

# **Firm Performance, Governance Structure, and Top Management Turnover in a Transitional Economy\***

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**ABSTRACT** Recent research has argued that political and regulatory environments have a significant impact on corporate governance systems. In particular, countries with poor investor protection laws and weak law enforcement have low levels of corporate governance that manifests itself in substandard financial performance, management entrenchment, and the expropriation of minority shareholders. One implication of this research is that China will have poor corporate governance and entrenched managers as its legal system is relatively underdeveloped and inefficient. However, using data on top management turnover in China's listed firms, our results refute the prediction of entrenched management. We find evidence of very high turnover of company chairmen and there are many cases that we interpret to be forced departures. Our results show that chairman turnover is related to a firm's profitability but not to its stock returns. Turnover-performance sensitivity is higher if legal entities are major shareholders but the proportion of non-executive directors perversely affects it. We find no evidence that profitability improves after a change in chairman and this suggests that a firm's governance structure is ineffective as it is unable to recruit suitable replacements that can turn around its financial performance.

## **INTRODUCTION**

China's economy has undergone a major transformation in the past 25 years. Large swathes of the old state owned industrial monoliths have been corporatized and many of the profitable units of these enterprises have been listed on the country's two stock exchanges. The listed firms are charged with maximizing efficiency and profitability. To assist this objective, Western-style management and governance practices have been introduced, albeit with Chinese characteristics. Good corporate governance practice dictates that top management performance be evaluated and poor-performing executives should be dismissed. Empirical studies from the USA and Europe generally conclude that

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poor corporate performance does lead to the removal of CEOs and other top executives although the rate of dismissal depends on the structure of the board and the ownership of the firm.

Our concern in this paper is to examine top management turnover in China's listed firms. By using listed firms we focus on that part of the Chinese economy whose aim is to 'mimic' Western corporations. We use data beginning in 1998 and so the initial experimental stage of the economic reforms is omitted. Although the listed firm sector is supposed to mimic Western companies there are several reasons why the results from top management turnover studies in Europe and the USA may not apply in China. We expand on these reasons below.

Recent research has argued that political and regulatory environments have a significant effect on corporate governance systems. For example, La Porta et al. (1998, 2000) contend that countries with inadequate investor protection laws and weak law enforcement have poor corporate governance. They use data from a large sample of developed and developing nations (but not including China) to substantiate their arguments. Volpin (2002) argues that in Italy, a country with low legal protection, there is poor governance as measured by the low sensitivity of top management turnover to performance. The above arguments lead us to expect that China will have ineffective corporate governance because the legal protection afforded to shareholders is rudimentary by Western standards. Poor governance can breed entrenched and poorly motivated management. Another reason why the turnover-performance results observed in American and European studies may not hold in China is because of Chinese firms' unique ownership structures where share ownership is highly concentrated and where the government is often the dominant shareholder. The dominant shareholders have significant influence over the appointment and replacement of the chairman.

Corporate governance research has identified a variety of mechanisms that are intended to ensure that management acts in the best interests of shareholders. These include internal mechanisms, such as the board of directors, stock ownership by managers, and executive compensation; and external mechanisms such as the market for corporate control, institutional ownership, and the level of debt financing (see Shleifer and Vishny (1997) for a review of this literature). The extents to which these mechanisms are used depend on the historical development, legal, and institutional features of the country that a firm is domiciled in. Moreover, corporate governance mechanisms are substitutes and the optimum trade-off for a specific firm is difficult to identify (Coles et al., 2001). Measuring the effectiveness of corporate governance systems is therefore difficult. One approach, and the one we use in our study, is to examine whether top management is replaced if a firm does poorly. Management should be held accountable for a firm's operations and they should be replaced if performance is poor. If they are not replaced, then this implies weak governance (DeFond and Hung, 2004; Kaplan, 1994b; Volpin; 2002). A second approach to evaluating the effectiveness of corporate governance is to model firms' performances as a function of governance variables (Chen et al., 2006).

We focus on China because of its unique approach to privatization. Among the features of China's listed firms are high ownership concentration and low executive stock ownership (Xu et al., 2004). Moreover there is a weak legal system and a negligible market control mechanism (Chen et al., 2006). In the absence of adequate legal protec-

tion and the lack of an external market for corporate control, shareholders must rely on internal mechanisms to monitor firm activities, including the removal of underperforming managers. China is an interesting setting for our study because of its large and fast growing importance to the world economy and its vast need for capital. Moreover, policy makers in other transitional economies are looking at China as a possible model for their own privatization and corporate reform programmes. To date, however, we know relatively little about China's business practices and the effectiveness of its corporate governance. Our study hopes to shed some light on at least one important feature of corporate governance, namely, top management turnover. In particular, we examine changes in the chairmen of listed firms. The chairman is the highest-ranking executive in Chinese firms.

In the next section we outline the international evidence on top management turnover. In the third section we briefly review enterprise reforms in China and discuss how top management is appointed. In this section we develop our hypotheses. The research design, data, and summary statistics are presented in the fourth section. Empirical results are described and analysed in the fifth section, along with a summary of the results from a battery of sensitivity tests. The final section discusses the limitations of the study, the implications for public policy, and avenues for future research.

## **INTERNATIONAL EVIDENCE ON TOP MANAGEMENT TURNOVER**

Top management turnover has been the topic of much recent research in capitalist countries. This research has examined changes of CEOs, directors, company presidents, and chairmen. In addition, guidelines on corporate governance published in a number of countries have made recommendations on procedures for monitoring and replacing top management.<sup>[1]</sup> There has been much less research on top management turnover in transitional economies.

Research in the USA has found that poor performance precedes forced turnover (Huson et al., 2001; Weisbach, 1988). Similar evidence appears in Australia (Suchard et al., 2001), Belgium (Renneboog, 2000), Britain (Conyon, 1998; Conyon and Florou, 2002; Dahya et al., 1998, 2002; Franks et al., 2001), Denmark (Lausten, 2002), Germany (Kaplan, 1994b), and Japan (Abe, 1997; Kang and Shivdasani, 1995; Kaplan, 1994a). Nam and Ronen (2004), using US data, found that the stock market punishes firms that hire senior managers who were previously at firms that had poor financial performance. Using data from 33 countries, DeFond and Hung (2004) find that the association between poor performance and CEO turnover is much stronger in those nations that have strong law enforcement. Between them, these studies use contemporaneous and lagged measures of accounting profitability, stock returns, and growth as measures of performance. In China, Groves et al. (1995) conclude that management turnover in SOEs is negatively related to performance in the years 1980–89 (these SOEs are not listed, are wholly government owned, and the data are obtained from questionnaires).

Prior studies have reached mixed conclusions on whether the presence of a large outside shareholder(s) is associated with high turnover or with a more pronounced performance-turnover sensitivity. Dahya et al. (1998) and Kang and Shivdasani (1995) find a positive association between a large outside shareholder and high turnover

whereas Parrino et al. (2003), Dahya et al. (2002), Franks et al. (2001), and Goyal and Park (2002) find no such evidence. Renneborg (2000) reports mixed evidence in his study of top management turnover in Belgium. Many studies report that top management shareholdings are negatively associated with executive turnover (Dahya et al., 1998, 2002; Goyal and Park, 2002). Here, top managers with significant share ownership become 'entrenched' and it is difficult to remove them even if the firm's performance is poor. The proportion of non-executive directors is positively related to turnover (Boeker, 1992; Huson et al., 2001; Suchard et al., 2001; Weisbach, 1988).

Many studies also focus on the incumbent's power and personal characteristics. Age is a factor in determining the removal and succession for normal retirements but it has no relationship with forced retirements (Huson et al., 2001; Kang and Shivdasani, 1995). Recommended codes of best practice (e.g. Cadbury, 1992; Hampel, 1998) often call for a separation of the chairman and CEO positions, as a joint appointment is seen as concentrating too much power in one person's hands. Some evidence in support of this is provided by Boeker (1992), Dahya et al. (1998), and Goyal and Park (2002), all of who find that turnover is lower if a person holds the joint appointment (thus top management becomes more entrenched).

Prior research provides a framework for our analyses but we do not expect all the results from the past studies to replicate in China (Allen et al., 2005). Reasons why results may not replicate relate to differences in ownership, board structure, and corporate governance. In the following section we discuss the appointment of managers in China's listed firms and use this to develop testable hypotheses.

## **CHINA'S ENTERPRISE REFORMS AND THE APPOINTMENT AND REMOVAL OF TOP MANAGEMENT**

### **Enterprise Reform and Listed Firms**

China's economic reforms have been extensively documented (e.g. Groves et al., 1994, 1995; Naughton, 1995) and critical reviews of the modern enterprise system have started to appear (e.g. Chen et al., 2006). State owned enterprises (SOEs) have been corporatized and some of them have been allowed to sell shares to the public and have those shares listed on the stock market. One of the aims of listing is to introduce Western business ideas to China's enterprises. For example, listed firms are charged with making profits and maximizing shareholder wealth. Although the government is often the major shareholder in a listed firm it is supposed to avoid direct intervention in day-to-day management and, instead, take the role of a dispassionate profit maximizing investor.<sup>[2]</sup>

In addition to its business reforms, China has also developed new capital markets and financial institutions, and written laws that cover property rights and commercial transactions. Rules covering corporate governance have been promulgated. However, there are doubts about the effectiveness of these newly introduced laws and corporate governance rules (Clarke, 2003). For example, China ranks quite low in surveys of economic freedom. The Heritage Foundation and The Wall Street Journal co-publish the *Index of Economic Freedom*, which ranks countries on 50 independent economic variables, including

ones relating to corruption in the judiciary, the rule of law, and the ability to enforce contracts. Overall, China ranks 128th out of the 161 countries surveyed. China is ranked a four on a scale of 1 (high) to 5 (low) for the openness of its banking/finance system and the protection of property rights. The narrative accompanying the ratings quotes the US Department of State as saying that 'China's legal and regulatory system lacks transparency and consistent enforcement despite the promulgation of thousands of regulations, opinions, and notices affecting investment. Although the Chinese government has simplified the legal and regulatory environment for investors in recent years, China's laws and regulations are still often ambiguous. Foreign investors continue to rank the inconsistent and arbitrary enforcement of regulations and the lack of transparency as two major problems in China's investment climate.' While China has, on paper, opened the door to Western style corporate governance, its effectiveness is open to question. Our study hopes to shed some light on how effective corporate governance is by examining the turnover of company chairmen.

### **Company Law and The Code of Corporate Governance**

*The Company Law* enacted in 1993 (as amended in 1999) specifies that the general shareholders' meeting is the ultimate authority in making key decisions including those relating to the appointment and termination of the chairman, directors, and other top management. *The Code of Corporate Governance for Listed Firms in China* expands on *The Company Law* by specifying, in greater detail, the duties and responsibilities of shareholders and directors. *The Code of Corporate Governance* is authorized and published by the State Economic and Trade Commission (SETC) and the China Securities Regulatory Commission (the CSRC), and it is enforced by the CSRC. The CSRC is the official regulatory body that oversees listed firms and securities trading. Many of the provisions of *The Code of Corporate Governance* are based on, or are similar to, those issued in Western countries (Cadbury, 1992; Hampel, 1998; OECD, 1999). *The Code of Corporate Governance* states that the controlling shareholder makes recommendations to the board of directors on the appointment, reappointment, and termination of the chairman and other top management positions (article 20). Based on the advice from the controlling shareholder, the board of directors then formally nominates its choices to the shareholders' meeting, which then votes on the matter. *The Code of Corporate Governance* (article 11) also says that institutional investors shall play a role in the appointment of directors although this role will presumably be less influential than that of the controlling shareholder. It is quite clear that the controlling shareholder is a key player in the appointment and dismissal of the chairman. In light of this, we include ownership variables in our analyses of chairman turnover.

The chairman should be selected on the basis of ability and there should be competition for the position (article 18 of *The Code of Corporate Governance*). Article 115 of *The Company Law* states that shareholders should not remove a chairman prior to the end of her/his contract date unless there is just cause. These rules are designed to prevent the government or other dominant shareholder from dismissing a chairman based on whim or political favour. *The Code of Corporate Governance* states that firms should introduce

incentive systems that reward managers for making firms more efficient and profitable. Whether practice follows the rules and spirit of company law and corporate governance is an empirical matter.

### **Company Ownership**

Chinese firms have a unique ownership structure (Peng et al., 2004). Most listed firms are equity carve outs of SOEs. Here, the profitable units of a SOE are packaged into a new firm that is floated on the stock market. The SOE or some branch of government often retains a substantial shareholding in the listed firm. The retained shares are designated as state shares or as legal entity shares. While legal entities are ultimately owned by the state, they enjoy much more autonomy and are held to higher accountability standards than the state investors (Xu and Wang, 1999). For example, legal entities often have profit making objectives and have cash flow rights that flow from ownership (e.g. dividends are received by legal entities while, in contrast, dividends paid to state investors are received by the Ministry of Finance or local governments). See Xu et al. (2004) for a richer description of state and legal entity investors. Most listed firms have a dominant shareholder whose ownership far exceeds that of the second highest shareholder. Xu et al. (2004) report that, on average, the largest shareholder in a listed firm owns about 46 per cent of the shares while the second largest shareholder owns just 7 per cent. In many firms the largest shareholder is effectively a controlling investor.

Xu and Wang (1999) and Qi et al. (2000) report that firms with better performance have a higher proportion of legal entity investors. They argue that legal entity shareholders are a force for effective monitoring. This suggests that legal entity shareholders will put pressure on listed firms to increase efficiency and maximize profits and they will closely monitor company performance. While state shareholders are also supposed to use commercial considerations when they exert pressure on firms, we acknowledge they may have certain non-profit objectives that they impose on top management. Unfortunately it is impossible to identify what the non-profit objectives are and what weights are attached to them. Therefore it is not possible to measure the success in meeting these non-profit objectives.<sup>[3]</sup> If non-profit making objectives are imposed on government-controlled firms then this will weaken or even eliminate the relation between performance and top management turnover. Individual investors and foreign investors want firms to maximize profits and shareholder wealth (Chen et al., 2006; Poon et al., 1998).

In reality, the laudable aims of the reforms to increase efficiency and profitability may not fully materialize. For example, the state's responsibilities for maintaining social order and political stability may alter their priorities for privatized SOEs. Political infighting and intra-government rivalries may also impinge on the business decisions of firms. Whether the ownership and governance reforms witnessed so far have led to desirable outcomes for the way firms operate is an empirical question. The aspirations of the reformers have had to contend with the realities of state ownership and the inertia brought about by decades of socialism.

The chairmen, CEOs, and directors of China's listed firms typically have very low share ownership. This characteristic is in sharp contrast to firms in capitalist countries,

where high stock ownership is believed to align the interests of top management and the outside shareholders. However, high management shareholdings can also lead to entrenchment; for evidence from the USA and Australia, see Huson et al. (2001) and Suchard et al. (2001). Managers are rewarded for good performance as demonstrated by Firth et al. (2006) who find that the remuneration of top managers is a positive function of return on assets; this finding holds regardless of ownership structure. To date there is no active market for corporate control and so there is no turnover threat from mergers and acquisitions.

### **Company Chairmen**

In Chinese firms the chairman position is a full time executive position and it ranks higher than the CEO (article 114 of China's company law). The chairman chairs the board of directors, deals with external parties, and is involved with internal decision-making. Chairmen are involved in the day-to-day management of the business and they have overall responsibilities for operations (Li and Yang, 2003). The chairman is often the highest paid employee of the firm. The CEO or managing director is essentially a number two to the chairman. The chairman chairs the major committees of the firm including the all-important strategic development committee. Under Chinese regulations all major decisions have to be approved by the chairman. As an example, the corporate governance charter of New Hope Agriculture (a listed company) stipulates that all the capital budgeting decisions exceeding one million RMB need the approval of the chairman. The CSRC strongly recommends the separation of the chairman and CEO positions (but it is not mandatory to do so).

Prior to the reforms, the appointment of top managers was a highly political event. Gradually, however, political considerations have been replaced by an emphasis on skill and ability. There is now a separation of the political role and business role of the managers. The Communist Party committee and the management are now separate in the enterprise. The 'red' principle (membership of the Communist Party), which was used as a criterion for promotion, has been replaced in recent years by a manager's ability. The 'expert' principle is now given much more recognition in appointments and promotions exercises (Li and Yang, 2003).

### **Performance Hypothesis**

Agency theory argues that management should be held accountable for their firm's performance and they should be replaced if performance is poor. The theory receives empirical support from a multitude of studies carried out in industrialized nations (see the review earlier in the paper). Given the Chinese government's zeal in promoting capitalist practices in privatized (or partially privatized) firms, we believe firm performance is an important factor in deciding whether to retain the incumbent management and, in particular, the chairman. We therefore expect a negative relationship between firm performance and the probability of top management replacement. Our first hypothesis is:

*Hypothesis 1:* A change of the board chairman is associated with poor firm performance.

### **Ownership Structure Hypothesis**

We argue that different types of investor have different objectives (see the earlier discussion) and this will have an impact on chairman turnover and will moderate the sensitivity of turnover to performance. We expect legal entity shareholders are more likely to insist on the removal of the chairman of poor performing firms. In contrast, state shareholders may impose less discipline on top management or they may impose non-profit objectives on firms (Tam, 2000). Thus we expect that the chairmen of firms that have poor performance will be less likely to be replaced if the firm has a dominant government shareholder. We expect that foreign investors are likely to pressure firms to dismiss the chairmen of firms that have poor performance. This follows from practices in foreign (Western) countries. The hypotheses are:

*Hypothesis 2a:* Chairman turnover is negatively related to performance when a firm has substantial legal entity shares.

*Hypothesis 2b:* There is no relation between turnover and performance when the state is the dominant shareholder.

*Hypothesis 2c:* Chairman turnover is negatively related to performance when a firm has issued shares to foreigners.

### **Board Monitoring Hypothesis**

The board of directors can be an important internal control mechanism. Directors evaluate the actions and performance of top managers and make reappointment and replacement decisions based on the firm's financial performance. However, many directors are also executives of the firm and so they are less likely to discipline themselves. For this reason, many firms appoint non-executive directors who are supposed to bring independent advice and decision making to the board. The larger the percentage of non-executive directors, the greater the influence they will have. Many empirical studies from industrialized countries find a positive relation between the proportion of non-executive directors and top management turnover.<sup>[4]</sup> According to Chinese law and to the official codes of corporate governance, directors are supposed to play a role similar to their counterparts in capitalist countries. However, it was not until June 2003 that there was a requirement that the non-executive directors had to include independents (in particular, at least one-third of the directors of a listed firm now have to be independent). We argue that a high proportion of outside directors will moderate the sensitivity of turnover to performance. Our hypothesis is:

*Hypothesis 3:* Chairmen turnover is negatively related to performance when boards have a higher proportion of outside directors.

## RESEARCH METHOD

### Chairman Turnover

Our objective in this study is to calculate turnover rates of the chairmen of listed firms in China and, further, to identify the determinants of turnover. We examine the replacement of company chairmen for two reasons. First, the chairman is an executive position and it ranks highest in the firm (it ranks above the CEO or general manager). Note that executive chairmen are quite common in the USA but are less so in the UK and other countries. Second, data are available on chairmen whereas data on CEOs are not available for all firms/years that we investigate. Listed firms are used because they disclose the necessary information in public documents whereas non-listed SOEs and private firms do not. Additionally, listed firms have profit maximization as an over-riding objective and commercial reasons are used in reaching decisions including those relating to top management appointments (article 86, *The Code of Corporate Governance*). Political considerations in decision-making have lesser importance in listed firms (Chen et al., 2006). According to Chinese law, a board chairman is given an appointment of three years (article 115, *The Company Law*) although they are often reappointed upon completion of the three-year term. One reason behind a term of three years is to reduce the likelihood of corruption; the authorities believe entrenched managers could be more prone to corruption.

### Measurement

Our univariate and multivariate tests use performance, ownership, board structure, and company characteristics to help explain chairman turnover. This section describes the variables we use.

*Chairman turnover.* We identify a change in chairman (TURN) in each year by comparing the names in adjacent annual reports and we confirm these data by screening corporate announcements made to the stock exchange and the financial media. We then partition chairman turnover into two categories based on the stated reason for the change. For ease of exposition we call these two categories 'normal' and 'forced'. Normal turnover includes retirements (reached retirement age), contract expiration (the end of a three year contract period), voluntary resignations, resignations for health reasons, and the end of an acting chairman role. Forced turnover includes undisclosed reasons (no reason given), transfers back to the 'parent' company (or the major shareholder) before the contract expiration, change of company control, explicitly mentioned contract termination, personal reasons, to improve corporate governance, involvement in legal cases, and other reasons that indicate dismissal. The reasons for chairman turnover are taken from news reports and from official corporate announcements. Since the year 2000, listed companies have been required to give reasons why the chairman has left. The grouping of reasons for turnover into normal and forced groups is based on discussions with firms as to who initiated the turnover, the individual or the firm, and, in the case of firm initiated changes, what the intent was. Our classification of normal and forced is consistent with the way the Chinese media

reports and comments on the replacement of chairmen. Our empirical results (reported later) indicate the classification is useful as we find that the normal and forced groups are different in the way they relate to performance and corporate governance.

In sensitivity tests we reclassify 'undisclosed', 'transfers back to the parent', and 'change in control' as normal turnover. This reclassification does not change our conclusions. In additional tests we classify normal turnover as those cases where the chairman reaches the end of a three-year contract and other turnovers are classified as forced. The results from this alternative specification do not change our conclusions. We acknowledge that 'voluntary resignations' may in fact be a face saving device for a chairman who would otherwise be dismissed. When we reclassify 'voluntary resignations' as forced turnover the tenor of our findings does not change.

*Performance.* We use five measures of performance (PERF): ROA is return on assets, ROS is return on sales, GRO is growth in sales, RET is the annual stock return, and LOSS is an indicator variable for firms making a net operating loss. The profit number (in ROA and ROS) uses operating profit because it is less susceptible to manipulation by managers. To the extent these variables reflect the actions of top management, they provide relevant information on the chairman's performance. The first four variables are adjusted for industry medians, where industry sectors are based on the classification used by the Shanghai and Shenzhen stock exchanges. The industry adjustments provide relative performance measures and so the chairman is not penalized by or held accountable for factors outside her or his control. Industry adjustments also help mitigate econometric problems. For example, problems caused by mean reversion in performance measures when long-term mean values differ across industries, are mitigated by the use of industry-adjusted numbers (Huson et al., 2001). We predict that poor performance will increase chairman turnover and so we expect negative signs on ROA, ROS, GRO, and RET, and a positive sign on LOSS.

*Ownership.* Three ownership variables are included in our analyses. First, GOV indicates whether the state (and its various ministries) is the major shareholder of the firm (GOV = 1 if the state is the major shareholder, otherwise GOV = 0). Second, LEGAL differentiates those firms where legal entity share ownership is above the median for a specific year (LEGAL = 1) and those where legal entity ownership is below the median (LEGAL = 0).<sup>[5]</sup> Third, FOR is a dummy variable that indicates whether the firm has foreign shareholders (FOR = 1 if there are foreign shareholders and FOR = 0 if there are no foreign shareholders). These ownership definitions are used in both the univariate and multivariate tests. Other studies also use dummy variables to capture ownership-type (e.g. Chen et al., 2006). As a check on the robustness of our results we use continuous ownership variables (GOV%, LEGAL%, FOR%) in supplementary analyses; the results are reported later in sensitivity tests. We do not test for the chairman's stock ownership as the amounts are small and they constitute very little voting power.

*Non-executive directors.* NONEX is the proportion of non-executive directors on the board and we identify them from annual reports. In the early period of our study many firms

did not identify non-executive directors. In these cases we use two methods to identify non-executives. First, if a director is identified in the annual report as a non-executive director in a later period we then record this person as a non-executive director in the earlier period (if he/she was a director in the earlier period). Second, if the director was not paid (apart from directors' fees) we record this person as a non-executive director. We hypothesize that NONEX will have a positive sign in the regression model.

*Chairman characteristics.* A number of chairman characteristics are included in the regression model; these are used as control variables. We expect that the age of the chairman (AGE) will be positively related to normal turnover whereas there will be no relationship for forced turnover. Some chairmen are also designated as the CEO and to represent this we construct the variable DUAL, which equals one if the chairman also occupies the role of the CEO. Note, however, that in the early period many companies made no mention of a CEO or managing director. Where possible, we trace back from later disclosures to determine if there is a dual chairman and CEO. DUAL is set equal to zero if the chairman is not also the CEO or if there is no information on the CEO (replications of our analyses, but omitting cases that have no data on the CEO, yield similar results to those reported in Tables V and VI). Executives who have the dual role of chairman and CEO have more power in the boardroom and this may entrench their tenure at the firm (Dahya et al., 2002). This suggests a negative relationship between DUAL and turnover. Some chairmen receive their pay from the firm while others receive their pay from the controlling shareholder or parent SOE. We code PCHM one (1) if the chairman receives her/his pay from the firm and we code PCHM zero (0) if the chairman receives her/his pay from the major shareholder. If the firm pays the chairman then the chairman is likely to be more independent of the parent company or dominant shareholder. Firm size (LOGSIZE) is also added as a control variable.

## Models

To examine our hypotheses, we use univariate methods and cross-sectional multinomial logistic regression models. In the univariate analyses, we split the sample firms into those with poor performance (bottom quartile of performance), average performance (second and third quartiles), and good performance (top quartile). We then examine turnover rates in these categories. We also partition our sample on the basis of high and low government ownership, foreign ownership, legal entity ownership, and whether non-executive directors constitute a majority of the board. T-statistics and Z-statistics are used to test whether top management turnover is different across ownership and boardroom partitions. One characteristic of this approach is that we do not impose a linear form to the relationship (e.g. turnover could be highest in the top and bottom quartiles of performance – presumably for different reasons – and lowest in the middle quartiles).

We also use a multinomial logit regression model to examine the determinants of turnover. Based on prior research in capitalist countries and based on our understanding of practices in China, we identify a number of factors that potentially affect or influence turnover. The basic model is:

$$\begin{aligned}
\text{TURN} = & \beta_0 + \beta_1 \text{PERF} + \beta_2 \text{NONEX} + \beta_3 \text{NONEX} * \text{PERF} \\
& + \beta_4 \text{GOV} + \beta_5 \text{LEGAL} + \beta_6 \text{FOR} + \beta_7 \text{GOV} * \text{PERF} \\
& + \beta_8 \text{LEGAL} * \text{PERF} + \beta_9 \text{FOR} * \text{PERF} + \beta_{10} \text{AGE} + \beta_{11} \text{DUAL} \\
& + \beta_{12} \text{PCHM} + \beta_{13} \text{LOGSIZE}
\end{aligned}$$

A potential problem in our model is endogeneity. Using US data, Demsetz and Lehn (1985) and Himmelberg et al. (1999) conclude that ownership is endogenous to performance and so standard regression approaches are not appropriate. Palia (2001) and Hermalin and Weisbach (2003) raise similar concerns. In China, however, the initial split up of share ownership into state, legal person, and individual, is determined by the state and there are few subsequent transfers between these groups. Share transfers within groups are mainly confined to individual shares. Ownership is therefore exogenous. As an additional safeguard to avoid endogeneity problems related to ownership and boardroom characteristics, our tabulated results are based on lagged performance (however, contemporaneously measured performance variables give similar results to the lagged models). To further ensure that endogeneity is not a problem we compute the Durbin–Wu–Hausman (DWH) test statistics (Davidson and MacKinnon, 1993). We find that the DWH F-statistics are not significant, and this indicates that endogeneity is not present in our model. In additional analyses, we use a two-stage instrumental variable approach to estimation. The results are very similar to those reported in the paper. The similarity in results is not surprising given that endogeneity is not a problem.

### Sample Description

The analysis is based on the replacement of company chairmen over a five-year period from 1998 to 2002. The reason for starting our analyses in 1998 is that we want to avoid the early period of the listed company reforms (1991 to 1997). During the early period, company chairmen were often incumbents from the SOEs and their appointments and turnovers were based on political considerations. Moreover, accounting data, on which we base our performance measures, were less reliable during the earlier period (1991–94). The adoption of new accounting standards and the development of an independent auditing profession from the mid-1990s have led to a significant improvement in the reliability of firms' financial statements (Firth et al., 2006). By law, annual reports are required to be published in the authorized newspapers, the *Shanghai Securities Daily* and the *Securities Daily*. Since the year 2000, the CSRC has required listed companies to publish their annual reports (beginning with the 1999 accounts) via the official internet sites of the Shanghai and Shenzhen stock exchanges. We therefore obtain the annual reports for 1999 to 2003 from the official internet sites while we use financial newspapers for annual reports in 1998 and earlier. Company annual reports and announcements are used as our source for the change of the board chairman, shareholding structure, board size, board composition, share ownership, and age of the chairman. The rest of the data including performance measures, stock market risk, and state ownership are obtained from the China Stock Market & Accounting Research Database. In line with other studies, we exclude those companies in the financial sector (in fact there are only a few

listed financial companies). The total number of firm-year observations is 2886. This sample size is reduced to 2725 for the multivariate tests due to missing data for chairman characteristic variables.

Table I shows the summary statistics for the variables we use in subsequent analyses. The means of the industry median-adjusted variables are  $-1.83$  per cent (ROA),  $5.08$  per cent (RET),  $-16.27$  per cent (ROS), and  $-0.06$  per cent (GRO). About 16 per cent of firm-year observations report net operating losses (LOSS). On average, the state owns 33 per cent (35 per cent median) of the shares of a listed firm (see GOV%). In 70 per cent of cases the state is the largest shareholder (see GOV). The mean and median values of the percentage legal entity shareholdings are 27 per cent and 19 per cent, respectively (see LEGAL%). These statistics indicate that the government and legal entities have a lot of ownership control over listed firms. About 9 per cent of the sample firms have issued shares to foreigners (see FOR). The mean and median percentages of non-executive directors on the board (NONEX) are 44 per cent. This indicates that non-executive directors have the potential to exercise significant influence. The percentage of non-executives on a board of directors is greater than in Britain (Ezzamel and Watson, 1997) and Hong Kong (Firth et al., 1999) but is less than in the USA (Huson et al., 2001).

The mean age of the chairmen is 51 years with a range from 27 years to 78 years. In non-tabulated results we find that the average age of the chairmen who are replaced is also 51 years although 16 per cent of chairmen are replaced after reaching the age of 61 and 11 per cent are replaced before they reach the age of 41. The chairman is disclosed to be the CEO in 17 per cent of cases; in the other 83 per cent of cases the chairman is not the CEO. The duality statistic is less than in the USA (Goyal and Park, 2002) but similar to Britain (Conyon, 1997). About 61 per cent of chairmen receive remuneration directly from the firm and the remaining 39 per cent receive pay from the holding (parent) company or the dominant shareholder (state agency or legal entity).

## RESULTS

### Normal and Forced Turnover Statistics

Panel A of Table II shows the turnover statistics for the full sample of 2886 firm year observations. There are 1151 cases of chairman turnover so each year about 40 per cent of chairmen are replaced. This statistic is far higher than in the USA and Europe (although these studies relate mainly to CEOs). We classify turnovers as forced ( $n = 541$ ) and normal ( $n = 610$ ) based on a detailed analysis of the reasons given for the replacement of chairmen. In 1735 cases there are no replacements of the chairman. Note normal turnover is higher than forced turnover. The high turnover of chairmen in listed Chinese firms suggests that there is active monitoring and evaluation of top management. Our evidence is not consistent with entrenched management.

### Turnover and Performance

A central point of our analysis is establishing if there is a relationship between turnover and performance. The results are shown in Table III. Here, the turnover rates for firms

Table I. Variable definition, proxy and descriptive statistics

<i>Variables</i>	<i>Definition</i>	<i>Mean</i>	<i>Median</i>	<i>Maximum</i>	<i>Minimum</i>	<i>Standard deviation</i>	
<i>Performance variables</i>							
Return on assets	ROA	Percentage operating return on assets adjusted by the median return of the industrial sector	-0.0183	0.0000	0.3039	-10.0131	0.2333
Stock return	RET	Annual return on stock adjusted by the median return of the industrial sector	0.0508	0.0000	3.7425	-0.8220	0.3306
Return on sales	ROS	Percentage operating return on sales adjusted by the median return of the industrial sector	-0.1627	0.0000	16.2777	-204.1570	4.2255
Sales growth	GRO	Sales growth adjusted by the median growth of the industrial sector. Sales growth = $\text{Ln}(\text{SALE}_{t-1}) - \text{Ln}(\text{SALE}_{t-2})$	-0.0558	0.0000	4.9171	-6.6637	0.6960
Negative income	LOSS	Equal to 1 if the operating profit is negative	0.1600	0.0000	0.0000	1.0000	0.3690
<i>Ownership structure</i>							
State ownership	GOV	Equal to 1 if the state holding is greater than or equal to any other shareholding	0.7000	1.0000	1.0000	0.0000	0.4580
Legal entity shareholding	LEGAL	Equal to 1 if the legal person shareholding is greater than the median legal person shareholding of the specific year	0.5000	1.0000	1.0000	0.0000	0.5000

Foreign shareholding	FOR	Equal to 1 if the company has also issued B shares and/or H shares	0.0900	0.0000	1.0000	0.0000	0.2800
State ownership	GOV%	The percentage of shares owned by government	32.9620	34.8840	89.0000	0.0000	27.1940
Legal entity shareholding	LEGAL%	The percentage of shares owned by legal entities	26.9670	19.0190	91.3190	0.0000	26.0910
Foreign shareholding	FOR%	The percentage of shares owned by foreign investors	3.1170	0.0000	51.2690	0.0000	9.5870
Board composition	NONEX	The proportion of non-executive directors on the board	0.4410	44.4400	1.0000	0.0000	27.6300
<i>Control factors</i>							
Chairman characteristics							
Chairman age	AGE	Age of the chairman	51.2200	52.0000	78.0000	27.0000	7.3450
Duality	DUAL	Equal to 1 if the chairman also serves as the CEO	0.1700	0.0000	1.0000	0.0000	0.3750
Paid chairman	PCHM	Equal to 1 if the chairman receives pay from the company	0.6100	1.0000	1.0000	0.0000	0.4880
Firm characteristics							
Total assets	SIZE	Book asset value of the company (in RMB million)	2,023	1,121	368,376	21	7,927

Table II. Summary statistics of changes in chairman

	1998	Percentage of year sample	1999	Percentage of year sample	2000	Percentage of year sample	2001	Percentage of year sample	2002	Percentage of year sample	Total	Percentage of full sample
Normal change	114	25.56%	101	20.61%	112	18.79%	136	20.86%	147	20.94%	610	21.14%
Forced change	100	22.42%	113	23.06%	127	21.31%	107	16.41%	94	13.39%	541	18.75%
No change	232	52.02%	276	56.33%	357	59.90%	409	62.73%	461	65.67%	1735	60.12%
Total observations	446		490		596		652		702		2886	

Notes: We trace the tenure and the change of the board chairman from the annual reports for the years 1998, 1999, 2000, 2001 and 2002. We examine the stated reasons for the replacement of the chairmen and categorize these as normal turnover and forced turnover.

Table III. Turnover rates of the board chairman at different levels of performance

<i>Performance variables</i>					
	<i>ROA</i>	<i>RET</i>	<i>ROS</i>	<i>GRO</i>	<i>LOSS<sup>a</sup></i>
<i>Panel A: Normal</i>					
Bottom quartile	0.31	0.27	0.29	0.32	0.44
Second quartile	0.22	0.25	0.24	0.24	
Third quartile	0.26	0.25	0.22	0.24	
Top quartile	0.25	0.28	0.29	0.25	0.24
Sample size	2345	2345	2345	2345	2345
<i>t</i> -test ( $\chi$ -statistic)	2.512** (2.418**)	-0.459 (-0.459)	0.128 (0.128)	2.333** (2.329**)	6.003*** (6.715***)
<i>F</i> value	3.833***	0.664	4.183***	4.440***	45.959***
<i>Panel B: Forced</i>					
Bottom quartile	0.52	0.25	0.48	0.37	0.64
Second quartile	0.28	0.21	0.20	0.24	
Third quartile	0.09	0.24	0.14	0.15	
Top quartile	0.07	0.26	0.14	0.19	0.16
Sample size	2276	2276	2276	2276	2276
<i>t</i> -test ( $\chi$ -statistic)	19.344*** (16.789***)	0.137 (0.137)	13.170*** (12.278***)	7.048*** (6.903***)	17.820*** (19.486***)
<i>F</i> value	167.073***	1.182	91.634***	30.804***	455.580***

*Notes:* This table compares the chairman turnover rates. We examine the stated reasons for the replacement of the chairmen and categorize these as normal turnover and forced turnover. Panel A analyses the normal turnover cases and Panel B the forced turnover cases. We divide the sample firms into four categories using the various performance indicators: top quartile being the good performers, bottom quartile the poor performing group and the second and third quartiles the average performers. *t*-statistic ( $\chi$ -statistic) for equality between the top and bottom quartile; *F* value – ANOVA test for equality between groups.

\*, \*\*, and \*\*\* denote significance at 0.10, 0.05, and 0.01 levels, respectively.

<sup>a</sup> This column compares the turnover rates for firms with positive and negative operating income.

with the lowest performance (in the bottom quartile of performance), middle performance (second and third quartiles), and highest performance (in the top quartile) are compared. *t*-statistics and  $\tilde{Z}$ -statistics test for equality between the lowest and highest quartiles. An *F*-test is used to test for equality across the partitions. In Panel A the sample size is 2345 (610 normal turnovers and 1735 no turnovers), and in Panel B the sample size is 2276 (541 forced turnovers and 1735 no turnovers).

Turnover is significantly higher ( $p < 0.05$ ) for firms with poor ROA, GRO, and LOSS in the normal turnover sample (Panel A). Stock return (RET) is not significant ( $p > 0.10$ ). Turnover is highest for both low and high ROS and lowest for the middle quartiles. In the forced turnover sample (Panel B), poor ROA, ROS, GRO, and LOSS are associated with increased turnover (and the effect is greater than for normal turnover). For example, firms with the poorest ROA (bottom quartile) replace their chairmen in 52 per cent of cases whereas only 7 per cent of chairmen are replaced when ROA is in the top quartile (the difference between 52 per cent and 7 per cent turnovers is highly significant,  $p < 0.01$ ). When companies suffer operating losses their chairmen are replaced in 64 per cent of cases while only 16 per cent of firms with operating profits replace their chairmen ( $p < 0.01$ ). RET is not significant. The evidence from Table III supports Hypothesis 1 when performance is measured as operating profit.

### Univariate Tests of Turnover and Corporate Governance Factors

Table IV presents some univariate analyses of normal and forced turnover disaggregated by ownership and board characteristics. The four governance variables are GOV, FOR, LEGAL, and MNONEX (which is coded one when there is a majority of non-executive directors on the board); the results are shown in Panels A, B, C, and D, respectively. Panel A(1), the normal turnover sample, shows that there is little difference between chairmen turnover rates for firms that are controlled by the government and those that are not; the overall turnover rates for both partitions (GOV(1), GOV(0)) are 26 per cent. We do not report chairman turnover partitioned on the basis of RET as stock return is not a significant discriminator of turnover (see the results in Table III). In Panel A(2), the forced turnover sample, firms with large government ownership have lower turnover and this applies across all performance categories. Overall, the turnovers are 21 per cent for firms where the government is the dominant owner and 29 per cent where the government is not dominant. The results show that the forced turnover of chairmen is lower when the government is the major shareholder.

The results from Panel B(1) show that firms with foreign shareholders have markedly lower normal chairman turnover. The turnover rate is 16 per cent for foreign-invested firms (FOR(1)) but 27 per cent for purely domestic firms (FOR(0)). Normal turnover rates are not sensitive to performance for foreign invested firms. Panel B(2) shows that foreign-invested firms have lower forced turnover than purely domestic owned firms when performance is poor although this difference is not significant for middle and good performance (except for LOSS in the top quartile). The results provide no support for our hypothesis that foreign investors will press firms to dismiss top management when financial performance is poor. On the contrary, foreign-invested firms appear to be more

Table IV. Relations between turnover rates and ownership and corporate governance structure at different levels of performance

<i>Ownership variable</i>	<i>GOV(1)</i> <i>Panel A(1)</i>	<i>GOV(0)</i>	<i>t-test (Z-statistic)</i>	<i>FOR(1)</i> <i>Panel B(1)</i>	<i>FOR(0)</i>	<i>t-test (Z-statistic)</i>
<i>Normal</i>						
<i>Bottom quartile</i>						
ROA	0.31	0.29	0.568 (0.569)	0.18	0.33	3.023*** (2.627)***
ROS	0.30	0.28	0.294 (0.294)	0.15	0.32	3.699*** (3.075)***
GRO	0.34	0.27	1.746* (1.704)*	0.20	0.33	2.085** (1.823)*
LOSS	0.43	0.48	0.757 (0.762)	0.28	0.47	2.306** (2.139)**
<i>Middle (second and third) quartiles</i>						
ROA	0.24	0.25	0.338 (0.338)	0.13	0.25	3.334*** (2.683)***
ROS	0.23	0.22	0.359 (0.359)	0.14	0.24	2.308** (1.975)**
GRO	0.23	0.24	0.365 (0.365)	0.16	0.24	2.283** (2.002)**
<i>Top quartile</i>						
ROA	0.25	0.26	0.264 (0.264)	0.17	0.25	1.119 (0.999)
ROS	0.28	0.30	0.505 (0.505)	0.20	0.29	1.237 (1.115)
GRO	0.24	0.28	0.829 (0.829)	0.12	0.27	3.028*** (2.343)**
LOSS	0.24	0.23	0.697 (0.387)	0.13	0.25	4.289*** (3.476)***
Total	0.26	0.26	0.006 (0.006)	0.16	0.27	4.197*** (3.553)***
Sample size	1684	661		205	2140	

Table IV. Continued

<i>Ownership variable</i>	<i>GOV(1)</i> <i>Panel A(2)</i>	<i>GOV(0)</i>	<i>t-test (<math>\bar{Z}</math>-statistic)</i>	<i>FOR(1)</i> <i>Panel B(2)</i>	<i>FOR(0)</i>	<i>t-test (<math>\bar{Z}</math>-statistic)</i>
<i>Forced</i>						
<i>Bottom quartile</i>						
ROA	0.48	0.61	3.067*** (3.016)***	0.35	0.55	3.319*** (3.209)***
ROS	0.44	0.54	2.159** (2.152)**	0.33	0.50	2.887*** (2.762)***
GRO	0.36	0.40	0.962 (0.963)	0.33	0.37	0.535 (0.536)
LOSS	0.60	0.70	2.007** (1.956)**	0.47	0.66	2.616*** (2.595)***
<i>Middle (second and third) quartiles</i>						
ROA	0.16	0.25	3.421*** (3.669)***	0.13	0.19	1.550 (1.380)
ROS	0.16	0.20	1.529 (1.596)	0.11	0.17	1.942** (1.659)*
GRO	0.18	0.25	2.423** (2.573)***	0.17	0.20	0.565 (0.565)
<i>Top quartile</i>						
ROA	0.06	0.07	0.448 (0.449)	0.03	0.07	1.333 (0.936)
ROS	0.10	0.21	3.374*** (3.597)***	0.15	0.14	0.212 (0.212)
GRO	0.16	0.23	1.925** (1.999)**	0.14	0.19	0.884 (0.885)
LOSS	0.15	0.20	2.701*** (2.833)***	0.12	0.17	1.719* (1.540)
Total	0.21	0.29	3.743*** (3.882)***	0.20	0.24	1.481 (1.401)
Sample size	1587	689		216	2060	

Table IV. Continued

<i>Ownership/governance variable</i>						
<i>Normal</i>	<i>LEGAL(L)</i> <i>Panel C(L)</i>	<i>LEGAL(0)</i>	<i>t-test (Z-statistic)</i>	<i>MNO/NEX(L)</i> <i>Panel D(L)</i>	<i>MNO/NEX(0)</i>	<i>t-test (Z-statistic)</i>
<i>Bottom quartile</i>						
ROA	0.35	0.27	2.148** (2.148)**	0.36	0.28	2.170** (2.163)**
ROS	0.34	0.25	2.290** (2.299)**	0.36	0.25	2.832*** (2.814)***
GRO	0.31	0.32	0.388 (0.388)	0.38	0.26	3.138*** (3.114)***
LOSS	0.44	0.44	0.077 (0.077)	0.49	0.39	1.492 (1.490)
<i>Middle (second and third) quartiles</i>						
ROA	0.26	0.23	1.161 (1.164)	0.31	0.19	4.656*** (4.614)***
ROS	0.24	0.22	0.880 (0.880)	0.29	0.19	4.100*** (4.072)***
GRO	0.25	0.22	1.191 (1.190)	0.30	0.19	4.167*** (4.137)***
LOSS						
<i>Top quartile</i>						
ROA	0.25	0.25	0.000 (0.000)	0.33	0.20	3.589*** (3.552)***
ROS	0.29	0.29	0.060 (0.060)	0.37	0.23	3.468*** (3.434)***
GRO	0.29	0.22	2.187** (2.180)**	0.31	0.20	2.988*** (2.967)***
LOSS	0.26	0.22	1.864* (1.868)*	0.30	0.19	5.698*** (5.783)***
Total	0.28	0.24	1.944* (1.946)*	0.33	0.21	6.002*** (6.069)***
Sample size	1170	1175		1048	1297	

Table IV. Continued

<i>Ownership/governance variable</i>		<i>LEGAL(1)</i> <i>Panel C(2)</i>	<i>LEGAL(0)</i>	<i>t-test</i> ( $\zeta$ - <i>statistic</i> )	<i>MNONEX(1)</i> <i>Panel D(2)</i>	<i>MNONEX(0)</i>	<i>t-test</i> ( $\zeta$ - <i>statistic</i> )
<i>Forced</i>							
<i>Bottom quartile</i>							
ROA	0.59	0.44	3.453*** (3.420)***	0.62	0.42	4.725*** (4.636)***	
ROS	0.53	0.42	2.557*** (2.544)***	0.56	0.40	3.967*** (3.918)***	
GRO	0.39	0.35	0.981 (0.979)	0.47	0.28	4.618*** (4.568)***	
LOSS	0.67	0.59	1.403 (1.409)	0.71	0.55	3.319*** (3.117)***	
<i>Middle (second and third) quartiles</i>							
ROA	0.23	0.14	4.111*** (4.104)***	0.25	0.13	4.885*** (5.002)***	
ROS	0.21	0.13	3.573*** (3.555)***	0.23	0.12	4.645*** (4.811)***	
GRO	0.25	0.14	4.421*** (4.446)***	0.27	0.15	5.002*** (5.205)***	
<i>Top quartile</i>							
ROA	0.08	0.05	1.499 (1.496)	0.12	0.03	3.473*** (3.914)***	
ROS	0.18	0.08	3.671*** (3.475)***	0.23	0.08	4.863*** (5.149)***	
GRO	0.23	0.15	2.495** (2.488)**	0.26	0.12	4.342*** (4.349)***	
LOSS	0.20	0.13	4.419*** (4.424)***	0.23	0.11	6.615*** (6.870)***	
Total	0.29	0.19	5.366*** (5.333)***	0.33	0.17	8.433*** (8.556)***	
Sample size	1131	1145		976	1300		

*Notes:* This table compares the turnover rates of the chairmen. We examine the stated reasons for the replacement of the chairmen and categorize these as normal turnover and forced turnover. Panels A(1), B(1), C(1), and D(1) analyse the normal cases and Panels A(2), B(2), C(2), and D(2) the forced cases. Panels A, B, C, and D split the sample on the basis of ownership (GOV, FOR, and LEGAL) and board composition (MNONEX). We divide the sample firms into three categories using the various performance indicators: top quartile being the good performers, bottom quartile the poor performing group and the two middle quartiles the average performers.

\*, \*\*, and \*\*\* denote significance at 0.10, 0.05, and 0.01 levels, respectively.

tolerant of poor performance. The results from Panel C(1) show that firms with legal entity ownership above the median (LEGAL(1)) have higher normal turnover (28 per cent versus 24 per cent) and the difference is most noticeable when performance is in the bottom and top quartiles. In the forced turnover sample (Panel C(2)), firms with high legal entity ownership are more likely to replace chairman (29 per cent versus 19 per cent). Forced turnover is higher when performance is poorest (the bottom quartile). However, in all quartiles, firms with high legal entity ownership have higher forced turnover than firms with low legal entity ownership. Firms where non-executive directors constitute a majority of the board (MNONEX(1)) have higher turnovers of their chairmen than firms where non-executive directors are in the minority (see Panel D). This finding applies to both normal and forced turnovers and is observed for poor, middle, and good performance. Consistent with the results from Table III, turnover in the forced sample is higher when firm performance is poor.

The results in Table IV show that turnover is highest for firms where legal entity shares are high and when there are a high proportion of non-executive directors. Firms with foreign investors have lower turnover. Forced turnover is highest when performance is poor and the firm has issued a lot of legal shares and has a large proportion of non-executive directors.

### Logit Regression Results

The multinomial logit regression results are reported in Tables V and VI. The multinomial logit model can be thought of as simultaneously estimating binary logits for all comparisons among the dependent categories (normal turnover, forced turnover, and control sample [no turnover]) (Long, 1997). In Table V, ROA is used as the performance measure while LOSS is used in Table VI. When ROS and GRO are used as performance measures, the regressions give similar, but less significant, results than ROA and LOSS. The model that uses RET as the dependent variable is not significant (consistent with the results in Table III). For these reasons we do not show the results for regressions using ROS, GRO, and RET as the performance variable. Various specifications of the models are shown (models 1, 2, 3, and 4). Model 1 ignores non-executive directors and ownership variables. Model 2 includes the non-executive director variable, model 3 includes ownership variables, and model 4 is the full model. In general the results are consistent across models and so our discussion primarily focuses on the full model (model 4).

Table V shows that AGE is a factor in normal replacements but has no association with forced turnover. This is in accord with *a priori* reasoning. Chairmen that also hold the position of CEO are less likely to be replaced. The dual appointment gives more power to the individual and so it is harder to replace them. This evidence is consistent with studies in the UK (Dahya et al., 1998) and the USA (Goyal and Park, 2002). PCHM has negative coefficients and so chairmen paid by the parent organization are more likely to be replaced. LOGSIZE is negatively related to the replacement of chairmen. Large firms are therefore more likely to retain the services of the chairmen. It can be argued that larger firms need more skilled managers and these may be in short supply. This can inhibit large firms from replacing their chairmen.

Table V. Estimates of multinomial logit models relating the probability of board chairman turnover to performance (ROA), board control, ownership structure, chairman characteristics, and firm characteristics

	Model 1		Model 2		Model 3		Model 4	
	Normal	Forced	Normal	Forced	Normal	Forced	Normal	Forced
Intercept	6.4203 (0.000)	9.1790 (0.000)	5.4457 (0.000)	7.6292 (0.000)	5.2286 (0.000)	7.4528 (0.000)	4.3599 (0.001)	6.0956 (0.000)
ROA	-3.1834 (0.000)	-6.0261 (0.000)	-5.4150 (0.001)	-8.7610 (0.000)	-3.4522 (0.000)	-6.1417 (0.000)	-5.8544 (0.000)	-8.9982 (0.000)
<i>Board control</i>								
NONEX			0.8223 (0.000)	1.3436 (0.000)			0.8169 (0.000)	1.2628 (0.000)
NONEX*ROA			5.0273 (0.077)	6.2198 (0.022)			5.3723 (0.061)	6.4335 (0.019)
<i>Ownership structure</i>								
GOV					-0.0374 (0.774)	-0.1431 (0.287)	-0.0427 (0.745)	-0.1447 (0.286)
LEGAL					0.1120 (0.334)	0.3295 (0.009)	0.0787 (0.504)	0.2782 (0.031)
FOR					-0.7730 (0.000)	-0.2354 (0.254)	-0.7738 (0.001)	-0.2999 (0.157)
GOV*ROA					1.5952 (0.543)	2.2943 (0.486)	1.1092 (0.456)	1.3659 (0.201)
LEGAL*ROA					-4.5452 (0.047)	-6.6373 (0.042)	-5.1002 (0.058)	-7.3461 (0.038)
FOR*ROA					1.3992 (0.326)	2.8447 (0.241)	1.0283 (0.467)	7.0222 (0.121)
<b>Control variables</b>								
<i>Chairman characteristics</i>								
AGE	0.0503 (0.000)	-0.0027 (0.704)	0.0507 (0.000)	-0.0009 (0.904)	0.0525 (0.000)	0.0022 (0.764)	0.0527 (0.000)	0.0037 (0.625)
DUAL	-0.7366 (0.000)	-0.3536 (0.000)	-0.7423 (0.000)	-0.3811 (0.017)	-0.7580 (0.000)	-0.3703 (0.019)	-0.7646 (0.000)	-0.3970 (0.013)
PCHM	-0.04274 (0.000)	-0.6445 (0.000)	-0.1753 (0.157)	-0.2745 (0.038)	-0.4469 (0.000)	-0.6418 (0.00)	-0.1977 (0.112)	-0.2991 (0.024)
<i>Firm characteristics</i>								
LOGSIZE	-0.4657 (0.000)	-0.4738 (0.000)	-0.4442 (0.000)	-0.4441 (0.000)	-0.4123449 (0.000)	-0.4060212 (0.000)	-0.3599 (0.000)	-0.3803 (0.000)
Sample size	2725	2725	2725	2725	2725	2725	2725	2725
Pseudo R <sup>2</sup>	0.0648	0.0708	0.0703	0.0756				

Notes: The multinomial logit model can be thought of as simultaneously estimating binary logits for all comparisons among the dependent categories (normal turnover, forced turnover and control sample, i.e. no turnover). This table shows the multinomial logit analysis using the equation: Probability (board chairman turnover) = f{PERFORMANCE, BOARD CONTROL, OWNERSHIP STRUCTURE, CHAIRMAN CHARACTERISTICS, and FIRM CHARACTERISTICS}. We examine the stated reasons for the replacement of the chairmen and categorize these as normal turnover and forced turnover. p-values are reported in parentheses.

Table V. Continued

	Model 1		Model 2		Model 3		Model 4	
	Normal	Forced	Normal	Forced	Normal	Forced	Normal	Forced
ROA	-0.2993 (0.015)	-0.7736 (0.000)	-0.5752 (0.021)	-1.0752 (0.000)	-0.3393 (0.006)	-0.7792 (0.000)	-0.6381 (0.011)	-1.0928 (0.000)
<i>Board control</i>								
NONEX			0.0869 (0.014)	0.1652 (0.000)			0.0888 (0.013)	0.1536 (0.000)
NONEX*ROA			0.6062 (0.157)	0.7188 (0.039)			0.6536 (0.128)	0.7370 (0.036)
<i>Ownership structure</i>								
GOV					-0.0006 (0.975)	-0.0201 (0.306)	-0.0016 (0.940)	-0.0198 (0.310)
LEGAL					0.0060 (0.743)	0.0446 (0.013)	0.0027 (0.886)	0.0376 (0.037)
FOR					-0.0997 (0.000)	-0.0114 (0.688)	-0.0988 (0.000)	-0.0201 (0.468)
GOV*ROA					0.0123 (0.452)	0.0509 (0.296)	0.1590 (0.407)	0.1875 (0.513)
LEGAL*ROA					-0.5078 (0.084)	-0.8069 (0.091)	-0.5854 (0.050)	-0.8681 (0.080)
FOR*ROA					-0.0293 (0.896)	0.9591 (0.160)	-0.0910 (0.685)	0.9749 (0.101)
<b>Control variables</b>								
<i>Chairman characteristics</i>								
AGE	0.0085 (0.000)	-0.0023 (0.024)	0.0085 (0.000)	-0.0020 (0.047)	0.0086 (0.000)	-0.0017 (0.117)	0.0086 (0.000)	-0.0014 (0.174)
DUAL	-0.0966 (0.000)	-0.0276 (0.188)	-0.0971 (0.000)	-0.0306 (0.138)	-0.0984 (0.000)	-0.0294 (0.157)	-0.0991 (0.000)	-0.0323 (0.116)
PCHM	-0.0455 (0.007)	-0.0815 (0.000)	-0.0188 (0.348)	-0.0339 (0.075)	-0.0489 (0.004)	-0.0801 (0.000)	-0.0215 (0.283)	-0.0367 (0.055)
<i>Firm characteristics</i>								
LOGSIZE	-0.0594 (0.000)	-0.0526 (0.000)	-0.0575 (0.000)	-0.0481 (0.000)	-0.0530 (0.000)	-0.0445 (0.000)	-0.0514 (0.000)	-0.0407 (0.000)

Notes: Panel B shows the marginal effects. The marginal effect can be used to summarize the effect of a unit change in the variable on the probability of an outcome (normal turnover and forced turnover). p-values are reported in parentheses.

Table V shows quite clearly that poor accounting performance (ROA) is significantly related to chairmen turnover and this applies to both normal and forced replacements ( $p < 0.01$ ). This result is consistent with the evidence in Tables III and IV and it supports Hypothesis 1 (the performance hypothesis).

GOV is not significant ( $p > 0.10$ ) and so the state as the dominant shareholder has no impact on turnover rates. Thus the significant results for GOV in Table IV, Panel A(2), disappear in the multivariate setting. High legal entity shareholdings (LEGAL) are associated with higher levels of forced turnover ( $p < 0.05$ ). This result is consistent with the evidence in Table IV. Foreign-invested firms (FOR) have lower normal turnover ( $p < 0.01$ ) and this is consistent with the results in Table IV. The multinomial logistic results show that ownership does have an impact on top management turnover although foreign investors have a different influence from the one we expected.

The interaction variables (LEGAL\*ROA, GOV\*ROA, and FOR\*ROA) provide a direct test of Hypothesis 2. LEGAL\*ROA has negative coefficients, which implies that the turnover-performance relation is more acute when legal entities have substantial shareholdings. Three of the coefficients ( $-4.5452$ ,  $-6.6373$ ,  $-7.3461$ ) are statistically significant ( $p < 0.05$ ). Thus there is directional and statistical support for the Hypothesis 2a. The coefficients GOV\*ROA are not significant and this is consistent with Hypothesis 2b which states that government shareholders do not pressure firms to use performance measures when deciding whether to replace chairmen. The interaction terms FOR\*ROA are not significant, and they even have positive coefficients. The results for FOR\*ROA are not consistent with Hypothesis 2c.

We find that NONEX is positively related to the replacement of chairmen ( $p < 0.01$ ), and this is consistent with the results in Table IV. Non-executive directors are a force for the replacement of chairmen. We argue that in the absence of a market for corporate control, internal control mechanisms will take proactive roles in evaluating and disciplining management. The interaction term NONEX\*ROA is positive and this indicates that non-executive directors moderate the impact of poor performance. The positive sign on NONEX\*ROA is opposite to what we expect under Hypothesis 3 (the monitoring hypothesis).

In addition to showing the logit coefficients and the levels of significance, we also report the marginal effects, evaluated at the mean, of a change in the independent variable (Panel B, Table V). In the case of a dummy variable, these marginal effects show by how much the probability of chairman turnover will change with a change in status; in the case of a continuous variable, they show how much the probability will change with a one-unit change in the value of the variable. Reporting the marginal effects tells us the relative importance of each explanatory variable in predicting the probability of event occurrence. The marginal effect for AGE shows that an increase in age of one year will increase the probability of normal turnover by 0.86 per cent (model 4). The marginal effects for AGE are not significant for forced turnovers. DUAL also has a strong marginal effect with a reduction in probability of normal turnover of 9.91 per cent when a chairman also has the role of CEO ( $p < 0.01$ ) (model 4, normal sample). Size (LOGSIZE) has significant marginal effects ( $p < 0.01$ ).

Based on the results in model 4 (normal turnover), a 0.01 (1 per cent) increase in ROA results in a 0.64 per cent decrease in the probability of a chairman being replaced

( $p < 0.02$ ). In the forced turnover sample, a 0.01 (1 per cent) increase in ROA is associated with a 1.09 per cent decrease in the probability of the chairman being replaced ( $p < 0.01$ ). The marginal effect for LEGAL (model 4, forced turnover) is 0.037, which indicates the probability of turnover increases by 3.7 per cent when legal entity ownership becomes high ( $p < 0.05$ ). FOR reduces the likelihood of normal chairman turnover by 10 per cent ( $p < 0.01$ ) (model 4). The marginal effects for LEGAL\*ROA are significant ( $p < 0.10$ ). The marginal effects of NONEX are also significant ( $p < 0.02$ ). According to model 4 a one-unit increase (e.g. from 0.44 to 0.45) in NONEX results in a 0.15 per cent (0.09 per cent) increase in forced (normal) turnover. The interaction term NONEX\*ROA has significant marginal effects for forced turnovers ( $p < 0.05$ ). The results in Table V, Panel B, show the marginal effects of the significant independent variables are quite large. The evidence is consistent with the view that in the absence of a market for corporate control, internal control mechanisms will take proactive roles in evaluating and disciplining top management.

Table VI shows the multinomial logistic regression results and the marginal effects when we use LOSS as the performance variable. The results are broadly the same as those in Table V. Note the coefficient on LOSS is positive because LOSS is coded one for a loss. Thus poor performance leads to higher turnover. There are only a few differences when compared to Table V. In Table VI, Panel A, NONEX\*LOSS is no longer statistically significant and FOR is significant for forced turnover. LEGAL\*LOSS has positive coefficients, which are consistent with Hypothesis 2a; the coefficients are significant for forced turnover ( $p < 0.10$ ). The other ownership-performance interactions are not significant. The marginal effects in Table VI, Panel B are similar to those in Table V, Panel A. LOSS has a non-significant marginal effect in the normal turnover sample ( $p > 0.10$ ). Note the marginal effects for LOSS are substantially different from ROA because the units are different.

### Post-Turnover Performance

Tables III, IV, V, and VI show that turnover is related to poor performance (ROA, GRO, ROS, and LOSS) and so the shareholders hope that a new chairman will help improve profitability and growth. To investigate this issue we examine performance changes surrounding replacements of chairmen using five measures of profitability and growth (ROA, RET, ROS, GRO and LOSS).

Table VII shows several analyses of performance and performance changes in the period surrounding the chairman turnover. The number of observations for each year changes because we do not have data for all years (for example, some of our analyses require data on performance for three years after the replacement of a chairman; for those chairmen replaced in 2002 we do not have three year's post-turnover performance data and so the sample for Year 3 is smaller). In Table VII, Panel A, we show ROA, RET, ROS, GRO, and LOSS for Years -3, -2, -1, 0, 1, 2, and 3. Year 0 is the year the chairman is replaced and so the chairman is responsible for the performance in Year -1 but he/she had been replaced by the end of Year 0. The mean and median performance measures are shown. For the normal turnover sample (Panel A(1)), the mean ROAs are negative in all years up to Year -1. After the replacement

Table VI. Estimates of multinomial logit models relating the probability of board chairman turnover to performance (LOSS), board control, ownership structure, chairman characteristics, and firm characteristics

	Model 1		Model 2		Model 3		Model 4	
	Normal	Forced	Normal	Forced	Normal	Forced	Normal	Forced
Intercept	5.9774 (0.000)	7.8789 (0.000)	5.0102 (0.000)	6.3945 (0.000)	4.6411 (0.000)	6.0498 (0.000)	3.7965 (0.003)	4.7639 (0.001)
LOSS	0.8747 (0.000)	2.1307 (0.000)	1.1144 (0.000)	2.4267 (0.000)	0.9444 (0.000)	2.1705 (0.000)	1.1988 (0.000)	2.4882 (0.000)
<i>Board control</i>								
NONEX			0.8458 (0.000)	1.3374 (0.000)			0.8399 (0.000)	1.2636 (0.000)
NONEX*LOSS			-0.5414 (0.327)	-0.6953 (0.166)			-0.5678 (0.308)	-0.7265 (0.150)
<i>Ownership structure</i>								
GOV					-0.0329 (0.801)	-0.1591 (0.258)	-0.0349 (0.791)	-0.1518 (0.285)
LEGAL					0.1233 (0.290)	0.3103 (0.019)	0.0935 (0.429)	0.2685 (0.046)
FOR					-0.8471 (0.000)	-0.3777 (0.075)	-0.8472 (0.000)	-0.4365 (0.044)
GOV*LOSS					-0.3953 (0.286)	-0.2982 (0.364)	-0.3387 (0.362)	-0.2607 (0.431)
LEGAL*LOSS					0.5262 (0.123)	0.6151 (0.048)	0.4500 (0.193)	0.5463 (0.084)
FOR*LOSS					-0.3907 (0.448)	-0.6148 (0.148)	-0.4168 (0.419)	-0.5954 (0.168)
<b>Control variables</b>								
<i>Chairman characteristics</i>								
AGE	0.0501 (0.000)	-0.0012 (0.873)	0.0502 (0.000)	0.0002 (0.982)	0.0525 (0.000)	0.0041 (0.600)	0.0524 (0.000)	0.0050 (0.524)
DUAL	-0.7563 (0.000)	-0.4417 (0.007)	-0.7625 (0.000)	-0.4632 (0.006)	-0.7798 (0.000)	-0.4630 (0.005)	-0.7864 (0.000)	-0.4860 (0.004)
PCHM	-0.4194 (0.000)	-0.6280 (0.000)	-0.1665 (0.182)	-0.2794 (0.042)	-0.4384 (0.000)	-0.6296 (0.000)	-0.1900 (0.129)	-0.3068 (0.026)
<i>Firm characteristics</i>								
LOGSIZE	-0.4481 (0.000)	-0.4329 (0.000)	-0.4268 (0.000)	-0.4042 (0.000)	-0.3888 (0.000)	-0.3594 (0.000)	-0.3720 (0.000)	-0.3358 (0.000)
Sample size	2725	2725	2725	2725	2725	2725	2725	2725
Pseudo R <sup>2</sup>	0.1003	0.1047	0.1061	0.1099				

Notes: The multinomial logit model can be thought of as simultaneously estimating binary logits for all comparisons among the dependent categories (normal turnover, forced turnover and control sample, i.e. no turnover). This table shows the multinomial logit analysis using the equation: Probability (board chairman turnover) = f (PERFORMANCE, BOARD CONTROL, OWNERSHIP STRUCTURE, CHAIRMAN CHARACTERISTICS, and FIRM CHARACTERISTICS). We examine the stated reasons for the replacement of the chairmen and categorize these as normal turnover and forced turnover. p-values are reported in parentheses.

Table VI. Continued

	Model 1		Model 2		Model 3		Model 4	
	Normal	Forced	Normal	Forced	Normal	Forced	Normal	Forced
LOSS	0.0176 (0.421)	0.3502 (0.000)	0.0320 (0.498)	0.3908 (0.000)	0.0264 (0.237)	0.3525 (0.000)	0.0409 (0.395)	0.3960 (0.000)
<i>Board control</i>								
NONEX			0.0977 (0.011)	0.1500 (0.0361)			0.0988 (0.010)	0.1402 (0.000)
NONEX*LOSS			-0.0680 (0.435)	-0.0745 (0.218)			-0.0712 (0.415)	-0.0777 (0.199)
<i>Ownership structure</i>								
GOV					0.0001 (0.995)	-0.0209 (0.270)	-0.0006 (0.979)	-0.0195 (0.299)
LEGAL					0.0100 (0.593)	0.0378 (0.028)	0.0066 (0.730)	0.0327 (0.057)
FOR					-0.1077 (0.000)	-0.0268 (0.277)	-0.1073 (0.000)	-0.0332 (0.165)
GOV*LOSS					-0.0529 (0.285)	-0.0266 (0.460)	-0.0460 (0.369)	-0.0231 (0.523)
LEGAL*LOSS					0.0642 (0.143)	0.0587 (0.041)	0.0555 (0.230)	0.0524 (0.078)
FOR*LOSS					-0.0451 (0.527)	-0.0599 (0.114)	-0.0496 (0.481)	-0.0568 (0.142)
<b>Control variables</b>								
<i>Chairman characteristics</i>								
AGE	0.0085 (0.000)	-0.0019 (0.052)	0.0085 (0.000)	-0.0017 (0.079)	0.0087 (0.000)	-0.0013 (0.211)	0.0087 (0.000)	-0.0011 (0.261)
DUAL	-0.0999 (0.000)	-0.0355 (0.065)	-0.1009 (0.000)	-0.0373 (0.050)	-0.1018 (0.000)	-0.0375 (0.048)	-0.1029 (0.000)	-0.0395 (0.036)
PCHM	-0.0482 (0.005)	-0.0728 (0.000)	-0.0185 (0.366)	-0.0322 (0.077)	-0.0514 (0.003)	-0.0721 (0.000)	-0.0215 (0.294)	-0.0351 (0.055)
<i>Firm characteristics</i>								
LOGSIZE	-0.0607 (0.000)	-0.0432 (0.000)	-0.0586 (0.000)	-0.0394 (0.000)	-0.0531 (0.000)	-0.0353 (0.000)	-0.0514 (0.000)	-0.0322 (0.000)

Notes: Panel B shows the marginal effects. The marginal effect can be used to summarize the effect of a unit change in the variable on the probability of an outcome (normal turnover and forced turnover). *t*-values are reported in parentheses.

of the chairman the mean ROA continues to be negative and by Year 3 it reaches -8.6 per cent. The evidence indicates there is no improvement in performance after the turnover; in fact, the performance deteriorates (statistical tests are provided in Panel B). Note the ROAs in Year 2 and Year 3 are more negative than those of Year 0 and Year 1 and so there is no evidence of a longer-term improvement. The median performance measures (shown in parentheses) are positive, but are of small magnitudes. The results for ROS are similar to those of ROA; the mean ROS are worse after the chairman turnover. The mean GRO becomes positive in Years 1 and 2 but reverts to a negative figure in Year 3. The proportion of operating losses (LOSS) increases after turnover. The mean RET is positive in all years. In general, the yearly performance measures do not show any improvement after the 'normal' replacement of the chairman.

In Panel A(2), which shows the results for the forced turnover sample, mean and median ROA and ROS are negative in all years and there is no evidence of any improvement after the forced replacement of the chairman. Median RET is negative in many years. There is no evidence that GRO improves after a chairman is replaced. The proportion of losses is higher in the forced turnover sample than in the normal turnover sample and this is consistent with the evidence in Table III. There is a large jump in losses in Years -1, 0, and 1. The increase in firms reporting losses in Year -1 may prompt the replacement of the chairman but the new chairman is not able to stem the tide of losses in Years 0 and 1. By Years 2 and 3 the proportion of firms reporting operating losses falls but it is still higher than in the normal turnover sample. The evidence from Panel A indicates that the replacement of the chairman does not improve profitability and this suggests that the problems that exist are more deep-seated than the person who occupies the position of chairman.

To provide more evidence on whether performance changes after a replacement of a chairman we directly measure changes before and after the turnover. To be included in the analyses a firm has to have complete data from Year -3 to Year 0 (the -3 to 0 analysis) and a firm has to have complete data from Year 0 to Year 3 (for the 0 to 3 analysis). The results are shown in Table VII (Panel B). In the normal turnover sample, ROA deteriorates in the period -3 to 0 (the ROA falls a statistically significant -3.71 per cent,  $p < 0.05$ ). In the three years 0 to 3 there is a further decline in ROA (-7.50 per cent) but this is not statistically significant ( $p > 0.10$ ). A similar pattern is shown for ROS and LOSS (note that 0.07 for LOSS in Year -3 to 0 indicates the proportion of operating losses increases by 0.07). RET and GRO both decline in the period subsequent to the turnover.

In the forced sample, we find that there are significant declines in industry median-adjusted ROA (-9.95 per cent,  $p < 0.01$ ) and ROS (-109 per cent,  $p < 0.01$ ) in the three years before the chairman is replaced and the proportion of operating losses has significantly increased. Subsequent to the replacement of the chairman, ROA and ROS continue to decline and there is a significant decline in RET ( $p < 0.01$ ). However, there is a reduction in the proportion of operating losses (the proportion declines by 0.0574). The pattern of operating losses indicates Year 0 has a high proportion and Year -3 and Year 3 have lower proportions of operating losses. This pattern is similar to the results in Panel A (note, however, that the different sample sizes means that it is not possible to

reconcile the results). The evidence in Panels A and B, Table VII, provide no indication of any improvement in performance in the years after a change in chairman. Although chairmen are replaced after poor performance (see Tables III, IV, V, and VI) the replacement chairmen fare no better.

Additional analyses are carried out and these corroborate our findings. In Table VII we use Year 0 as the partition date to separate before and after periods. To ensure that the results are not sensitive to the use of Year 0 (as Year 0 often has two chairmen – the replaced and the successor), we redo the analyses using performances for Year –3 to –1 and Year 1 to 3. The conclusions from these sensitivity tests are the same as those we draw from the Table VII results; there is no evidence of any improvement in performance after the replacement of the chairman. Our profit measures are based on operating profit and this largely avoids any bias due to successor chairmen taking ‘big baths’. Large write-offs of assets and large restructuring costs that sometimes accompany the arrival of a new chairman are disclosed after operating profit and so they do not contaminate our results. Big baths are normally taken in the first year of a new chairman’s tenure and so our use of the period Year 1 to 3 in the sensitivity tests provides a safeguard against any ‘big bath’ impact on operating profit.

In Table VIII we compare performance changes across the three groups, normal turnover, forced turnover, and control (no turnover). In the first comparison, normal versus control, we observe few statistical differences. For example, the change in ROA (Year –3 to 0) for the normal turnover sample is –3.71 per cent against –2.41 per cent for the control group; however, the mean and median differences are not statistically significant ( $p > 0.10$ ). The only significant result is that the change in the proportion of operating losses is higher for the control group than for the normal turnover group in the period Year 0 to 3 ( $p < 0.05$ ). Note, however, that the positive signs indicate that the proportion of firms with operating losses increases for both groups (0.0561 for the normal turnover sample and 0.1448 for the no turnover group).

In the normal versus forced comparison we see that the changes in performance (ROA, ROS, and LOSS) in Year –3 to 0 are worse for the forced sample. Note the change in the proportion of operating losses is far higher for the forced turnover sample (0.187 versus 0.07). In the period Year 0 to 3 there are mixed performance changes. The median change in ROA improves for the forced sample whereas it deteriorates for the normal sample; note, however, that the industry median-adjusted ROA in Year 3 for the forced sample is still lower than for the normal sample. The change in the proportion of losses in Year 0 to 3 is positive for the normal sample (i.e. there is an increase in the number of losses) but is negative for the forced sample. This result is for *change*; the actual proportion of losses for the forced sample in Year 3 (31 per cent, see Table VII, Panel A(2)) is far higher than for the normal sample (26 per cent, see Table VII, Panel A(1)).

The forced versus control comparison shows that the forced group’s performance measures (ROA, ROS, and LOSS) deteriorates more than the no-turnover sample in the period Year –3 to 0. In the period Year 0 to 3, the median change in ROA and ROS improves relative to the control group. The change in the proportion of losses for the forced turnover sample shows a reduction in losses while the control group shows an increase.

Table VII. Financial performances surrounding a change in chairman

<i>Panel A(1)</i>										
<i>Performance Normal turnover variables</i>										
	<i>Year -3</i>	<i>Year -2</i>	<i>Year -1</i>	<i>Year 0</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>			
ROA	-0.0097 (0.0001)	-0.0191 (0.0011)	-0.0166 (0.0421)	-0.0325 (0.0013)	-0.0315 (0.0011)	-0.0395 (0.0005)	-0.0860 (0.0006)			
RET	0.0604 (0.0000)	0.0944 (0.0220)	0.0604 (0.0033)	0.0541 (0.0013)	0.0532 (-0.0205)	0.03241 (0.0057)	0.0162 (-0.0063)			
ROS	-0.3426 (-0.0008)	-0.0754 (0.0125)	-0.0174 (0.0094)	-0.1393 (0.0021)	-0.3607 (0.0022)	-0.7515 (-0.0005)	-1.9869 (0.0047)			
GRO	-0.1639 (-0.0255)	-0.0509 (-0.0069)	-0.0169 (0.0010)	-0.0320 (-0.0151)	0.01478 (0.0001)	0.0127 (-0.0192)	-0.0410 (-0.0047)			
LOSS	0.17 (0.00)	0.16 (0.00)	0.17 (0.00)	0.21 (0.00)	0.22 (0.00)	0.22 (0.00)	0.26 (0.00)			
N	400	551	610	609	463	327	214			

Notes: This table shows the mean of the performance variables for the 3 years preceding and following the change of the board chairman. The median is in parentheses.

*Panel A(2)*

<i>Performance Forced turnover variables</i>										
	<i>Year -3</i>	<i>Year -2</i>	<i>Year -1</i>	<i>Year 0</i>	<i>Year 1</i>	<i>Year 2</i>	<i>Year 3</i>			
ROA	-0.0305 (-0.0151)	-0.0588 (-0.0198)	-0.0908 (-0.0243)	-0.1096 (-0.0174)	-0.1097 (-0.012)	-0.0486 (-0.003)	-0.0588 (-0.0028)			
RET	0.0500 (-0.0121)	0.0657 (-0.0214)	0.0739 (0.0042)	0.0676 (-0.015)	0.0501 (0.0078)	0.0323 (-0.0043)	0.0340 (0.0078)			
ROS	-0.6216 (-0.0186)	-0.1851 (-0.0338)	-0.7727 (-0.0480)	-0.8331 (-0.0366)	-0.9405 (-0.0199)	-1.4132 (-0.0098)	-3.0545 (-0.005)			
GRO	-0.0973 (0.0407)	-0.1300 (-0.0708)	-0.17307 (-0.1100)	-0.0360 (-0.0485)	-0.0296 (-0.0505)	-0.00894 (0.0063)	-0.0303 (0.0072)			
LOSS	0.25 (0.00)	0.30 (0.00)	0.43 (0.00)	0.41 (0.00)	0.39 (0.00)	0.33 (0.00)	0.31 (0.00)			
N	404	524	541	538	446	338	209			

Notes: This table shows the mean of the performance variables for the 3 years preceding and following the change of the board chairman. The median is in parentheses.

Table VII. *Continued*

<i>Performance variables</i>	<i>Normal turnover</i>		<i>Forced turnover</i>	
	<i>Year -3 to 0</i>	<i>Year 0 to 3</i>	<i>Year -3 to 0</i>	<i>Year 0 to 3</i>
ROA	-0.0371 (2.018)**	-0.0750 (1.4772)	-0.0995 (2.971)***	-0.0086 (0.260)
RET	0.3969 (0.991)	-0.0685 (1.865)*	0.6757 (1.332)	-0.1416 (3.137)***
ROS	-0.3152 (3.357)***	-2.0619 (1.161)	-1.0989 (3.128)***	-2.8396 (1.422)
GRO	0.1204 (2.181)**	-0.0278 (0.568)	0.0692 (1.202)	0.0038 (0.048)
LOSS	0.0700 (2.768)***	0.0561 (1.418)	0.1870 (5.868)***	-0.0574 (1.362)
N	400	214	404	209

*Notes:* This table shows the change in performance in the three years before and the three years after the turnover. *t*-statistics in parentheses.

\*, \*\*, and \*\*\* denote significance at 0.10, 0.05, and 0.01 levels, respectively.

Table VIII. Comparisons of changes in performances surrounding chairman turnover among different samples

		<i>Year 0 to 3</i>			
		<i>Normal vs. control</i>			
	<i>Year -3 to 0</i>	<i>Normal</i>	<i>Control</i>	<i>t/√test</i>	<i>t/√test</i>
ROA	-0.0371 (-0.0024)	-0.0241 (-0.0048)	0.667 (1.145)	-0.0750 (-0.0009)	-0.0322 (-0.0025)
RET	0.3969 (-0.0013)	0.0155 (-0.0048)	0.951 (0.603)	-0.0685 (-0.0099)	-0.0191 (0.0189)
ROS	-0.3152 (-0.0025)	-0.2816 (-0.0100)	0.159 (1.506)	-2.0619 (-0.0066)	-0.4971 (-0.0042)
GRO	0.1204 (-0.0148)	0.0665 (-0.0137)	0.876 (0.424)	-0.0278 (-0.0268)	-0.0376 (-0.0441)
LOSS	0.0700 (0.000)	0.0829 (0.000)	0.459 (0.333)	0.0561 (0.000)	0.1448 (0.000)
N	400	1050		214	504
<hr/>					
		<i>Normal vs. forced</i>			
	<i>Year -3 to 0</i>	<i>Normal</i>	<i>Forced</i>	<i>t/√test</i>	<i>t/√test</i>
ROA	-0.0371 (-0.0024)	-0.0995 (-0.0096)	1.635 (1.958)**	-0.0750 (-0.0009)	-0.0086 (0.0170)
RET	0.3969 (-0.0013)	0.6757 (0.0248)	0.431 (1.465)	-0.0685 (-0.0099)	-0.1416 (-0.0699)
ROS	-0.3152 (-0.0025)	-1.0989 (-0.0861)	2.155** (2.572)**	-2.0619 (-0.0066)	-2.8396 (0.0409)
GRO	0.1204 (-0.0148)	0.0692 (0.0115)	0.642 (0.301)	-0.0278 (-0.0268)	0.0038 (-0.0050)
LOSS	0.0700 (0.000)	0.1870 (0.000)	2.876*** (3.142)***	0.0561 (0.000)	-0.0574 (0.000)
N	400	401		214	209

Table VIII. *Continued*

		<i>Forced vs. control</i>				
	<i>Forced</i>	<i>Control</i>	<i>t/z-test</i>	<i>Forced</i>	<i>Control</i>	<i>t/z-test</i>
ROA	-0.0995 (-0.0096)	-0.0241 (-0.0048)	2.222** (1.512)	-0.0086 (0.0170)	-0.0322 (-0.0025)	0.680 (4.848)***
RET	0.6757 (0.0248)	0.0155 (-0.0048)	1.301 (2.391)**	-0.1416 (-0.0699)	-0.0191 (0.0189)	2.420** (2.009)**
ROS	-1.0989 (-0.0861)	-0.2816 (-0.0100)	2.189** (4.582)***	-2.8396 (0.0409)	-0.4971 (-0.0042)	1.163 (4.040)***
GRO	0.0692 (0.0115)	0.0665 (-0.0137)	0.043 (0.139)	0.0038 (-0.0050)	-0.0376 (-0.0441)	0.508 (0.803)
LOSS	0.1870 (0.000)	0.0829 (0.000)	3.057*** 4.277***	-0.0574 (0.000)	0.1448 (0.000)	4.361*** (4.661)**
N	401	1050		209	504	

*Notes:* This table describes changes in performance variables in the years preceding and following the change of the board chairman by comparing the mean (median) changes in performance among the normal turnover, forced turnover, and control sample (i.e. no change). \*, \*\*, and \*\*\* denote significance at 0.10, 0.05, and 0.01 levels, respectively.

## Sensitivity Analyses

We conduct an array of sensitivity tests that examine alternative measures of variables and we also investigate additional factors that have been suggested in the literature. These analyses allow us to check the robustness of our findings. When contemporaneous measures of performance are used in place of lagged measures, the results are directionally similar to those reported in Tables III, IV, V, and VI but they are less significant. We repeat our analyses using data for each year. The results are broadly the same as those shown in Tables III through VI although significance levels are lower because of the smaller sample sizes for individual years. Thus our results do not appear to be driven by a particular year. As another sensitivity test we replace the dummy ownership variables with the corresponding continuous variables (GOV%, LEGAL%, and FOR%). The conclusions we draw from this sensitivity test are similar to those reported in Tables V and VI, and so they are not separately reported in this paper. Board size is added as a variable to the regression model but it is not significant. Although some research studies in the USA conclude that small boards are more effective than large ones (Huson et al., 2001), board size has no relation to chairman turnover in China. Stock market risk is also added to the model but it is not significant. Instead of treating age as a continuous variable we replace it with a dummy variable (DAGE), which is coded one (1) if the chairman is aged 60 or over (60 is the normal retirement age in China). The results using DAGE are qualitatively the same as those shown for AGE in Tables V and VI. That is, DAGE is a significant factor in explaining normal turnover but has no impact on forced turnover. Franks et al. (2001) find that highly levered firms are more likely to replace the chairmen when performance is poor. To test this in China we include leverage in our sensitivity models. We find that leverage has no significant impact on turnover. Franks et al. (2001) also show that emergency financing for firms in financial distress is often accompanied by a replacement of top management. We therefore examine whether rights issues and placements are associated with increased chairman turnover in China. However, we find no connection. The lack of association also applies when performance is poor.

The stock-return analyses give non-significant or, in the case of Table VIII, very mixed results. We believe that the controlling shareholders and boards of directors view stock returns as a poor measure of a chairman's performance and so it is not related to chairman turnover. However, there may be concerns with how stock returns are calculated in our analyses. Share prices often anticipate significant corporate events such as changes in top management, and so calendar year stock returns may be inappropriate. However, it is difficult to precisely identify when the stock market first anticipates changes in the chairman position and so we use calendar year returns. Re-measuring stock returns from 1 May to 30 April (as listed firms have to publish their financial statements by 30 April) yields similar results to those using calendar year returns. Using stock returns in the year immediately prior to chairman turnover also yields similar results.

Some firms may be pressured to adopt non-profit making objectives and so our conclusions may not extend to them. In order to test for this, we use unemployment rates as a proxy for the pressure to adopt social objectives. Firms located in provinces with high

unemployment rates may be under more pressure to hire surplus labour and so profit may not be the only objective. We therefore partition our sample on the basis of the location of the firm (high or low unemployment areas) and include a percentage unemployment rate variable (for the region where the firm is located) in the multinomial logit model. We find that our results are robust to this partitioning and to the inclusion of the unemployment rate in the logit model. Performance based on accounting numbers, ownership characteristics, and governance variables are significant determinants of chairman turnover even when firms have non-profit objectives thrust upon them (using unemployment statistics as a proxy for non-profit making objectives). The results are consistent with all firms having profitability as an objective even though some may also have social policy goals to achieve.

We also partition our results on the basis of whether the firms have a Big Ten auditor (those auditors with the ten largest market shares). Firms with Big Ten auditors may be viewed as having more credible financial statements and we want to see if our results hold for both sets of firms (those with a Big Ten auditor and those without). We find that the results reported in Tables III through VI hold for both partitions of the firms. A control variable, Big Ten, is added to the multinomial logit model and we find it is not significant in explaining chairman turnover.

## DISCUSSION AND CONCLUSION

Our paper contributes to the international literature on the factors that underlie top management turnover. First, we shed some light on the management and governance practices of recently privatized SOEs in China. Second, our results show high top management turnover and this is opposite to the prediction drawn from Volpin (2002) who argues that a country with relatively primitive investor protection rights and low legal efficiency will have entrenched management. Third, we confirm international evidence that profitability is an important factor in the chairman turnover decision. However, in contrast to some British and US literature, stock market measures of performance are not associated with chairman turnover. Fourth, we find that the type of owner is an important factor in explaining the replacement of chairmen but only legal entity shareholders have an impact on turnover-performance sensitivity. A fifth finding, which contradicts the findings from Japan and USA, is that firm performance does not improve after the replacement of top management. The lack of improvement is perplexing. The fact that our findings differ from those in other countries is due to the unique characteristics of both the restructuring of SOEs and the corporate governance mechanisms therein. While large outside blockholders are active in monitoring and disciplining top management in Western countries, their effect in China is subtler. Blockholders are typically state agencies or legal entities that are ultimately owned by the state and these shareholders have different (and more complex) objectives than the institutional blockholders in the West. These different objectives translate to different influences on a firm's decision to replace a chairman and different impacts on turnover-performance sensitivities. Non-executive directors are often the representatives of the controlling shareholders and so their influences on chairman turnover and turnover-performance sensitivities are

different from the influences exerted by independent non-executive directors in Western nations. We discuss the implications of our results below.

This study has a setting where the legal protection and the market for corporate control are weak. According to La Porta et al. (1998, 2000) and DeFond and Hung (2004) these characteristics breed conditions where top management becomes entrenched. Using data from Chinese listed firms from 1998 to 2002, we find that when compared to other countries, turnover is high with more than 40 per cent of chairmen being replaced every year. We classify about 47 per cent of turnovers as forced while the other 53 per cent are normal. There is a noticeable decline in turnover from a high of 48 per cent in 1998 to 34 per cent in 2002. However, 34 per cent turnover is still high by American and European standards. Thus the relatively weak legal enforcement environment is no deterrent to the replacement of chairmen in poorly performing companies. This finding rejects the prediction of LaPorta et al. (1998, 2000) and DeFond and Hung (2004). Most Chinese firms have a dominant outside investor and so decision-making on replacing top management can be easier than for firms with very diffuse shareholdings. Note also that a weak legal enforcement environment can have opposite effects to those portrayed in La Porta et al. (1998, 2000). Inadequate laws and weak law enforcement reduce top managements' rights and so they can more easily be replaced. In contrast, the strong protection afforded to individuals in the USA and Europe makes it costly, and in some cases prohibitively costly, to fire managers.

We find that low ROA is associated with both normal and forced turnover and this suggests that poor profitability is a significant factor in deciding whether to replace the chairman (this supports Hypothesis 1). Other measures of profitability, return on sales and the existence of an operating loss, are also significantly related to turnover. The performance effects apply to both normal and forced turnover but they are strongest for the latter. Our evidence is unequivocal that poor performance (based on accounting measures) leads to the dismissal of chairmen. In contrast, performance measured by stock returns is not related to turnover. The chairman and top management have the responsibility for and control over operations, and accounting numbers may be felt to better reflect the success of these operations than stock returns. Poor accounting performance and increased turnover has also been documented in the USA (Huson et al., 2001), UK (Conyon and Florou, 2002), and Denmark (Lausten, 2002). The non-significance of RET implies that stock returns are not considered to be a good reflection of top management's abilities. In contrast, stock returns are significantly and negatively related to management turnover in the USA (Goyal and Park, 2002; Huson et al., 2001; Kaplan, 1994a; Weisbach, 1988) and the UK (Conyon, 1998; Conyon and Florou, 2002). Stock prices are very volatile in China and subject to major exogenous shocks (e.g. sudden policy shifts by the government to either stimulate or cool the economy, political crises, and international trade disputes). Because of this, the board of directors may believe stock returns are a poor measure of the chairman's performance. Moreover, the dominant owners are usually a state or legal entity and they have much less concern about the price of the firm's shares, as they cannot sell them in the stock market. If they want to sell their shares then they need to obtain government or CSRC approval (which is difficult to get); normally the sale must be to another state agency or legal entity. The transaction price

of such sales is usually at a small premium to the net asset value (and not the share price). See Chen et al. (2007) for a discussion of control transfers.

Chinese firms have quite different share ownership patterns than companies located in other countries and the state is a major shareholder. At the univariate level, chairman turnover for poorly performing firms is lower if the government is the major shareholder. One interpretation of this result is that these firms have poor financial performance because they are pursuing social objectives set by the government. In this scenario, the chairmen retain their positions, as they are successful in achieving the social objectives set by the state shareholders even though profitability may be very low. This result disappears in the multivariate setting. Institutional shareholdings in the form of legal entity ownership are more likely to insist on the replacement of chairmen. Our results indicate that firms that have issued a lot of legal entity shares (relative to the total shares issued) are more likely to dismiss the chairman when financial performance is poor. Foreign-invested firms are less likely to replace their chairmen although, in the multivariate setting, the interaction of foreign-invested firms and performance is not significant. Overall, there is mixed support for our ownership hypotheses. There is support for our predictions on legal entity ownership (Hypothesis 2a) and state ownership (Hypothesis 2b), but no support for our prediction on foreign investors (Hypothesis 2c). As expected, older chairmen are more likely to be replaced at the end of their three-year contracts while age is irrelevant in explaining forced turnovers. Chairmen who reinforce their power by concurrently holding the CEO position are less likely to be replaced.

When a board has a lot of non-executive directors, then the replacement of a company chairman is far more likely. This happens regardless of the performance of the firm. In the multivariate model we find that the presence of non-executive directors negates the turnover-performance relation. This result is puzzling and goes against Hypothesis 3. One conjecture for this result is that non-executive directors, who are often the representatives of the major shareholders, may facilitate the transfer of superior chairmen (i.e. whose firms have good performance) to the parent organization or dominant shareholder. However, it is not possible to test this conjecture.<sup>[6]</sup>

We find no evidence that changing the chairman has a positive impact on profitability. Our results differ markedly from the USA and Japan where Davidson et al. (1993) and Kang and Shivdasani (1995) find strong evidence that performance improves after top management turnover. Other studies have not examined whether performance improves after a change in top management (although this seems to be an implicit assumption in some of them) but our study cautions against assuming performance will improve. The fact that profitability did not improve after the replacement of a chairman of a poorly performing firm may be due in some cases to the poor fundamentals of the business that are beyond the control of its managers. For example, inheriting poor quality assets, inadequate funding to replace assets, and government interference in decision-making, may render many chairmen impotent in improving efficiency and profitability. The removal and replacement of the chairmen in such cases is ineffective in improving the performance of firms. The state, which should bear a large responsibility for bringing poor quality firms to the stock market, blames the chairmen for the poor performance and removes them from office. Their replacements, however, fare little better as the fundamentals of the businesses are so weak. Alternatively, the lack of improvement in

performance may reflect that the turnovers are not disciplinary in nature and chairmen are not overly concerned with keeping their positions. In general, we are disinclined to accept this latter view as other evidence (e.g. Firth et al., 2006) suggests chairmen do care about their positions and they are rewarded, in part, on the basis of performance.

Our study is the first to investigate top management turnover in China's listed firms and we use the results to gain some insight on the effectiveness of corporate governance in China. There are a number of limitations or caveats to our study and these issues suggest fruitful areas for future research. Our breakdown of ownership type is somewhat limited as state agencies and legal entities are rather broad categories. As more detailed data become available, future research should be able to make better distinctions among the types of owner, and more clearly identify their objectives and how they influence chairman turnover. We have not been able to trace where the chairmen go after leaving their positions and this prevents us from determining whether they return to a government job or whether they stay in the commercial sector (and whether they get a better or worse job). If more information is released on what happens to chairmen after they leave the firm then more meaningful analyses can be carried out. China has only recently (from June 2003) required firms to have, and to publicly identify, independent non-executive directors and future research can examine what impact this will have on chairman turnover. In common with top management turnover in other countries, the reasons given for chairman turnover are opaque and sometimes misleading. Greater and more consistent disclosures of the reasons for chairmen leaving their firms will benefit investors and will allow more meaningful academic analysis. The lack of improvement in financial performance after a change in chairman represents a critical area for future research. The reason why performance does not improve needs further investigation.

It is imperative that top executives should be held accountable for their firms' performances and that replacement decisions be made in the worst cases. Our evidence indicates that chairmen of poorly performing firms are replaced. However, we also find that replacements do not lead to improvements in profitability in the three years after. This suggests there may be fundamental problems at some firms, which are impossible to fix by the mere replacement of a chairman. Thus, while there is no managerial entrenchment, corporate governance can be considered to be ineffective as the successor chairmen fail to deliver improvements in financial performance.

## NOTES

\*Min Liu provided able research assistance. We thank Charles Chen, Kevin Chen, Louis Cheng, and workshop participants at The Hong Kong Polytechnic University for helpful comments on the paper. In addition we thank Ira Horowitz and Ed Snape for helpful discussions on the research design. We also thank the reviewers and the editor (Mike Wright) for their very detailed and constructive comments on the previous version of the paper. The authors acknowledge financial support from a Competitive Earmarked Research Grant provided by the Research Grants Council of the HKSAR (Grant No. Polyll 5403/05H).

- [1] For example, the Cadbury, Greenbury, and Hampel Committees in Britain, the Peeters report in the Netherlands, the Vienot report in France, and various national stock exchanges have all developed guidelines or recommendations on corporate governance. The OECD has also published guidelines on corporate governance (OECD, 1999) and this was updated in 2004.
- [2] The government does not privatize (i.e. does not sell the shares to the public) SOEs that it wants to have direct control over. For example, some industries are regarded as being of strategic importance to the country and so SOEs in these industries are not privatized.

- [3] In the sensitivity tests, we try to identify those firms that are more likely to be affected by non-profit making objectives. We find that our results still hold after partitioning or controlling for non-profit making objectives.
- [4] Note that some Western studies are able to distinguish between independent non-executive directors and other (non-independent) non-executive directors. Other studies are unable to make this distinction because firms don't disclose such information. There is also some debate as to whether independent non-executive directors really are independent (Suchard et al., 2001).
- [5] We calculate the percentage legal entity shareholding for each firm in each year. The median percentage ownership is also calculated for each year. Those firms whose percentage legal entity ownership is above the median are coded one (1) for that year while those firms whose percentage legal entity shareholding is below the median are coded zero (0) for that year.
- [6] Unfortunately it is not possible to trace the career paths of individuals. In part, this is because some individuals go to work at non-listed entities or China-based subsidiaries of foreign firms, and these organizations do not publish information on their executives. Some chairmen may move to or return to government or ministry jobs. Because it is not possible to trace the career paths of chairmen, we are unable to determine if good performers move to better jobs.

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