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## CEO Turnover and Firm Performance in China's Listed Firms (CRI 2009-012)

Martin Conyon  
*ESSEC Business School*

Lerong He  
*SUNY Brockport*

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**Practitioner/Policy Implications:** This study offers insights to policy makers interested in enhancing the design of internal corporate governance within transition economies.

### Keywords

CEO-turnover, China, Corporate Governance

### Comments

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# CEO Turnover and Firm Performance in China's Listed Firms

Martin Conyon  
ESSEC Business School  
Avenue Bernard Hirsch B.P. 50105  
95021 Cergy-Pontoise Cedex, France  
[conyon@essec.fr](mailto:conyon@essec.fr)

&

The Wharton School  
University of Pennsylvania  
PA, 19104, USA

Lerong He  
Department of Business Administration and Economics  
State University of New York-College at Brockport  
[lhe@brockport.edu](mailto:lhe@brockport.edu)

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## INTRODUCTION

The determinants of CEO turnover provide important insights into how effectively a firm resolves divergent interests between top management and shareholders. By linking CEO employment to measures of corporate performance, firms can better align the interests of senior management with owners. Although there is a voluminous literature on CEO turnover using Western data, there are relatively few studies pertaining to China. The goal of our paper is to investigate the determinants of CEO turnover in China's listed firms using data from 1999 to 2006. We augment earlier CEO turnover studies from China (Kato, and Long 2006a, 2006b; Firth, Fung, and Rui 2006; Chang, and Wong 2004).

China's economy has matured significantly. Since early 1980s, China has consistently achieved an annual GDP growth rate of more than eight percent. China has two domestic stock exchanges which are the Shanghai Stock Exchange and ShenZhen Stock Exchange. Both markets opened in December 1990 and began full functioning from 1992. Since then the size of the market has increased dramatically.<sup>i</sup> This has stimulated demand for a better understanding of corporate governance arrangements in China. This is a central concern for investors, policy makers and business leaders alike (Allen, Jun, and Meijun 2005b, 2005a; Xi 2006; Schipani, and Liu 2002; Jing, and Long 2008; Firth, Fung, and Rui 2008). The ownership and control of China's listed firms are radically different from Western firms and these have important implications for CEO turnover. The majority of firms are former state-owned enterprises where the state continues to be the dominant shareholder. Firms are governed by two-tier boards, consisting of separate management and supervisory components where the posts of CEO

and Chairperson are often combined (Muller-Kahle, and Gaur 2008; Firth et al. 2006). Executives are often state-appointed bureaucrats whose effectiveness in delivering shareholder value has been questioned (Fan, Wong, and Zhang 2007). Importantly, commentators have also questioned whether China's corporate governance environment provide adequate protection for investors (Jingu 2007; Li, Li, and Zhang 2000; Li 2004; Pei 2008) or provide incentives for managers to promote shareholder welfare (Kato et al. 2006b).

The context of our study is the reforms initiated by the China Securities Regulatory Commission (CSRC) since early 2000s. These reforms were triggered by a string of notorious Enron-like corporate scandals in China in the late 1990s as well as considerable investor disappointment with the existing corporate governance arrangements.<sup>ii</sup> In response, the CSRC passed a series of "Regulation for the Content and Format of Public Firms' Information Disclosure" in 2001 to reinforce disclosures of key financial information in listed firms. In August, 2001, CSRC released its "Guidelines for Establishing an Independent Director System in Listed Firms", which mandates the adoption of independent directors on the board of domestically listed companies. In particular, CSRC and the State Economic and Trade Commission jointly issued new rules in the form of a "Code of Corporate Governance for Listed Companies" in January 2002, which proposed a series of guiding principles to enhance accountabilities of top management and the board of directors. The apparent rationale behind the introduction of the corporate governance code and other corporate governance reforms was that these new rules would result in greater board independence and a higher quality internal control systems. The increased quality in governance standards would then reduce agency

costs and contribute to improved firm performance and ultimately enhance overall quality and credibility of Chinese stock markets (Fama 1980; Jensen 1993; Jensen, and Meckling 1976).

However, there has been skepticism that changes and developments in the Chinese corporate governance system are merely illusionary and may not have any substantive impact. In her speech about the future of China's capital market, Ms. Cha (the former vice-chairperson of CSRC) stated that the adoption of modern capital market practices by Chinese listed firms, particularly those transferred from previous state-owned enterprises, was more in form than in substance in many cases (Cha 2001). In addition, China's market reforms are still far from complete. An important area is property rights. China still needs to fully legitimize property rights and develop a working and legal culture that respects them so as to safeguard investor interests (Li 2004; Li et al. 2000).

### **Research on CEO turnover in China**

An important implication of effective corporate governance practices is that poorly performing CEOs should be terminated and replaced. In the wake of recent governance reforms in China, our study investigates whether poor firm performance results in a higher probability of CEO replacement. There are comparatively few studies of CEO turnover in China, especially compared with the voluminous literature using Western data.<sup>iii</sup> Kato and Long (2006b) examine CEO turnover in a pooled cross-section data of 634 listed firms from 1998 to 2002. They find a negative correlation between CEO turnover and firm performance, measured either as shareholder returns or return on

assets. They also find that ownership concentration, the private control of firms and board governance all influence CEO turnover. Specifically, the CEO turnover-performance link is stronger for firms with a majority shareholder and weaker for listed firms controlled by the state (but only for stock market performance). The CEO turnover-performance sensitivity is more negative in firms with a greater fraction of outside directors. In addition, the authors find that listed firms appear to subsequently experience greater performance improvement after the replacement of their CEOs when the firms are privately controlled or have a majority controlling shareholder. In other evidence, Kato and Long (2006a) confirm these results but find the magnitude of the CEO turnover-performance sensitivity is modest. Firth, Fung and Rui (2006) also investigate CEO turnover in a sample of firms between 1998 and 2002. They find that CEO turnover is negatively correlated with a firm's profitability but not with stock returns. The authors report a moderating effect for majority share ownership but not for the presence of independent directors.

Other contemporary research also focuses on CEO turnover.<sup>iv</sup> Chang and Long (2004) study CEO turnover in China between 1995 and 2000 and find no evidence of a significant relation between CEO turnover and stock returns, although some evidence is presented that CEO turnover is related to negative earnings measures. In a related study Chen et al (2005) find that CEO turnover in China between 1999 and 2003 increases significantly around a CSRC enforcement action. Although not directly showing the relation between CEO turnover and firm performance it attests to the importance of corporate governance for top executive replacement. Shen and Lin (2008) find that profitability and state ownership has a negative impact on top management turnover

when profitability is below target (measured by industry median), but no impact when profitability is above target.

Overall, the mixed findings from previous studies warrant further research on CEO turnover. Our study is significantly different from prior studies in a number of important ways. First, we investigate the relation between CEO turnover and firm performance in China's listed firms between 2002 and 2006. Since the early 2000s, China's market and corporate governance reforms have deepened. It is therefore critical to understand whether these reforms have strengthened internal controls thus affecting the dismissal likelihood of CEOs in poor performing firms. This is our primary contribution to the extant literature. Second, we investigate whether governance arrangements alter the relation between CEO turnover and organizational performance. Specifically, we investigate whether the sensitivity of CEO turnover to firm performance is greater in privately controlled of firms; whether the sensitivity of CEO turnover to firm performance is greater in firms with a major controlling shareholder; and finally whether the sensitivity of CEO turnover to firm performance is greater in firms with a larger fraction of outside directors on the board. Each of these hypotheses is grounded in previous research (Hermalin, and Weisbach 2003; Kato et al. 2006a, 2006b). In summary, we investigate whether corporate governance factors moderate the sensitivity of CEO turnover to firm performance. Finally, our dataset consists of a large number of firms per year amounting to almost all firms listed on China's domestic exchanges. We document the evolution of private controlled firms; changes in ownership structure and changes in the outside directors on boards of directors before and after the corporate governance

reforms. We therefore are able to map institutional changes in a major transition economies (Peng 2000; Peng, and Delios 2006; Peng 2003; Wright et al. 2005).

The main findings of this paper may be briefly summarized as follows. First, we find a negative and significant association between CEO turnover and firm performance, measured by both accounting value and market returns. CEOs of China's listed firms are therefore disciplined for poor performance. Second, CEO turnover and performance relation is generally stronger in privately controlled firms or firms with a greater fraction of outside directors on the board. There is little evidence that having a major shareholder on the board is associated with stronger CEO turnover and performance sensitivity. The empirical results are consistent with agency models of corporate governance. Third, we find that privately controlled firms have increased significantly in the public market over time (and state control has diminished). Ownership of Chinese public firms remains highly concentrated. About one-third of firms have an owner with greater than fifty percent share stake. However, the prevalence of ownership concentration has declined over time. In addition, outside directors on boards are much more common after the reform. About ninety percent of firms now have at least one third of the board comprised of outside directors. Our results augment previous findings on CEO turnover in China (Kato et al. 2006a, 2006b; Chang et al. 2004; Firth et al. 2006; Chen et al. 2005).

The rest of this paper is organized as follows. The next section presents the theoretical issues and hypotheses. This is followed by a method section where the data, measurement and analysis issues are addressed. We then present the results, followed by a discussion section containing our conclusions.

## **THEORETICAL ISSUES AND HYPOTHESES**

The standard approach to investigating CEO turnover is agency theory (Jensen 1993; Hermalin, and Weisbach 1998). In the absence of complete information and credibly enforceable-contracts agents (the manager) can behave opportunistically at the principal's (owner) expense. Agency costs associated with the separation of ownership and control can be mitigated by the complementary intervention of both internal and external control mechanisms.<sup>v</sup> An important internal control mechanism is the board of directors (Jensen 1983, 1993). In particular, when the boards are designed effectively, a firm should be able to replace CEOs who have performed poorly. As a result, the threat of termination may provide CEOs with powerful incentives to pursue the owners' interests (Weisbach 1988). Previous empirical research on CEO turnover, using Anglo-Saxon data, has generally found a negative relation between CEO turnover and firm performance (e.g. Brickley 2003, Volpin 2002; Weisbach 1995).<sup>vi</sup>

The hypothesized negative relation between management turnover and firm performance may be strengthened when corporate governance environments are more conducive. For example, in the 1990s the UK introduced a series of corporate governance reforms aimed at improving the quality of firm governance and to protect investors. With the enhanced governance rules one might expect that key board decisions, such as whether to replace a poorly performing CEO or not, would improve. Dahya and McConnell (2002) indeed show the negative association between CEO turnover and firm performance in UK firms is stronger following the introduction of the Cadbury Report in 1992, which required public firms to include an adequate proportion of independent outside directors on the board. In a similar way, we conjecture that if the Chinese

corporate governance reforms achieved their intended objectives to improve the quality of internal governance, then poorly performing CEOs are more likely to be replaced. The discussion of incentives and governance leads to our main empirical prediction:

*Hypothesis 1: There is a negative relation between CEO turnover and firm performance in China's listed firms.*

We next consider the role of ownership and control in driving CEO incentives. Prior research has argued that state-controlled firms in China provide weaker incentives for managers to pursue profit maximization and to increase firm value, compared with privately controlled firms (Kato et al. 2006a, 2006b). It has been observed that managers of state-controlled firms are more likely to be state-appointed bureaucrats with weak incentives to deliver shareholder value (Fan et al. 2007). Unlike privately-controlled firms, the state exercises control rights in listed firms mainly through state-owned asset management companies. Government officials are appointed to the board and act as custodian of these state assets. However, these officials are often unable or unwilling to diligently pursue their fiduciary roles, promote efficiency or profit goals. In addition they often have complex and opaque relationships with top management and are often prior state owned enterprise officials (Allen et al. 2005b, 2005a). In many cases, state officials have to consider non-performance factors of executive appointments. For example, appointments of many top officials of listed prior state owned enterprises have to be approved by the Chinese Communist Party's Department of Organization (Kato et al. 2006a, 2006b). As a result, we expect that privately-controlled firms are more able to

discipline managers for poor performance compared to state-controlled firms. We therefore predict:

*Hypothesis 2: There is a negative relation between CEO-turnover and firm performance in privately controlled firms.*

We next consider how the sensitivity of CEO-turnover to firm performance is influenced by a firm's ownership structure in China's listed firms. When shareholdings are diffused or widely held, individual owners have weak incentives to monitor managers' behaviour due to the free-rider problem. It is also difficult for them to exert sufficient influence over key corporate decisions such as CEO succession. Weak incentives and free-rider problems may be mitigated by concentrated ownership. A greater share-ownership stake can provide block-holders or controlling shareholders with stronger incentives to supervise managerial activities (Jensen 1993). As a result, a concentrated ownership structure may be a signal of better shareholder monitoring quality. The Chinese corporate governance reforms, including the Chinese corporate governance code, provide shareholders greater power to exercise their ownership rights and to protect their investment by participating in major company affairs. Therefore, we would expect stronger shareholder activism by a controlling shareholder to discipline management. A controlling shareholder with a large equity stake thus is able to influence major corporate events, for example replacing CEO in case of poor performance (Denis, Denis, and Sarin 1997a). Therefore, we would generally expect the sensitivity to firm

performance to be stronger (i.e. more negative) when there is a majority shareholder present.

However, a concentrated ownership may also exacerbate and lead to different types of moral hazard problems. Large equity holdings by a majority shareholder may result in greater power for them to expropriate minority investors, in which case the controlling owner may use their dominant voting power to treat themselves preferentially and withdraw private benefits at the expense of other investors (Adams, and Ferreira 2007; Shleifer, and Vishny 1997; La Porta et al. 2000; la Porta et al. 1998; Xu, Zhu, and Lin 2005).<sup>vii</sup> The problem of expropriation by controlling shareholders is argued to be extremely severe in Chinese stock markets because of a more primitive disclosure system. Such an entrenchment problem may inversely influence the capability of controlling shareholders to discipline CEOs in the case of poor performance. Overall, having noted this important caveat, we predict that:

*Hypothesis 3: There is a negative relation between CEO-turnover and firm performance in firms with a major controlling shareholder.*

Our final hypothesis relates to the role of independent directors on the board of directors. The role of the board of directors is to hire, fire and compensate the CEO (Jensen 1993, 1983). Eugene Fama has stated that: ‘the board is viewed as a market-induced institution, the ultimate internal monitor of the set of contracts called a firm, whose most important role is to scrutinise the highest decision makers within the firm’ (Fama 1980). However, directors will not necessarily make decisions consistent with shareholder interests. For

example, board members who are inside directors or interlocked directors, those holding managerial or contractual positions in the company, may owe their positions to CEOs and make decisions more aligned with CEO interests. As a result, they may be reluctant to discipline CEOs even in case of poor performance. The extant governance literature has therefore focused on the role of independent outside directors as the guardians of shareholder interests (Weisbach 1988, 1995; Hermalin et al. 2003, 1998). For example, Weisbach (1988) found that CEO-turnover is more sensitive to firm performance when boards are dominated by outside directors compared to insider-dominated board in a sample of U.S. firms. China's corporate governance reform requires listed companies to introduce independent directors to their board, who are supposed to carry their duties independently and not subject to the influence of management. If such arrangements are effective, we expect that:

*Hypothesis 4: There is a negative relation between CEO-turnover and firm performance in firms with a greater fraction of independent directors on the board.*

## **METHODS**

### **Data**

In order to test the hypotheses we constructed our sample by combining two significant databases. These are the China Center for Economic Research (CCER) database and the CSMAR-A financial database. The primary corporate governance data used in this study was supplied by the China Center for Economic Research (CCER) Sinofin Information Service. This database covers the population of firms listed on

Shanghai Stock Exchange and ShenZhen Stock Exchange. It contains a wealth of corporate governance information germane to our study, including information on firm ownership, the board of directors, CEO-turnover for the period 1998 onwards.<sup>viii</sup> The SinoFin data is collected directly from public firms' annual financial reports as published in Securities Time, Shanghai Securities Daily, China Securities Daily, and other major newspapers designated by the CSRC. Each input item is coded twice by two people to provide a cross-check and ensure coding accuracy. The Sinofin data has also been used in previous empirical research (Kato et al. 2006a, 2006b).

The financial and market information is obtained from CSMAR-A database, which collects financial and market information of all firms listed in Shanghai and Shenzhen stock exchanges. These data are also first-hand data collected from CSRC designated newspapers. Again, the data is double-checked among statements published in different sources is performed to ensure accuracy of the information.

### **Measuring CEO turnover**

The primary dependent variable in our econometric models is CEO turnover. Kato and Long (2006a) point out that use of the job-title 'Chief Executive Officer' or 'CEO' to identify the most senior firm executive is a relatively new phenomenon in China. Only recently are companies beginning to use this nomenclature and historically the term General Manager (*zongjinli*) has been used instead (Kato et al. 2006a). However, as both Kato and Long (2006a) and Firth et al (2006) argue, classifying the top executive in a Chinese company is complex (and assuming the General Manager is the CEO may be inappropriate). According to Kato and Long (2006a) the Chairman of the board of

directors is the legal representative of the firm and can also be considered the top executive. The Chairman is appointed by the largest shareholder, is often very powerful, and is involved in the executive running of the firm. Moreover, Firth et al (2006) claim that “the chairman is an executive position and ranks highest in the firm (it ranks above the CEO or general manger)”. In about 18% of China’s listed firms the posts of General Manager and Chairman are held by the same person, so in the majority of cases an algorithm or some decision rule is required to identify the “CEO”. Kato and Long (2006a) measure turnover using a decision rule about who is the General Manager and who is the Chairman.<sup>ix</sup> In contrast, Firth et al (2006) focus on the turnover of Chairman and do not consider the General Manager.

Given these complexities, we adopt the following simple strategy. We define two dependent variables: CH\_TURNOVER is a dummy variable equal to one if there is a change in the Chairman during the fiscal year and zero otherwise. GM\_TURNOVER is a dummy variable equal to one if there is a change in the General Manager during the fiscal year and zero otherwise. Both of these variables are given in the SinoFin data base. In turn Sinofin identifies the change in General Manager and/or Chairman from the firm’s annual report.<sup>x</sup> This strategy has distinct advantages. First, we are not forced to make a prediction about the precise identity of the “CEO” which can lead to mistakes and misclassifications (statistical type I and II errors). Second, we can model separately the determinants of Chairman turnover as well as General Manager turnover. In the absence of certainty about the most senior executive this seems to be a reasonable empirical strategy. Using the variable CH\_TURNOVER is consistent with the procedure recommended by Firth et al (2006). In addition, we note that in our data set the

CH\_TURNOVER measure is also highly correlated with the variable construct proposed by Kato and Long (2006a).

It is important to stress a limitation with the construction of the CEO turnover variable. Unfortunately, we cannot distinguish between “voluntary” turnovers (arising from retirements, resignations, job-moves etc.) and “involuntary” turnovers (arising from termination, forced dismissal etc). However, in practice, it is often difficult to accurately distinguish between a voluntary and involuntary CEO departure. For example, a CEO who is fired may ‘save-face’ by being allowed to resign or change job or have his contract expire. Some authors have attempted such a classification. Chang and Wong’s (2004) analysis of about 1000 CEO turnovers in China between 1995 and 2000 found only about 4% of cases were dismissals, but a change of job and contract expiration accounted for about 50% of CEO turnovers. Firth et al (2006) also attempt to distinguish between forced and voluntary resignation by investigating news reports. Again, a very small proportion of the cases are identified as forced resignation. Kato and Long (2006a) or Kato and Long (2006b) do not focus on the voluntary-involuntary departure distinction; and our research is consistent with this.

## **Analysis**

We estimate a standard logit model of CEO turnover. Let  $p$  be the probability of CEO turnover, such that  $p = \text{Pr}(\text{TURNOVER})$ . The augmented CEO turnover and performance equation can be specified as follows:

$$\ln\left[\frac{p}{1-p}\right] = \beta_0 + \beta_1\text{PERFORMANCE} + \beta_2\text{PRIVATE} \\ + \beta_3\text{MAJOR} + \beta_4\text{DIRECTOR}$$

$$\begin{aligned}
& + \beta_5 \text{PERFORMANCE} \times \text{PRIVATE} \\
& + \beta_6 \text{PERFORMANCE} \times \text{MAJOR} \\
& + \beta_7 \text{PERFORMANCE} \times \text{DIRECTOR} \\
& + \beta_8 \text{CONTROLS} + \varepsilon
\end{aligned} \tag{1}$$

where  $p/(1-p)$  is the odds ratio and  $\ln[ p/(1-p) ]$  is simply the natural logarithm of the odds. The estimation of this CEO turnover equation is consistent with previous studies using data from Anglo-Saxon economies as well as China. The dependent variable, CEO turnover, is measured as either GM\_TURNOVER (equal to 1 if there is a change in the General Manager; 0 otherwise) or CH\_TURNOVER (equal to 1 if there is a change in the Chairman; 0 otherwise) as discussed earlier.

The terms  $\beta_1$  to  $\beta_8$  are parameters to be estimated. One can think of parameters  $\beta_2$  to  $\beta_4$  as capturing the direct impact of the explanatory variables on the log-odds of CEO turnover and parameters  $\beta_5$  to  $\beta_7$  as the interaction variables. Our hypotheses can be tested using this model. Hypothesis 1 predicts a negative correlation between CEO turnover and firm performance, namely we expect that  $\beta_1 < 0$ ; hypothesis 2 predicts a negative correlation between CEO-turnover and firm performance in privately controlled firms, namely  $\beta_5 < 0$ ; hypotheses 3 predicts a negative relation between CEO-turnover and firm performance in firms with a controlling shareholder, namely  $\beta_6 < 0$ ; and finally hypotheses 4 predicts a negative relation between CEO-turnover and firm performance in firms with a greater fraction of independent directors on the board, namely we expect  $\beta_7 < 0$ . The error term is given by  $\varepsilon$  in the estimating equation. Our estimated models report z-statistics corrected for arbitrary heteroskedasticity. We use the Huber (1964) and White (1980) transformation method that yields robust standard errors.

## **Explanatory variables**

Based on previous research, firm performance (PERFORMANCE) is measured in two different ways. First, we use a market-based measure: the firm's annualized stock returns calculated from monthly data (we denote this SHR). Second, we use an accounting-based measure: return on assets (ROA), calculated as net profits divided by total assets. These measures have been used in prior China research on CEO turnover (Firth et al. 2006; Kato et al. 2006a, 2006b). Such market and accounting-based performance metrics have also been used in the wider literature on CEO replacement (Kaplan 1994). Both firm performance measures used in this study are averaged over the current and previous year to help account for potential causal and endogenous variable concerns. This strategy is consistent with prior research (Kato et al. 2006b; Conyon 1998).

Private ownership (PRIVATE) is an indicator variable set equal to one if the ultimate ownership of the firm is under private control and zero otherwise. Majority share ownership (MAJOR) is an indicator variable equal to one if the largest shareholder owns more than 50 percent of the firms' shares. The presence of independent directors is a binary variable equal to one if the fraction of independent directors on the main board is at least one-third. This is consistent with previous research (Kato et al. 2006a, 2006b).

The econometric model includes a set of control variables (CONTROLS) to mitigate potentially confounding effects (Hermalin & Weisbach 2003; Weisbach 1988). LSALES is the log for firm size measured as the log of firm sales. VOL measures the volatility of the firm's operating environment and is measured as the annualized standard deviation of stock returns from monthly stock returns data over the year. FIRM\_AGE captures the number of years a firm has been listed. In addition, the models contain a set

of industry dummy variables to capture inter-industry heterogeneity in managerial labor markets.<sup>xi</sup> Year dummies are included to control for macro-economic effects. This is consistent with previous research relating board structure to CEO turnover (Kato et al. 2006a, 2006b; Weisbach 1988; Conyon, and Florou 2002). Since the control variables do not form part of the main hypotheses we do not give predicted signs for them.

In the tables below we report the marginal effects from the transformed coefficient estimates from the logit model. For the logit model in (1), the estimated coefficients do not have a direct economic interpretation. In consequence, to get an idea of the economic significance of a given variable it is important to calculate the marginal effects. The marginal effect of the  $k^{\text{th}}$  explanatory variable  $X$  on the probability of CEO turnover is given as:  $\partial[\text{CEO\_TURNOVER}=1/X]/\partial X_k = s \times \beta_k$  where  $s = \exp(X'\beta) / [1 + \exp(X'\beta)]^2$ . Intuitively, the marginal effects are calculated by rescaling the estimated coefficients from the estimated logit equation and can be interpreted as the incremental effect on CEO turnover brought about from an incremental change in the explanatory variable  $X_k$ . An analogous procedure is given for dummy variables. The economic interpretation is switching from zero to one, for example in the case of the dummy variable PRIVATE it is the effect on CEO turnover of changing from “state control” to “private control”.<sup>xii</sup>

## **RESULTS**

### **Descriptive statistics results**

Table 1 presents basic information on the sample characteristics as well as descriptive statistics on the variables used in the analysis. Panel A shows the number of firms listed

in China and the number of firms in the sample for which we have CEO turnover data, measured as the change in executive chairman (CH\_TURNOVER). Our results are not altered if we proxy CEO change by the change in General Manager (GM\_TURNOVER). In general, our sample consists of approximately 90% of listed firms on both Shanghai and Shenzhen stock exchanges and in consequence is representative of listed firms in China. This is an important aspect of this study.

*Insert Table 1 about here*

Panel B first shows turnover of Chairman (CH\_TURNOVER) and General Managers (GM\_TURNOVER) in China's listed firms. The turnover rate of Chairman CEOs is less than General Manager CEOs. These turnover rates are significantly greater than CEO turnover rates observed in Western data (Hermalin et al. 2003; Conyon 1998). The average turnover rate of Chairman is about 25% and General Managers about 38%. The results are consistent with Kato and Long (2006b) who report an annual CEO turnover rate of 24% using a measure that is closely related to the CH\_TURNOVER measure used in this study. We find that on average about 21% of listed firms in China are privately controlled. The overall private control rate conceals significant time-series variation. Private control of China's listed firms has increased significantly over the sample period, from about 9% in 1999 to approximately 34% in 2006. The rise in privately controlled firms, which have more than doubled over this period, is attributed to the decline in state control over the period. The state has withdrawn significantly, although still remains as the largest controlling owner of listed firms. In un-tabulated results, overall state control of enterprises is about 75%.

China's listed firms are frequently controlled by a single large shareholder. Approximately 37% of firms had a major shareholder with at least a 50% shareholding (MAJOR) between 1999 and 2006. However, the percentage of firms with a shareholder owning at least 50% of shares has declined significantly from about 42% in 1999 to 28% in 2006.

Finally, we find that about 49% of China's listed firms have boards comprised of at least one-third independent directors over the sample period. This has changed significantly over the sample period. In 1999 only 3% of boards were comprised of at least one third of independent directors. The number increases drastically in 2002, where 19% of firms having one third of independent directors on the board. In year 2003, the number jumps to 74%. By 2006 about 87% of firms have one-third of independent directors. In addition, in year 1999, there is barely any outside directors on the board. There is a huge jump in the fraction of independent directors on the board in year 2002, where the number increases from the 2001 level of 6% to 24%. These results indicate that corporate governance reforms have brought a significant change in the board structure of Chinese listed firms.<sup>xiii</sup>

### **Econometric results**

Table 2 shows our primary econometric results, based on the sample period 2002 to 2006. The dependent variable is CH\_TURNOVER: the replacement of the firm's Executive Chairman during the year. Its use is consistent with Kato and Long (2006a) and Firth et al (2006). The performance measure in Columns 1 and 2 is shareholder returns (SHR). The performance measure in Columns 3 and 4 is return on assets (ROA). This is the

fundamental distinction between market and accounting-based performance. All the regressions have control variables for size, company volatility (risk), industry, and time effects. Recall, that the marginal effects are reported rather than the more difficult to interpret coefficient estimates from the logit model.

Hypothesis 1 predicts a negative association between CEO turnover and firm performance in China's listed firms. The hypothesis is confirmed in the data. There is a significant negative correlation between CEO turnover and both market and accounting performance (Table 1, columns 1 and 3). CEOs of China's listed firms face a greater likelihood of dismissal for poor corporate performance. The evidence is consistent with (Firth et al. 2006; Kato et al. 2006a, 2006b) who similarly establish a negative CEO turnover-performance relation but for an earlier pre-reform time period. The reported marginal effects suggest that an incremental decrease in stock returns is associated with an increase in the likelihood of CEO-turnover by approximately twelve percent. In contrast, a small decrease in return on assets is associated with an increase in the CEO turnover-likelihood by about ten percent. In the baseline model, therefore, CEO-turnover is sensitive to accounting and market-based performance metrics.

*Insert Tables 2 and 3 about here*

Hypothesis 2 predicts a negative relation between CEO-turnover and firm performance in privately controlled firms. The hypothesis is confirmed for the shareholder return measure: the estimated coefficient on the interaction variable PERFORMANCE×PRIVATE is negative and statistically significant. The estimated marginal effect suggests that a falling stock returns in privately controlled firms is associated with an increase in the likelihood of CEO departure by about 10%. Curiously,

for the return on asset performance measure the interaction term is positive, which is contrary to our hypothesis. The empirical evidence suggests that privately controlled listed firms rely more on stock market performance than accounting performance to discipline managers. This may be because accounting measures are potentially ‘subjective’ and prone to more manipulation by management. In contrast, the market-based measures are more ‘objective’ and less prone to manipulation by management. We conclude that CEOs of privately-controlled listed firms face a greater likelihood of dismissal for declining stock returns. This evidence is consistent with other research using earlier data (Kato et al. 2006b).

Hypothesis 3 predicts a negative relation between CEO-turnover and performance for firms with a major controlling shareholder. The estimated coefficient on the interaction term  $PERFORMANCE \times MAJOR$  is significantly positive for the stockholder returns measure but not for the return on assets measure. The results for the stock returns measure is contrary to our expectation. CEOs at firms with a major controlling shareholder face a decrease in the likelihood of CEO turnover for a decrease in performance. There is no evidence suggesting that listed firms with a major shareholder rely on accounting performance to discipline or replace managers.

Finally, hypothesis 4 predicts a negative association between CEO-turnover and firm performance in firms with a greater fraction of independent directors on the board. The estimated coefficient on  $PERFORMANCE \times DIRECTOR$  is statistically significant for the stock returns variable but not for return on assets. The evidence supports the view that firms with a greater fraction of independent directors on the board are more likely to discipline CEOs for poor stock returns in China’s listed firms. However, there is little

evidence points to poor return on assets. Our evidence is consistent with other research on China (Firth et al. 2006; Kato et al. 2006a, 2006b) as well as with studies using Western data (Weisbach 1988).

Table 3 re-estimates the CEO turnover equations and now used the change in General Manager (GM\_TURNOVER) as the left-hand side (dependent) variable. The results are qualitatively similar to Table 2, with some subtle differences. Hypothesis 1 predicts a negative correlation between CEO turnover and firm performance and this is confirmed in Columns 1 and 3. Hypothesis 2 predicts a negative correlation between CEO-turnover and firm performance in privately controlled firms. This is confirmed for stock-returns but not for return on assets where the interaction term is insignificant. Hypothesis 3 predicts a negative relation between CEO-turnover and firm performance in firms with a controlling shareholder. This is not confirmed for either stock returns or return on assets. Hypothesis 4 predicts a negative relation between CEO-turnover and firm performance in firms with a greater fraction of independent directors on the board. This is confirmed for the case of stock returns but not for return on assets.

It is also important to comment on the direct effect of the explanatory variables PRIVATE, MAJOR and DIRECTOR in the regression models. Generally, these effects are not significant in Table 2, when we measure the Executive Chairperson turnover. In the case of General Managers (Table 3), we find privately owned firms (PRIVATE) are more likely to replace CEOs compared to state-owned firms (about 8% more likely). In this sense, being the CEO of a privately controlled is more 'risky'. We find no direct effect of majority share ownership (MAJOR) on the likelihood of CEO replacement. In

contrast, firms with a greater fraction of outside directors (DIRECTOR) are less likely to replace their CEOs (between 3% and 5% less likely).

Considering the control variables in the analyses we find that larger firms (LSALES) are less likely to replace their CEOs (by approximately 1% to 2%). Firms with greater stock-price volatility (VOL) are more likely to replace their CEOs (by approximately 7% to 8%). Finally, older more established firms (FIRM\_AGE) are more likely to replace the CEO (by approximately 1%). Generally, the control variables are jointly significant on the basis of a Wald test as well as being individually statistically significant.

In summary, we find qualified support for our four hypotheses. We are able to identify a significantly negative association between firm performance, measured either as stock returns or return on assets, and CEO replacement (hypotheses 1). Poorly performing CEOs of China's listed firms face a greater likelihood of job termination compared to high performing CEOs. The evidence for the other hypotheses (hypotheses 2, 3, and 4) is mixed and depends on the choice of performance term, as seen in the interaction variables.

### **Sensitivity analysis**

Our primary results, reported in the previous section, are based on the time period 2002 to 2006. This is the time frame when the new governance regulations, including but not exclusively the Corporate Governance Code, were introduced in China. One important issue to address is whether our results are sensitive to the choice of estimation period. We have data going back to 1999 so we are able to re-estimate the regressions underlying

equation (1) for the period 1999 to 2001. Recall, this is a period prior to the major corporate governance reforms. The results are presented in Table 4.

The main hypothesis 1 predicts a negative association between CEO turnover and firm performance. The hypothesis is confirmed for return on assets (ROA) in columns 3 and 4. The estimated coefficient is negative and significant. In contrast, there is little evidence of a statistical relation between CEO turnover and stock returns over the period 1999 to 2001. In column 1 the sign on SHR is negative but insignificant at the 10% level. The results are consistent with Firth et al (2006) who also find a negative correlation between CEO replacement and return on assets but not between turnover and stock returns.

*Insert Table 4 about here*

In the sensitivity analysis we find very little empirical support for hypotheses 2 to 4 for the period 1999 to 2001. There is no effect of private-control, majority-share ownership or independent directors on the CEO-turnover and performance sensitivity. The interaction terms between firm performance and private ownership (PERFORMANCE×PRIVATE), performance and majority share ownership (PERFORMANCE×MAJOR) and performance and the presence of independent director (PERFORMANCE×DIRECTOR) are not significant (see columns 2 and 4).

We conclude that our hypotheses 2 to 4 are potentially sensitive to the choice of the time-period under investigation and appear to be more relevant to the years from 2002 to 2006. In addition, we find that the effect of the direct variables is different in Table 3 compared with Table 2. For example, majority share ownership (MAJOR) is now negative and significant, whereas it is not significant in Table 2. The variable measuring

the independence of the board (DIRECTOR) is now significantly negative, compared to significantly positive in Tables 2 & 3. In summary, these additional empirical results attest to the importance of investigating whether corporate governance effects are sensitive to the time period under investigation as the effects of explanatory variables may be different in each.<sup>xiv</sup> In this case we find salient differences between the analysis of 1999 to 2002 and 2002 to 2006.

Our final piece of empirical analysis investigates whether the sensitivity of CEO replacement to firm performance is different in the period before the introduction of the corporate governance code and other key regulations in China (1999 to 2001) and the period after (2002 to 2006). To conduct this analysis we simply defined a dummy variable equal to one for the years 2002 to 2006 and zero otherwise. We call this variable GOV\_CODE. We then interact this with the performance term (PERFORMAMCE). The coefficient estimate on the interaction term (PERFORMANCE×GOV\_CODE) captures the sensitivity of CEO turnover to firm performance in the period after 2002. Recall, this is the time when the corporate governance code and other major regulations were introduced. If CEOs are more likely to be replaced for poor performance in the period since 2002 we expect a negative coefficient. However, if it is not possible to precisely identify the time when the code and other regulations gained traction, then such negative correlation is not likely to be observed. The results are contained in Table 5.

*Insert Table 5 about here*

Table 5 uses the change in Chairman (CH\_TURNOVER) as the proxy variable for CEO replacement. Using the alternative variable, a change in General Manager (GM\_TURNOVER), yielded qualitatively similar results. Columns 1 and 3 give the

estimates from estimating the base-line model over the whole sample period. Importantly, we find a significantly negative correlation between CEO turnover and firm performance, measured either as stock returns or return on assets. This corroborates hypothesis 1 for the longer sample period 1999 to 2006. We find that CEOs at poorly performing Chinese firms are more likely to be replaced. Columns 2 and 4 contain the full model specification and also include the extra variables GOV\_CODE and the interaction term PERFORMANCE×GOV\_CODE. We find that GOV\_CODE is significantly negative, suggesting lower CEO turnover in the period after 2002. The term PERFORMANCE×GOV\_CODE is insignificant in the case of stock returns. Contrary to expectations it is significantly positive in the case of return on assets. The results suggest little evidence of a more negative sensitivity of CEO replacement to firm performance in the period since 2002. The period after the introduction of governance codes and other regulations is not associated with greater CEO replacement for poor performance from our analysis.

One reason for this result might be that splitting the time period into pre-2002 and post-2002 sub-samples may be inappropriate. It may simply be there is no single regulation or rule passed by the CSRC that can be viewed as a landmark change in the corporate governance regime that warrants such a demarcation, including the “Code of Corporate Governance for Listed Companies in China”.<sup>xv</sup> Instead, there have been many related rules and regulations designed with the goal to improve the corporate governance quality of Chinese listed firms.<sup>xvi</sup> These different regulations attempted, in quite a piecemeal fashion, to address the various aspects of corporate governance in listed firms in

China. So, it might be very difficult to identify a specific point in time to identify a structural break where the relation between CEO turnover and firm performance changes.

## **DISCUSSION**

In this study we have presented new empirical evidence on the relation between CEO-turnover and firm performance in China's listed firms. Our dataset is unique, comprehensive and effectively covers the population of firms on the Chinese domestic exchanges. This is an important strength of the study and builds significantly on previous research by using a larger and more comprehensive set of firms. Our study provided insights into the effectiveness of corporate governance regimes in transition economies. China is an exemplar transition economy. By focusing on the period since 2002, it complements other recent studies on CEO turnover in China, which have typically used data and firms up to 2003 and so many of the changes in corporate governance were still in comparative infancy. (Firth et al. 2006; Kato et al. 2006a, 2006b; Chen et al. 2005). Our study is therefore timely in as much as it examines the drivers of CEO turnover in an era of changed (and changing) corporate and regulatory governance.

Our analysis focused on the central idea from the agency theory that managers of poorly-performing companies are terminated more frequently than managers of well-performing firms. This implicit contract provides important incentives for senior executives to promote owners' interests. This is a fundamental theme within the corporate governance field, but has been primarily tested using data from Anglo-Saxon economies such as the United States and the United Kingdom (Murphy 1999; Weisbach 1988, 1995; Hermalin et al. 2003, 1998; Conyon, and Murphy 2000; Conyon 1998;

Canyon et al. 2002). The strength of our study is that we focus on China, widely regarded as an exemplar transition economy. A novel feature of our analysis is that we have relatively long time series of data and that we investigated the CEO turnover performance sensitivity after the introduction of major corporate governance reforms in the early 2000s. We focused on this period since changes in the legal and regulatory environment may potentially improve governance quality and thus the sensitivity of CEO-turnover to firm performance (Chen et al. 2005).

Our study yielded a number of significant findings. First, we isolated a negative and statistically significant association between CEO turnover and firm performance. This fundamental hypothesis is a seemingly robust statistical finding throughout the various analyses. The empirical evidence is consistent with the prediction that CEOs in China are disciplined for poor corporate performance. As such CEOs have important career incentives to promote shareholder and profit goals. Our results complement other studies of CEO turnover in China based on data from earlier periods (Firth et al. 2006; Kato et al. 2006a) and augments evidence that CEOs in China are replaced in poorly performing firms. From 2002 to 2006, a period characterized by deepening market reforms, we isolated a significantly negative association between CEO replacement and stock returns as well as CEO replacement and return on assets. We found this relation in the longer time-period from 1999 to 2006 too. However, our various sensitivity analyses failed to find convincing evidence that the sensitivity of CEO turnover to performance changed significantly after 2002 when the corporate governance code and other regulation were introduced. This may be due to it is hard to disentangle the effects of the different corporate governance regulations that have occurred in China or because the

effects of the changes have yet to manifest themselves. Investigating China's regulatory codes and listing rules is an important area for further research.

Second, our study investigated various moderating (or interaction) effects on the sensitivity of CEO turnover to performance. Specifically, we probed whether the sensitivity of CEO replacement to firm performance was different in privately controlled firms, firms with majority shareholders and firms with a high fraction of independent directors. In these statistical tests we found mixed results. The sensitivity of CEO turnover to stockholder returns is significantly stronger in privately controlled firms. Privately controlled firms, therefore, are more likely to replace CEOs for poor performance, compared to state-owned firms. This is consistent with predictions from the agency theory and complements other studies (Kato et al. 2006a, 2006b).

In addition, we found that the sensitivity of CEO turnover stock returns is stronger in firms with a greater fraction of independent directors on the board. In short, boards with a large complement of outside directors are more likely to replace CEOs for poor performance. Again, this is consistent with the agency theory as well as prior empirical research from the US (Weisbach 1988) and China (Kato et al. 2006b). However, we found no evidence that firms with a major shareholder (whose share stake was at least 50%) were more likely to discipline CEOs for poor performance. These general findings for the sensitivity of CEO replacement to stock returns were more difficult to isolate in the case of the alternative performance measure, return on assets. This is perhaps attributable to the idea that accounting-based measures of performance are potentially more subjective and noisy as a performance management tool. We also found that our results were not overly sensitive to some technical issues of how to measure the post of

most senior executive or CEO -- a concern raised in previous research by Kato and Long (2006a) and Firth et al (2006).

Third, our findings showed deepening of China's market reforms. Since 1999, the first year in our data set, the presence of privately controlled firms has increased considerably. The fraction of privately listed firms more than doubled between 1999 and 2006. This is associated with a decline in state ownership of China's firms. Ownership concentration still remains at a very high level, especially compared with Anglo-Saxon economies. Our results also documented that the average number of firms with a majority shareholder control (greater than 50%) has declined over time. In addition, we found the fraction of independent outside directors on boards has increased significantly and the number of firms with one-third of the board comprised of outsiders has similarly increased. All these changes point to significant changes in the governance of China's listed firms. The reforms signal China's continued commitment to market reforms and the implicit belief that such changes will result in greater firm and economic efficiency.

## **CONCLUSION**

This study has contributed to the corporate governance literature by investigating the determinants of CEO turnover in China. Currently, there are only a few published papers in this area (Firth et al. 2006; Kato et al. 2006a, 2006b) and our study augments these. We have demonstrated a negative association between CEO turnover and performance. We have shown that under certain circumstances governance institutions (such as the private control of firms and the structure of boards) may moderate this relation. Although our study is unique in a number of respects, there are some limitations

which may usefully form the basis of future research. First, due to the limitations of the data, we were not able to distinguish between ‘voluntary’ and ‘involuntary’ causes of CEO-turnover. Future research may want to address this issue. Second, our analysis offers insights into the determinants of CEO turnover in China. It does not examine the consequences of CEO turnover for subsequent organizational performance. For example, does firm performance improve once the CEO is replaced? This is another potentially important topic for future study. Third, we were unable to collect the demographics of the CEO such as CEO age, education, and job tenure and our results should be considered in this light.

Despite these potential limitations, our paper provides important unique evidence on the sensitivity of CEO turnover to firm performance in China. It also examined the moderating role of private ownership, majority shareholder control and the role of independent directors. Our hope is that our findings will provide the stimulus for further research on the interplay between the organization’s external environment and the decisions made by key actors within the firm.

**Table 1**  
**Descriptive Statistics**

**Panel A: Sample characteristics**

<i>YEAR</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>Total</i>
CH_TURNOVER	833	933	1088	1133	1200	1257	1339	1345	9128
LISTED FIRMS	949	1088	1160	1224	1287	1377	1381	1434	9900
PERCENT	88%	86%	94%	93%	93%	91%	97%	94%	9528

**Notes:** Table contains number of observations by year. Key to variables: CH\_TURNOVER = 1 if there is a change in the Chairman in the fiscal year, zero otherwise. This is CEO turnover. LISTED FIRMS is the number of listed firms in China (total). PERCENT is LISTED FIRMS divided by CH\_TURNOVER as a percentage.

**Panel B: Descriptive statistics**

<i>YEAR</i>	<i>1999</i>	<i>2000</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>Total</i>
CH_TURNOVER	0.36	0.30	0.27	0.26	0.22	0.19	0.20	0.25	0.25
GM_TURNOVER	0.50	0.46	0.39	0.38	0.33	0.30	0.32	0.45	0.38
PRIVATE	0.09	0.11	0.12	0.17	0.23	0.27	0.28	0.34	0.21
MAJOR	0.42	0.42	0.41	0.40	0.37	0.35	0.32	0.28	0.37
DIRECTOR	0.03	0.01	0.04	0.19	0.74	0.84	0.88	0.87	0.49
SHR	0.20	0.62	-0.22	-0.20	-0.12	-0.16	-0.12	0.89	0.11
ROA	0.04	0.03	-0.02	-0.02	0.00	-0.02	-0.02	0.01	0.00
LSALES	19.82	19.94	20.03	20.14	20.29	20.47	20.54	20.67	20.27
VOL	0.48	0.38	0.31	0.32	0.28	0.37	0.41	0.47	0.38
FIRM_AGE	4.06	4.54	5.22	5.89	6.57	7.07	7.96	8.60	6.43

**Notes:** Table contains means of the variables used in the regressions by year. Key to variables: CH\_TURNOVER = 1 if there is a change in the Chairman in the fiscal year, zero otherwise. GM\_TURNOVER=1 if there is a change in the General Manager in the fiscal year, zero otherwise. PRIVATE=1 if the firm is privately controlled, zero otherwise. MAJOR=1 if the largest controlling shareholder has a share-stake greater than 50%, zero otherwise. DIRECTOR=1 if the fraction of independent directors on the board is greater than 33%, zero otherwise. SHR=annualized shareholder returns. ROA=return on assets. LSALES = log firm sales. VOL = standard deviation of stock returns over the year. FIRM\_AGE = the number of years the firm has been publicly quoted. Data source for corporate governance and financial variables: Sinofin and CSMAR.

**Table 2**

**CEO turnover (Chairman) and firm performance in China's listed firms**

Logit estimation for the period 2002-2006. The dependent variable is CEO turnover: CH\_TURNOVER = 1 if there is a change in the Chairman in the fiscal year, zero otherwise. PRIVATE=1 if the firm is privately controlled, zero otherwise. MAJOR=1 if the largest controlling shareholder has a share-stake greater than 50%, zero otherwise. DIRECTOR=1 if the fraction of independent directors on the board is greater than 33%, zero otherwise. SHR=annualized shareholder returns. ROA=return on assets. LSALES = log firm sales. VOL = standard deviation of stock returns over the year. FIRM\_AGE = the number of years the firm has been publicly quoted. Regressions contain industry and time dummies. Data source for corporate governance and financial variables: Sinofin and CSMAR. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Marginal effects reported.

		(1)	(2)	(3)	(4)
	<i>Pred. sign</i>	<i>Performance variable is:</i>			
		<b>SHR</b>	<b>SHR</b>	<b>ROA</b>	<b>ROA</b>
<b>Economic variables</b>					
PERFORMANCE	–	-0.12*** (-4.84)	-0.07 (-1.41)	-0.10** (-2.35)	-0.20*** (-2.65)
PRIVATE	?	0.01 (0.67)	-0.00 (-0.36)	0.01 (0.51)	0.01 (0.69)
MAJOR	?	0.00 (0.21)	0.01 (0.89)	-0.00 (-0.03)	0.00 (0.04)
DIRECTOR	?	0.00 (0.32)	-0.01 (-0.46)	0.00 (0.24)	0.00 (0.28)
PERFORMANCE x PRIVATE	–		-0.10** (-2.49)		0.14* (1.91)
PERFORMANCE x MAJOR	–		0.08** (2.19)		0.06 (0.84)
PERFORMANCE x DIRECTOR	–		-0.07* (-1.74)		-0.03 (-0.47)
<b>Control variables</b>					
LSALES	?	-0.02*** (-4.29)	-0.02*** (-4.31)	-0.02*** (-4.60)	-0.02*** (-4.42)
VOL	?	0.09*** (5.14)	0.08*** (5.00)	0.07*** (4.42)	0.07*** (4.21)
FIRM_AGE	?	0.01*** (5.51)	0.01*** (5.21)	0.01*** (5.33)	0.01*** (5.29)
Industry & time dummies		Yes	Yes	Yes	Yes
Observations		6142	6142	6142	6142

**Table 3**

**CEO turnover (General Manager) and firm performance in China's listed firms**

Logit estimation for the period 2002-2006. The dependent variable is CEO turnover: GM\_TURNOVER=1 if there is a change in the General Manager in the fiscal year, zero otherwise. PRIVATE=1 if the firm is privately controlled, zero otherwise. MAJOR=1 if the largest controlling shareholder has a share-stake greater than 50%, zero otherwise. DIRECTOR=1 if the fraction of independent directors on the board is greater than 33%, zero otherwise. SHR=annualized shareholder returns. ROA=return on assets. LSALES = log firm sales. VOL = standard deviation of stock returns over the year. FIRM\_AGE = the number of years the firm has been publicly quoted. Regressions contain industry and time dummies. Data source for corporate governance and financial variables: Sinofin and CSMAR. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Marginal effects reported.

		(1)	(2)	(3)	(4)
	<i>Pred. sign</i>	<i>Performance variable is:</i>			
		<b>SHR</b>	<b>SHR</b>	<b>ROA</b>	<b>ROA</b>
<b>Economic variables</b>					
PERFORMANCE	–	-0.09*** (-3.09)	0.06 (1.18)	-0.17*** (-2.75)	-0.20 (-1.64)
PRIVATE	?	0.08*** (4.90)	0.07*** (4.24)	0.07*** (4.71)	0.07*** (4.81)
MAJOR	?	-0.01 (-0.58)	-0.01 (-0.38)	-0.01 (-0.75)	-0.01 (-0.58)
DIRECTOR	?	-0.03* (-1.94)	-0.05*** (-3.12)	-0.03* (-1.90)	-0.03* (-1.87)
PERFORMANCE x PRIVATE	–		-0.07* (-1.68)		0.12 (1.03)
PERFORMANCE x MAJOR	–		0.02 (0.48)		-0.12 (-1.02)
PERFORMANCE x DIRECTOR	–		-0.18*** (-3.55)		-0.03 (-0.32)
<b>Control variables</b>					
LSALES	?	-0.01* (-1.85)	-0.01* (-1.93)	-0.01 (-1.52)	-0.01 (-1.33)
VOL	?	0.08*** (4.36)	0.09*** (4.51)	0.07*** (3.54)	0.07*** (3.45)
FIRM_AGE	?	0.01*** (3.11)	0.01*** (2.95)	0.01*** (2.83)	0.01*** (2.82)
Industry & time dummies		Yes	Yes	Yes	Yes
Observations		6142	6142	6142	6142

**Table 4****CEO turnover (Chairman) and firm performance in China's listed firms: 1999-2001**

Logit estimation for the period 1999-2001. The dependent variable is CEO turnover: CH\_TURNOVER = 1 if there is a change in the Chairman in the fiscal year, zero otherwise. PRIVATE=1 if the firm is privately controlled, zero otherwise. MAJOR=1 if the largest controlling shareholder has a share-stake greater than 50%, zero otherwise. DIRECTOR=1 if the fraction of independent directors on the board is greater than 33%, zero otherwise. SHR=annualized shareholder returns. ROA=return on assets. LSALES = log firm sales. VOL = standard deviation of stock returns over the year. FIRM\_AGE = the number of years the firm has been publicly quoted. Regressions contain industry and time dummies. Data source for corporate governance and financial variables: Sinofin and CSMAR. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Marginal effects reported.

		(1)	(2)	(3)	(4)
	<i>Pred.</i>	<i>Performance variable is:</i>			
	<i>sign</i>	SHR	SHR	ROA	ROA
<b>Economic variables</b>					
PERFORMANCE	–	-0.04 (-0.94)	-0.04 (-0.70)	-0.60*** (-3.80)	-0.62*** (-3.29)
PRIVATE	?	0.09*** (2.88)	0.10** (2.19)	0.10*** (3.09)	0.10*** (2.73)
MAJOR	?	-0.05** (-2.31)	-0.04* (-1.80)	-0.05** (-2.39)	-0.05** (-2.13)
DIRECTOR	?	0.18*** (2.89)	0.15* (1.83)	0.18*** (2.81)	0.17*** (2.59)
PERFORMANCE x PRIVATE	–		-0.02 (-0.15)		-0.08 (-0.18)
PERFORMANCE x MAJOR	–		-0.00 (-0.03)		0.08 (0.24)
PERFORMANCE x DIRECTOR	–		0.16 (0.72)		0.25 (0.68)
<b>Control variables</b>					
LSALES	?	-0.04*** (-4.58)	-0.04*** (-4.55)	-0.02*** (-2.79)	-0.02*** (-2.78)
VOL	?	0.06** (2.47)	0.06** (2.49)	0.05* (1.94)	0.05* (1.95)
FIRM_AGE	?	0.01** (2.44)	0.01** (2.42)	0.00 (1.05)	0.00 (1.06)
Industry & time dummies		Yes	Yes	Yes	Yes
Observations		2727	2727	2727	2727

**Table 5**  
**CEO turnover (Chairman) and firm performance in China's listed firms: 1999-2006**

Logit estimation for the period 1999-2006. The dependent variable is CEO turnover: CH\_TURNOVER = 1 if there is a change in the Chairman in the fiscal year, zero otherwise. PRIVATE=1 if the firm is privately controlled, zero otherwise. MAJOR=1 if the largest controlling shareholder has a share-stake greater than 50%, zero otherwise. DIRECTOR=1 if the fraction of independent directors on the board is greater than 33%, zero otherwise. SHR=annualized shareholder returns. ROA=return on assets. LSALES = log firm sales. VOL = standard deviation of stock returns over the year. FIRM\_AGE = the number of years the firm has been publicly quoted. GOV\_CODE =1 if year is 2002 or later; zero otherwise. Regressions contain industry and time dummies. Data source for corporate governance and financial variables: Sinofin and CSMAR. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%. Marginal effects reported.

		(1)	(2)	(3)	(4)
	<i>Pred. sign</i>	<i>Performance variable is:</i>			
		SHR	SHR	ROA	ROA
<b>Economic variables</b>					
PERFORMANCE	–	-0.05*** (-3.11)	-0.00 (-0.06)	-0.15*** (-2.83)	-0.58*** (-4.48)
PRIVATE	?	0.02* (1.66)	0.02 (1.52)	0.02 (1.52)	0.02* (1.79)
MAJOR	?	-0.02 (-1.49)	-0.02 (-1.51)	-0.02 (-1.63)	-0.02 (-1.54)
DIRECTOR	?	0.01 (0.98)	0.01 (0.76)	0.02 (1.03)	0.01 (1.00)
PERFORMANCE x PRIVATE	–		-0.04 (-1.48)		0.15** (2.01)
PERFORMANCE x MAJOR	–		0.02 (1.02)		0.06 (0.77)
PERFORMANCE x DIRECTOR	–		-0.03 (-0.93)		-0.02 (-0.28)
GOV_CODE	?		-0.08*** (-3.59)		-0.11*** (-4.59)
PERFORMANCE x GOV_CODE	–		-0.04 (-0.83)		0.36*** (2.62)
<b>Control variables</b>					
LSALES	?	-0.03*** (-7.07)	-0.03*** (-6.87)	-0.02*** (-5.63)	-0.02*** (-5.34)
VOL	?	0.07*** (5.23)	0.07*** (4.94)	0.06*** (4.21)	0.05*** (4.00)
FIRM_AGE	?	0.01*** (6.25)	0.01*** (6.09)	0.01*** (5.75)	0.01*** (5.50)
Industry & time dummies		Yes	Yes	Yes	Yes
Observations		8869	8869	8869	8869

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## Endnotes

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<sup>i</sup> The number of firms listed on the two major exchanges of China's Shanghai and Shenzhen stock exchanges has increased from 57 in 1992 to 1434 in December 2006 with a total market capitalization of 89,403 billion RMB (or US\$11,462 billion). The stock market booming in August, 2007 even pushed the total market capitalization to 245,300 billion RMB, surpassing the size of Japanese stock markets. Both stock exchanges issue two types of shares, share type 'A' to domestic investors and share type 'B' to foreign investors. Recent "share structure" reform, which consolidates the dual non-tradable and tradable shares. The government and the regulatory authorities have long found the problems brought by a predominance of non-tradable shares (legal person shares and state shares). For example, holders of tradable shares were typically minority shareholders with limited power to affect corporate decisions. In addition, the limited free float available made the domestic market extremely volatile and prone to insider trading. In 2005, the China Securities Regulatory Commission launched a structural reform program aiming at eliminating non-tradable shares. The reform required listed companies to transfer non-tradable shares to tradable shares by compensating existing shareholders through various ways like bonus shares, cash and stock options. The end of 2006 is set as the deadline for such reform process. This paper is using the pre-reform sample.

<sup>ii</sup> For example, Guangxia Industry Co. Ltd. based in Yinchuan, a listed pharmaceutical company, was found to fabricate sales contracts and export amounts and exaggerate its financial statements, reportedly inflating net profits by \$90 million. Another example is Zhengzhou Baiwen Co. Ltd., a state-owned retail company was later found to have inflated its profits by \$2.3 million before its listing and by \$17.4 million in the three years that it was listed. These companies were also found guilty of heavy insider trading. The scandals led to widespread investor dissent and criticism.

<sup>iii</sup> There is a large literature on CEO turnover using data from Western economies focusing on the determinants and consequences of executive replacement (Core, Guay, and Larcker 2008; Faleye 2007; Chidambaran, and Prabhala 2003; Volpin 2002; Mian 2001; Denis, and Kruse 2000; Denis, and Sarin 1999; Parrino 1997; Denis, Denis, and Sarin 1997b; Franks, and Mayer 1996; Kang, and Shivdasani 1995; Kaplan, and Minton 1994; Huson, Malatesta, and Parrino 2004). Typically, these studies find a negative association between CEO turnover and measures of firm performance.

<sup>iv</sup> These refer to current working papers rather than previously published research.

<sup>v</sup> External monitoring mechanisms include a) the managerial labor market (Fama, and Jensen 1983; La Porta, Lopez-de-Silanes, and Shleifer 1999); b) product market competition ; c) capital market competition and; d) the market for corporate control .

<sup>vi</sup> Removing a poorly performing manager in companies which do not face immediate external threats (e.g. bankruptcy, take-over) is one of the most observable signals of the

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internal monitors' effectiveness. Yet, managerial dismissal can still be partly influenced by external factors (e.g. capital market competition).

<sup>vii</sup> A full treatment of ownership issues in China is beyond the scope of this paper which is primarily concerned with the relation between CEO turnover and firm performance. However, it is worth stressing that there is a significant literature evaluating the mechanisms and consequences of separating voting rights from cash flow rights in organizations (e.g., Xu et al., 2005).

<sup>viii</sup> The data supplied by CCER Sinofin has been used in prior research, but for earlier time periods. See for example Kato and Long (2006a).

<sup>ix</sup> Specifically, if the same person serves as Chairman and General Manager, he or she is classified as the CEO. If two separate individuals hold the positions of Chairman and General Manager the Chairman is considered to be the CEO so long as he or she is paid by the listed firm. Otherwise, the General Manager is considered as the CEO.

<sup>x</sup> It is worth noting that the SinoFin database does not contain the actual name of the individual but records only whether there was a change in the name of the person holding the most post of “General Manager” or “Chairman”. Also, if there was more than one change within the year the information we have available is still the 0-1 indicator variable of a change in the CEO. This is consistent with the previous literature. Finally, we should also note that unfortunately we do not have available other demographic information of the General Manager or Chairman, including age and their tenure.

<sup>xi</sup> CSRC classifies industries to 13 categories: A: Agriculture and fishery, B: Mining, C: Manufacturing; D: Electricity, water and other energy manufacturing and supply; E: Construction; F: Transportation and logistics; G: Information technology; H: Wholesales and retails; I: Finance and insurance; J: Real estate; K: Service; L: Communication; M: Others. Chinese listed firms sometimes report different industry classification in different years. When this occurs, the most recent year industry code is applied.

<sup>xii</sup> The interaction effect is calculated using Stata version 10. We note that the magnitude of the interaction effect in nonlinear models may not be the same as the marginal effect of the interaction term (Ai, and Norton 2003).

<sup>xiii</sup> The significant increase of independent directors on the board is due to the regulation “Guidelines for Establishing an Independent Director System in Listed Firms” passed in 2001, which stipulate that the board of directors should include at least independent directors by June 30, 2002, and at least 1/3 of the directors should be independent directors by June 30, 2003. We are grateful to Cheryl Long for discussion on this and related points.

<sup>xiv</sup> Below, for completeness, we also investigate the relation between CEO turnover and performance over the period 1999 to 2006.

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<sup>xv</sup> We thank a referee for making this point to us and to Cheryl Long who helped clarify some of these issues for us.

<sup>xvi</sup> These include: the “Guidelines for Establishing an Independent Director System in Listed Firms” (2001), the “Corporate Governance Code” (2002), the “Announcements on regulating related party transactions and debt guarantee in listed firms” (2003), the “Rules Governing the Regular Rotation of CPAs in the Auditing of Securities and Options Transactions” (2003), the “Rules for Public Listing on the Shenzhen Stock Exchange” (2004), and the “Opinions on How to Improve the Quality of Listed Firms” (2005).