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Does CEO turnover matter in China? Evidence from the stock market

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Abstract

We study the consequences of CEO turnover announcements on the stock prices of firms in China, where most listed firms remain majority-owned by the state. Our proposition is that state ownership may affect stock market reaction to CEO replacement because state-owned firms often pursue multiple, potentially contradictory, objectives, i.e. economic performance and social objectives. Applying standard event study methodology to a sample of 1,094 announcements from 2002 to 2010, we find that CEO turnover typically produces a positive stock market reaction. The reaction is significantly positive, however, only for enterprises owned by the central government, and not significant for enterprises owned by local governments or privately owned enterprises. These results suggest that a CEO turnover in a central state-owned enterprise signals a renewed commitment to the economic performance objective by state officials. The small size of CEO labor market suggests that other shareholders have a relatively small pool of CEO talent to proceed to managerial improvement when a CEO turnover takes place.

JEL: G30; M51; P34; O16
Keywords: CEO turnover; corporate governance; state ownership; China; event study

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1 Introduction

This paper considers the reaction of the Chinese stock market to announcements of a change in the chief executive officer (CEO) of a listed firm. The concern for stockholders is whether CEO replacement will influence the company's stock value. Market expectations provide clues about the effectiveness of one of the most important internal monitoring mechanism: the possibility to dismiss a poor performing CEO, which allows evaluating the maturity of corporate governance in China.

Most firms listed on China's stock exchanges are still majority-owned by the state. In Chinese state-owned firms, the board of directors typically rubber-stamps the decision by state authorities to replace the CEO (Kato and Long, 2006). The incoming manager is thus expected to act in line with the state controlling shareholder objectives. By implication, the impact of CEO turnover is likely to be different for a state-owned enterprise and a privately held enterprise to the extent the objectives of controlling shareholders diverge.

Does CEO turnover actually affect stock prices? While the immediate intuition is that CEO turnover should influence stock prices, the theoretical literature offers three distinct views on this issue.

The *scapegoat hypothesis* predicts no abnormal change in stock returns around CEO turnover announcements. Here, the market assumes CEOs are fungible. Dismissal in case of poor performance is only required as a threat to insure that CEOs exert efforts. The next manager is not expected to have a higher ability. The *information hypothesis*, in contrast, predicts negative abnormal stock returns around the time of the CEO turnover announcement as it reveals information about poor management choices. The *ability hypothesis* considers that abilities of CEOs vary, so boards seek out the best talent available. Thus, there should be a positive stock market reaction as the market expects the succeeding CEO to be a better manager.

The empirical literature attempting to disentangle these assumptions fails to provide clear conclusions about stock market reactions to such events. Some studies find a positive reaction (Adams and Mansi, 2009), others a negative reaction (Dedman and Lin, 2002), or no significant reaction (Warner, Watts, and Wruck, 1988). All studies in this area deal with the stock market of developed countries. Our paper is thus the first to our best knowledge to investigate this issue in a developing country.

The existing literature shows that the probability of a CEO turnover in China increases when a firm performs poorly. Kato and Long (2006) point out the connection between CEO replacement and firm performance is generally more tenuous for state-owned enterprises, which, they postulate, tend to pursue mutually conflicting objectives. They might act in order to correct market failures by pursuing social goals such as high employment (Dixit, 1997). They might seek their own private benefits by tunneling resources from their listed subsidiary, as pointed out in China by Jiang et al. (2010). All these objectives come at the expense of economic performance. State-shareholders need, however, to maintain a minimum level of performance in order to pursue their multiple objectives. Indeed, Chang and Wong (2009) find that the link between CEO turnover and firm performance only exists in loss-making state-owned enterprises. If state-owned enterprises incur too many losses, state-shareholders face a high incentive to restore economic performance in order to pursue their multiples objectives in the future. Thus, CEO turnover in a state-owned enterprise may signal a recommitment on the part of the state shareholder to improve the firm's economic performance. We, thus, expect a positive market reaction to CEO turnover in a state-owned enterprise.

While the pool of available CEOs in China is increasing rapidly, there appears to be an insufficient supply on the CEO labor market (Fan et al., 2007). Party membership can be interpreted as an indicator of human capital for managers (Li et al., 2008). We expect central state-owned firms to be more able to attract managers with the highest party responsibilities. We therefore expect a greater positive market reaction when a CEO turnover announcement involves an enterprise owned mainly by the central government; CEOs of such state-owned enterprises are likely to be high-level party members themselves or have close ties with the party elite.

To assess the impact of CEO turnover announcements on stock prices, we apply standard event study methodology to a sample of 1,094 CEO turnover announcements from 2002 to 2010. Our overall finding is that market reactions to CEO turnover announcements are positive. Consistent with the hypothesis that these central state-owned enterprises have far greater opportunities to recruit the top CEO talent, we find this positive market reaction applies only to the sub-sample of central state-owned enterprises. Thus, the ability hypothesis applies to central state-owned enterprises in China, while the scapegoat hypothesis applies to privately owned enterprises and enterprises owned by local administrations.

In the rest of the paper, section 2 develops our hypotheses on stock market reaction to CEO turnover. Section 3 presents the data and methodology of the study. Section 4 presents the results. Section 5 concludes.

2 Hypotheses on stock market reaction to CEO turnover in China

The first subsection develops the hypotheses from the theoretical literature. The second subsection considers several special characteristics of the Chinese economy.

2.1 Stock market reaction to CEO turnover: theoretical literature hypotheses

The literature (e.g. Bonnier and Brunner, 1989; Huson et al., 2004) explores three hypotheses of stock market reaction to CEO turnover announcements in developed economies. These provide a framework for our discussion of stock returns surrounding CEO turnover announcements in China.

The *ability hypothesis* holds that managers have different abilities and skill-sets. As CEO talent is not directly observable, stakeholders and market participants infer CEO ability from realized performance. In the event of a CEO turnover, the incoming CEO is assumed to have greater ability than the departing CEO, whose poor performance is a matter of record. The market reacts positively as CEO turnover implies coming improvement in firm performance.

The *information hypothesis* holds that CEO turnover indicates poor management choices yet to be revealed to the public. Asymmetry of information between insiders (the board of directors) and outsiders (investors) diminishes as soon as the CEO turnover is announced and the market reacts negatively as the revelation of information about the board's poor management choice.

The *scapegoat hypothesis* builds on an agency model frameworks developed by Mirrlees (1976), Holmström (1979), and Shavell (1979). Under the model developed by Kim (1996), all managers have equal ability. Firm performance therefore is the result of manager efforts and a random factor interpreted as luck. As this random factor is mean-

reverting (mean zero), a manager's failure to deliver full effort leads to termination. The controlling shareholder thus wields a credible threat of dismissal in the event of poor performance to insure that managers always strive to give their best performance. In the event of poor performance, the CEO is dismissed to maintain the credibility of the dismissal threat. Here, the market treats CEOs as fungible, so an incoming CEO is seen to possess similar abilities to other managers and the potential to give equivalent effort. CEO turnover does not signal an improvement in managerial quality, so the announcement of a CEO change provides no new information on a firm's prospects and raises no investor expectations about the firm's future performance. Thus, the scapegoat hypothesis predicts no abnormal returns in a firm's stock price on news of CEO turnover.

2.2 Stock market reaction to CEO turnover: hypotheses for China

Chinese capital markets are notable in that the government has retained control over a majority of state-owned enterprises after their listing. Only partial ownership of state-owned enterprises was sold to public investors. These state-owned enterprises tend to pursue multiple and often contradictory goals (Kato and Long, 2006). These objectives encompass two dimensions. State objectives take two forms. First, a state-owned enterprise might pursue a social objective such as boosting employment to correct a market failure (Dixit, 1997). Employment and other social concerns are well-established roles of state-owned enterprises (Bai et al., 2000). Second, managers of state-owned enterprises may pursue interests beneficial to private individuals (Shleifer and Vishny, 1994). Jiang et al. (2010) document the extent of tunneling of Chinese listed firms from their parent company. They show that controlling shareholders tend to use intercorporate loans to tunnel resources from listed companies. Both goals come at the expense of economic performance of Chinese listed firms.

In principle, external and internal governance mechanisms should prevent state-shareholders from pursuing goals other than profit maximization. However, ownership is highly concentrated in the hand of the controlling shareholder in China, which is a common characteristic in countries with weak protection of investor rights (La Porta et al., 2000). Until the start of the non-tradable share reform in August 2005, state-shares in listed companies were even non-tradable. As a result, hostile takeovers are almost non-existent in

the Chinese stock market, meaning that external governance mechanisms cannot play their disciplinary role.

With the promulgation of the Company Law in 1993, China established a formal internal corporate governance structure comparable to that of Western countries. The Company Law states that the decision to appoint or dismiss the CEO lies in the hands of the board of directors, and that the CEO is directly responsible to the board of directors. In state-owned enterprises, of course, the state actually makes the decisions on appointing or firing key personnel, including the CEO (Wong et al., 2004; Chang and Wong, 2009). The government of the corresponding level of authority over the firm appoints top management. For firms owned by the central government, the Organization Department of the Communist Party of China (CCP) picks the CEO. For state firms owned by a local administration, the provincial government's CCP Organization Department appoints the CEO.

This arrangement severely undermines a major internal corporate governance mechanism, i.e. the possibility of dismissing a poorly performing CEO. Several research teams observe that the link between CEO performance and turnover in China is weaker in state-owned enterprises than in privately held firms (Kato and Long, 2006; Chi and Wang, 2009; Chang and Wong, 2009).[1]

Using data on Chinese listed firms from 1998 to 2002, Kato and Long (2006) study the relationship between firm performance and CEO turnover. They find a modest relation between firm performance and CEO turnover, i.e. a poor-performing firm has a higher probability of changing its CEO in the following year. They also find substantial variation depending on whether the firm is ultimately owned by the state or private investors, and that a weaker performance-turnover link can be distinguished for state-owned enterprises.

Chi and Wang (2009) analyze how type of ownership and concentration of ownership affect CEO turnover for Chinese listed firms. They also find that the performance-turnover link is weaker for state-owned enterprises than privately owned enterprises.

Using a dataset of Chinese listed firms for the period 1995−2001, Chang and Wong (2009) study the performance-turnover link, accounting for the fact that most firms are state-owned and pursue multiple objectives. In their objective function, state share-

[1] Fan et al. (2007) is an exception. They find that poor performance is associated with voluntary and involuntary CEO turnovers in Chinese listed firms, but identify no ownership characteristics (e.g. percentage of state shares) that might influence this link.

holders are seen to attach greater weight to firm performance and less to social or private benefit when the firm performs poorly. When a firm incurs severe losses, it becomes a burden for the state shareholder and state-owned bank creditors. State-shareholders have an incentive to minimize losses in order to deliver sufficient ex-post financial performance to pursue their multiple objectives. As a consequence, state-owned enterprises incurring too much loss face pressure to improve performance. Chang and Wong (2009) find CEO turnover for loss-making state-owned enterprises, but no sign of a CEO performance-turnover link for profit-making state-owned enterprises. They suggest that the state shareholder only feels motivated to discipline the CEO when the firm's bad performance becomes a burden on state officials.

Chang and Wong (2009, p.233) observe that "the ability to improve performance will be an important consideration in the selection and appointment of a new CEO." Thus, CEO turnover signals a shift by the state shareholder away from its other objectives to economic performance. Following this line of reasoning, we propose the following hypothesis.

Hypothesis 1: The market reaction around a CEO turnover announcement for a state-owned enterprise will be positive.

As the state shareholder will appoint a new CEO based on ability to pursue the economic performance objective, expectations about firm performance improve. Consistent with the ability hypothesis, we expect a jump in the stock price (positive abnormal returns).

One problem arising when a controlling shareholder wants to appoint a new CEO in China is the relatively small pool of CEO talent in China (Fan et al., 2007). It is therefore questionable whether a CEO turnover announcement will impact the market due to the lack of depth in the CEO labor pool.

In China, party membership is an indicator of certain skill-sets and entrepreneurial abilities (Li et al., 2008). According to Lin and Bian (1991) and Walder (1995), candidates for party membership must attain a certain educational level and show their ability to outperform co-workers. Since the beginning of economic reforms, selection criteria for party membership have moved to favor candidates with high education rather than family class origin (Bian et al., 2001). Although we are unable to determine whether a succeeding CEO is a party member, it seems likely that most CEOs appointed to head up state enterprises

controlled by the central government are high-level party members themselves or have close ties with party elite.[2] In any case, acting as CEO of a central state-owned enterprise inherently makes one part of China's elite. Any replacement CEO is likely to possess considerable educational background and skills. Consistent with the ability hypothesis, and complementary to the signal that the state shareholder prioritizes economic performance when it announces a change of CEO, the expected ability of the successor CEO should be higher than the expected ability of the departing CEO (based on past performance) in central state-owned enterprises.

Hypothesis 2: As the successor CEO of a central state-owned enterprise is expected to possess high education and skills, positive abnormal returns should be larger around CEO turnover announcements of central state-owned enterprises than for other types of enterprise.

A corollary of this hypothesis is that market reaction to a CEO turnover announcement for a local state-owned enterprise is uncertain and depends on the supply of CEO talent available to provincial or local administration shareholders.

We can finally extract a hypothesis specific for private-owned enterprises from the characteristics of China. CEO turnover in a privately held enterprise does not signal a recommitment to improved economic performance on the part of the controlling shareholder. Given the small pool of CEO talent in China, which decreases the differences in ability among managers, the scapegoat hypothesis might well apply to this category of firms.

Hypothesis 3: There is no abnormal market reaction to CEO turnover announcement in the case of privately owned enterprises.

[2] In the hypothesis where the appointed CEO is not a party member and lacks personal ties with high-level party members, superior skills relative to the available talent remains the sole explanation. This is consistent with the ability hypothesis.

3 Data and methodology

3.1 Sample selection and summary statistics

Our study requires the construction of a large dataset including information on CEO turnover announcements, corporate governance, ownership concentration, financial information, and type of ownership for Chinese listed firms. The sample is built from three databases.

We obtain information on CEO turnover announcements, corporate governance, and ownership concentration from the China Listed Firm's Corporate Governance Research Database (*CCGRD*) developed by the GTA Information Technology Co.

The Bloomberg database provides financial information on Chinese listed firms. China Security Index (*CSI*) Co. website allows distinguishing between firms ultimately owned by the central government, local governments or private investors.[3]

The *CSI* website provides lists of central state-owned, local state-owned, and private-owned enterprises indices. The handbook of the *CSI Central State-owned Enterprises Composite Index* states: "The universe of CSI Central State-owned Enterprises Composite Index is comprised of all of the Central State-owned Enterprises listed at Shanghai and Shenzhen securities markets. […] The company is a Central State-owned Enterprise if realistically controlled by the State-owned Assets Supervision and Administration Commission of State Council (SASAC) and the Ministry of Finance." The *CSI Local State-owned Enterprises Composite Index* handbook states: "[T]he company is a local state-owned enterprise if finally controlled by local State-owned Assets Supervision and Administration Commission, local municipal government and local state-owned enterprises." The *CSI Private-owned Enterprises Composite Index* handbook states: "[T]he company is a private-owned enterprise if finally controlled by domestic natural person (including HK, Macao and Taiwan)."

The *CSI* indices for central state-owned, local state-owned, and privately owned enterprises has only existed since 2008. To check if an ownership occurred in the sample period 2002−2008, we compare the yearly ownership information from the *CCGRD* database with the *CSI* database. The *CCGRD* database gives the name and information about

[3] www.csindex.com.cn/sseportal_en/csiportal/indexquery.do

the nature of the controlling shareholder.[4] We first identify listed firms in our sample of CEO turnover announcements for which a change in controlling shareholder name happened between 2002 and 2008. We then distinguish between state-owned and privately owned firms in the *CCGRD* database and compare the result to the *CSI* data. We find 50 enterprises classified as privately owned in the *CSI* index that were state-owned in the year of the turnover announcement. Among these 50 enterprises, we identify all as being local-state owned enterprises in the year of their turnover announcement using company websites, annual reports, and internet-based research on the controlling shareholder.

Following e.g. Fan et al. (2007) and Chang and Wong (2009), we consider the post of General Manager (*zongjingli*) equivalent to CEO for Chinese listed firms. We start with 1,481 CEO turnover announcements. Two announcements are made in annual reports and 57 observations have missing values for the type of announcement. We exclude these observations as other news was potentially released to the market at the same time. We also exclude 157 observations if a turnover occurs within a 160-day period following the previous CEO turnover announcement to estimate properly the market model parameters on a 160-day estimation period. Finally, we separate 94 announcements from the main sample where the departing CEO leaves because of retirement, illness, personal reasons, change in control right, corporate governance reform, or legal disputes; such motivations are not performance-related.[5] These non-performance-related turnovers are nonetheless used in our estimations for certain additional tests. Our final sample consists of 1,094 CEO turnover announcements that occurred in 688 Chinese listed firms during the period 2002−2010.

Table 1 presents summary statistics on ownership, source of succession, board and departing CEO characteristics and financial information about firms included in the sample dataset. We observe, as expected, that the majority of enterprises are state-owned (64.44%). A majority of state-owned enterprises are controlled by a local province (45.06%) than by the central government (19.38%). It is also of interest to stress that the succeeding CEO is more likely to be an insider (58.09% of cases) than an outsider.

[4] The CCGRD database, however, does not distinguish between state enterprises owned by the central government and state enterprises owned by provincial or local administrations.
[5] This approach is standard in the literature. For general discussion, see e.g. Denis et al. (1997). For China specifically, see Kato and Long (2006).

3.2 Methodology

To test the effect of CEO turnover announcements on stock prices in China, we examine the average cumulative abnormal return (CAR) around CEO turnover announcements using standard event study methodology (Brown and Warner, 1985). Abnormal returns are defined as the difference between actual and expected returns.

This methodology is commonly used in the literature. Notably, two studies on another topic calculate abnormal returns for Chinese listed firms to assess the impact of loan announcements on stock prices (Bailey et al., 2012; Huang et al., 2012).

The estimation period for computing the market model parameters is the time period [-160, -21], with day 0 being the announcement day.[6] We use daily closing prices to compute stocks and index returns. The proxy for the market return is either the Shanghai stock exchange composite index or the Shenzhen stock exchange composite index depending on the listing location of the firm. We test if the CAR is statistically different from 0 using the standardized cross-sectional t-test proposed by Boehmer et al. (1991).[7]

4 Results

4.1 Abnormal returns around CEO turnover announcements

We present summary CAR statistics around CEO turnover announcements for a variety of event windows in Table 2.

Panel A shows the CAR for 1,094 turnover announcements. The vast majority of reported CARs are significantly positive, supporting the view that stock prices react positively to a CEO turnover announcement. For example, in the event windows [-1, 0] and [-5, 0], the CARs are 0.258% and 0.601%, respectively. The stock price increases on average between one-fourth and two-third percent several days before the turnover announcement.

The [-5, -1] CAR is significantly positive, indicating the existence of systematic information leakage in the days leading up to the official turnover announcement. CARs

[6] Results are robust to a variety of estimation periods.

for event windows from the announcement day to one or several days after (not reported in Table 2) are not statistically significant indicating that stock prices quickly incorporate the turnover announcement. This does not come as a surprise given the information leakage observed in the days preceding turnover announcements.

We reject the scapegoat hypothesis for the sample overall. Positive and significant market reaction to CEO turnover announcement indicates that on average CEO turnover is consistent with the ability hypothesis. The market anticipates a future increase in firm performance after a CEO turnover.

Finally, we analyze stock market reaction to the sub-sample of non-performance-related CEO turnover announcements. As explained above, these turnover announcements should not exert an impact on stock prices as they do not contain information about poor management or greater ability of the incoming CEO. Thus, it is worthwhile to check if this prediction is confirmed by our sample. Panel B shows market reaction to the 94 non-performance-related CEO turnover announcements. It reports the [-2, 0] and [-1, 0] CAR for the 94 non- performance-related turnover announcements. The average CARs are, respectively,-0.088% and -0.322% and are not statistically different from 0. The market does not anticipate an increase in firm's future performance for a non-performance-related turnover. This result is consistent with our hypothesis that a non-performance-related CEO turnover is not a particular signal to the stock markets. The information does not indicate the successor CEO has higher ability on average or that the company has made poor management choices.

These results from Table 2 show that on average a CEO turnover exerts an impact on stock prices in China. Positive consequences are anticipated for such an event. This only happens when the turnover reason is linked with firm performance.

4.2 Univariate analysis

We now go deeper into the analysis by investigating whether certain characteristics influence the results. We showed earlier that the stock market reaction generally is positive just

[7] If the variance of stock returns increases on the event date compared to the estimation period, the two-sided t-test rejects the null-hypothesis too often. Boehmer et al. (1991) propose the use of a cross-section of event date prediction errors (rather than the estimation period) to estimate CAR variance.

prior a CEO turnover announcement. We focus here on the narrow event window [-1, 0] CAR between the day before the event day and the event day due to information leakage before the turnover announcement. This also avoids noise from the release of other news around the CEO turnover announcement.

Table 3 presents summary statistics on the [-1, 0] CAR for turnovers (excluding non-performance-related turnovers) sorted by ownership characteristics, announcement characteristics, board characteristics, general manager characteristics, and the firm's financial characteristics.

First, we sort the sample according to ownership characteristics of firms. Panel A in Table 3 shows that market response to a CEO turnover announcement depends on whether the firm is state-owned. A CEO turnover announcement in a state-owned firm triggers a positive CAR, whereas no significant abnormal return is observed for privately owned firms. Thus, average market reaction to a CEO turnover announcement is consistent with the scapegoat hypothesis for the privately owned firms.

We next distinguish between state firms owned by the central government and state firms owned by provincial governments or local administrations. The CARs on average are 0.92%. They are statistically significant for central state-owned firms and not significant for local state-owned firms. The t-test for CAR mean difference between central state-owned and local state-owned firms shows the difference is significant and that positive CAR results are triggered by the central state-owned firms. Thus, we only find support for the ability hypothesis in the case of central state-owned firms.

These results are consistent with our hypotheses. As Chinese listed firms offer poor protections of investor rights and weak corporate governance, state-owned enterprises are free to pursue objectives other than profit maximization. A CEO turnover announcement in a state-owned firm signals market participants that economic performance has re-emerged as the state's (controlling shareholder) top priority. Market reaction is positive because the renewed emphasis on economic performance with a change of CEO increases the expected profits of the firm. Moreover, while the successor CEO of a central state-owned enterprise likely has superior ability relative to the overall pool of CEO talent, the small size of that pool means local state-owned and privately owned enterprises are unlikely to enjoy the same recruiting power and access to these top individuals.

We next sort our sample by announcement, board, general manager, and financial characteristics. We continue to distinguish between state-owned and privately owned en-

terprise in order to check whether our main findings stand for various forms of ownership or if they depend on other characteristics.

Panel B of Table 3 distinguishes the case when the successor is an outsider or an insider of the firm. Although there is no consensus on the effect of insider versus outsider succession,[8] the appointment of an outsider is generally hypothesized to have a weaker effect compared to the appointment of an insider. An outsider lacks firm-specific skills and experience, while the board of directors knows the insider and is in a better position to evaluate their ability. Moreover, going outside the firm could reduce the motivation of other insider managers. An alternative hypothesis, however, predicts that outsiders are not committed to past decisions and can implement new strategies and policies in the firm that leads to a stronger positive market reaction (Bonnier and Bruner, 1989). Consistent with the first hypothesis, we observe that only insider successions have a positive impact on stock prices in the general samples. However, among central state-owned enterprises, both types of succession trigger positive abnormal returns. Thus, when a CEO turnover is announced in a central state-owned firm, it does not matter whether the successor is an insider or an outsider.

Panel C of Table 3 sorts the sample by board characteristics. First, we distinguish between successor CEOs that are board chairmen of the firm (*Succeeding general manager is also chairman of the board*) and those who are not. Fan et al. (2007) report evidence that when a general manager is also chairman of the board, the link between firm performance and CEO turnover is weaker. This duality could thus insulate a successor CEO from the disciplining function of the board. We observe that the CARs are significantly positive only when the succeeding CEO is not the board chairman.

Second, we distinguish between board size below and above the sample mean.[9] Haleblian and Finkelstein (1993) notably argue that monitoring is more effective if the board is large as directors share greater collective information and knowledge. Coordination and free-riding problems can, however, emerge more easily with large boards (Jensen, 1993). The CARs are significantly positive for larger boards, and non-significant for smaller boards in central state-owned enterprises. As Chinese boards have the reputation of

[8] For example, Huson et al. (2001) find a positive effect of outside succession and no effect of inside succession, Furtado and Rozeff (1987) observe the reverse, and Kang and Shivdasani (1996) see a positive effect for both forms of succession.

[3]The median of the sample board size is 9 directors. We do not distinguish between board size below and above the median because 495 firms in the sample had 9-director boards.

rubber-stamping turnover decisions by state officials in state-owned enterprises (Kato and Long, 2006), this result is counterintuitive. One would expect such boards to play no role in CEO turnovers, suggesting a correlation between large boards and some other firm characteristics that play a role in market reaction to CEO turnover announcements.

Panel D of Table 3 sorts the sample by general manager characteristics. We distinguish between two characteristics: the age of the departing CEO at the time of replacement and the number of years in the post. Younger CEOs trigger a significantly positive CAR for the whole sample and the central state-owned-firm sub-sample. CEOs with more years in office than the mean in state-owned enterprises also trigger significantly positive CARs.

Panel E of Table 3 sorts the sample by financial characteristics of the firm. Reinganum (1985) suggests the organizational structures of smaller firms are less complex than those of larger firms; a change in the top executive may have a larger impact on a small enterprise. Dedman and Lin (2002) provide a contrary hypothesis: small firms have limited access to the pool of CEO talent, so they may encounter greater difficulties in recruiting suitable CEOs. Limited access to CEO talent makes CEO turnover less beneficial for them. Indeed, we observe that excess returns are triggered by the largest firms of our sample as CARs are significantly positive in the whole and central state-owned samples, yet non-significant for the smallest firms of our samples. Of course, central state-owned firms are among the largest Chinese listed firms and most of the large listed firms are central state-owned firms.

We next turn to past performance of firms in the sample. A poorly performing firm in the year preceding a CEO turnover could be interpreted as a proxy for a low quality manager. Here, we expect higher excess returns when a CEO from a poorly performing firm is replaced in line with the ability hypothesis or no excess return under the scapegoat hypothesis. We compute the industry-adjusted ROA (*IROA*) the year preceding CEO turnovers and sort the sample between below and above industry average performance. For the entire sample, CARs are not significant for IROA.

We find that loss-making and profit-making firms in the sub-sample of central state-owned enterprises have significant positive CARs. Past performance does not seem to influence market reaction to a CEO turnover announcement.

Finally, we consider the financial risk of the firm. Following Dedman and Lin (2002), we expect a positive reaction for CEOs leaving firms with a higher financial risk.

We sort the sample between below and above median firms' *Altman Z score*. A lower *Altman Z score* indicates higher financial risk. Firms below the median *Altman Z score* trigger a significantly positive reaction, whereas market reaction is not significant for firms above the median. In the sub-sample of central state-owned firms, firms with *Altman Z scores* below and above median trigger a positive market reaction. Consequently, financial risk does not influence stock market reaction if the CEO turnover occurs in a firm owned by the central government.

To sum up, the absence of market reaction to CEO turnover suggests the scapegoat hypothesis applies to Chinese privately owned enterprises. The positive market reaction to CEO turnover for state-owned enterprises favors the ability hypothesis. The intensity of market reaction for state firms depends on several characteristics, particularly whether the owner is the central government or a local administration. We observe the greatest excess abnormal returns when the firm is owned by the central government, the successor CEO is an insider and not board chairman at the time of the appointment, the board is large, the departing CEO is young and has spent a longer term in office, and the enterprise is large and faces high financial risk.

4.3 Multivariate analysis

We now turn to multivariate analysis by regressing cumulative abnormal returns on a set of independent variables. The dependent variable is the cumulative abnormal return from one day to the day of CEO turnover announcement ([-1, 0] CAR). As stated in section 4.2., this event window captures the information leakages observed around CEO turnover announcements. Contrary to larger event windows, keeping a small event window allow us to avoid disturbances due to other news on the market.

Our independent variables reflect ownership, source of successor, board, general manager and financial characteristics. Ownership characteristics reflect our first hypothesis that a CEO turnover in a state-owned enterprise indicates a change in state shareholder's objectives toward more economic performance. *State-owned enterprise* is a dummy variable equal to 1 if the firm is controlled, directly or indirectly, by the state, and 0 if it is controlled by a private investor. *Central state-owned enterprise* is a dummy variable equal to 1 if the firm is controlled, directly or indirectly, by the central government and 0 if it is con-

trolled by a private investor or a local government. *Private-owned enterprise* is a dummy variable equal to 1 if the firm is controlled by a private investor and 0 if it is controlled by the central government or a local government. These last two variables reflect our second hypothesis which states that enterprises owned by the central government are able to attract the best talents among the pool of available CEOs.

To capture the influence of the succeeding CEO being an insider or an outsider on stock prices pattern, we include *Source of successor*; a dummy variable equal to 1 if the succeeding CEO is an outsider and 0 if it is an insider.

We also take into account board characteristics with our variables *Dual BC and GM* and *Board size*. *Dual BC and GM* is a dummy variable equal to 1 if the succeeding CEO is also the chairman of the board of directors, and 0 otherwise. Two characteristics of the departing CEO are also included in the regressions: *Age* and *Years in office*.

We also include financial characteristics which are likely to influence the stock price pattern of the firm when a CEO turnover is announced: *Firm size, Lagged IROA* and *Altman Z-score*. *Firm size* is the natural logarithm of balance sheet total assets. *Lagged IROA* is the industry-adjusted return on assets the year prior the turnover. *Altman Z-score* reflects the probability of default of the firm.

All regressions include time and industry fixed effects. As the pool of available CEOs might differ from one industrial sector to another and state-owned enterprises are more represented in certain industries, the industry sector has to be taken into account in the regressions. The industry classification comes from the *Industry Classifying Index* released by the China Securities Regulatory Commission (CSRC).

Table 4 reports the results of the OLS regressions with standard errors clustered at the firm level. In the first column, *State-owned enterprise* is not significant. It suggests that being controlled by the state does not explain different stock prices patterns compared to firm controlled by private investors. This first specification does not, however, distinguish the level of state control (i.e. central or local). In all other specifications, the variable *State-owned enterprise* is replaced by *Central state-owned enterprise* and *Private-owned enterprise*. We observe that the coefficient for *Central state-owned enterprise* is always positive and significant. These results suggest that the effect on stock prices of a CEO turnover announced is influenced by the nature of the shareholder. In accordance with our hypotheses, firms controlled by the central government experience on average a significantly positive abnormal return. This result holds even after controlling for other characteristics which

might be strongly correlated with *Central state-owned enterprise* such as firm size and industry sector.

Only two other coefficients appear to have a significant influence on stock prices: *Age* and *Board size*. When the departing CEO is older, stock prices are negatively affected. A larger board, on the other hand, has a positive influence on stock prices all else being equal.

Surprisingly, firms' financial characteristics do not seem to influence the stock price pattern. Notably, past performance has no significant impact on the cumulative abnormal returns.

In regressions 2 to 6, the inclusion of independent variables causes the number of available observations to drop from 1094 to 627. In order to control for potential biases, we re-run regressions 2 to 5 only with the 627 observations available in regression 6. Results[10] remain unchanged.

5 Conclusion

This paper examined the stock market reaction around CEO turnover announcements in China. As there is no consensus on the stockholder wealth effect of a CEO turnover in the literature, our contribution adds a new perspective from an emerging country. We find that, in terms of cumulative abnormal return (CAR), CEO turnover announcements in China induced a positive stock market reaction overall in our sample. This was driven largely by the positive reaction for state enterprises owned by the central government. The reaction is not significant for state enterprises owned by local administrations or privately owned enterprises.

These findings support the ability hypothesis for central state-owned enterprises, meaning that ability is taken into account for CEO turnovers in these enterprises. This conclusion is consistent with previous literature on CEO turnover on China, according to which CEO turnovers signal a recommitment to the objective of profitable economic performance.

[10] Results are available upon request.

Our findings also support the scapegoat hypothesis for local state-owned enterprises and privately held enterprises. In these cases, a CEO change is not associated with greater managerial performance, but rather as a show of board commitment to exercising its prerogative to hire and fire CEOs to get full performance out of them. Due to China's small pool of CEO talent, we only observe a positive reaction in central state-owned enterprises where the state shareholder may have access to managers with higher levels of ability. We interpret the absence of market reaction to CEO turnover announcements in privately owned and local state-owned enterprises as a consequence of the relatively small pool of available CEO talent.

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Tables

Table 1 Sample descriptive statistics

The sample consists of CEO turnover announcements from 2002 to 2010 in companies listed on the Shanghai or Shenzhen stock exchanges

Variable	Description	Obs.	Mean	SD	Minimum	Maximum
State-owned enterprise	Dummy variable equal to 1 if the controlling shareholder is the state; 0 otherwise	1094	64.44%	47.89%	0	1
Central state-owned enterprise	Dummy variable equal to 1 if the controlling shareholder is controlled by the central government; 0 otherwise	1094	19.38%	39.54%	0	1
Local state-owned enterprise	Dummy variable equal to 1 if the controlling shareholder is controlled by a local province; 0 otherwise	1094	45.06%	49.78%	0	1
Privately owned enterprise	Dummy variable equal to 1 if the controlling shareholder is controlled by private shareholders; 0 otherwise	1094	35.56%	47.89%	0	1
Source of successor	Dummy variable equal to 1 if the succeeding CEO is an outsider; 0 if an insider	1038	41.91%	49.36%	0	1
Dual BC and GM	Dummy variable equal to 1 if the succeeding CEO is also the board chairman of the firm	1037	12.15%	32.69%	0	1
Board size	Number of directors in the board	863	9.07	1.93	5	19
Age	Age of departing CEO (years)	1087	45.65	6.63	28	68
Years in office	Departing CEO's term in office	1094	2.20	1.48	0.30	12.25
Firm size	Logarithm of total assets (USD million)	1082	7.38	1.26	2.89	14.17
Lagged IROA	Industry-adjusted profit after tax to total assets for year preceding turnover	1041	-3.80%	8.94%	-48.82%	13.23%
Altman Z-score	Weighted average of financial ratios compounded by Bloomberg database	898	2.78	3.16	-13.86	13.99

Table 2 Abnormal returns around CEO turnover announcements

The average cumulative abnormal return (CAR) is calculated using the market model and standard event study methodology. The estimation window for calculating market model parameters is [-160, -21]. CARs are tested for significance using a two-tail Boehmer et al. (1991) t-test. **, * denotes statistical significance at the 5 and 10 percent levels, respectively. There are 1,094 observations in the sample.

Panel A: Average cumulative abnormal return (CAR) for performance-related turnovers

Event window (0 : announcement day)	CAR (%)	Positive abnormal returns (%)	Boehmer et al, (1991) t-statistic
[-5,-3]	0.252	49.82	1.217
[-5,-2]	0.343	50.73	1.604
[-5,-1]	0.488	51.92	2.018**
[-5, 0]	0.601	51.46	2.295**
[-5, 1]	0.402	51.28	1.348
[-4,-2]	0.313	49.09	1.631
[-4,-1]	0.458	51.37	2.062**
[-4, 0]	0.572	52.38	2.343**
[-4, 1]	0.373	51.737	1.327
[-3,-2]	0.256	47.62	1.676*
[-3,-1]	0.400	51.28	2.171**
[-3, 0]	0.514	50.55	2.448**
[-3, 1]	0.315	51.46	1.255
[-2,-1]	0.235	49.63	1.872*
[-2, 0]	0.349	50.55	2.170**
[-1, 0]	0.258	47.99	1.854*
[0, 1]	-0.085	47.99	-0.312

Panel B: CAR for 94 non-performance-related CEO turnovers

Event window (0 : announcement day)	CAR (%)	Positive abnormal returns (%)	Boehmer et al. (1991) t-statistic
[-2, 0]	-0.088	45.75	-0.112
[-1, 0]	-0.322	40.43	-0.543

Table 3 Cumulative abnormal returns sorted on ownership, source of successor, board, general manager and financial characteristics

This table reports [-1, 0] cumulative abnormal return (CAR) around CEO turnover announcements by sub-samples. ***, **, * denote a difference from 0 significant at the 1, 5 and 10 percent levels, respectively.

Category	CAR [-1, 0] in percentage	Number of obs.	Boehmer et al. (1991) t-statistic	CAR diff. (1^{st}-2^{nd} line)	T-test of mean difference
Panel A: Sorted by ownership characteristics					
Nature of ownership					
Private ownership	0.090	389	0.175		
State ownership	0.351	705	2.291**	-0.261	-0.84
Nature of ownership among state-owned enterprises					
Local ownership	0.106	493	0.900		
Central ownership	0.920	212	2.627***	-0.814	-2.11**
Panel B: Sorted by source of successor					
Source of successor					
Insider	0.272	603	1.710*		
Outsider	0.405	435	1.320	-0.134	-0.44
Source of successor for central state-owned enterprises					
Insider	0.994	112	2.292**		
Outsider	1.399	81	1.887*	-0.405	-0.55
Panel C: Sorted by board characteristics					
Succeeding general manager is also chairman of the board					
Yes	0.029	126	0.016		
No	0.367	911	2.227**	-0.338	0.70
Succeeding general manager is also chairman of the board for central state-owned enterprises					
Yes	1.984	15	1.067		
No	1.095	178	2.714***	0.889	0.52
Size of the board					
Below mean	0.121	656	1.002		
Above mean	0.715	213	1.622	-0.594	-1.49
Size of the board for central state-owned enterprises					
Below mean	0.516	102	1.078		
Above mean	1.302	63	1.934*	-0.787	-0.91

Table 3 (continued)

This table reports [-1, 0] cumulative abnormal return (CAR) around CEO turnover announcements by sub-samples. ***, **, * denote a difference from 0 significant at the 1, 5 and 10 percent levels, respectively.

Category	CAR [-1, 0] in percentage	Number of obs.	Boehmer et al. (1991) t-statistic	CAR diff. (1^{st}-2^{nd} line)	T-test of mean difference
Panel D: Sorted by general manager characteristics					
Age of leaving					
Below mean	0.316	597	1.695*		
Above mean	0.125	490	0.650	0.191	0.67
Age of leaving for central state-owned enterprises					
Below mean	0.810	99	1.697*		
Above mean	1.016	113	2.015**	-0.206	-0.31
Term of office (years)					
Below mean	0.285	662	1.415		
Above mean	0.216	432	1.201	0.069	0.24
Term of office (years) for central state-owned enterprises					
Below mean	0.989	112	1.814*		
Above mean	0.842	100	2.025**	0.147	0.22
Panel E: Sorted by financial characteristics					
Size of the firm					
Below median	-0.041	541	-0.327		
Above median	0.520	541	2.857***	-0.561	-1.98**
Size of the firm for central state-owned enterprises					
Below median	0.212	105	0.226		
Above median	1.439	105	3.075***	-1.227	-1.91*
Industry-adjusted ROA for year preceding turnover					
Below industry av.	0.211	701	0.846		
Above industry av.	0.243	362	1.495	-0.032	-0.12
Industry-adjusted ROA for year preceding turnover for central state-owned enterprises					
Below industry av.	0.819	135	1.681*		
Above industry av.	0.830	74	1.943*	-0.011	-0.02
Altman Z score					
Below median	0.516	449	2.085**		
Above median	-0.023	449	0.097	0.539	1.69*
Altman Z score for central state-owned enterprises					
Below median	1.112	88	1.730*		
Above median	0.650	88	1.802*	0.465	0.64

Table 4 Regressions explaining cumulative abnormal returns around CEO turnover announcements

This table reports regressions of cumulative abnormal returns from one day to the day of announcement of a CEO turnover (CAR[-1, 0]) on ownership, turnover and firm characteristics. Variables description appears in table 1. Time and industry sector dummies are included in all the regressions. Clustered standard errors at the firm level are reported in parentheses. ***, **, and * indicate significance at the 1, 5 and 10 percent levels.

	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	-0.054*	-0.010	-0.031***	-0.002	0.016	-0.046
	(0.029)	(0.013)	(0.008)	(0.013)	(0.020)	(0.0286)
State-owned enterprise	0.003					
	(0.004)					
Central state-owned enterprise		0.008**	0.010**	0.011***	0.010**	0.009*
		(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Private-owned enterprise		-0.001	-0.001	-0.003	-0.001	-0.002
		(0.003)	(0.003)	(0.003)	(0.004)	(0.005)
Source of successor	-0.001		0.001	0.001	0.001	-0.001
	(0.004)		(0.003)	(0.003)	(0.003)	(0.004)
Dual BC and GM	0.005		-0.003	-0.004	-0.003	0.005
	(0.007)		(0.005)	(0.005)	(0.005)	(0.007)
Board size	0.023**					0.022**
	(0.010)					(0.010)
Age	-0.001*			-0.001**	-0.001**	-0.001*
	(0.0003)			(0.0002)	(0.0002)	(0.0003)
Years in office	-0.001			-0.001	-0.001	-0.001
	(0.002)			(0.001)	(0.001)	(0.002)
Firm size	0.002				0.002	0.002
	(0.002)				(0.002)	(0.002)
Lagged IROA	-0.005				-0.027	-0.003
	(0.027)				(0.019)	(0.027)
Altman Z-score	-0.001					-0.001
	(0.001)					(0.001)
N. of obs.	627	1,094	1,037	1,031	979	627
R^2	0.03	0.01	0.02	0.02	0.02	0.04

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