.046	3.184***
Profit-making firms	median ROA	0.011	0.031	0.049	0.070	0.105		0.094		
(obs.:3340)	turnover rate	0.082	0.082	0.052	0.061	0.064	0.069		0.018	1.259
Loss-making firms	median ROA	–0.128	–0.065	–0.027	–0.009	–0.003		0.125		
(obs.: 576)	turnover rate	0.158	0.078	0.129	0.122	0.052	0.108		0.106	2.662***
Panel B: Observations are sorted according to IROA										
All firms	median IROA	–0.056	–0.022	0.000	0.020	0.055		0.111		
(obs.: 3916)	turnover rate	0.110	0.082	0.059	0.059	0.063	0.074		0.047	3.357***
Profit-making firms	median IROA	–0.031	–0.009	0.006	0.025	0.060		0.092		
(obs.:3340)	turnover rate	0.096	0.072	0.052	0.057	0.066	0.069		0.030	2.009**
Loss-making firms	median IROA	–0.171	–0.102	–0.073	–0.054	–0.036		0.135		
(obs.: 576)	turnover rate	0.165	0.096	0.122	0.087	0.069	0.108		0.096	2.293**
Panel C: Observations are sorted according to MROA										
All firms	median MROA	–0.006	0.026	0.047	0.069	0.107		0.113		
(obs.: 3916)	turnover rate	0.110	0.087	0.055	0.054	0.066	0.074		0.044	3.046***
Profit-making firms	median MROA	0.016	0.038	0.054	0.075	0.113		0.097		
(obs.:3340)	turnover rate	0.099	0.064	0.051	0.058	0.070	0.069		0.028	1.869*
Loss-making firms	median MROA	–0.088	–0.040	–0.013	–0.001	0.016		0.103		
(obs.: 576)	turnover rate	0.148	0.157	0.114	0.070	0.051	0.108		0.097	2.482**
Panel D: Observations are sorted according to MIROA										
All firms	median MIROA	–0.052	–0.018	0.002	0.022	0.059		0.111		
(obs.: 3916)	turnover rate	0.111	0.079	0.057	0.054	0.070	0.074		0.041	2.829***
Profit-making firms	median MIROA	–0.030	–0.006	0.009	0.027	0.063		0.093		
(obs.:3340)	turnover rate	0.096	0.067	0.051	0.054	0.075	0.069		0.021	1.371
Loss-making firms	median MIROA	–0.135	–0.083	–0.057	–0.042	–0.024		0.111		
(obs.: 576)	turnover rate	0.157	0.165	0.078	0.061	0.078	0.108		0.079	1.873*

This table reports the average fraction of CEOs involuntarily replaced by quartiles of performance for all sample firms, profit-making firms, and loss-making firms. The observations are sorted into five classes according to their performance (1 = low, 5 = high). *ROA* is the unadjusted return on assets, measured as the ratio of pretax operating income to the book value of total assets at the beginning of the period. *IROA* is the industry-adjusted return on assets, measured as *ROA* less the median value of *ROA* for all firms in the same industry. *MROA* is the moving average of *ROA* over a CEO's tenure. *MIROA* is the moving average of *IROA* over a CEO's tenure. The performance spread is the difference in median performance between the best-performing firms and the worst-performing firms. Turnover rate spread is the best-performing and worst-performing turnover rate differential, and it is tested using a two-tailed *t*-test. *, **, and *** denote significance levels of 10%, 5%, and 1%, respectively.

Table 6

Logit regression estimation of turnover–performance links in China's profit-making firms

	(1)	(2)	(3)	(4)
List	0.108 (3.298)***	0.107 (3.301)***	0.108 (3.200)***	0.109 (3.317)***
Age	0.046 (4.551)***	0.046 (4.491)***	0.046 (4.561)***	0.046 (4.546)***
Tenure	−0.266 (4.744)***	−0.267 (4.767)***	−0.262 (4.687)***	−0.263 (4.691)***
Duality	−1.183 (5.377)***	−1.177 (5.353)***	−1.183 (5.368)***	−1.182 (5.365)***
Leverage	−0.140 (0.281)	−0.229 (0.456)	−0.137 (0.267)	−0.123 (0.238)
Size	−0.295 (3.148)***	−0.293 (3.128)***	−0.292 (3.057)***	−0.294 (3.092)***
State	0.274 (1.384)	0.266 (1.344)	0.280 (1.419)	0.278 (1.412)
ROA	−1.898 (0.874)			
IROA		−3.032 (1.364)		
MROA			−1.473 (0.678)	
MIROA				−1.344 (0.627)
Constant	0.899 (0.446)	0.813 (0.403)	0.816 (0.403)	0.787 (0.386)
Observations	3340	3340	3340	3340
Pseudo R-squared	0.067	0.068	0.067	0.067

This table reports the logit regression estimation of the probabilities of forced CEO turnovers in China's profit-making firms. The sample period is from 1995 to 2001. *List* is the number of years that a firm has been listed. *Age* is the age of a CEO. *Tenure* is the number of years a CEO has been in his or her current position. *Duality* is a dummy variable that equals 1 if a CEO is also a board chairperson and 0 otherwise. *Leverage* is the industry-adjusted capital structure of a listed firm, measured as the ratio of the book value of total debt over the book value of total assets less the median ratio in this industry. *Size* is the size of a listed firm, measured as the natural logarithm of the book value of total assets. *State* takes the value of 1 if a firm has a higher percentage of state shares relative to legal person shares, and 0 otherwise. *ROA* is the unadjusted return on assets, measured as the ratio of pretax operating income to the beginning period book value of total assets. *IROA* is the industry-adjusted return on assets, measured as ROA less the median value of ROA for all firms in the same industry. *MROA* is the moving average of ROA over a CEO's tenure, and *MIROA* is the moving average of IROA over a CEO's tenure. *, **, and *** denote significance levels of 10%, 5%, and 1%, respectively.

sensitive to the level of importance that different state shareholders attach to those social and political objectives. Specifically, those shareholders who attach greater importance to social and political objective have less incentive to discipline relatively poorly performing CEOs than do shareholders who attach relatively less importance to them. As a result, the former type of shareholder exhibits a lower level of performance–turnover sensitivity than does the latter. When firms incur financial losses, state shareholders tend to place more emphasis on improving firm performance. When that objective becomes overriding and dominates other social and political objectives, different state shareholders exhibit similar performance–turnover sensitivities, even though they have different performance–turnover sensitivities when the firms are making profits.

To provide additional evidence to support our hypothesis, we examine the performance–turnover sensitivities for different state shareholders who have different incentives to serve political and social objectives when their firms are making profits. First, we expect the shareholders of firms owned by the central government to place greater emphasis on social and political objectives than those of firms owned by local governments.¹⁷ The central government in China tends to retain controls over firms in industries that are considered to be strategically and politically important (such as utilities, telecommunications, and energy) (Nee et al., 2007). Given that prices in these industries tend to be regulated, it is likely that the state shareholders of these firms would attach greater importance to social and political objectives than to improving firm performance. Second, fiscal decentralization in China has provided local governments with a greater incentive to improve economic performance. Feltenstein and Iwata (2005), for example, offer evidence that this fiscal decentralization has induced local governments to place greater emphasis on economic

¹⁷ Prior studies (Chen and Wang, 2004; Firth et al., 2006; Chen et al., 2006) have examined whether there are any differences in monitoring activities between firms that are ultimately owned by government agencies (GAs) and state-owned commercial firms (SCFs). The evidence is far from conclusive. Firth et al. (2006) and Chen and Wang (2004) offer evidence that SCFs are more effective than GAs with respect to the monitoring of managers, whereas Chen et al. (2006) show that the latter are more effective than the former. These conflicting results may result from the differences between, as well as the difficulty involved in, the identifications of the ultimate ownership of the listed Chinese firms. Firth et al. (2006) use the official share classification as a proxy for ownership identity, whereas Chen et al. (2006) and Chen and Wang (2004) focus on the identity of the first-level and ultimate owners, respectively. Classifications based on first-level owners fail to identify the true ultimate owners of listed firms. Although classifications based on ultimate owners can distinguish clearly whether the ultimate owners are private or state entities, it is very difficult to determine whether a listed firm is ultimately owned by a GA or SCF, because a SCF is by definition ultimately owned by the government. Strictly speaking, no listed firm is ultimately owned by a state-owned firm. In fact, listed firms are inconsistent in their own reporting of their ultimate owners, as revealed by the database on the Ultimate Ownership of China's Listed Companies provided by Sinofin. Some listed firms sometimes reported that they were ultimately owned by commercial firms and sometimes that they were ultimately owned by governments, even though they had undergone no changes in ownership.

Table 7

Logit regression estimation of turnover–performance links in China's loss-making firms

	(1)	(2)	(3)	(4)
List	0.138 (1.748)*	0.143 (1.797)*	0.107 (1.327)	0.115 (1.426)
Age	0.043 (2.305)**	0.042 (2.269)**	0.041 (2.184)**	0.040 (2.173)**
Tenure	−0.193 (2.003)**	−0.191 (1.973)**	−0.155 (1.622)	−0.155 (1.602)
Duality	0.100 (0.301)	0.124 (0.371)	0.109 (0.325)	0.151 (0.449)
Leverage	−0.401 (0.572)	−0.438 (0.631)	−0.692 (0.999)	−0.715 (1.034)
Size	−0.034 (0.204)	−0.038 (0.232)	0.044 (0.263)	0.029 (0.175)
State	−0.016 (0.042)	−0.023 (0.059)	−0.043 (0.112)	−0.047 (0.121)
ROA	−4.710 (1.895)*			
IROA		−4.866 (1.999)**		
MROA			−8.800 (3.304)***	
MIROA				−8.668 (3.294)***
Constant	−4.512 (1.211)	−4.591 (1.249)	−5.880 (1.583)	−5.984 (1.636)
Observations	576	576	576	576
Pseudo R-squared	0.044	0.045	0.060	0.060

This table reports the logit regression estimation of the probabilities of forced CEO turnovers in China's loss-making firms. The sample period is from 1995 to 2001. *List* is the number of years that a firm has been listed. *Age* is the age of a CEO. *Tenure* is the number of years a CEO has been in his or her current position. *Duality* is a dummy variable that equals 1 if a CEO is also a board chairperson and 0 otherwise. *Leverage* is the industry-adjusted capital structure of a listed firm, measured as the ratio of the book value of total debt over the book value of total assets less the median ratio in this industry. *Size* is the size of a listed firm, measured as the natural logarithm of the book value of total assets. *State* takes the value of 1 if a firm has a higher percentage of state shares relative to legal person shares, and 0 otherwise. *ROA* is the unadjusted return on assets, measured as the ratio of pretax operating income to the beginning period book value of total assets. *IROA* is the industry-adjusted return on assets, measured as ROA less the median value of ROA for all firms in the same industry. *MROA* is the moving average of ROA over a CEO's tenure, and *MIROA* is the moving average of IROA over a CEO's tenure. *, **, and *** denote significance levels of 10%, 5%, and 1%, respectively.

performance relative to political objectives (controlling inflation) in their objective functions. We therefore expect that the listed firms owned by local governments will tend to display a stronger incentive to discipline poorly performing CEOs than will firms owned by the central government.

In addition to different levels of government, we also expect that firms in regions with different fiscal conditions will have different incentives to serve social and political objectives. Bai et al. (2000) show theoretically that local governments in regions with poor fiscal conditions have a greater incentive to use SOEs to serve their social and political objectives. Chen et al. (2004) also show that listed Chinese firms appoint more politically connected CEOs if they are located in regions with larger fiscal deficits. We therefore expect the state shareholders of listed firms in regions with larger fiscal deficits to attach more importance to social and political objectives than the shareholders of firms in regions with better fiscal conditions, and thus display weaker performance–turnover sensitivities.

We obtain our ultimate ownership data for the 1998–2001 period from the ultimate ownership of Chinese listed firm databases provided by Sinofin and the WIND Information Corporation.¹⁸ We double-check these data and also hand-collect additional data for the 1995–1997 period from the same data sources that we used to collect our data on the destinations of departing CEOs. We trace the ultimate owners of the listed firms and find that 11.9% are privately-owned, 14.5% are centrally-owned, and 66.8% are locally owned. There are 353 observations (6.8%) for which we cannot ascertain the ownership nature. We create a dummy variable (LOCAL) that equals 1 if a listed firm is owned by a local government and 0 if it is owned by the central government, and we collect the data on the fiscal conditions of 34 province-level administrative units in China from the Statistical Yearbook of China. We create another dummy variable (DEFICIT) that equals 1 if the region's budgetary deficit is larger than the median level of the country. We include these two dummy variables (LOCAL and DEFICIT) and their interaction terms with performance measures to capture the effects of government ownership and fiscal conditions on the sensitivity of turnover to performance. As turnover in China's listed firms is more sensitive to average performance measures than to annual performance measures, Table 8 reports only the results obtained using MROA and MIROA as the performance measures.

The results are consistent with our expectations. For the profit-making sample, the coefficients for LOCAL are significantly positive, which suggest that firms owned by local governments tend to have a higher incidence of CEO turnover. The coefficients for the interaction terms between LOCAL and the two performance measures are significantly negative, which indicates the existence

¹⁸ As suggested by Kato and Long (2006), the database provided by Sinofin can only distinguish between state and private ultimate owners. The database provided by WIND information offers more detailed classifications that allow us to distinguish between firms controlled by different levels of government.

Table 8

Logit regression estimation of turnover–performance links in China's listed firms with interactions

	Profit-making firms			Loss-making firms	
	(1)	(2)		(3)	(4)
List	0.096 (2.816)***	0.099 (2.955)***	List	0.078 (0.957)	0.084 (1.030)
Age	0.050 (4.714)***	0.050 (4.710)***	Age	0.048 (2.462)**	0.048 (2.462)**
Tenure	−0.255 (4.290)***	−0.255 (4.278)***	Tenure	−0.143 (1.434)	−0.143 (1.420)
Duality	−1.174 (5.136)***	−1.181 (5.180)***	Duality	0.033 (0.095)	0.075 (0.220)
Leverage	−0.117 (0.217)	−0.069 (0.126)	Leverage	−1.070 (1.456)	−1.064 (1.449)
Size	−0.333 (3.258)***	−0.339 (3.318)***	Size	0.066 (0.355)	0.050 (0.275)
LOCAL	0.905 (2.513)**	0.532 (2.476)**	LOCAL	0.103 (0.237)	0.165 (0.276)
DEFICIT	−0.123 (0.484)	0.088 (0.551)	DEFICIT	−0.259 (0.634)	−0.274 (0.480)
MROA	2.999 (0.679)		MROA	−7.778 (1.476)	
LOCAL*MROA	−8.308 (1.799)*		LOCAL*MROA	−0.365 (0.068)	
DEFICIT*MROA	4.888 (1.356)		DEFICIT*MROA	−2.434 (0.492)	
MIROA		3.106 (0.737)	MIROA		−8.604 (1.739)*
LOCAL*MIROA		−8.652 (1.881)*	LOCAL*MIROA		0.403 (0.076)
DEFICIT*MIROA		6.172 (1.691)*	DEFICIT*MIROA		−1.572 (0.317)
Constant	0.818 (0.371)	1.031 (0.469)	Constant	−6.439 (1.623)	−6.590 (1.695)*
Observations	3127	3127	Observations	497	497
Pseudo R-squared	0.074	0.074	Pseudo R-squared	0.068	0.068

This table reports the logit regression estimation of the probabilities of forced CEO turnovers in China's profit- and loss-making firms with interactions. The sample period is from 1995 to 2001. *List* is the number of years that a firm has been listed. *Age* is the age of a CEO. *Tenure* is the number of years a CEO has been in his or her current position. *Duality* is a dummy variable that equals 1 if a CEO is also a board chairperson and 0 otherwise. *Leverage* is the industry-adjusted capital structure of a listed firm, measured as the ratio of the book value of total debt over the book value of total assets less the median ratio in this industry. *Size* is the size of a listed firm, measured as the natural logarithm of the book value of total assets. *LOCAL* is a dummy variable that equals 1 if a listed firm is owned by a local government and 0 if it is owned by the central government. *DEFICIT* is a dummy variable that equals 1 if the region's budgetary deficit is larger than the median level of the country. *MROA* is the moving average of ROA (Return on Assets) over a CEO's tenure, and *MIROA* is the moving average of IROA (Industry-adjusted ROA) over a CEO's tenure. *, **, and *** denote significance levels of 10%, 5%, and 1%, respectively.

of a more negative relationship between firm performance and turnover for firms owned by local governments. The coefficients for *DEFICIT* are statistically insignificant, but the coefficients for the interaction terms between *DEFICIT* and the two performance measures are positive and significant when *MIROA* is used as the performance measure, which suggests that firms in regions with poorer fiscal conditions tend to exhibit weaker performance–turnover sensitivities. For the loss-making sample, the coefficients for *LOCAL* (*DEFICIT*) and its interaction terms with the two performance measures are statistically insignificant. Overall, the results are consistent with our hypothesis about the existence of a time-varying objective function whereby state shareholders attach greater importance to improving firm performance when their firms are incurring financial losses rather than making profits.¹⁹

Some earlier studies have suggested that net income is an important decision factor in motivating the actions of boards of directors (e.g., Jensen and Murphy, 1990; Kaplan, 1994). Therefore, we replicate our regression equations using net income rather than pretax operating income as the performance measure. These results are consistent with those based on pretax operating income performance.

¹⁹ As Powers (2005) discusses, interpreting the interaction terms in logit models can be problematic because of model non-linearity. We follow McNeil et al. (2004) in using the delta method to check the statistical significance of the predicted probability of turnovers and the sensitivities with respect to a change in performance. By assuming that all other variables are equal to the median values of each sample, we calculate the predicted probabilities and derivatives at the 25th, 50th, and 75th percentiles of *MROA* and *MIROA* for firms owned by the central government and local governments (firms in regions with poor or good fiscal conditions), respectively. We test the differences in turnover rates and the predicted performance–turnover sensitivities between firms owned by the central government and local governments (firms in regions with poor or good fiscal conditions). For the profit-making sample, the differences in both the turnover rate and the predicted performance–turnover sensitivity between firms owned by the central government and local governments (firms in regions with poor or good fiscal conditions) are statistically significant, though the significance levels when *MROA* is used as the performance measure are marginal only. For the loss-making sample, neither the difference in the turnover rates nor the predicted performance–turnover sensitivities between firms owned by the central government and local governments (firms in regions with poor or good fiscal conditions) is statistically significant.

Table 9

Changes in post-turnover performance in China's listed firms

	Panel A: Median changes in ROA		P value of difference in ROA change between (1) and (2)	Panel B: Median changes in IROA		P value of difference in IROA change between (3) and (4)	Panel C: Median changes in CROA		P value of difference in CROA change between (5) and (6)	Panel D: Median changes in CIROA		P value of difference in CIROA change between (7) and (8)
	Profit-making firms (1)	Loss-making Firms (2)		Profit-making firms (3)	Loss-making Firms (4)		Profit-making firms (5)	Loss-making Firms (6)		Profit-making firms (7)	Loss-making Firms (8)	
Median performance at $t = -1$	0.047	-0.022		0.000	-0.066		0.001	0.001		0.001	0.000	
+1 to -1	-0.014***	0.004	0.004	-0.003*	0.011**	0.005	0.001	0.042**	0.030	0.001	0.039***	0.025
+2 to -1	-0.022***	0.012**	0.000	-0.006**	0.026**	0.000	-0.001**	0.031**	0.021	-0.001*	0.033*	0.012
+3 to -1	-0.028***	0.024**	0.000	-0.008**	0.038***	0.000	-0.001*	0.006	0.380	0.001	0.008	0.475
Median performance at $t = 0$	0.037	-0.050		-0.001	-0.092		-0.001	-0.001		0.004	0.001	
+1 to 0	-0.005***	0.033***	0.000	-0.002***	0.039***	0.000	-0.012*	0.010*	0.013	-0.013**	0.010*	0.010
+2 to 0	-0.013***	0.040***	0.000	-0.005***	0.050***	0.000	-0.003	0.012	0.283	-0.004	0.007	0.240
+3 to 0	-0.019***	0.052***	0.000	-0.007***	0.064***	0.000	0.002	0.014	0.782	-0.004	0.014	0.747

This table presents the changes in the post-turnover performance of China's listed firms. The sample period is from 1995 to 2001. Panel A reports the median change in unadjusted return on assets (ROA), measured by the ratio of pretax operating income to total assets. Panel B shows the median change in industry-adjusted return on assets (IROA), measured by the ratio of pretax operating income to total assets minus the median of the corresponding ratio in the industry. Panel C reports the median changes in control-group-adjusted return on assets (control-group-adjusted ROA), measured by the ratio of pretax operating income to total assets minus the median of the corresponding ratio in the control group. Panel D shows the medium changes of control-group and industry-adjusted return on assets (control-group-adjusted ROA), measured by the industry-adjusted return on assets minus the median of the corresponding ratio in the control group. Significance of median changes is tested using the Wilcoxon signed rank test.

We also check the sensitivity of the results to our classification of turnovers. We use either ages 60 or 65 as the benchmark for the classification of forced retirement and also include turnovers that are associated with legal disputes as forced turnovers. Consistent results are obtained with these alternative classification schemes.

The involvement of a board chairperson in the management of a listed firm may affect managerial turnover. The more active involvement of a chairperson indicates the existence of more intensive monitoring, which increases the probability of turnover. However, if it is the chairperson rather than the CEO who actually maintains the daily decision-making responsibilities, then the CEO is less likely to be held responsible for poor firm performance. For the observations from 1998 to 2001 for which data on the frequency of board meetings are available from Sinofin, we use that frequency to capture the involvement of a chairperson and include the variable as an additional control variable. For the observations from 1999 to 2001 for which data on a chairperson's compensation package is available from CSMAR, we also attempt to capture that person's involvement in the management of a listed firm by using the information on whether he or she receives a salary or only an honorarium. We create a dummy variable that equals 1 if a chairperson receives a salary and 0 if he or she receives only an honorarium and use it as an alternative control variable. Our results show that a greater frequency of board meetings is positively and significantly related to forced turnovers. However, the existence of a chairperson who receives a salary is negatively related to the turnover rate, which suggests that a CEO faces a lower probability of turnover if it is the chairperson, rather than the CEO, who maintains daily decision-making responsibilities. This relationship, however, is statistically insignificant. All of the other results pertaining to the performance–turnover relationship are retained, which suggests that our evidence on the different performance–turnover links in profit- and loss-making firms are robust to the varying degree of chairperson involvement.

4.4. Changes in performance surrounding turnover

Table 9 presents the median post-turnover changes in ROA and IROA and control-group adjusted ROA (CROA) and IROA (CIROA) for all of the sample firms. CROA is measured by ROA minus the median of the corresponding ratio in the control group. CIROA is measured by the industry-adjusted ROA minus the median of the corresponding ratio in the control group.²⁰

Panel A reports the post-turnover changes in ROA. For the profit-making firms, these changes are significantly negative at the 1% level in all of the years using either year 0 or year -1 as the reference year, which indicates that profitability declined in the post-turnover period for these firms. However, the post-turnover changes for the loss-making firms are significantly positive, except for year +1, when year -1 is used as the reference year, which indicates that ROA improved.

Panel B reports the changes in IROA. After adjusting for industry performance, the post-turnover performance changes of the profit-making firms become statistically less significant, and the extent of the performance declines becomes smaller than the corresponding declines measured by ROA. The positive performance changes for the loss-making firms, in contrast, remain statistically significant, and the size of the improvements is larger than the corresponding improvements measured by ROA.

²⁰ Consistent results can be obtained if we focus on the mean post-turnover changes.

Panels C reports the median changes in CROA after adjusting for the performance of the control firms. For years +2 and +3 when year –1 is used as the reference and for year +1 when year 0 is the benchmark, the post-turnover performance declines in the profit-making firms remains statistically significant. This result suggests that the profit-making firms experienced performance declines relative to the control firms. The median changes in CROA for the loss-making firms, in contrast, remain positive. However, the median changes in CROA in year +3 when year –1 is used as the reference year and years +2 and +3 when year 0 is used as the benchmark become statistically insignificant. This indicates the presence of mean reversions in which the loss-making control firms also experienced performance improvements. Nevertheless, the significant positive changes in the other years suggest that the performance improvements in the loss-making firms cannot be entirely attributed to the mean reversion of the time series.

The median changes in CROA after adjusting for both industry and control group performance are shown in Panel D. For the profit-making firms, the changes in CROA are significantly negative for year +2 when year –1 is used as the benchmark and for year +1 when year 0 is used as the reference year. The changes in CROA remain statistically insignificant in the other years. This result suggests that the turnover in profit-making firms is not followed by significant performance improvements after controlling for industry and control group performance. The changes in CROA remain positive and are statistically significant in year +1 and year +2 when year –1 is used as the benchmark and in year +1 when year 0 is used as the reference year. Overall, these results indicate that there was a significant improvement in post-turnover profitability among the loss-making sample firms, but not among the profit-making sample firms. The results are consistent with the different incentive structures of shareholders and CEOs discussed in Section 2.

5. Conclusion

This study examines the relationship between CEO turnover and performance in listed Chinese firms in which the majority of the controlling shareholders are state shareholders with multiple objectives. We provide evidence of the existence of different turnover–performance sensitivities in profit- and loss-making firms. We also demonstrate that there is a noticeable improvement in the post-turnover profitability of loss-making firms, but not in that of profit-making firms. These results are consistent with our hypothesis that the shareholders of listed firms tend to attach greater importance to firm performance, and thus have a greater incentive to discipline managers on the basis of that performance, when their firms are incurring losses rather than making profits.

Our study provides a useful addition to the existing literature on monitoring activities in state-owned firms. Our findings are also relevant to not-for-profit and collectively owned organizations, which are similarly characterized by the absence of dominant private owners and the presence of multiple objectives (Dixit, 1997; Brickley and Van Horn, 2002; Eldenburg and Krishnan, 2003). The existing studies assume a time-invariant objective function for these organizations and offer mixed evidence on the performance–turnover relationship. Based on a sample of not-for-profit hospitals, Brickley and Van Horn (2002) find that the turnover of CEOs is significantly related to financial performance. Eldenburg and Krishnan (2003), in contrast, find that CEO turnover in government-owned not-for-profit hospitals is unrelated to financial performance. In view of this mixed evidence, our study suggests that exploring the trade-offs among different objectives and ascertaining how the relative level of importance attached to firm performance affects the performance–turnover relationship would offer greater insight into how managers in not-for-profit and collectively-owned organizations are monitored.

Our findings may also have some implications for the performance–turnover relationship in private firms because value-maximizing private shareholders also very often have multiple and conflicting objectives. Jensen (2001) suggests that a firm cannot effectively maximize its value if it ignores the interests of its stakeholders, who include, not only financial claimants, but also employees, customers, and communities. Furthermore, firm decisions very often have multiple effects on different dimensions (such as profits, market share, and financial risks), and these could have conflicting implications for firm financial performance both at a given time and across time. Given that financial losses usually trigger larger declines in stock prices (Francis et al., 2005) and that the costs of financial distress can be substantial (Andrade and Kaplan, 1998), private shareholders, although they tend to have a stronger profit motive than do state shareholders, may also place more emphasis on firm performance and have a greater incentive to discipline managers when their firms experience poor performance than when they experience good performance. The existing studies, however, estimate the performance–turnover relationship for all sample firms regardless of financial performance (e.g., Huson et al., 2001; Volpin, 2002; McNeil et al., 2004), even though some of them indicate that the turnover rate for CEOs in financially distressed firms is significantly higher than that in non-distressed private firms (e.g., Gilson, 1989; Hotchkiss, 1995). Whether private firms also have different turnover–performance sensitivities when they experience different levels of financial performance is another issue worthy of future investigation.

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