Governance with Multiple Firm Objectives: Evidence from Top Executive Turnover in China

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Abstract

We examine the relation between chief executive officer (CEO) turnover and performance of China's listed firms. We obtain three major results. First, there is a significant negative relation between turnover and level of profitability when firms are experiencing financial loss but no such a relation when firms are making profit, with the significant negative relation among loss-making firms stronger when profitability level is measured by the average profitability over a CEO's tenure rather than annual profitability. Second, there is a weak significant relation between turnover and change in profitability when firms are making profits but no such a relation when firms are experiencing loss. Third, there is a significant improvement in post-turnover profitability only in loss-making firms, not in profit-making firms. Our results indicate the existence of different turnover-performance links in profit-making and loss-making firms, which is consistent with the hypothesis that shareholders have higher incentive to discipline their CEOs on the basis of financial performance when their firms are experiencing financial loss than making profit.

Keywords: managerial turnovers, multiple firm objectives, firm performance, state ownership

This project is financed by the Competitive Earmarked Research Grant Award 2004–2005 (HKU 7236/04H). Excellent research assistance is provided by Zhang Xuan.

1. Introduction

The relation between managerial turnover and firm financial performance is a much-studied issue. The relation is regarded as the key indicator of the effectiveness of corporate control over managers in firms characterized by the separation of ownership and control (Jensen and Warner, 1988). A substantial body of literature shows that forced managerial turnover is preceded by a large and significant decline in financial performance and is followed by improved performance, reflecting the effectiveness of 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; Parrino et al., 2003; McNeil et al., 2004; Huson et al., 2004) [1]. Most of the existing studies estimate a single regression model for shareholders. Such a model specification underlines the assumption that shareholders have a single and invariant objective function in which shareholders under different circumstances maximize only firm financial performance and therefore have the same incentive structure to discipline managers on the basis of financial performance.

Jensen (2001) argues that a firm cannot maximize its value if it ignores the interest of its stakeholders including not only financial claimants, but also employees, customers, communities etc.. Furthermore, firm decisions very often have multiple effects on different dimensions (such as profits, market shares, financial risks) that could have conflicting implications on firm performance both at a given time and across time. Value-maximizing shareholders, therefore, very often have multiple and conflicting objectives. . Dixit (1997) further arguesthat an inherent feature of public organizations is

[1] Conflicting evidence is provided by Dalton and Kesner (1983), Friedman and Singh (1989), and Davidson, Worrel, and Cheng (1990), none of whom find a statistically significant cross-sectional relation between CEO turnovers and firm performance.

the existence of multiple organizational objectives because they are established to serve a set of diverse political and social objectives such as economic growth, employment, regional development, macroeconomic stability etc.

Jensen (2001) recognizes that it is impossible to maximize more than one objective at a given time if there are tradeoffs among various objectives. In order to make purposeful decisions, shareholders have to place different weights on various objectives and integrate them into a single objective function. While lacking a unified theory, the weights that shareholders attach to various objectives presumably are related to opportunities and constraints faced by shareholders, which in turn could depend on a host of factors such as the firms' financial status, vision and strategy; market competition condition; composition of various stakeholders and their relative influence in decision-making etc.. Focusing on managers' balancing of different interests in firms adopting stakeholder management approach, Mitchell et al. (1990) argue that managers' relative attention to various stakeholders' interests is determined by power, legitimacy and urgency.

Under the existence of multiple objectives, different balances of various objectives would indicate the existence of different objective functions where shareholders could attach different weights to firm performance in their objective functions. The relative importance of firm performance in shareholders' objective function would arguably affect the incentive of shareholders to discipline their managers on the basis of financial performance. If firm performance is the salient objective of the controlling shareholders or is instrumental to the attainment of controlling shareholders' salient objectives, shareholders would have high incentive to discipline mangers on the

basis of firm performance. If controlling shareholders' salient objective depends weakly or even negatively related to firm performance, shareholders would have a weak incentive to monitor their managers on the basis of firm performance. As demonstrated theoretically by Dixit (1997), pursuit of political and social objectives by public organizations tends to weaken these organizations' incentive to maximize financial performance.

In addition to be a determinant of turnover, the relative importance of financial performance could also affect the post-turnover performance changes. Existing literature offers two hypotheses on performance changes following managerial turnover. The improved management hypothesis suggests that managers differ in quality and that shareholders are able to identify and hire a new, superior manager who is able to improve firm performance (Denis and Denis, 1995; Huson et al., 2004). The scapegoat hypothesis, on the other hand, holds that quality does not vary across managers and therefore the newly hired manager is unable to alter the firm's fundamentals and improve firm performance (Khanna and Poulsen, 1995; Huson et al., 2004)[2]. These two hypotheses assume that shareholders have a single and invariant objective function that maximizes-only financial performance and attribute the post-turnover performance changes entirely to the quality of managers[3]. As we shall discuss in next section, incentive factors can come into play when shareholders have multiple objectives and attaché different weights

[2] Under the scapegoat hypothesis, an expected increase in performance following the managerial change is likely, but the subsequent performance improvement is attributable to a mean reversion of accounting performance time series (Huson et al., 2004).

[3] Existing studies offer mixed evidence on these two hypotheses. Denis and Denis (1995) and Huson et al. (2004), for example, find that forced top managerial turnovers are followed by significant improvements in operating performance. These authors argue that their findings support the improved management hypothesis. In contrast, Khanna and Poulsen (1995) find that managers of financially distressed firms and control firms make very similar decisions. They suggest that their findings are consistent with the notion that managers of poorly performing firms are scapegoats.

to firm performance in their objective functions. For example, shareholders attaching a relative low weight to firm performance may not have the incentive to identify and hire a manager with the highest ability to improve firm performance. Furthermore, a manager with a higher ability to improve firm performance may not strive to improve the performance if they are not solely evaluated on the basis of firm performance. Thus, the availability of better quality managers does not necessarily lead to post-turnover performance improvements. One the other hand, a significant post-turnover performance improvement is possible even when quality of managers is identical, if there are managerial slacks in pre-turnover period and shareholders attach a higher weight on firm performance in the post-turover period.

Among various factors that could shape the balance of various objectives and thus shareholders' incentive to discipline their managers on the basis of firm performance, this study focuses on the status of financial performance itself as a potentially determining factor of the governance strategies for shareholders who are having multiple objectives. When firms are experiencing financial loss, shareholders have few alternatives but to place a higher weighting on financial performance because financial loss usually triggers a larger declines in stock prices (Francis et al., 2005) and the costs of financial distress are substantial (Andrade and Kaplan, 1998). More importantly, financial loss would reduce the amount of resources for serving the interests of other stakeholders and eventually threaten the firms' survival. As a result, loss-making shareholders are more desperate than profit-making shareholders and their interests of improving firm performance could become more legitimate and urgent than the interests of other stakeholders. . Firm performance is therefore likely on the top of shareholders'

objectives. Profit-making shareholders, however, enjoy greater latitude to formulate their objective functions. They can afford to place higher weights on the interests of other stakeholders or other long-term goals even though those objectives may temporarily reduce current financial performance.

This study examines the turnover-performance links in China's listed firms where the majority of their controlling shareholders are state-owned shareholders. As we shall discuss in the next section, state shareholders are assumed to be stewards of government who have multiple objectives in running state-owned businesses, notable examples of which are social stability, regional equality, economic growth, governmental budgetary conditions and financial sector stability (Shleifer and Vishny, 1994, 1997, 1998; Dixit 1997). Furthermore, state shareholders are not real owners but bureaucrats who enjoy control rights but not cash flow rights (Alchian, 1965; Shleifer and Vishny, 1997). Similar to the self-serving objectives of managers in the traditional agency models, state shareholders also have multiple personal interests such as accumulation of personal wealth, consumption of on-the job perks, promotion of their reputation and the security of their career etc. China's listed firms thus provide a useful case where shareholders are obviously having multiple objectives and allow us to examine whether profit-making and loss-making shareholders have different incentives to discipline managers on the basis of financial performance

Based on a sample of chief executive officer (CEO) turnovers occurring in the listed firms from 1995 to 2000, we offer three pieces of evidence pertaining to the different turnover-performance links in the listed firms. First, there is a significant negative relation between CEO turnover and level of preturnover profitability when firms

are experiencing financial loss but no such relation when firms are making profit. The significant negative relation among loss-making firms is stronger when the profitability level is measured by the average profitability over a CEO's tenure rather than annual profitability. Second, there is a weak significant relation between CEO turnover and *change* in pre-turnover profitability when firms are making profits but no such relation when firms are experiencing loss. The above results are consistent with the hypothesis that shareholders in profit-making firms are more concerned with maintaining the existing level of profitability rather than maximizing the level of profitability while shareholders in loss-making firms have incentives to reduce the level of financial loss. Third, there is a significant improvement in post-turnover profitability only in loss-making firms, not in profit-making firms. Overall, our results indicate that the existence of different turnover-performance links in profit-making and loss-making firms, which is consistent with our conjecture that loss-making shareholders tend to have a high incentive to discipline their CEOs on the basis of financial performance than profit-making shareholders.

In addition to providing empirical evidence on the existence of different incentive to discipline managers on the basis of financial performance in firms with different financial performance, our study also contributes to literature in two other ways. First, we offer empirical evidence pertaining to the monitoring activities of state shareholders, which remains scarce in the literature. To the best of our knowledge, only two prior studies systematically examine the monitoring of managers in state-owned firms. Kole and Mulherin (1997) show that managerial turnovers and the performance of 17 U.S. firms, in which the federal government served as a controlling shareholder during and

after World War II, did not differ significantly from those of private-sector firms. These authors therefore argue that the monitoring activities of state shareholders are no different from those of private shareholders. The generalizability of their findings, however, is limited by the uniqueness of their sample firms. Groves et al. (1995), on the other hand, examine the relation between labor productivity and managerial turnover for a sample of 769 wholly state-owned firms in China from 1980 to 1989. They offer evidence that, although ex ante labor productivity is not associated with managerial turnover, turnover is followed by a significant increase in productivity. But their study focuses on productivity performance in traditional SOEs. Empirical evidence on whether state shareholders have incentive to discipline their managers on the basis of financial performance in publicly listed firms is lacking.

Second, prior studies on the relations between managerial turnovers and firm performance assume that shareholders use primarily annual accounting performance either evaluating over time or comparing with the industry norm at a given time. Recently, a new line of research has sought to identify alternative criteria for managerial evaluation. According to DeFond and Chui (1999), for example, industry performance is not a good benchmark for evaluating managers in uncompetitive industries. Farrell and Whidbee (2003) show that board directors focus on deviation from expected performance, rather than performance alone, in making managerial turnover decisions. Our study offers evidence that shareholders rely more on average performance over a CEO's tenure rather than annual performance to evaluate their CEOs. Our results thus provide new findings on the determinants of managerial turnover. Average performance represents a slower response to performance decline because average performance remains above the current

performance when firm performance is trending. It also smoothes out short-term performance fluctuations and thus provides a more comprehensive indicator of a manager's performance.

On a practical level, China's stock market has experienced phenomenal growth during the past decade. By mid-2003, China's total stock market capitalization had swelled to over US $507 billion, with 1,250 listed firms. This made China's stock market capitalization the second largest in Asia, second only to Japan. Whether such an expansion contributes to a more efficient allocation of capital in the economy or represents a potential financial crisis depends heavily on the quality of corporate governance in listed firms. Furthermore, since China's accession to the World Trade Organization, the country's stock market has been gradually opening up to foreign investors. In light of this, the question of whether shareholders in listed firms have an incentive and the ability to exercise effective corporate control so as to strive for maximization of shareholders' wealth should be of great interest to policy makers and potential investors.

The remainder of this paper is structured as follows. Section 2 provides an overview of the research background. Section 3 discusses data and research methods, while Section 4 presents empirical results and robustness checks. Finally, Section 5 presents the study's conclusions.

2. Research background

In this section, we first discuss the incentive structures of state shareholders in China's listed firms and their implications on their incentive to discipline their CEOs. We

then discuss factors that would affect the post-turnover performance of firms controlled by state shareholders.

2.1. Incentive structures of state shareholders

Unlike stock markets in developed economies, China's stock market was created by the government as a vehicle for raising funds for state-owned enterprises (SOEs). Consistent with this objective, nearly all the listed firms are spin-offs of large SOE groups in which state asset management agencies and parent SOEs retain their dominant control over the listed firms through their ownership of about two-thirds of the total equity in the form of non-tradable shares[4]. The controlling shareholders of the majority of China's listed firms are state shareholders (Sun and Tong, 2004).

State shareholders are bureaucrats who are appointed and monitored by governments. Three different sets of assumptions are made in analyzing the objective functions of state shareholders. One assumes that state shareholders are government's good stewards who seek to serve government's interests. One important objective of government is to use state-owned firms to promote social and political goals, such as correcting market failures, promoting economic growth and macroeconomic stabilities, providing excessive employment and social security (Shleifer and Vishny, 1994, 1998; Dixit 1997). Because most of those political goals detract from the firms' financial performance, the steward assumption implies that state shareholders tend to have weak

[4] There are two types of state-owned shares. State shares are created as the consequence of a government agency contributing its assets to the formation of a shareholding firm. The ultimate owner is the State Council, but these shares are managed by the bureaus of the Ministry of Finance and the State Asset Management Administration. Legal person shares, on the other hand, represent contributions by government-invested SOEs of their legally owned assets to the formation of a shareholding firm. In order to maintain dominant state ownership, these two types of shares were not allowed to be traded on China's two stock exchanges. However, reforms have been introduced since August 2005, which would eventually allow these shares to be traded on the exchanges after state shareholders pay adequate compensation to and obtain consent from private individual investors.

incentive to maximize financial performance (Dixit 1997). Bai et al. (2000) further demonstrate that state shareholders in state-owned firms not only themselves have weak profit-motives but also need to provide their managers with weak-profit incentives. Consistent with such a prediction, the compensation schemes of CEOs in China's listed firms are characterized by weak profit incentives in which the main component is a low and undifferentiated civil-service-ranked salary. Stock-based incentives are weak because the average shareholding of managers in the 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).

Weakened incentive to maximize firm performance does not imply that state shareholders would attach the same weight to firm performance in their objective functions. Rather, loss-making shareholders tend to attach a relatively higher weight to firm performance than profit-making firms. On one hand, loss-making firms would erode the resource bases for government to serve their political and social objectives. Hu et al. (2005), for example, show that the amount of excessive employment provided by a state-owned firm to promote social stability in China is related negatively to its financial performance. On the other hand, loss-making firms also create pressure on government budgets and threaten financial stability because financial losses incurred by state-owned firms have to be covered either directly or indirectly by local governments through budgetary subsidies or cheap bank loans. As argued by (Qian and Roland, 1998), China's local governments have strong incentive to reduce the financial losses of state-owned firms in order to alleviate financial burdens on governments' budgets and diversify financial risks in the banking sector. The steward view of state shareholders therefore

implies that loss-making shareholders would attach a higher weight to firm performance and thus have a higher incentive to discipline managers on the basis of financial performance than profit-making shareholders.

The second view on the objectives of state shareholders assumes that they are self-interested who use state-owned firms to promote their own personal interests. Krueger (1990), for example, suggests that bureaucrats tend to hire politically connected people rather than those best qualified for the tasks. Jones (1985) provides numerous examples in which state owners used their firms as vehicles for transferring wealth from one favored group to another. Similar to the steward assumption, the self-dealing assumption also implies that state shareholders have a weak incentive to maximize firm performance because the private uses of firms also detract from firm performance. Unlike governments who need to cover the financial losses of state-owned firms, state shareholders themselves do not need to internalize financial loss through the provision of subsidies and/or bank loans. Nevertheless, loss-making shareholders may still place a higher weight on firm performance than profit-making shareholders because a loss-making firm has a limited capacity and few resources available for state shareholders to serve their self-serving objectives. The self-dealing assumption on state shareholders' incentive therefore also suggests that loss-making shareholders have higher incentive to discipline their CEOs on the basis of firm performance than shareholders of profit-making firms. .

The third view on the objectives of state shareholders assume that they are bureaucrats who concern ultimately about job security and prospects, and therefore their behaviors are shaped by how they are evaluated by their superiors. As bureaucrats are

expected to fulfill their assigned responsibilities by following a set of fixed rules and procedures, bureaucratic decisions tend to be slow and driven by pressure for prudence, conformity, and consensus-building (Merton, 1940, Fligstein 1987). Under normal conditions bureaucrats have a strong incentive to maintain status quo. Drastic decisions are usually made only during or after crisis because crisis signals either that bureaucrats have not performed their duties properly or significant new problems have arisen that need to be addressed (Williamson 1994). The career concerns of bureaucrats suggest that profit-making shareholders, though have a weak incentive to maximize firm performance, may have a relatively strong incentive to discipline their CEOs when their firms have experienced drastic performance decline because this would indicate that they have not performed properly their role as shareholders. Furthermore, loss-making shareholders, though they have the incentive to reduce the level of financial loss, may also be slow in their decision-making. Li and Zhou (2005) offer evidence that China's central governments tend to evaluate provincial leaders by using average economic performance over their tenure rather than annual performance. As average performance is a lagging and a more comprehensive indicator of a CEO's performance, it is more in line with state shareholders' need for prudence and conformity in their decision-making. We therefore also expect that loss-making shareholders of China's listed firms rely more on average performance than annual performance to evaluate their CEOs.

2.2. Determinants of performance changes following turnover

State shareholders' difference in incentives to maximize firm performance would affect the postturnover performance changes in these firms. When firms are experiencing loss-making, turnovers are more likely to be followed by significant improvement

because shareholders tend to have higher incentive to discipline their mangers in order to improve firm performance. The improvements can be results from the appointments of better quality CEOs and/or increased efforts devoted by the new CEOs owing to shareholders' more intense monitoring activities.

Profit-making shareholders enjoy greater latitude to serve social and personal goals. The pursuit of those goals would weaken their incentive to maximize firm performance and thus have a weaker incentive to discipline their managers on the basis of firm performance. Therefore, profit-making state shareholders may not have equal incentive to search for and hire the managers who have the ability to improve firm performance and may base their selection of new CEOs on personal connections (Krueger, 1990). Furthermore, a CEO's incentive to improve performance is affected by how the CEO is evaluated. It is well known that state-owned firms are plagued by the ratchet effect, in which managers who are evaluated by their fulfillments of the government's predetermined targets have a strong incentive to disguise their true performance in order to avoid having their administrative superiors place increasingly high demands on them (Meyer and Vickers, 1997). Similar to the ratchet effects, CEOs in China's profit-making listed firms may not have incentive to achieve high performance if they would be punished for performance decline. It is because high level of performance is more difficult to maintain and is associated with a greater chance of performance decline in the future. The best strategy for the new CEOs is to increase firm performance to a level that is acceptable to shareholders and then maintain it rather than further increase it. Such strategic decisions on the part of managers also limit the extent of postturnover performance changes in profit-making firms even if the new CEOs are

indeed of higher quality than the departing ones. Last but not the least, shareholders may also attach a lower weight to firm performance and seek to pursue other objectives once firm performance is stabilized. The new CEOs are very likely to subscribe to the objective function of the state shareholders because the appointment and promotion of managers in state-owned firms are determined by their administrative superiors. [5]

3. Data, sample selection, and research methods

3.1. Data sources and classification of managerial turnovers

We base our study on all firms listed by the Shanghai and Shenzhen Stock Exchanges from 1995 to 2000. For each firm, we obtain data on CEO turnovers from the China Corporate Governance Research Database (CCGRD) developed by GTA Information Technology Co. Table 1 documents the extent of turnover for all listed firms. Of the 1,033 non-financial firms listed by the exchanges at the end of 2000, 731 experienced at least one instance of turnover from 1995 to 2000; the total number of turnovers was 1,077. There was a significant increase in the annual turnover rate, from 15% in 1995 to 32% in 2000. The average annual turnover rate was 25%, 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%). We follow previous studies to consolidate multiple turnovers for a given enterprise in a given fiscal year. Thus, if a firm experiences two or more turnovers in the same year, only one will be recorded. This reduces turnovers from

[5] This problem of managerial incentive is less serious if the managerial labor market is well-developed and managers are concerned not only about their performance in current firms but also the effects on their reputation that would affect their future career opportunities (Tadelis, 2002).

1077 to 1005 and the average annual turnover rate from 25% to 23% in our consolidated sample.

[Table 1 about here] --

The CCGRD provides information on the stated reason for a turnover (if any). A total of 11 stated reasons are given: (1) change of job, (2) contract expiration, (3) change of controlling shareholders, (4) retirement, (5) health, (6) resignation, (7) dismissal, (8) corporate governance reform, (9) completion of acting duties, (10) personal reasons, and (11) legal disputes. Table 2 summarizes the distribution of turnovers across the stated reasons for our full and consolidated samples. Change of job is the most commonly stated reason, accounting for 31.2% of the turnovers in the full sample and 30.4 % in the consolidated sample. The next most commonly stated reason is contract expiration, which accounts for 19.4 % (20.4 %) of the turnovers in the full (consolidated) sample. The third most common reason is corporate governance reform, 16.5 % for the full sample and 116.8 % for the consolidated sample. This reason 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 (that is, the CEO resigns from the managerial position but retains the chairperson position) with the stated objective of improving corporate governance. The second type of turnover refers to those caused by regulations imposed by the China Securities Regulatory Commission in 1999 that require CEOs who are also holding senior managerial positions in parent firms to retire from either position to minimize the conflict of interest between holding firms and minority shareholders. Only 4.7% (full sample) and

4.2 % (consolidated sample) of turnovers fall under the dismissal category. Our full (consolidated) sample includes 2.2% (2.1%) turnovers for which no reason is given.

[Table 2 about here]

To assess the effectiveness of corporate control exercised by shareholders, we need to distinguish between forced and non-forced turnovers, because only forced turnovers reflect shareholders' disciplinary efforts. As recognized by many researchers (e.g., Warner et al., 1988; Weisbach, 1988; Denis and Denis, 1995; Kang and Shivdasani, 1997; Huson et al., 2004), 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. While some turnovers can be reasonably classified as non-forced (for example those that come about as a result of health, retirement, or change in controlling shareholders), the nature of other turnovers is hard to determine if we base it only on the stated reasons. For example, a turnover for which the stated reason is job change can be either 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 to identify forced turnovers. We first exclude the 315 turnovers for which the stated reasons are retirement, health (including death), corporate governance reform, change of controlling shareholders, and legal disputes as forced. We exclude the turnovers for which the stated reason is corporate governance reform as forced because the departing CEOs either retain the position of the chairperson of board of directors or key managerial positions in parent firms. We also exclude those

cases involving legal disputes as forced because these turnovers are not initiated directly 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 as forced if the departing managers take up or remain at positions that are better than their old managerial position. Our search for the destination of departing CEOs is based on five data sources: the annual reports of firms, Infobank's China Economic News Database, Infobank's China's Listed Firms Database, China's Listed Firms Database available at http://www. sina.com.cn, and Internet materials available at http://www.baidu.com. The results are reported in Table 3.

[Insert Table 3 about here].

Among the 691 turnovers that we have searched, we exclude 309 cases as forced. These include 22 turnovers (3.18 %) in which the departing CEOs took up important government positions such as city governors and provincial leaders; 100 cases (14%) in which the departing CEOs retained the position of board chairman or vice-chairman; 149 turnovers (21.56%) in which the departing CEOs were promoted to the position of board chairman or vice-chairman; 12 cases (1.74%) in which the departing CEOs took up a new managerial position at other listed firms or the listed firms' parent groups; 2 cases in which the departing CEOs had health problems; 21 cases (3.04%) in which the departing CEOs were arrested or under legal investigation; and 3 cases in which the departing CEOs were reported to have gone abroad for further education.

We treat the remaining 382 turnovers as forced. These include 161 (23.3%) cases in which the departing CEOs took up new positions that were lower than a managerial position, 5 cases (0.72 %) in which the departing CEOs took up managerial positions at

unlisted and small-sized firms, and 216 cases (31.26%) in which we are unable to trace the destinations of the departing CEOs. We treat the turnovers for which no information is available for the departing CEOs as forced because our data sources provide comprehensive information on the basic information as well as business activities of the major firms in China. No information is unlikely to be available if a departing CEO actually takes up a position that is better than the CEO position of a listed firm.

For this sample of forced turnovers, we exclude 57 cases in which the managers' tenure is less than one year as forced because managers with such a short tenure are unlikely to be punished for poor performance. We add to our sample turnover 2 cases for which the stated reason is retirement but the age of the departing managers is less than 55. Our final sample contains 287 cases of forced turnovers, representing 28.6 % 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 Kang and Shivdasani (1995) for Japanese firms (24.14%).

3.2. Sample selection

From 1995 to 2000, there are a total of 4,246 firm-year observations. We exclude 122 firm-year observations involving firms in the finance industry and firms listed only by the B-share market (which is open only to foreign investors before the end of 2000)[6]. To focus on the monitoring activities of state shareholders, we exclude 284 firm-year observations for which the listed firms have private as the ultimate controlling shareholders because private controlling shareholders' objective function is likely to be

[6] Domestic individual investors have also been allowed to invest in B-shares since February 2001.

different from that of state shareholders. Our data on the ownership identity of ultimate owners is obtained from the ultimate ownership of China's listed firms dataset provided by Sinofin. We also delete 151 firm-year observations involving firms with negative equity and 163 observations involving turnovers in which a CEO's tenure in the turnover year is less than one year. After further deleting 416 observations with missing values in variables included in our regression analysis, our final sample consists of 3,106 firm-year observations.

3.3. Regression models on determinants of turnovers

We first estimate the following regressions to examine the sensitivities of turnovers to four different performance measures. We first estimate the baseline model for whole sample firms regardless their profitability conditions and then estimate the regressions for profit-making and loss-making firms separately. A listed firm is classified as profit-making if its pre-tax operating income is non-negative and loss-making if its pre-tax operating income is non-positive.

Probability (Forced CEO turnover) = f (Performance, Control Variables) ……. (1)

The dependent variable is a dummy variable that equals 1 if there is a forced turnover occurring during the period in question. *Performance* denotes six 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 assets. The second is the industry-adjusted return on assets (IROA), measured as ROA less the medium value of ROA for all firms in the same industry. These two variables measure the recent accounting performance of a listed firm. The third variable is the change in ROA over the previous year (DROA), while the fourth is the change in IROA over the previous year

(DIROA). These two variables capture recent fluctuations/trends in accounting performance. Finally, we use the moving average of ROA over a CEO's tenure (MROA) and the moving average of IROA over a CEO's tenure (MIROA) to capture a manager's summary performance. We follow Huson et al. (2001) in using the current year performance if a managerial turnover occurs in the last six months of the year, and the previous year performance if a managerial turnover occurs in the first six months of the year.

We focus only on accounting performance rather than stock price performance of the listed firms for two reasons. First, stock prices tend to be a noisy signal for CEOs' performance in this market because of the potentially adverse effect of noise trading in China's emerging stock market. China's stock market has been characterized by an extremely high turnover velocity, defined as the total transaction volume divided by the total number of tradable shares. During the period of our investigation (that is, 1995-2000), the turnover velocity of stocks was about 500 percent. In other words, each stock changed hands five times per year on average, which indicates substantial noise trading (Wong, 2005).[7] Furthermore, Morck et al. (2000) find that 80% of the stocks listed on China's two exchanges move in the same direction in a given week. This degree of synchronicity is the second highest among stock markets in 40 countries and suggests that stock prices in China tend to capitalize market-level information rather than firm-specific information. Second, state-owned shares in China are non-tradable and can be transferred only following administrative approval. The non-tradability of state-owned

[7] Black (1985) shows that, without noise trading, very little trading will occur in individual assets; thus, more noise trading indicates a more liquid stock market.

shares implies that state shareholders are unlikely to pay attention to the short-term movement of stock prices and 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 departing CEOs' age (*Age*) because earlier studies find that managerial turnover is likely to be related positively to age (Kang and Shivdasani 1995). Second, prior studies show that managerial turnover is related negatively to both a manager's years of service (e.g., Kang and Shivdasani, 1995) and whether a manager also fills the position of board chairperson (Dalton et al., 1998). We, therefore, control for a CEO's years of service in a listed firm (*Tenure*) and the existence of a duality structure (*Duality*). Duality equals to 1 if a CEOs also fills the position of board chairperson and 0 otherwise. Third, we control for three firm characteristics: capital structure, size, and the identity nature of the largest shareholders. We control for capital (*Leverage)* and firm size (*Size*), because Jensen (1986) suggests that debtors play a role in disciplining managers, and Dalton and Kesner (1983) find that managers tend to be more entrenched in large firms. The data on capital structure and size are obtained from CSMAR Financial Databases, also developed by GTA Information Technology Co. In addition, Sun and Tong (2003) and Wang et al. (2004) show that the performance of China's listed firms is higher if the largest shareholder is a state-owned commercial firm rather than a government agency (mainly local governments and state-asset management bureaus). To remove the possible confounding effects of different kinds of state shareholders, we create a dummy variable (*State*), which equals to 1 if the largest shareholders are government agencies and 0 if the largest shareholders are state-owned commercial firms. Finally, a dummy variable indicating the years of turnover (*Year*) and a variable

indicating the number of years a listed firm has been listed (*List*) are also used to control for the time-specific factors.

Three estimation issues are worth noting. First, robust standard errors based on Huber/White/Sandwich estimates of variances to deal with potential heteroskedasticity problems. Second, we use random effect rather than fixed-effect models because using fixed effect models to capture firm-specific factors will drop out about 2,000 observations involving listed firms either experience no turnover in all years or experience turnover in every year during our study period. This not only reduces significantly our sample size but also introduces possible sample selection biases. Third, we conduct a Pearson correlation test and find that all correlations among the variables included in all our models are lower than the value of 0.5, which suggests that our models are unlikely to suffer from problems due to multicollinearity (see Table 4). To further ensure that multicollinearity is not a problem, we calculate variance inflation factors (VIF) for each independent variable. The VIFs never exceed 2 appreciably, so they are significantly lower than the typical threshold of 10[8].

[Insert Table 4 about here]

3.4. Post-turnover performance changes and mean reversion

The negative relation between pre-turnover performance and the likelihood of forced turnover is necessary but not sufficient evidence of effective corporate control exercised by shareholders. To indicate that corporate control is effective, shareholders must identify and hire a superior, new manager who is able to improve firm performance. To examine this issue, we investigate whether ROA and IROA exhibit a statistically significant improvement following the turnover.

[8] Test statistics are available upon request.

In our analysis of the post-turnover performance changes, we follow Huson et al. (2004) in using the control-group adjusted-performance measure to isolate the component of performance change that is attributable to mean reversion of accounting performance time series. We first match each turnover firm to comparison firms in the same industry whose performance measure at the turnover year is within +/- 25% of the sample firm's performance, but with no turnover occurring in the event year as well as the three years preceding the turnovers. If multiple firms satisfy the above criteria, we include the firm whose asset size is closest to the turnover firm's as the control firm. Among our forced turnover sample, only 188 turnovers are able to complete financial data for the seven years surrounding the turnovers. We are able to find only 84 control firms that are both performance- and industry-matched. We then match performance within the filter bound regardless of industry for the remaining turnovers and obtain another 92 performance-matched control firms. We are still unable to find control firms for 12 turnover firms. In our analysis of the changes in performance following managerial turnovers, we exclude the above 12 turnovers from our sample.

4. Empirical results

4.1. Descriptive statistics

Table 5 shows the summary statistics of the variables included in our model. Our sample firms have been listed on average for 3.5 years. The average age and tenure of the managers are 48 and 2.3 years, respectively. Duality structure is still a common feature of the listed firms' corporate governance structure, with 29.3 % of managers also serving as board chairpersons. Of the firms, 14% have government agencies rather than state-owned financial firms as their largest shareholders.

The average ROA for all listed firms is 4.3%. The change of ROA over the previous year is –1.3%, indicating that our sample firms on average are experiencing a performance decline. The average MROA is 5.1%, which is higher than the average ROA. The higher MROA also suggests that our sample firms on average are experiencing a performance decline during our study period.

[Insert Table 5 about here]

Table 6 shows the average turnover rates as well as turnover rates by quartiles of performance for all sample firms, profit-making firms, and loss-making firms. For all six of our performance measures, the average turnover rates of loss-making firms are higher than profit-making firms, by approximately 4.5 %. For both profit-making firms and loss-making firms, turnover rates are higher if performance is bad than if it is good, although when performance is measured by DROA and DIROA, the difference between the best performing and the worst performing firms is not statistically significant. The difference in turnover rate between the best performing and the worst performing firms is higher for loss-making firms (for example, 7.4% for ROA and 23.1 % for MROA) than for profit-making firms (for example, 3.2% for ROA and 7.2% for MROA), except for the performance measure of DIROA where the turnover rate of profit-making firms (2.9%) is higher than that of the loss-making firms (2%). This seems to suggest that turnovers in loss-making firms are more sensitive to ROA and MROA while turnovers in profit-making firms are more sensitive to DROA. Among all six performance measures, the difference between the best performing and the worst performing is the greatest (7.2% for profit-making firms, and 23.1% for loss-making firms) when firm performance is

measured by MROA, indicating that turnover rate is more sensitive to MROA than to other performance measures.

[Insert Table 6 about here]

4.2. Regression results on the determinants of turnovers

Table 7 reports the results of our six baseline models. Similar to existing evidence obtained by prior studies, the coefficients of *Age* are significantly positive and the coefficients of *Tenure* are significantly negative. The combination of CEO and board chairperson positions (*Duality*) is significantly negative, suggesting that the duality structure also reduces the possibility of turnover in state-controlled firms. Interestingly, the coefficients for *State* are positive but not statistically significant.

Our six baseline models show a negative relation between turnover and our six performance measures, with statistical significance at 10% for ROA and IROA, 5% for DROA and DIROA and 1% for MORA and MIROA. The results suggest that turnover rates are more sensitive to average performance than the change and level of annual performance. Furthermore, models with average performance have higher explanatory power than models with the other two performance measures, as evidenced by the fact that the adjusted R-squares of models with MORA and MIROA are about 20% higher than those of the other models.

[Insert Table 7 about here-]

Tables 8 and 9 report our estimates of turnover sensitivities to the performance of profit-making and loss-making samples respectively. For profit-making samples, the coefficients for DROA and DIROA remain significant but only at the level of 10%. This is consistent with the red-tape assumption that state shareholders tend to discipline their

CEOs only when their firms have experienced significant performance declines. The coefficients for all other performance measures (ROA, IROA, MROA and MIROA) are statistically insignificant. This is also consistent with the steward and self-dealing assumptions, which suggest that state shareholders in profit-making firms tend to have weak incentive to discipline their CEOs on the basis of firm performance.

For loss-making firms, the coefficients for DROA, DIROA and IROA become statistically insignificant and the coefficient of ROA is significant only at 10%. However, the coefficients of MROA and MIROA remain significant at 1%. The significant negative turnover-performance links in loss-making firms indicate that state shareholders do not entirely ignore financial losses. This evidence is consistent with both steward and self-dealing hypotheses, which argues that state shareholders have higher incentive to discipline their CEOs on the basis of financial performance. The stronger relation between turnover and average performance measures is a also consistent with the red-tape hypothesis, which argues that state shareholders tend to avoid making controversial decisions and respond slowly to performance declines .

Overall speaking, our results indicate that state shareholders have higher incentive to discipline their CEOs on the basis of financial performance when their firms are experiencing loss-making than profit-making. It is also interesting to note that the coefficients for the control variables of and *Duality* and *Tenure* remain significantly negative in the sample of profit-making firms but become statistically insignificant in the sample of loss-making firms. As *Duality* and *Tenure* are measures of a CEO's formal and informal power in a listed firm, this result suggests that turnover in profit-making firms is shaped partly by intra-organizational politics in which a CEO's power is able to reduce

the possibility of turnover (Fligstein, 1987). Nevertheless, informal and formal power is not a rescue for CEOs in loss-making firms.

[Insert Tables 8 and 9 about here]

Table 10 reports the implied probabilities of forced turnover based on estimates obtained from Tables 8 and 9. For all six performance measures, the changes in turnover probability between the best-performing and the worst-performing firms in the sample of loss-making firms are higher than the corresponding changes for profit-making firms. For all sample firms, moving from the best-performing to the worst-performing firms increases turnover probabilities by 1% (1.1%), 1.2% (1.2%), and 2.3% (2.7%) when performance is measured by ROA (IROA), DROA (DIROA), and MROA (MIROA) respectively. The turnover sensitivity to IROA (1.1%) is lower than that reported by Huson et al. (2001) for U.S. firms for various periods between 1971 and1994 (from 1.9% to 2.37%).

For both loss-making and profit-making samples, the differences between the best- and worst-performing firms are greatest when performance is measured by MROA (5.1% and 2.2%) and MIROA (4.4% and 1.9%). The turnover sensitivities to MROA and MIROA in China's loss-making firms (5.1% and 4.4%) are similar to or even slightly higher than level of turnover sensitivity to industry-adjusted stock returns as established by Huson et al. (2001) for U.S. firms for various periods between 1971 and 1994 (from 3.31% to 4.51 %).

[Insert table 10 about here]

4.3. Additional tests and robustness checks

Some earlier studies suggest that net income is an important decision variable motivating the actions of boards of directors (e.g., Jensen and Murphy, 1990; Kaplan 1994). Therefore, we replicate our regressions using net income rather than pretax operating income as a performance measure. The results based on net income performance are consistent with those based on pretax operating income performance. For brevity, these results are not reported.

To examine the relative sensitivity of turnovers to different performance measures, we also estimate eight additional models that put different performance measures simultaneously into the regressions for the both profit-making and loss-making samples. We first put ROA (IROA) and DROA (DIROA) simultaneously into the regression models and also ROA (IROA) and MROA (MIROA) into the regression models at the same time. Similar to the results obtained from models in which only a single performance measure is used, there is no significant relation between turnovers and performance in profit-making sample when performance is measured by ROA, IROA, MROA, and MIROA and the negative relations between turnover and DROA and DIROA remain significant at 10%. For loss-making sample, the inclusion of DROA and DIROA renders the relation between turnover and ROA and IROA statistically less significant. The relation between turnover and MOAR and MIROA, however, remains significant at the 1% level. We are, however, unable to examine the relative sensitivity of turnover to annual performance and average performance measures because these two performance measures are highly correlated (with correlation between ROA and MROA equal to 0.9 and correlation between IROA and MIROA equal to 0.88; see Table 4).

We check the sensitivity of our results to our classification of turnovers. We use either age 60 or 65 as the benchmark for the classification of forced retirement. We also try to include turnovers that are associated with legal disputes as forced turnovers. We obtain consistent results from these alternative classification schemes.

4.4. Changes in performance surrounding turnover

Table 11 presents the median post-turnover changes of ROA, IROA, control-group adjusted ROA (CROA), and control-group adjusted IROA (CIROA) for all sample firms, profit-making firms, and loss-making firms, using either the turnover year (year 0) or the year preceding turnover (year -1) as the base year. We follow Denis and Denis (1995) to use both year 0 and year –1 as the references in order to alleviate the possible biases created by CEOs' attempts to manage reported earnings in which outgoing CEOs may have the incentive to increase reported earnings to save their jobs, and incoming CEOs might have the incentive to reduce reported earnings immediately upon taking office to blame poor performance on their predecessors.

Panel A reports the post-turnover changes in ROA. The post-turnover changes for profit-making firms are significantly negative at 1% in all years using either year 0 or year –1 as the reference, indicating that performance in the post-turnover period has declined for these firms. On the other hand, the post-turnover changes for loss-making firms are significantly positive except for year1 when year -1 is used as the reference, indicating that performance has improved. For all sample firms, the post-turnover changes in all years are negative but not statistically significant for year 2 and year 3 when year 0 is used as the baseline.

Panel B reports the changes in IROA. After adjusting for industry performance, the post-turnover performance changes of profit-making firms become statistically less significant, and the extents of performance declines also become smaller than the corresponding declines as measured by ROA. The positive performance changes for loss-making firms, on the other hand, remain statistically significant at the 1% level, and the sizes of improvements are larger than the corresponding improvements as measured by ROA. The results in Panel A and Panel B suggest that both profit-making and loss-making turnover firms are improving their relative position with their peers in the same industry in the post-turnover years.

Panels C reports the median changes in CROA after adjusting for the performance of control firms. The post-turnover performance median changes in profit-making firms become positive except for year 2 when year 0 is used as the reference. Given that unadjusted changes in ROA of profit-making firms (Panel A) are negative, these results suggest that the extents of declines of profit-making firms in ROA and IROA in post-turnover years are smaller than the corresponding declines of the control firms and thus turnover in profit-making firms is effective in reducing the extent of performance declines. Nevertheless, the improvements in CROA in post-turnover years are statistically significant only at 10% when year -1 is used as the reference and insignificant when year 0 is used as the reference.

On the other hand, the median changes in CROA for loss-making firms remain positive. Nevertheless, due to the relatively weaker performance in year +2 when compared with that of the control firms, the changes in CROA in year +2 become statistically significant only at 10% when year 1 is used as the baseline and insignificant

when year 0 as the reference. The significant level for the change in year 1 when year 0 as the reference is also reduced to 5%. When comparing with the changes in ROA (Panel A), the weaker performance of the loss-making firms suggests the presence of mean reversions in which the control firms also experience performance improvements. Nevertheless, significant the changes in year +1 and year +3 indicate that the loss-making firms' performance improvements cannot be entirely attributed to the mean reversion of time series.

The median changes in CIROA are shown in Panel D. For profit-making firms, the changes in CIROA are significantly insignificant, suggesting that turnovers in profit-making firms are not followed by significant performance improvements after controlling for industry and control group performance. The changes in CIROA remain statistically significant except for year 2 when both year 1 and year 0 are used as the baseline.

[-- Insert Table 11 --]

Overall speaking, our results indicate that there is a significant improvement in post-turnover profitability only in loss-making sample, not in profit-making sample. The results are consistent with the different incentive structures of shareholders and managers that we have discussed in section 2.

5. Conclusion

This study examines the relations between CEO turnover and performance of China's listed firms where shareholders have multiple objectives. We offer evidence for the existence of different turnover-performance links in profit-making and loss-making firms, which is consistent with our conjecture that shareholders tend to attach a high

weight to firm performance and thus have higher incentive to discipline managers on the basis of firm performance when their firms are experiencing financial loss than making profit. Unlike existing studies that assume the existence of a single and invariant objective function where shareholders attach equal weight to firm performance and thus have same incentive structure to discipline managers on the basis of financial performance, we offer evidence for the existence of different objective functions where shareholders attach different weights to firm performance and thus have different incentives to discipline their managers on the basis of financial performance.

Our study is based on the monitoring of state shareholders whose objective functions are very likely to be different from those of private shareholders. Theoretically, private shareholders also tend to place a higher weight to firm performance when their firms are making loss than profit, simply because loss-making does not provide much latitude for serving other objectives. Nevertheless, generalizing our results to private shareholders should be taken with caution. On one hand, private shareholders are likely to show a higher sensitivity of turnover to performance under different performance status. Unlike state shareholders who enjoy control rights but not cash flow rights, private shareholders are real owners who enjoy not only control rights but also cash flow rights. As private shareholders are able to directly capture the benefits of performance improvements, they tend to have higher incentive to discipline their managers on the basis of firm performance no matter their firms are making profit or loss.

On the other hand, governments tend to bail out loss-making state-owned firms but not private firms unless the private firms are too big to fail. In the absence of external helps, private loss-making shareholders need to response to performance decline more

quickly than loss-making state shareholders. Therefore, small private firms may rely more on contemporaneous or recent financial performance rather than the lagging average performance to evaluate their managers. Nevertheless, average performance measures may have some relevance in explaining turnover in private large firms where more resources are available to endure temporarily performance decline and decisions tend to be made under pressure for conformity and consensus-building.

Our study shows that financial performance could shape the balances of different objectives of shareholders and thus alter the weight of firm performance in shareholders' objective functions. As we have discussed, there are other factors, such as market conditions, firms' vision and strategies, composition of different stakeholders and their relative influences etc., could also affect the relative importance of firm performance in shareholders' objective function and therefore their incentive to discipline managers on the basis of firm performance. Analyzing how these factors affect turnover-performance links is a fruitful direction for future research.

We argue that profit-making shareholders tend to attach a lower weight to firm performance in their objective functions and thus have a weakened incentive to discipline managers on the basis of financial performance. The weakened incentive to maximize firm performance implies that profit-making shareholders might be maximizing other objectives and using other criterion to monitor their managers. For example, controlling shareholders in firms with a pyramid shareholding structure could benefit themselves by tunneling resources away from their firms (La Porta et al., 1998). These shareholders might have incentive to discipline their managers on their ability to detract private benefits to controlling shareholders. On the other hand, controlling shareholders in firms

adopting an aggressive expansion strategy to increase market share may have incentive to evaluate their managers on the basis of sales volume rather than profitability. Identifying the salient objectives of shareholders and the criteria that could be used by shareholders to evaluate their managers as well as the implications of these criteria on short term and long term firm performance might also be a fruitful direction for further research.

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Table 1
Annual CEO Turnover Rate and Performance in China's Listed Firms: 1995-2000

This table reports CEO turnovers in China's listed firms from 1995 to 2000. The number of listed firms includes all nonfinancial firms listed by 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. Number of CEO turnovers after consolidation refers to the number of CEO turnovers after multiple CEO turnovers for a given firm in a given fiscal year are consolidated into one observation.

	1995	1996	1997	1998	1999	2000	1995-2000
Number of listed firms	311	514	720	826	924	1033	4328
Total number of CEO turnovers	47	81	136	210	273	330	1077
Annual turnover rate	15%	16%	19%	25%	30%	32%	25%
Number of CEO turnovers after consolidation	44	80	130	196	254	301	1005
Annual turnover rate after consolidation	14%	16%	18%	24%	27%	29%	23%

Table 2
Stated Reasons for CEO Turnover in China's Listed Enterprises

This table reports the frequencies of the stated reasons for CEO turnovers in China's listed firms from 1995 to 2000. 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.

	Full Sample		Consolidated Sample	
	Number	Percentage of Sample	Number	Percentage of Sample
1. Change of job	336	31.2%	305	30.4%
2. Retirement	33	3.1%	31	3.1%
3. Contract expiration	209	19.4%	205	20.4%
4. Change in controlling shareholders	76	7.1%	74	7.4%
5. Resignation	110	10.2%	103	10.3%
6. Dismissal	51	4.7%	42	4.2%
7. Health	34	3.2%	32	3.2%
8. Personal reasons	3	0.3%	3	0.3%
9. Corporate governance reform	178	16.5%	169	16.8%
10. Legal disputes	10	0.9%	9	0.9%
11. No reason given	24	2.2%	21	2.1%
12. Completion of acting duties	13	1.2%	11	1.1%
Total number of observations	1077	100.0%	1005	100.00%

Table 3

Destinations of Departing CEOs

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, as well as turnovers without giving reasons. Information is obtained from China Economic News Database and China's Listed Firms Database provided by Infobank, annual reports of China's listed firms, China's Listed Firms Database provided by http://stock.sina.com.cn/, and Internet materials available at http://www.baidu.com.

Destination	No. of observations	Percentage of sample (%)
1. Information unavailable	216	31.26
2. New position lower than CEO position	161	23.30
3. CEO position taken up at another unlisted and small-sized firm	5	0.72
4. Arrested or under investigation	21	3.04
5. Important government position taken up	22	3.18
6. Remaining as board chairman or vice chairman	100	14.47
7. Promoted to board chairman or vice chairman	149	21.56
8. CEO position taken up at other listed firms or parent firms	12	1.74
9. Health problems	2	0.29
10. Going abroad to study	3	0.43
Total	691	100

Table 4
Pearson Correlation Matrix

This table reports the correlation matrix for the variables included in our models. *Year* 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 the current position. *Duality* is a dummy variable that equals 1 if a CEO is also a board chairperson and 0 otherwise. *Stock return* is the annual industry-adjusted stock return. *Leverage* is the capital structure of a listed firm, measured as the ratio of the book value of total debt over the book value of total equity. *Size* is the size of a listed firm, measured as the natural logarithm of the book value of total assets. *State* is a dummy variable that equals 1 if the largest shareholders of a firm are government agencies and 0 otherwise. ROA is the unadjusted return on assets, measured as the ratio of pretax operating income to the beginning period book assets. IROA is the industry-adjusted return on assets, measured as ROA less the medium value of ROA for all firms in the same industry. DROA is the change in ROA over the previous year. DIROA is the change in IROA over the previous year. 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 symbol * represents correlations that are statistically significant at the 5% level using a two-tail criterion.

	Year	Age	Tenure	Duality	Stock return	Leverage	Size	State	ROA	IROA	DROA	DIROA	MROA	MIROA
Year	1.00													
Age	-0.01	1.00												
Tenure	0.26*	0.15*	1.00											
Duality	-0.17*	0.18*	0.13*	1.00										
Stock return	0.04*	-0.02	-0.01	-0.01	1.00									
Leverage	0.11*	-0.01	0.01	-0.03	-0.01	1.00								
Size	0.17*	0.07*	0.06*	-0.10*	-0.21*	0.03	1.00							
State	-0.05*	0.07*	0.02	0.17*	0.01	-0.02	-0.12*	1.00						
ROA	-0.23*	0.00	0.01	0.05*	0.08*	-0.29*	0.09*	0.01	1.00					
IROA	-0.21*	-0.01	0.01	0.05*	0.08*	-0.28*	0.08*	-0.01	0.98*	1.00				
DROA	0.09*	0.02	0.01	-0.02	0.17*	-0.03	-0.01	-0.02	0.43*	0.43*	1.00			
DIROA	0.07*	0.01	-0.01	-0.02	0.16*	-0.03	-0.01	-0.02	0.43*	0.44*	0.98*	1.00		
MROA	-0.25*	-0.01	0.07*	0.08*	-0.01	-0.30*	0.11*	0.01	0.90*	0.88*	0.17*	0.18*	1.00	
MIROA	-0.23*	-0.01	0.07*	0.09*	0.00	-0.30*	0.10*	0.01	0.88*	0.90*	0.18*	0.18*	0.98*	1.00

Table 5

Summary Statistics of Variables

This table reports the number of observations, the mean, median, standard deviation, minimum, and maximum values for the variables used in our models. *Year* 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 the current position. *Duality* is a dummy variable that equals 1 if a CEO is also a board chairperson and 0 otherwise. *Stock return* is the annual industry-adjusted stock return. *Leverage* is the capital structure of a listed firm, measured as the ratio of the book value of total debt over the book value of total equity. *Size* is the size of a listed firm, measured as the natural logarithm of the book value of total assets. *State* is a dummy variable that equals 1 if the largest shareholders of a firm are government agencies and 0 otherwise. ROA is the unadjusted return on assets, measured as the ratio of pretax operating income to the beginning period book assets. IROA is the industry-adjusted return on assets, measured as ROA less the medium value of ROA for all firms in the same industry. DROA is the change in ROA over the previous year. DIROA is the change in IROA over the previous year. MROA is the moving average of ROA over a CEO's tenure. MIROA is the moving average of IROA over a CEO's tenure.

Variables	Number	Mean	Standard Deviation	Minimum	Maximum
Panel A: Control variables					
Year	3106	3.467	1.944	1	9
Age	3106	48.437	7.150	28	70
Tenure	3106	2.336	1.522	0	11.500
Duality	3106	0.293	0.455	0	1
Stock return	3106	-0.036	0.341	-0.793	2.843
Leverage	3106	1.196	3.013	0.009	87.643
Size	3106	20.729	0.870	18.314	24.020
State	3106	0.140	0.347	0	1
Panel B: Performance variables					
ROA	3106	0.043	0.064	-0.723	0.445
IROA	3106	-0.003	0.063	-0.772	0.370
DROA	2501	-0.013	0.054	-0.804	0.579
DIROA	2501	-0.010	0.054	-0.799	0.585
MROA	3051	0.051	0.058	-0.458	0.375
MIROA	3051	0.003	0.056	-0.480	0.322

Table 6

Turnovers Rates and Performance of China's Listed Firms

This table reports the average fraction of CEOs forcedly 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 beginning period book assets. IROA is the industry-adjusted return on assets, measured as ROA less the medium value of ROA for all firms in the same industry. DROA is the change in ROA over the previous year. DIROA is the change in IROA over the previous year. 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 average forced turnover is compared between the worst performing firms and the best performing firms using a two-tailed t-test. *, **, and *** denote the significance levels of 10%, 5%, and 1%, respectively.

Average Fraction of CEO forced turnover	1=Low performance	2	3	4	5=High performance	Overall turnover rate	T value Test: (1)=(5)
Panel A: Observations are sorted according to Un-adjusted ROA							
All firms	0.124	0.083	0.062	0.059	0.066	0.079	3.762***
	699	699	699	699	700	3496	
Profit-making firms	0.094	0.078	0.052	0.066	0.062	0.07	2.054**
	593	593	593	593	593	2965	
Loss-making firms	0.179	0.113	0.151	0.104	0.075	0.124	2.309**
	106	106	106	106	107	531	
Panel B: Observations are sorted according to Industry-adjusted ROA							
All firms	0.119	0.087	0.063	0.059	0.066	0.079	3.44***
	699	699	698	700	700	3496	
Profit-making firms	0.093	0.076	0.061	0.057	0.066	0.07	1.721*
	593	593	592	594	593	2965	
Loss-making firms	0.162	0.131	0.16	0.085	0.084	0.124	1.73*
	105	107	106	106	107	531	
Panel C: Observations are sorted according to Change in Unadjusted ROA							
All firms	0.118	0.082	0.061	0.08	0.069	0.082	2.784***
	561	561	561	562	562	2807	
Profit-making firms	0.085	0.081	0.059	0.068	0.067	0.072	1.004
	459	459	460	459	460	2297	
Loss-making firms	0.157	0.147	0.118	0.098	0.118	0.127	0.811
	102	102	102	102	102	510	
Panel D: Observations are sorted according to Change in Industry-adjusted ROA							
All firms	0.116	0.091	0.064	0.07	0.069	0.082	2.702***
	560	562	562	561	562	2807	
Profit-making firms	0.092	0.07	0.07	0.065	0.063	0.072	1.616
	459	459	460	459	460	2297	
Loss-making firms	0.147	0.149	0.146	0.069	0.127	0.127	0.405
	102	101	103	102	102	510	
Panel E: Observations are sorted according to Average of Unadjusted ROA							
All firms	0.15	0.084	0.052	0.06	0.054	0.08	5.957***
	688	688	688	688	688	3440	
Profit-making firms	0.125	0.062	0.055	0.063	0.053	0.072	4.356***
	583	583	583	583	584	2916	
Loss-making firms	0.231	0.21	0.133	0.057	0	0.126	5.586***
	104	105	105	105	105	524	
Panel F: Observations are sorted according to Average of Industry-adjusted ROA							
All firms	0.141	0.084	0.061	0.052	0.061	0.08	4.96***
	688	688	688	688	688	3440	
Profit-making firms	0.108	0.079	0.062	0.057	0.053	0.072	3.466***
	583	583	582	584	584	2916	
Loss-making firms	0.212	0.229	0.114	0.048	0.029	0.126	4.227***
	104	105	105	105	105	524	

Table 7

Logit Regression Estimation of Turnover-Performance Links in China's Listed Firms

The table reports the logit regression estimation of the probabilities of forced CEO turnover in China's listed firms, using six performance measures. The sample period is from 1995 to 2000. *Year* 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 the current position. *Duality* is a dummy variable that equals 1 if a CEO is also a board chairperson and 0 otherwise. *Stock return* is the annual industry-adjusted stock return. *Leverage* is the capital structure of a listed firm, measured as the ratio of the book value of total debt over the book value of total equity. *Size* is the size of a listed firm, measured as the natural logarithm of the book value of total assets. *State* is a dummy variable that equals 1 if the largest shareholders of a firm are government agencies and 0 otherwise. ROA is the unadjusted return on assets, measured as the ratio of pretax operating income to the beginning period book assets. IROA is the industry-adjusted return on assets, measured as ROA less the medium value of ROA for all firms in the same industry. DROA is the change in ROA over the previous year. DIROA is the change in IROA over the previous year. MROA is the moving average of ROA over a CEO's tenure. MIROA is the moving average of IROA over a CEO's tenure. *, **, and *** denote significance levels of 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
Year	0.112	0.114	0.112	0.111	0.074	0.084
	(3.166)***	(3.268)***	(2.713)***	(2.692)***	(2.058)**	(2.381)**
Age	0.058	0.058	0.060	0.059	0.058	0.058
	(6.035)***	(6.020)***	(5.483)***	(5.455)***	(5.975)***	(5.966)***
Tenure	-0.201	-0.201	-0.211	-0.211	-0.179	-0.184
	(4.356)***	(4.367)***	(4.202)***	(4.202)***	(3.834)***	(3.940)***
Duality	-0.745	-0.743	-0.744	-0.744	-0.768	-0.762
	(4.113)***	(4.095)***	(3.654)***	(3.652)***	(4.262)***	(4.221)***
Stock return	-0.026	-0.026	0.002	-0.008	-0.014	-0.021
	(0.124)	(0.124)	(0.008)	(0.038)	(0.067)	(0.100)
Leverage	0.021	0.021	0.029	0.029	0.008	0.011
	(1.440)	(1.427)	(2.223)**	(2.264)**	(0.353)	(0.506)
Size	-0.145	-0.147	-0.170	-0.171	-0.113	-0.126
	(1.771)*	(1.807)*	(1.899)*	(1.917)*	(1.394)	(1.568)
State	0.106	0.104	-0.048	-0.046	0.088	0.084
	(0.531)	(0.523)	(0.211)	(0.202)	(0.444)	(0.425)
ROA	-1.911					
	(1.647)*					
IROA		-1.947				
		(1.716)*				
DROA			-3.112			
			(2.169)**			
DIROA				-2.826		
				(2.019)**		
MROA					-5.201	
					(3.552)***	
MIROA						-4.692
						(3.220)***
Constant	-2.688	-2.713	-2.366	-2.259	-3.105	-3.096
	(1.532)	(1.548)	(1.226)	(1.175)	(1.804)*	(1.795)*
Observations	3106	3106	2501	2501	3051	3051
Pseudo R-squared	0.053	0.053	0.055	0.054	0.063	0.061

Table 8. Logit Regression Estimation of Turnover-Performance Links in China's Profit-making Firms

This table reports the logit regression estimation of the probabilities of forced CEO turnover in China's profit-making firms. The sample period is from 1995 to 2000. *Year* 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 the current position. *Duality* is a dummy variable that equals 1 if a CEO is also a board chairperson and 0 otherwise. *Stock return* is the annual industry-adjusted stock return. *Leverage* is the capital structure of a listed firm, measured as the ratio of the book value of total debt over the book value of total equity. *Size* is the size of a listed firm, measured as the natural logarithm of the book value of total assets. *State* is a dummy variable that equals 1 if the largest shareholders of a firm are government agencies and 0 otherwise. ROA is the unadjusted return on assets, measured as the ratio of pretax operating income to the beginning period book assets. IROA is the industry-adjusted return on assets, measured as ROA less the medium value of ROA for all firms in the same industry. DROA is the change in ROA over the previous year. DIROA is the change in IROA over the previous year. MROA is the moving average of ROA over a CEO's tenure. MIROA is the moving average of IROA over a CEO's tenure. *, **, and *** denote significance levels of 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	force	force	force	force	force	force
List year	0.116	0.113	0.103	0.101	0.092	0.097
	(2.920)***	(2.884)***	(2.150)**	(2.125)**	(2.306)**	(2.480)**
Age	0.062	0.061	0.065	0.065	0.061	0.061
	(5.532)***	(5.518)***	(4.912)***	(4.898)***	(5.447)***	(5.463)***
Tenure	-0.250	-0.250	-0.269	-0.269	-0.238	-0.240
	(4.383)***	(4.396)***	(4.198)***	(4.203)***	(4.203)***	(4.239)***
Duality	-1.000	-0.995	-1.113	-1.114	-1.012	-1.014
	(4.519)***	(4.505)***	(4.158)***	(4.157)***	(4.574)***	(4.592)***
Stock Return	-0.351	-0.340	-0.303	-0.311	-0.334	-0.334
	(1.415)	(1.369)	(1.099)	(1.131)	(1.350)	(1.353)
Leverage	0.055	0.054	0.068	0.068	0.047	0.049
	(2.662)***	(2.721)***	(2.403)**	(2.376)**	(2.790)***	(2.817)***
Size	-0.223	-0.223	-0.276	-0.275	-0.223	-0.227
	(2.330)**	(2.317)**	(2.574)**	(2.569)**	(2.338)**	(2.375)**
State	0.069	0.067	-0.191	-0.186	0.046	0.043
	(0.301)	(0.290)	(0.688)	(0.673)	(0.198)	(0.189)
ROA	0.163					
	(0.076)					
IROA		-0.537				
		(0.240)				
DROA			-4.933			
			(1.851)*			
DIROA				-4.877		
				(1.872)*		
MROA					-3.011	
					(1.190)	
MIROA						-2.407
						(0.969)
Constant	-1.566	-1.536	-0.709	-0.607	-1.299	-1.390
	(0.760)	(0.746)	(0.314)	(0.268)	(0.634)	(0.682)
Observations	2639	2639	2053	2053	2591	2591
Pseudo R-squared	0.065	0.065	0.078	0.077	0.068	0.067

Table 9. Logit Regression Estimation of Turnover-Performance Links in China's Loss-making Firms

This table reports the logit regression estimation of the probabilities of forced CEO turnover in China's loss-making firms. The sample period is from 1995 to 2000. *Year* 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 the current position. *Duality* is a dummy variable that equals 1 if a CEO is also a board chairperson and 0 otherwise. *Stock return* is the annual industry-adjusted stock return. *Leverage* is the capital structure of a listed firm, measured as the ratio of the book value of total debt over the book value of total equity. *Size* is the size of a listed firm, measured as the natural logarithm of the book value of total assets. *State* is a dummy variable that equals 1 if the largest shareholders of a firm are government agencies and 0 otherwise. ROA is the unadjusted return on assets, measured as the ratio of pretax operating income to the beginning period book assets. IROA is the industry-adjusted return on assets, measured as ROA less the medium value of ROA for all firms in the same industry. DROA is the change in ROA over the previous year. DIROA is the change in IROA over the previous year. MROA is the moving average of ROA over a CEO's tenure. MIROA is the moving average of IROA over a CEO's tenure. *, **, and *** denote significance levels of 10%, 5%, and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	force	force	force	force	force	force
List year	0.088	0.093	0.078	0.076	0.067	0.080
	(0.972)	(1.026)	(0.812)	(0.788)	(0.689)	(0.824)
Age	0.057	0.056	0.054	0.053	0.062	0.059
	(2.835)***	(2.774)***	(2.684)***	(2.637)***	(2.973)***	(2.875)***
Tenure	-0.044	-0.046	-0.052	-0.051	0.015	0.007
	(0.474)	(0.493)	(0.549)	(0.542)	(0.148)	(0.066)
Duality	-0.025	-0.014	-0.018	-0.024	-0.016	0.035
	(0.071)	(0.039)	(0.052)	(0.068)	(0.044)	(0.100)
Stock Return	1.232	1.209	1.165	1.151	1.342	1.286
	(2.858)***	(2.797)***	(2.622)***	(2.588)***	(3.237)***	(3.040)***
Leverage	-0.011	-0.009	0.002	0.002	-0.054	-0.045
	(0.565)	(0.466)	(0.087)	(0.099)	(1.786)*	(1.653)*
Size	0.044	0.026	0.035	0.028	0.148	0.102
	(0.247)	(0.147)	(0.190)	(0.157)	(0.841)	(0.594)
State	0.233	0.233	0.293	0.292	0.143	0.163
	(0.539)	(0.535)	(0.657)	(0.654)	(0.326)	(0.371)
ROA	-3.571					
	(1.801)*					
IROA		-2.997				
		(1.523)				
DROA			-2.278			
			(1.093)			
DIROA				-1.805		
				(0.848)		
MROA					-11.721	
					(4.446)***	
MIROA						-10.332
						(4.150)***
Constant	-6.064	-5.729	-5.679	-5.447	-8.451	-7.864
	(1.538)	(1.477)	(1.403)	(1.362)	(2.170)**	(2.069)**
Observations	467	467	448	448	460	460
Pseudo R-squared	0.056	0.054	0.049	0.047	0.115	0.102

Table 10 Implied Probabilities of Forced Turnover Across Performance Quartiles

Implied probabilities are estimated using the models in Tables 7 and 8. Median performances within the indicated performance quartiles and median values for non-performance variables are used to estimate the implied probabilities. ROA is the unadjusted return on assets, measured as the ratio of pretax operating income to the beginning period book assets. IROA is the industry-adjusted return on assets, measured as ROA less the medium value of ROA for all firms in the same industry. DROA is the change in ROA over the previous year. DIROA is the change in IROA over the previous year. MROA is the moving average of ROA over a CEO's tenure. MIROA is the moving average of IROA over a CEO's tenure.

	All Firms	Profit-making Firms	Loss-making Firms
Panel A: Performance Quartiles Based on Unadjusted ROA			
Quartile 1	0.052	0.049	0.077
Quartile 2	0.049	0.047	0.069
Quartile 3	0.047	0.046	0.064
Quartile 4	0.045	0.044	0.062
Quartile 5	0.042	0.041	0.061
Quartile 1 to Quartile 5	0.01	0.008	0.016
Panel B: Performance Quartiles Based on Industry-adjusted ROA			
Quartile 1	0.053	0.05	0.079
Quartile 2	0.049	0.048	0.069
Quartile 3	0.047	0.046	0.065
Quartile 4	0.045	0.045	0.063
Quartile 5	0.042	0.042	0.061
Quartile 1 to Quartile 5	0.011	0.008	0.018
Panel C: Performance Quartiles Based on Change in Unadjusted ROA			
Quartile 1	0.053	0.051	0.076
Quartile 2	0.048	0.047	0.065
Quartile 3	0.046	0.045	0.059
Quartile 4	0.044	0.043	0.056
Quartile 5	0.041	0.04	0.05
Quartile 1 to Quartile 5	0.012	0.011	0.026
Panel D: Performance Quartiles Based on Change in industry-adjusted ROA			
Quartile 1	0.055	0.053	0.077
Quartile 2	0.05	0.049	0.067
Quartile 3	0.048	0.047	0.062
Quartile 4	0.046	0.046	0.058
Quartile 5	0.043	0.043	0.054
Quartile 1 to Quartile 5	0.012	0.01	0.023
Panel E: Performance Quartiles Based on Average of Unadjusted ROA			
Quartile 1	0.06	0.054	0.112
Quartile 2	0.051	0.048	0.081
Quartile 3	0.046	0.044	0.072
Quartile 4	0.041	0.04	0.068
Quartile 5	0.033	0.032	0.061
Quartile 1 to Quartile 5	0.027	0.022	0.051
Panel D: Performance Quartiles Based on Average of Industry-adjusted ROA			
Quartile 1	0.058	0.053	0.103
Quartile 2	0.05	0.048	0.078
Quartile 3	0.046	0.044	0.07
Quartile 4	0.042	0.041	0.064
Quartile 5	0.035	0.034	0.059
Quartile 1 to Quartile 5	0.023	0.019	0.044

Table 11 Changes in Postturnover Performance in China's Listed Firms

This table presents the changes in postturnover performance in China's listed firms. The sample period is from 1995 to 2000. 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.

	Panel A: Median Changes in Unadjusted Return on Asset			Panel B: Median Changes in Industry-adjusted Return on Asset			Panel C: Median Changes in Control-group adjusted Return on Asset			Panel D: Median Changes in Control-group and industry adjusted Return on Asset		
Year Relative to Turnover	All Turnovers	Turnovers in Profit-Marking Firms	Turnovers in Loss-making Firms	All Turnovers	Turnovers in Profit-Marking Firms	Turnovers in Loss-making Firms	All Turnovers	Turnovers in Profit-Marking Firms	Turnovers in Loss-making Firms	All Turnovers	Turnovers in Profit-Marking Firms	Turnovers in Loss-making Firms
	(1)	(2)	(3)	(4)	(7)	(8)	(9)	(5)	(6)	(7)	(8)	(9)
+1 to –1	-0.0081**	-0.0165***	0.0116	0.0019	-0.0027*	0.0251**	0.0132***	0.0067*	0.0593***	0.0164***	0.0026	0.0542***
+2 to –1	-0.0112**	-0.0234***	0.0238*	0.002	-0.0068*	0.0292**	0.0095**	0.0051*	0.0385*	0.0115**	0.0001	0.0339
+3 to –1	-0.0136*	-0.0286***	0.0258***	0.002	-0.008	0.0498***	0.0171***	0.0095*	0.0669***	0.0167***	0.0001	0.0649***
+1 to 0	-0.0011*	-0.0056***	0.0203***	0.0083	0.0001*	0.0431***	0.0043	0.0012	0.0238**	0.004*	0.0013	0.0193**
+2 to 0	-0.0042	-0.0125***	0.0325***	0.0084	-0.004*	0.0472***	0.0007	-0.0004	0.003	-0.0009	-0.0012	-0.0009
+3 to 0	-0.0066	-0.0177***	0.0345***	0.0084**	-0.0051	0.0678***	0.0083**	0.004	0.0315***	0.0043*	-0.0012	0.0301***