# Long-term stock performance following top executive turnover : Evidence from Chinese listed firms

Liu, Chunyan
Graduate School of Economics, Kyushu University

Wang, Ya
Graduate School of Management, China University of Mining and Technology

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# Long-term stock performance following top executive turnover: Evidence from Chinese listed firms

Chunyan Liu, Ya Wang†

**Abstract**

We examine the impact of Chief Executive Officer (CEO) turnover on subsequent stock performance for a sample of 666 Chinese listed firms for the period 2001-2007. We document that CEO turnover before split-share reform results in no improvement in stock performance; after split-share reform, however, there is a significant improvement in stock performance following CEO turnover in firms that have exhibited negative shareholder return, but not for firms that have exhibited non-negative return. The post-reform result suggests that controlling shareholders have an incentive to discipline their CEOs based on financial performance when firms have exhibited negative shareholder return after split-share reform. Our cross-sectional analysis provides consistent evidence supporting this view, and shows that the percentage ownership of controlling shareholders has a positive impact on turnover-related stock performance change.

Keywords: Long-term stock performance; top executive turnover; split-share reform; China

Index



## 1 Introduction

It is commonly reported that forced managerial turnover is preceded by poor firm performance

† Chunyan Liu: Graduate School of Economics, Kyushu University, Japan
Ya Wang: Graduate School of Management, China University of Mining and Technology, China
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and is then followed by improved firm performance in countries with a strong legal system, which reflects the effectiveness of corporate control practices (e.g., Denis and Denis, 1995; Denis et al., 1997; Huson et al., 2001; Huson et al., 2004; Kang and Shivdasani, 1995; McNeil et al., 2004). In countries with a weak legal system, however, the objective of management turnover could be different from that of countries with a strong legal system. Because poor investor rights protection is associated with high ownership concentration (La Porta et al. (1998, 2000)), top executive turnover tends to reflect the objectives of controlling shareholders rather than minority shareholders. As a result, the effect of management turnover on subsequent stock performance is potentially different from that in countries where a strong legal system is in place.

The Chinese corporate system, which provides weak legal protection for investors, offers a unique environment in which to address this issue.[1)] Furthermore, the ownership structure is highly concentrated and the largest shareholder has much higher equity stakes than the second-largest shareholder (e.g., Chen et al., 2009; Firth et al., 2006a; Gul et al., 2010; Wang, 2005). In addition, most of the controlling shareholders are state owned, and tend to pursue non-performance objectives (social and/or political objectives) (Bai et al., 2000; Clarke, 2003; Dixit, 1997; Shleifer and Vishny, 1994, 1997). Importantly, most of the controlling shareholders and block-holders hold untradeable shares, and thus cannot achieve capital gains, which is not the case for minority shareholders who hold tradable shares. This characteristic of Chinese-listed firms implies that majority shareholders of Chinese listed firms may be less concerned with stock prices in the assessment of managerial performance. However, in 2005, the split-share reform launched by the Chinese Government converts untradeable shares into tradable shares (CSRC, 2005).[2)] On completion of the reform, shares held by controlling shareholders become tradable gradually. As a result, controlling shareholders, like minority shareholders, have the opportunity to realize capital gains by trading their shares. It is likely that firms that experience turnover after completion of the split-share reform are inclined to discipline CEOs in consideration of the CEOs' ability to improve stock price performance.

This paper intends to explore whether top executive turnover serves as an effective mechanism in improving a company's stock performance among China's listed firms, and how split-share reform influences controlling shareholders' incentive to discipline their executive manager based on stock price. Before the split-share reform, the conflict of interest between controlling-

1) Allen et al. (2005) examine measures of China's legal system and show evidence that the majority of La Porta et al. (1998)'s sample countries have better creditor and shareholder protection than China does. In addition, only criminal legal actions (e.g. actions taken by the Securities Exchange Commission) can be taken against public companies in China, and civil litigation (e.g. shareholder class action lawsuits) against public companies is practically unavailable, while the threat of civil litigation is a major factor influencing corporate behavior in developed countries such as the United States (Li, 2010).

2) The China Securities Regulatory Commission (CSRC) launched a split-share structure reform program in 2005, with the aim of converting non-tradable shares into tradable shares (CSRC, 2005).

minority shareholders in terms of capital gains was acute due to the concentrated and split-share ownership structure. In contrast, after completion of the split-share reform, as controlling shareholders have a chance to realize capital gains on the market through a maximization of stock prices to their own benefit, this reform potentially aligns the wealth implications of stock prices between controlling and minority shareholders. Therefore, CEO turnover may be sensitive to stock price movement and lead to significant improvement in stock performance following turnover. However, does executive turnover truly result in improvement in stock performance for all turnover firms after split-share reform? As we mentioned, the Chinese corporate governance system offers weak legal protection for investors, especially outside investors. Therefore, controlling shareholders may need to retain control of the firm to provide insurance for outside investors, and also hold onto significant ownership as a commitment to limit the expropriation of minority shareholders even when their shares become tradable during the post-reform period (Cooper, 2008; Huang et al., 2011; La Porta et al., 2002).[3] Thus, shares held by controlling shareholders will be inherently less liquid. Therefore, controlling shareholders are not likely to pursue and achieve capital gains even after split-share reform.

As outside (minority) shareholders' wealth depends directly on stock performance among China's listed firms, it is important whether controlling shareholders have an incentive and the ability to exercise effective corporate control to improve stock performance. If controlling shareholders have weak incentive to discipline CEOs based on stock performance to maximize shareholders' wealth in the form of capital gain, this creates a divergence of interests between controlling and minority shareholders (Chang and Wong, 2004). In light of this, the question whether CEO turnover improves firm's stock performance should be of great interest to potential investors.

Previous studies focus exclusively on the pre-reform period,[4] and examine the effectiveness of managerial turnover for Chinese listed firms. Most of these papers investigate the sensitivity of turnover and performance (e.g. Conyon and He, 2011; Kato and Long, 2006a; Wang, 2010), measured by both accounting and stock performance. Regarding performance following managerial turnover, Chang and Wong (2009) examine the post-turnover performance of China's listed firms and find that there is an improvement in post-turnover accounting performance in loss-making firms. However, improvement in accounting performance does not necessarily mean improvement in stock performance among China's listed firms. It is possible that controlling shareholders have an incentive to maximize accounting performance subsequent to managerial turnover, and then pay a high dividend to meet their cash needs (Lee and Xiao, 2004; Lin et al., 2010; Tang and Luo, 2006). As a result, stock performance could still be poor following turnover,

3) Hereafter, post-reform period means period after the completion of split-share reform.
4) Hereafter, pre-reform period means period before the completion of split-share reform.

even though a company has rich growth opportunity, and accounting performance is good.[5] To the best of our knowledge, however, few studies address stock performance following managerial turnover for Chinese firms. As an exception, Kato and Long (2006b) examine CEO turnover of 634 listed firms from 1998 to 2002 and find that improvement in firm performance after the replacement of the CEO is greater for privately controlled firms than for state-controlled listed firms. However, they did not include post-reform turnovers in their sample. As we have discussed, there is big change in a controlling shareholder's incentive to discipline the CEO based on stock performance before and after reform; thus, post-reform turnovers tend to have different effects on subsequent stock performance.

In this paper, as our sample period is quite recent (from 2001 to 2007), it allows us to investigate stock performance following managerial turnover during both pre-reform and post-reform periods, and present evidence on the different patterns of performance following managerial turnover for the two periods. In addition, we analyze the determinants of turnover-related firm stock performance changes, and provide further evidence on how split-share reform influences stock performance subsequent to executive turnover.

Using a sample of 666 CEO turnovers of Chinese listed firms for the period 2001-2007, we document that there is no improvement in stock performance after CEO turnover during the pre-reform period. However, in the post-reform period, there is a significant improvement in stock performance following CEO turnover in firms that have shown negative shareholder returns, but there is no such improvement in firms that have shown non-negative returns. The post-reform result supports the hypothesis that controlling shareholders have an incentive to identify new managers who have the ability to improve performance, and also assess their new CEOs based on stock price in firms that have exhibited negative shareholder returns. In addition, our cross-sectional analysis indicates that turnover-related change in stock performance is positively related to CEO turnover in firms that have exhibited negative shareholder returns during the post-reform period, which provides consistent evidence. Finally, the regression results show that the percentage ownership of the controlling shareholder has a positive impact on turnover-related change in stock performance.

The rest of the paper proceeds as follows. Section 2 discusses the hypotheses we examine. Section 3 describes the sample selection procedure, data source, and variables. The empirical results are presented in Section 4, and Section 5 summarizes and concludes the paper.

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5) Minority shareholders prefer to have capital gains, because they are subject to 20% in income tax on cash dividends, whereas, in China, capital gains are tax-free.

## 2 Hypotheses

Previous studies have shown that managerial turnover is associated with improved stock return (e.g. Kang and Shivdasani, 1995; Khorana 2001; Huson et al., 2004; Hillier and McColgan, 2009). In China, listed firms typically have a dominant shareholder (e.g., Chen et al., 2009; Firth et al., 2006a; Gul et al., 2010; Wang, 2005). Furthermore, most majority shareholders hold either state shares or legal-person shares, which were not tradable before 2006 (CSRC, 2005). As controlling shareholders couldn't realize capital gains by trading their shares, they were less inclined to discipline CEOs based on stock price. Moreover, the government is often the controlling shareholder of listed firms and tends to sacrifice firm's economic performance to achieve social and political objectives (non-performance objectives) (Shleifer and Vishny, 1994, 1997; Dixit, 1997). As a result, state-controlled firms are likely to replace CEOs based on political/social achievement, and therefore provide managers with weak economic performance incentives. Thus, this unique ownership structure of China's listed firms will weaken or even eliminate stock performance improvement following top management turnover before completion of split-share reform. We predict there is a small improvement in stock performance following CEO turnover during the pre-reform period (H1: expropriation hypothesis). However, during the post-reform period, controlling shareholders have the opportunity to sell their shares to achieve capital gains. As a result, controlling shareholders have the incentive to discipline CEOs based on stock performance, because stock price maximization will benefit them. These discussions naturally give rise to the prediction that CEO turnover is likely to result in improved stock performance during the post-reform period (H2a: alignment hypothesis).

As previous studies on the sensitivity of top management turnover to stock performance for Chinese listed firms show that privately controlled firms are more likely to replace the top executive manager based on market performance measures (Conyon and He, 2011; Kato and Long, 2006a), we thus predict that there is a greater likelihood of improved stock performance following CEO turnover for privately controlled firms than for state-owned enterprises (SOEs).

Regarding the impact of managerial turnover on subsequent stock performance after the completion of split-share reform, however, we also can make an alternative hypothesis. Policy guidelines on split-share reform, issued by the CSRC, stated that the official objective of the reform was not to reduce state ownership, but rather to eliminate untradeable shares. In addition, some companies' reform proposals explicitly declared that the controlling shareholder would maintain controlling stakes in the company (Cooper, 2008). These facts imply that to retain their controlling power, controlling shareholders would rarely sell their shares, even after the reform; as a result, their shares are inherently less liquid (Huang et al., 2011), and the

controlling shareholders are unlikely to pursue and/or achieve capital gains even after split-share reform. However, with the substantial increase in the proportion of tradable shares, the controlling shareholders of firms with extremely poor stock performance (negative shareholder returns) are likely to face great pressure from minority shareholders to improve performance. They might tend to compensate minority investors for incurred losses as long as they are interested in continued external financing, which is especially true for China's listed firms because the Chinese economy is still growing and many listed firms have rich investment opportunities. Under these conditions, controlling shareholders thus have the incentive to reverse a company's poor stock market performance by identifying managers with the ability to improve performance, and also assess new CEOs based on stock performance. Therefore, firms that have exhibited negative shareholder returns tend to have improved stock performance following turnover.

In contrast, firms that have exhibited non-negative shareholder returns, as the controlling shareholder does not face great pressure from the stock market to improve stock performance, have little incentive to discipline CEOs based on stock price performance; instead, the controlling shareholder is likely to pursue a non-performance objective.[6] As a result, CEO turnovers result in little improvement in stock performance, and the stock's price is even likely to deteriorate due to the pursuit of non-performance objectives. Overall, controlling shareholders have an incentive to discipline their CEOs based on financial performance when their shareholders are incurring financial losses. The result is improved stock performance following turnover for firms that have exhibited negative shareholder returns during the post-reform period (H2b: different incentive of controlling shareholder hypothesis).

## 3 Sample selection and data

### *3.1. Sample selection*

To examine the impact of CEO turnover on subsequent stock performance, we selected CEO turnover companies from non-financial firms listed on the main board of the Shanghai Stock Exchange and the Shenzhen Stock Exchange during the period 1999-2007. To assess the effectiveness of corporate control exercised by controlling shareholders, we need to distinguish between forced and non-forced turnovers because only forced turnovers reflect shareholders' disciplinary efforts (e.g. Chang and Wong, 2009; Chi and Wang, 2009; Wang, 2010). Following Chang and Wong (2009), we first exclude those samples for which the stated reasons are retire-

6) Firms controlled by the government have multiple and often conflicting objectives pursued by the state shareholders (Chang and Wong, 2009; Bai et al., 2000; Bai et al., 2006; Dixit, 1997), and factors other than performance (e.g., social and political factors) also play an important role in determining managerial turnover in private firms (Fredrickson et al.,1988; Gibelman and Gelman, 2002; Shen and Cannella, 2002).

ment, health (including death), corporate governance reform, and a change in controlling shareholders, and then exclude those cases that involve legal disputes.

In line with previous studies (Chang and Wong, 2009), we consolidate multiple CEO turnovers for a given firm in a given fiscal year. Thus, if a firm experiences two or more CEO turnovers in the same fiscal year, only the first turnover will be recorded. For the remaining turnovers, we eliminate observations that CEOs were replaced within one year of being appointed because such replacements are less likely due to corporate control practices (Chang and Wong, 2009; Wang, 2010). We also deleted those turnovers that experienced a CEO turnover within two years following their initial public offerings (IPOs) because Chinese IPOs tend to experience stock underperformance (Chan et al., 2004; Loughran and Ritter, 1995; Ritter, 1991). As we intend to examine stock performance over a three-year period following CEO turnover, turnover where the new CEO's tenure was less than three years are excluded.[7] Finally, we require that sample firms have at least one year of stock price data preceding the managerial turnover year and at least 36 months of stock price data following turnover; that is why we end the sample period at year 2007. This process yielded a final sample of 666 CEO turnovers among China's listed firms from 2001 to 2007.

We obtained data on CEO turnover, corporate governance data, financial data, and monthly stock price data from the China Corporate Governance Research Database (CCGRD) developed by GTA Information Technology Co.[8]

Panel A of Table 2 presents the distribution of our sample by calendar year. Panel B reports the distribution of our sample by stated reasons. The results show that about 46% of our samples disclose the reason for replacing the CEO as change of job, which is consistent with the view that there is a lack of transparency about the true reasons for top management turnover in China's listed firms because of the culture of harmony and saving face in social relationships (Firth *et al.*, 2006b). Panel C presents the industry distribution of our sample firms. It is noteworthy that most of the samples are within the manufacturing sector (58%).

### *3.2. Measure of turnover-related stock performance change*

To measure turnover-related long-term stock performance change subsequent to managerial turnover, we matched sample firms with a non-turnover benchmark firm having similar ex ante characteristics of stock return in the financial year prior to turnover, but with no turnover occurring in the event year and in the three years preceding the turnover (Chang and Wong, 2009;

7) It will take a few years for a new manager to do many things to maximize shareholder value after he/she is appointed; furthermore, news of new appointments will increase stock price.

8) The CCGRD database covers information regarding senior management changes and other corporate governance data from year 1999 onwards. However, we identify only CEO turnover samples that meet our selection requirements from year 2001.

Wang, 2010). Jegadeesh and Titman (1993) document persistence in stock returns, which Fama and French (1996) are unable to explain well using factors related to firm size and book-to-market ratio (B/M). Carhart (1997) finds that persistence results from an omitted factor explaining equity returns, the momentum effect described by Jegadeesh and Titman (1993). Moreover, Lyon and Barber (1999) find that the test statistics are all mis-specified in their pre-event return sub-samples and recommend matching the samples to firms with similar pre-event returns as well as size and B/M. Therefore, we employed three-dimensional matching (size, B/M and past return matching) in the analysis. We choose as a matched firm the non-turnover company that is closest to the managerial turnover firm in Fama and French's (1992, 1993) size and book-to-market factors, and Carhart's momentum factor in stock returns.

As the three-dimensional matching method requires that the matched sample with similar past stock performance to the managerial turnover sample, it can yield well-specified test statistics (Lyon and Barber, 1999), and also controls the price momentum effect (Carhart, 1997; Jegadeesh and Titman, 1993); in addition, this method can avoid observed performance improvement due to potential mean reversion of the stock market performance time series (e.g. Balvers et al., 2000; Campbell and Shiller, 1988; Fama and French, 1988; Khorana 2001; Poterba and Summers, 1988). Therefore, our method can provide useful insight in determining whether the turnover of CEOs is truly a value-generating activity in terms of stock performance in Chinese listed firms.

In the three-dimensional matching method, for year t, we first divided all firms (turnover firms and non-turnover benchmark firms that had not experienced turnover in the event year and in the three years preceding the turnover) into four groups by size. Within each size group, we ranked firms according to B/M ratio and sorted them into four B/M sub-groups, and then selected as a matched company the non-turnover firm in the same size and B/M group closest shareholder returns to the turnover firm over the past year.

After identifying a unique matching firm for each turnover sample firm, we subtracted the buy-and-hold returns of the matched firm from the corresponding holding period return for the managerial turnover firm. This is referred to as buy-and-hold abnormal return (BHAR); the matched firm's buy-and-hold return (BHR) is used as a benchmark return. Barber and Lyon (1997) and Lyon et al. (1999) argue that BHARs are important because they "precisely measure investor experience." We believe BHARs will serve as an appropriate performance indicator in the Chinese stock market, where over 90% of investors are individuals.

We compute 12, 24, and 36-month BHARs after the managerial turnover by using the following calculation method (hereafter denoted by $BHAR_{12}$, $BHAR_{24}$, and $BHAR_{36}$, respectively).

$$BHAR_{it}=\prod_{t=1}^{T}(1+R_{i,t})-\prod_{t=1}^{T}(1+R_{benchmark,t}),$$

$$T\in(12,\ 24,\ 36)$$

Where $R_{i,t}$ is the monthly stock return of firm $i$ in month $t$, $R_{benchmark,t}$ is the monthly stock return of firm $i$'s benchmark firm in month $t$. We define month 1 as the month after the firm's managerial turnover. We compute $R_{i,t}$ as $R_{i,t}=(P_{i,t}-P_{i,t-1}+D_{i,t})/P_{i,t-1}$, where $P_{i,t}$ is the closing price of firm $i$'s stock at month $t$. $D_{i,t}$ is the dividend payment of firm $i$ in month $t$. The computation for $R_{benchmark,t}$ is the same.

## 4 Empirical results

### *4.1. Stock performance following CEO turnover*

To test the consequence of CEO turnover on subsequent stock performance, Table 3 reports mean and median long-term stock performance following CEO turnover. Panel A and Panel B present results for pre-reform and post-reform turnovers, respectively. In Panel A, all the turnover-related performance changes for the entire sample are not positive and significant. In Panel B, the consequence of post-reform turnover is similar to that shown in Panel A, for the entire sample, there is no improvement in stock performance following CEO turnovers. To test the possibility that non-SOEs show improved stock performance following CEO turnover but SOEs do not, we also present stock performance following turnover separately for SOEs and non-SOEs in Table 3. The results show that there is still no improvement in stock performance following turnover for the non-SOE as well as the SOE samples in both Panel A and Panel B.

Overall, the results of Table 3 indicate that turnovers did not result in improved stock performance during both the pre-reform and post-reform periods. The result of the pre-reform period in Panel A is consistent with our expropriation hypothesis (H1); and controlling shareholders do not discipline their CEOs based on stock price due to them holding untradeable shares and the pursuit of non-performance objectives during the pre-reform period. However, this result of Panel B does not support our alignment hypothesis (H2) for post-reform turnovers. We interpret this as controlling shareholders having a weak incentive to reduce ownership and pursue capital gains due to inherently less liquid shares they hold delete.

To examine the hypothesis of different incentives of controlling shareholder during the post-reform period (H2b), we decompose the sample of managerial turnover based on the company's annual shareholder returns (SHR) during year t-1;[9] firms that exhibited negative (non-negative) SHR are placed in the N_SHR (P_SHR) sample. We separately examine the improvement in stock performance following managerial turnover for N_SHR sub-sample and P_SHR sub-sample in Table 4. For the entire sample, the subsequent performance changes of the negative SHR sample (N_SHR) are positive over all of the three investment periods. The mean and median

9) Throughout this paper, we denote Year -1 as the year before the company experienced the CEO turnover.

values in the 12-month investment period and mean value in the 24-month investment period are positive and significant at the 5% level, and the median values in the 24-month and 36-month investment period are marginally positive, while the post-turnover performance of the non-negative SHR sample (P_SHR) is negative in all corresponding periods; the mean and median value during the 12-month investment period are even significant. Moreover, the economic magnitude of the improvement in stock performance following CEO turnover in firms that have exhibited negative shareholder returns is large; all the mean and median BHARs are above 0.318, except the median value during the 24-month investment period. These results for the entire sample are generally consistent with the different incentive of controlling shareholder hypothesis (H2b); stock performance improves following turnover for firms that have exhibited negative shareholder returns during the post-reform period.

In Table 4, when we examine stock performance following turnover only for the SOEs sub-sample, CEO turnovers in firms that have exhibited negative shareholder returns (N_SHR) generate positive BHARs in all investment periods, and all BHARs, except the mean value in the 36-month investment period, are significant and economically large (ranging from 0.386 to 0.932). As SOEs face great pressure from the stock market to improve performance after their stocks have performed extremely poorly (negative stock returns), they attach great importance to improving their stocks' performance. This result should also be true for non-SOEs, which are more likely to discipline top executive managers based on performance than their counterparts of state-controlled firms. In unreported results, we also examine the subsequent stock performance of non-SOEs. All the turnover-related performance changes of the negative SHR sample (N_SHR), except median value in the 24-month investment period, are positive but not significant. A possible reason is that the sample size of 22 is too small, and more data needs to be collected before conducting the analyses.

Overall, the positive and significant improvement following CEO turnover in SOEs that have exhibited negative shareholder returns indicates that SOEs, which typically tend to pursue non-performance objectives and are not likely to discipline their CEO based on stock performance, reverse the company's poor stock market performance by replacing their top executive manager after split-share reform. Therefore, the results of Table 4 are consistent with our different incentive of the controlling shareholder hypothesis (H2b), and suggest that controlling shareholders have an incentive to identify managers with the ability to improve performance and to assess their new CEOs based on stock performance when their shareholders are incurring financial losses after split-share reform.

*4.2. Cross-sectional determinants of turnover-related change in stock performance*

To examine the impacts of split-share reform on long-term stock performance following CEO turnovers after controlling for various factors, we conduct a multivariate regression analysis that adopts BHARs under the three-dimensional matching method as a dependent variable. We adopted the interaction term between REFORM (a dummy variable equal to one for firms that replace their CEO after completion of split-share reform) and D_SHR (a dummy variable that takes the value of one for firms that exhibited negative annual buy-and-hold returns over the year t-1) to identify the firms that experience CEO turnovers during the post-reform period and which show negative shareholder returns (D_SHR * REFORM). As documented in Section 4.1, we predict that D_SHR * REFORM is positively associated with turnover-related changes.

Huson et al. (2004) argue that examining the relations between the characteristics of monitoring mechanisms and the change in firm performance following CEO turnover can provide direct evidence of the impact of these governance characteristics on the quality of CEO selections. We include several monitoring mechanism variables that potentially influence turnover-related change in stock performance. Individual investors have weak incentives to invest in monitoring and to exert influence over key corporate decisions when ownership is dispersed (Fama and Jensen, 1983; Jensen and Meckling, 1976), while concentrated share ownership can mitigate the free-rider problem and make management accountable for performance (Kang and Shivdasani, 1995). In our regression we use the percentage of shares owned by the largest shareholder as a measure of ownership concentration (CONCENTRATION). In order to examine the effect of ownership type of controlling shareholder, we construct a dummy variable equal to one for firms in which the controlling shareholder is the government (STATE), which tends to have certain non-performance objectives (social and political objectives) that they impose on top management (Bai et al., 2000; Clarke, 2003). Michael (1988) and Borokhovich et al. (1996) suggest that performance improvement following management turnover could be related to the extent of outsider representation on the board of directors. In our paper, we measure board size as the natural logarithm of the number of directors (BOARDSIZE); and board independence is defined as the number of independent directors divided by the number of board members (INDBOARD). Following the paper of Jenter et al. (2010), we also include SIZE, B/M, and asset growth (GROWTH) in year t-1, and accounting return in year t-1 and t-2. See Table 1 for definitions of the variables.

In our regression, following Huson et al. (2004), the two-step method described by Heckman (1979) is used to obtain consistent estimates. Results for both the binomial probit and OLS regression are reported in Table 5. The probit regressions provide evidence on the predictors of survival of firms that experience CEO turnover, but are estimated principally to obtain the inverse Mill's ratio (IML) value used in the OLS regressions. In the OLS regressions, we

winsorize the dependent variables at the 1st and 99th percentile values. $BHAR_{12}$, $BHAR_{24}$, and $BHAR_{36}$ are regressed on the above- mentioned independent variables, as well as IML. When the necessary independent variables are not available, the observation is deleted from the analysis.

In Table 5, the OLS regression shows that when we adopt $BHAR_{12}$ and $BHAR_{24}$ as dependent variables in Model 1 and Model 2, the estimated coefficient of D_SHR * REFORM is positive and significant at the 1% level and the 5% level respectively, while Model 3 adopted $BHAR_{36}$ as a dependent variable to engender a positive coefficient, though it is not statistically significant. The results indicate that after completion of split-share reform in firms that have exhibited extremely poor stock performance (negative shareholder return), managerial turnover tends to improve stock market performance.

In contrast, these OLS regression analyses engender a negative and significant coefficient on REFORM in Model 1 and Model 2. After reform, the other block-holders' shares became tradable. These block-holders are also likely to be sophisticated investors. When firms exhibit non-negative shareholder return, and controlling shareholders have weak incentive to identify a new manager with the ability to improve performance or to assess their new CEO based on stock performance, instead, they are likely to pursue a non-performance objective and also to extract private benefits at the expense of outsider investors. As a result, the secondary stock market tends to incorporate the expropriation of minority shareholders, and stock performance following turnover is likely to deteriorate.

Overall, the result of the OLS regression provides consistent evidence on different incentives of controlling shareholders in firms to experience CEO turnover during the post-reform period. After the completion of split-share reform, controlling shareholders in firms that have exhibited negative shareholder returns have an incentive to discipline their CEOs based on the stock price.

Regarding the corporate governance variable, only CONCENTRATION has a positive and significant coefficient in Model 2 and Model 3, while there is a positive but not significant coefficient in Model 1. As concentrated share ownership can mitigate the free-rider problem, it has a positive impact on turnover-related performance change. We do not find evidence that BOARDSIZE and INDBOARD have a significant impact on long-term stock performance following CEO turnover. As the controlling shareholder has huge influence on the appointment of board member in Chinese listed firms, such boards do not effectively monitor management to be accountable for stock performance on behalf of minority shareholders.

## 5 Conclusions

To examine the consequences of managerial turnover of Chinese listed firms and provide complementary evidence on the quality of corporate control in China's listed firms, we estimate

stock performance change following CEO turnover after controlling the characteristics of stock returns. The results show that CEO turnover during the pre-reform period results in no improvement in stock performance; however, in the post-reform period, there is significant improvement in stock performance following CEO turnover in firms that have exhibited negative shareholder returns, but no such improvement in firms that have exhibited non-negative returns. The post-reform results support the different incentive of the controlling shareholder hypothesis (H2b), that controlling shareholders have an incentive to improve stock performance by top executive turnover when firms have exhibited negative shareholder returns during the post-reform period. CEO turnover in firms that record poor stock performance is truly a value-generating activity for minority shareholders during the post-reform period.

We also investigate the cross-sectional determinants of turnover-related stock performance change, and find that stock performance change is positively related to the presence of negative shareholder returns of firms experiencing CEO turnover in the post-reform period, which provides consistent evidence on different incentives of controlling shareholders after reform. Finally, we find that turnover samples with a high percentage ownership of controlling shareholders tend to exhibit high improvement in subsequent stock performance.

Our study of top executive turnover for Chinese firms also provides a better understanding of the impact of split-share reform on investor protection and the agency problem in China's listed firms. After split-share reform, controlling shareholders still have weak incentive to discipline the executive manager based on stock performance except in firms whose stock has performed extremely poorly (negative shareholder return), because they tend to maintain their control of listed firms and have a weak incentive to pursue capital gain even when their shares become tradable.

One weakness of our paper is including a small sample of companies experiencing CEO turnover after the completion of split-share reform; therefore, our finding during the post-reform period needs further testing when a large sample become available.

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Table 1
Definitions of Variables
This table defines the study variables.

| Variables | Definitions |
|---|---|
| BHAR | Buy-and-hold abnormal returns. |
| SIZE | Market value of equity at the end of year prior to the CEO turnover. |
| B/M | Book value of equity divided by the market value of equity at the end of year prior to the CEO turnover. |
| SHR | Buy-and-hold returns from January to December during year prior to the CEO turnover. |
| SOE | State-owned enterprises, firms controlled by the state. |
| Non_SOE | Firms controlled by private. |
| N_SHR | Turnover samples exhibited negative annual buy-and-hold returns (SHR) over the year prior to the CEO turnover. |
| P_SHR | Turnover samples exhibited positive (non-negative) annual buy-and-hold returns (SHR) over the year prior to the CEO turnover. |
| REFORM | Dummy variable that takes the value of one for firms that exhibited managerial turnover after their completion of split-share reform. |
| D_SHR | Dummy variable that takes the value of one for firms that exhibited negative annual buy-and-hold returns (SHR) over the year prior to the CEO turnover. |
| STATE | Dummy variable that takes the value of one for firms in which the controlling shareholder is the government. |
| BOARDSIZE | Natural logarithm of the number of directors at year prior to the CEO turnover. |
| INDBOARD | Number of independent directors divided by the number of board members at year prior to the CEO turnover. |
| CONCENTRATION | The percentage of shares owned by the largest shareholder at year prior to the CEO turnover. |
| GROWTH | Growth in assets in the year prior to the CEO turnover. |
| ROA(t-1) | Return on assets in year t-1. |
| ROA(t-2) | Return on assets in year t-2. |

Table 2
Sample distribution

This table presents the sample distribution by CEO turnover year (Panel A), stated reasons (Panel B) and industry (Panel C). Our sample consists of 666 firms that experienced CEO turnover between 2001 and 2007.

Panel A : Distribution by CEO turnover year

| CEO turnover year | Number of turnover samples | Percent (%) |
|---|---|---|
| 2001 | 78 | 11.71 |
| 2002 | 101 | 15.17 |
| 2003 | 102 | 15.32 |
| 2004 | 98 | 14.71 |
| 2005 | 114 | 17.12 |
| 2006 | 107 | 16.07 |
| 2007 | 66 | 9.91 |
| Total | 666 | 100 |

Panel B : Distribution by stated reasons

| Stated reasons | Number of turnover samples | Percent (%) |
|---|---|---|
| Change of job | 306 | 45.95 |
| Contract expiration | 150 | 22.52 |
| Resignation | 125 | 18.77 |
| Dismissal | 24 | 3.6 |
| Personal reasons | 20 | 3 |
| Completion of acting duties | 13 | 1.95 |
| No reason given | 28 | 4.2 |
| Total | 666 | 100 |

Panel C: Distribution by industry

| Industry | Number of turnover samples | Percent (%) |
|---|---|---|
| Agriculture, fishing, and stockraising | 12 | 1.8 |
| Mining | 8 | 1.2 |
| Manufacturing | 389 | 58.4 |
| Electricity, gas, and water | 25 | 3.75 |
| Construction | 11 | 1.65 |
| Transportation and warehousing | 29 | 4.35 |
| IT | 41 | 6.15 |
| Wholesale and retail | 53 | 7.95 |
| Real estate | 27 | 4.05 |
| Social service | 25 | 3.75 |
| Media | 6 | 0.9 |
| Comprehensive | 40 | 6.01 |
| Total | 666 | 100 |

Table 3
Long-term stock performance following CEO turnover

Table 3 presents the mean and median long-term stock performance following CEO turnover in Chinese listed firms. Means and medians are tested against zero by t-statistic and Wilcoxon signed rank test respectively. We matched sample firms with a non-turnover control firm according to size, book-to-market ratio and stock return over the year prior to the CEO turnover, and the buy-and-hold abnormal return (BHAR) is the difference between the turnover sample and matched firm' BHRs. Panel A and Panel B reports results for firms experience CEO turnover before and after split-share reform, respectively. T-test statistics and Z-statistics are in parentheses.

| Type of turnover | No.Obser vations | Time period (month) | | | | | |
|---|---|---|---|---|---|---|---|
| | | 12 | | 24 | | 36 | |
| | | Mean BHAR | Median BHAR | Mean BHAR | Median BHAR | Mean BHAR | Median BHAR |
| Panel A Before split-share reform | | | | | | | |
| All turnover | 522 | .034 | .006 | -.022 | .026 | -.061 | .032 |
| | | (1.207) | ( 0.626) | (-0.299) | (1.148) | (-0.659) | (0.002) |
| SOE | 419 | .018 | .012 | .003 | .040* | -.068 | .042 |
| | | (0.603) | (0.452) | (0.045) | (1.814) | (-0.654) | (0.495) |
| non-SOE | 103 | .101 | -.009 | -.126 | -.041 | -.033 | -.071 |
| | | (1.312) | (0.421) | (-0.641) | (-1.109) | (-0.160) | (-0.941) |
| Panel B After split-share reform | | | | | | | |
| All turnover | 144 | .107 | -.035 | .094 | -.019 | .087 | .093 |
| | | ( 0.778) | (-0.327) | (1.065) | (-0.104) | (0.622) | (1.015) |
| SOE | 103 | .142 | -.016 | .130 | -.002 | .069 | .071 |
| | | (0.853) | (-0.003) | (1.310) | (0.332) | (0.469) | (0.615) |
| non-SOE | 41 | .021 | -.134 | .004 | -.078 | .134 | .110 |
| | | (0.085) | (-0.525) | (0.023) | ( -0.667) | ( 0.405) | ( 0.875) |

***: Significant at the 1% level
**: Significant at the 5% level
*: Significant at the 10% level

Table 4
Long-term stock performance following CEO turnover during post-reform period

Table 4 presents the mean and median post-turnover long-term stock performance separately for firms exhibited negative and non-negative (positive) performance after split-share reform. Means and medians are tested against zero by t-statistic and Wilcoxon signed rank test respectively. We matched sample firms with a non-turnover control firm according to size, book-to-market ratio and stock return over the year prior to the CEO turnover, and the buy-and-hold abnormal return (BHAR) is the difference between the turnover sample and matched firm' BHRs. N_SHR (P_SHR) samples comprise turnover firms that exhibited negative (positive) annual buy-and-hold returns (SHR) over the year prior to the CEO turnover. T-test statistics and Z-statistics are in parentheses.

| Type of turnover | | No.Observations | Time period (month) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 12 | | 24 | | 36 | |
| | | | Mean BHAR | Median BHAR | Mean BHAR | Median BHAR | Mean BHAR | Median BHAR |
| All turnover | N_SHR | 57 | .791*** | .463*** | .449** | .090* | .318 | .341* |
| | | | (2.862) | (2.832) | ( 2.627) | (1.800) | (1.291) | ( 1.784) |
| | P_SHR | 87 | -.340*** | -.148*** | -.137 | -.061* | -.063 | -.103 |
| | | | (-2.851) | (-3.009) | (-1.581) | (-1.710) | (-0.378) | (-0.495) |
| SOE | N_SHR | 35 | .932** | .461** | .693*** | .386*** | .406 | .516** |
| | | | (2.220) | (2.263) | (3.249) | (2.637) | (1.527) | (1.963) |
| | P_SHR | 68 | -.283** | -.100** | -.090 | -.043 | -.077 | -.153 |
| | | | (-2.084) | (-1.983) | (-0.896) | (-1.029) | (-0.409) | (-0.866) |

***: Significant at the 1% level
**: Significant at the 5% level
*: Significant at the 10% level

Table 5
Sample selection models of turnover-related long-term stock performance change

This table reports the results of sample selection models, estimated as described by Heckman (1979), in which the dependent variable for the probit regression equals to one if the firm survives as an independent entity for 36 months after the CEO turnover and zero otherwise. The sample consists of CEO turnover for the period 2001-2007. The OLS regression is estimated using only data for firms that survived 36 months. The dependent variable for the OLS regression equals the buy-and-hold abnormal return (BHAR) in investment period. IML is the inverse Mills ratio. All models included industry dummy and year dummy; however, results are not reported. Standard errors are reported in parentheses. See Table 1 for definitions of variables.

| | Probit regression | OLS regressions | | |
|---|---|---|---|---|
| | Firm retains independent | Model 1 ($BHAR_{12}$) | Model 2 ($BHAR_{24}$) | Model 3 ($BHAR_{36}$) |
| D_SHR | -0.32*(0.19) | -0.08(0.12) | -0.24(0.22) | -0.24(0.40) |
| REFORM | | -0.87***(0.19) | -0.75**(0.34) | -0.30(0.59) |
| D_SHR*REFORM | | 0.93***(0.20) | 0.76**(0.35) | 0.29(0.61) |
| STATE | 0.19(0.12) | -0.03(0.08) | 0.07(0.15) | 0.04(0.28) |
| BOARDSIZE | -0.31(0.24) | 0.25*(0.14) | 0.14(0.27) | 0.28(0.50) |
| INDBOARD | -1.53*(0.82) | -0.23(0.56) | -0.44(1.02) | 0.32(1.86) |
| CONCENTRATION | 0.42(0.35) | 0.15(0.21) | 0.75**(0.38) | 1.45**(0.70) |
| SIZE | 0.05(0.08) | -0.00(0.04) | -0.01(0.09) | 0.01(0.16) |
| B/M | 0.22(0.18) | 0.07(0.13) | -0.02(0.24) | 0.23(0.44) |
| GROWTH | 0.51**(0.24) | -0.05(0.06) | 0.02(0.12) | 0.20(0.22) |
| ROA(t-1) | 0.09(0.24) | -0.16(0.24) | 0.72*(0.41) | 1.03(0.71) |
| ROA(t-2) | 1.02**(0.42) | -0.10(0.46) | 1.06(0.82) | 2.23(1.44) |
| Industry dummy | Yes | | | |
| Year dummy | Yes | | | |
| Constant | -0.29(1.26) | -0.20(0.98) | -0.95(1.78) | -3.42(3.20) |
| IML | | 0.02(0.61) | 0.99(1.08) | 2.74(1.87) |
| N-total | 839 | | | |
| N-remain independent | | 658 | 658 | 658 |

***: Significant at the 1% level
**: Significant at the 5% level
*: Significant at the 10% level