CHAPTER 6

TOP MANAGEMENT TURNOVER

AND TYPES OF STATE-SHARE HOLDERS

This section provides a test of the effect of types of state-share holders on the sensitivity of the relationship between top management and firm performance in China’s listed companies from 1994 to 1998.

6.1. Measurements of variables

Dependent variable: top management turnover

TURNOVER is a dummy variable which is one if there is a top management change as defined below and zero for firms in the control sample which do not change top management from 1994 to 1998.

Independent variable: firm performance

Prior studies use both stock returns and accounting earnings as measures of firm performance to determine top management turnover (see Rosen (1990) and Milgrom and Roberts (1992) for a summary and discussion of this literature). Although studies by Warner, Watts, and Wruck (1988), Weisbach (1988), Jensen and Murphy (1990), Murphy and Zimmerman (1993), and Kaplan (1994a) measure performance using stock returns and find that top executive turnover is significantly related to stock performance, it is not clear whether stock return measures are more informative than earnings in measuring CEO performance. Kaplan (1994a) suggests that stock returns also reflect changes in discount rates and therefore accounting earnings may be more informative. However, the empirical evidence is mixed.
While Murphy and Zimmerman (1993) find a strong relation between turnover and earnings measures, Weisbach (1988) finds only a modest relation. As in the previous chapter, both accounting and market performance measures are used to investigate management turnover. In this study, return on asset is assumed to be the basic accounting performance measure for the board to make succession decisions.\(^{33}\) Return on asset is then adjusted by industry median to control for industry-related effects (ROAI). In addition to providing more precise measures of performance, the industry adjustments address econometric problems in the cross-sectional analysis. Such problems could be caused by mean reversion in accounting performance measures when the long-term mean values differ across industries (Huson, Parrino, and Starks (2001)). Return on assets is calculated for the annual periods that best reflect the information available to internal monitors when the turnover decision is made. If it is announced before the middle of the fiscal year\(^{34}\), the accounting measure for the previous year is used. If it is announced in the second half of the fiscal year, the measure for the current year is used. As in Huson, Parrino, and Starks (2001), the change in the industry-adjusted return on assets (ROAIC) in the year preceding turnover is also used for a robust test. The variable description is presented in Table 3.

Market performance measure is the industry-adjusted stock return (MARETI) calculated as market-adjusted stock return (MARET) minus industry median of MARET. The market-adjusted stock return is estimated as the stock return minus the market index returns (Shanghai A-share Composite Index and Shenzhen A-share Composite Index) accumulated over the 12-month period immediately preceding the management turnover month (the “event month”). Following Defond and Park

\(^{33}\) I also ran the analysis using return on equity and got very similar results.

\(^{34}\) The calendar year is the fiscal year for all China’s listed companies.
(1999), pseudo-event months are computed for the control sample corresponding to the management turnover months. All control firms are randomly assigned a pseudo-event month such that the distribution of the pseudo-event months mirrors the distribution of the turnover months. As in Goyal and Park (2002), market-adjusted stock return (MARET) is also used as a performance measure in the robust test.

**Control variables**

Huson, Parrino, and Starks (2001) has summarized some characteristics of monitoring mechanisms for listed firms, such as board composition and size, director compensation, ownership structure, and the level of disciplinary takeover activity. Based on data availability of China’s listed firms, some of these variables are included in the regressions to control for the firm’s monitoring mechanisms.

1. **Ownership structure.** The major shareholders of China’s listed companies have been classified into three types: GA shareholders, corporate state-share holders, and non-state-share holders. STATED is a dummy variable which is one if there are state-owned shares and zero otherwise. GAD is one if there are GA shareholders and zero otherwise. CORPD is one if there are corporate state-share holders and zero otherwise.

Monitoring of top management is a joint decision by all the large shareholders. Top management of China’s listed companies is usually appointed by controlling shareholders. Thus higher ownership concentration may cause entrenchment of the existing management and thus less sensitivity of top management turnover to poor firm performance. Herfindhal index (HERF) is used to measure ownership concentration. It is calculated as the average of the summary of
squares of percentage of shares held by the top 10 shareholders. It ranges from zero to 0.1 and the larger the value the higher the degree of ownership concentration.

2. **Board size.** Jensen (1993) and Yermack (1996) show that a more streamlined board can operate more efficiently and thus monitor more effectively. Thus, a measure of board size (BSIZE), the number of directors in a board, is then included.

3. **Firm size.** Firm size (SIZE) can proxy for many factors which would affect the sensitivity of top management turnover to poor firm performance. Huson, Parrino, and Starks (2001) find that firm size is negatively related to the percentage of shares owned by the CEO and positively correlated with the percentage of outside directors. Also larger firms are more concerned with their reputation and thus replace poor management more quickly.

4. **Top management characteristics.** Goyal and Park (2002), Murphy and Zimmerman (1993), and Weisbach (1988) find a strong relation between CEO turnover and CEO age. The top management turnover around retirement age is more likely due to normal retirements than to forced departures. For the turnover sample, the top management age is the age of the chairperson or CEO who has been replaced. For the control sample, the top management age is the older of the ages of the chairperson and CEO. A dummy variable (CEOAGE), one if top management is older than 60 and zero otherwise, is then included in the regression analysis. Top management tenure (TENURE) is measured by the total number of years the top management had held the position as of the year of the turnover. Management tenure could affect the turnover either positively or negatively. If long tenure is a clue that

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the top management is closer to retirement, it should be positively related to top management turnover. Alternatively, Salancik and Meindl (1984) show that top management with longer tenure could have established a power base over time, suggesting that top management turnover is negatively related to tenure.

5. Stock return volatility. Following DeFond and Park (1999), stock return volatility is also included in the tests. Stock return volatility (VOLATY) is calculated as the variance of stock returns during the 12 months prior to the event month. As shown by DeFond and Park (1999), return volatility might affect management turnover probability but the relation is ambiguous.

Other than the control variables discussed above, the previous research also suggests additional variables. But they are not included in this study due to various reasons. First, Denis, Denis, and Sarin (1997) postulate that high equity ownership by management makes it more difficult for a board to dismiss a poorly performing CEO, since higher managerial ownership means greater power in the hands of top management. In addition, higher managerial ownership inhibits the takeover mechanism. However, top management of China’s listed companies has little equity in the listed companies. Moreover, there is no database providing managerial ownership information for China’s listed companies. Thus, the effect of managerial ownership on the probability of top management turnover cannot be included in the tests.

Degree of industry competition is the second factor that can not be controlled in this study. DeFond and Park (1999) show that in competitive industries, it is relatively easy for boards to identify poorly performing CEOs, resulting in a higher

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36 DeFond and Park (1999) argue that firms exhibiting volatile performance are more likely to experience the severe shocks that lead to CEO turnover.
frequency of top management changes. However, the industry market share data for China’s listed companies are not currently available.

Board composition is another factor that can not be included in this study. Fama and Jensen (1983) argue that outside directors tend to be more effective monitors of management than inside directors because they are generally key decision makers at other organizations who are concerned with their reputations. Weisbach (1988) maintains that inside directors are also likely to be less effective monitors because it can be costly for them to challenge the CEO to whom their careers are tied. In China’s listed companies, most directors are from controlling shareholders, such as GA shareholders, corporate state-share holders, or legal person shareholders. They should be treated as inside directors because they are the representatives of controlling shareholders. Independent directors were just recently introduced in August 2001\textsuperscript{37}, so board composition is not included in the tests.

Finally, the effect of board compensation also could not be controlled in this study due to lack of data availability. Perry (1998) reports evidence indicating that CEO turnover decisions are influenced by the payment of incentive compensation to directors. Firth, Fung, and Rui (2002) introduce a dummy variable which is one if the percentage of unpaid directors on the board is more than 50% and zero otherwise to investigate management turnover in China’s listed companies. Due to large sample size and long horizon covered in this study, this variable is not used.

\textsuperscript{37} This practice is required by a regulation titled “Guidelines for Introducing Independent Directors to the Board of Directors of Listed Companies” issued by the CSRC on August 16, 2001. It requires the board should comprise at least one third independent directors after June 2003.
6.2. Data and sample collection

Top management turnover data was hand-collected from China’s listed companies’ announcements. Top management in this study includes the chairperson of the board and the chief executive officer (CEO). Table 9 reports the incidence of top management changes for each year from 1994 through 1998. To focus on the monitoring role of shareholders, changes that are not due to shareholders’ initiation are excluded. These include retirements, health reasons (including death), and illegal operations. In addition, the top management of China’s listed companies has opportunities to be promoted to government positions. Furthermore, a CEO can be promoted to be the chairperson of the board. Both types of promotions are also excluded.

“Relay process” of top management changes are also excluded (Vancil (1987)). “Relay process” means a successor is chosen several years in advance of the anticipated retirement of the incumbent top management. During the transition period, power and authority are gradually handed over to the chosen replacement until the title of “chairman” or “CEO” is given to the successor. This type of change is not likely to be related to poor performance. If the chairperson and CEO of one company transfers the CEO title to an associate manager or other insider and keeps the chairpersonship, this type of CEO change is treated as a “relay process”.

Another special managerial change in China’s listed companies is also excluded. Most of China’s listed companies are headed by a holding company. Sometimes the chairperson or CEO of a listed company is also the top management...

38 A CD published by Renmin University of China Press (1999 version), titled China Securities Information Library, collects all the announcements to the middle of 1999 for China’s listed companies.

39 I did not find any words like “fire” (in Chinese Citui) in the announcements. The board of directors prefers to use some “warm” or “polite” words to announce the change. Thus, resignation could include some cases that are forced turnover.
of its holding shareholder. The dual position of top management in the listed company and its controlling shareholder may cause a serious related-party transaction problem. To clear the relation with the holding shareholder, some listed companies change their chairperson or CEO.\footnote{In 1999, there is a regulation (1999 No. 22) by CSRC to force all listed companies’ top management to keep clear to their holding companies (groups).} Usually the announcement will state that the change is “to improve the corporate governance”. The changes treated as “relay process” may also belong to this category. Thus this “clearing” change and “relay process” are reported together in Table 9.

Lastly, all the managerial turnovers due to change of large shareholders are excluded. There is no active professional labor market in China and the top management is usually from some large shareholders of the listed companies. Thus, top management will usually be changed with the change of large shareholders. This type of turnover is not forced by monitoring by shareholders and thus is excluded.

Panels A and B of Table 9 present the number of changes for chairperson of board and CEO respectively. The average rates of chairperson and CEO changes are 10.92% and 11.52% respectively, which are very similar to the rates in the U.S.\footnote{The following are CEO turnover frequencies from some papers: 11.2% in Huson, Parrino, and Starks (2001), 11.85% in Murphy (1999).} Panel C of Table 9 provides the number of firms that have at least one change (either chairperson or CEO) in each year. If a firm changed both chairperson and CEO in a year, I choose the earlier occurrence as the sample. This process provides a sample of 327 top management changes representing 270 of China’s listed companies during the period of 1994-1998.

The firms having no change in top management (both chairperson and CEO) during the 1994-1998 period are used as the control group. In total, there are 239 firms in the control group, including 502 firm-year observations. Thus, both
turnover and control samples have a total of 829 firm-years, representing 509 China’s listed firms from 1994 through 1998.

Top management characteristics and board size are hand-collected from firms’ annual reports in Genius database. The data sources for accounting data, stock returns, ownership structure, types of state-share holders, and industry classification have been presented in Appendix C.

6.3. Research design and empirical results

Table 10 presents the mean, median and standard deviations of performance measures, ownership structure variables, and control variables for the turnover sample and the control sample. The last two columns report the results of the $t$-test and Wilcoxon Z-test for differences of means and medians respectively. Firms which experienced management turnover perform significantly worse compared with firms which had not experienced any turnover, according to both accounting and market measures. For instance, the mean and median of industry-adjusted return on assets for the management turnover (control) sample are -2.89% (1.04%) and -1.84% (1.02%), respectively. The differences in the accounting measure between the two groups are statistically significant at less than 1% level. Ownership structure dummies and percentages for these two groups have no significant difference. The univariate comparisons for other variables reveal that size of board (BSIZE) is larger; management age (CEOAGE) is older, and firm size (SIZE) is larger in the turnover sample than that in the control sample, which is generally consistent with previous studies. However, top management tenure (TENURE) is longer in the turnover sample than that in the control sample, which is inconsistent with the findings by Goyal and Park (2002). Finally, there is no difference in ownership concentration
between these two groups. However, as in previous section, because univariate tests do not control for other factors that could affect the likelihood of top management turnover, I rely on the multivariate analysis to test and draw conclusions regarding my hypotheses.

[Insert Table 10 Here]

Both Pearson and Spearman correlation coefficients for all explanatory variables are reported in Table 11. The two accounting performance measures have very high correlation (with a Pearson correlation coefficient of is 0.93). The two market measures are highly correlated, too. However, the accounting and the market performance measures have no significant correlation (both Pearson and Spearman correlation coefficients are less than 0.30). Except for management tenure (TENURE) and industry-adjusted accounting earnings (ROAI), most other correlations are small in magnitude (the absolute correlation coefficients are less than 0.30), suggesting that multicollinearity is not likely to pose a serious problem in the multivariate analysis.

[Insert Table 11 Here]

The following four logistic regression models are specified to test the effect of types of shareholders on the sensitivity of top management turnover to poor firm performance:
\[ TURNOVER_{it} = \alpha_1 + \alpha_2 ROAI_i(MARETI_{it}) + \alpha_3 C_{it} + \varepsilon_{it}, \]  \hspace{1cm} (7)

\[ TURNOVER_{it} = \beta_1 + \beta_2 ROAI_i(MARETI_{it}) + \beta_3 \text{STATED}_i \ast ROAI_i(MARETI_{it}) + \beta_4 \text{STATED}_i + \beta_5 C_{it} + \varepsilon_{it}, \]  \hspace{1cm} (8)

\[ TURNOVER_{it} = \gamma_1 + \gamma_2 ROAI_i(MARETI_{it}) + \gamma_3 \text{GA}_{it} \ast ROAI_i(MARETI_{it}) + \gamma_4 \text{GA}_{it} + \gamma_5 C_{it} + \varepsilon_{it}, \]  \hspace{1cm} (9)

\[ TURNOVER_{it} = \lambda_1 + \lambda_2 ROAI_i(MARETI_{it}) + \lambda_3 \text{CORP}_{it} \ast ROAI_i(MARETI_{it}) + \lambda_4 \text{CORP}_{it} + \lambda_5 C_{it} + \varepsilon_{it}, \]  \hspace{1cm} (10)

where \( C_{it} \) contains the control variables: TENURE, SIZE, HERF, CEOAGE, BSIZE, and Year Dummies. Eq. (7) is used to test the general sensitivity of top management turnover to firm performance (H2a). Eq. (8) is used to test the effect of state ownership on the sensitivity of top management turnover to firm performance (H2b). Eq. (9) and Eq. (10) are used to test whether the type of state-share holders affect the sensitivity of top management turnover to firm performance (H2c and H2d). Eq. (9) only tests the effect of the presence of GA shareholders (\( \text{GA}_{it} = 1 \)). Eq. (10) combines the two types of state-share holders (GA and corporate state-share holders). The estimated value of \( \gamma_3 \) and \( \lambda_3 \) are predicted to be positive, i.e., the presence of GA shareholders will weaken the sensitivity of management turnover to firm performance.

The logistic regression results are presented in Panel A of Table 12. The significantly negative coefficients on ROAI and MARETI in Eq. (7) indicate that there is an inverse relation between top management turnover and firm performance in China’s listed companies, consistent with the results found worldwide (see, e.g., Coughlan and Schmidt (1985), Warner, Watts, and Wruck (1988), Weisbach (1988), and Firth, Fung, and Rui (2002)).
The results of estimating Eq. (8) show that coefficient on the interaction between performance measures and STATED is positive ($p$-value is 0.05 for ROAI and 0.18 for MARETI), indicating that the presence of state ownership weakens the sensitivity but the effect is not significant for MARETI even at a level of 10%. Although this is generally consistent with the managerial perspective of the inefficiency of state shareholding mentioned in Chapter 2, the results from Eq. (9) and Eq. (10) indicate that the different types of state-share holders could lead to different monitoring effects. On one hand, GA shareholders significantly weaken the sensitivity of managerial turnover to firm performance, whether it is measured by accounting or market variables. For instance, the coefficient on the interaction between GAD and ROAI in Eq. (10) is 12.73 (with $p$-value < 0.01). However, corporate state-share holders have no significant effect on the sensitivity. The $p$-value for the interaction between CORPD and accounting (market) measure in Eq. (10) is 0.25 (0.18). Overall, the sensitivity of firms with GA shareholders is significantly less than that of firms with corporate state-share holders. Also the sensitivities for firms with corporate state-share holders and firms without state-owned shares are almost the same, indicating that corporate state-share holders as well as non-state-share holders play a monitoring role in China’s listed companies.42

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42 An alternative explanation for the results may be that the available sources for different types of shareholders to replace top managers are different. GA shareholders may have a smaller pool of suitable candidates than corporate state-share holders and thus are less able to replace poorly performing managers. This would not happen in China because there is no active professional managers’ labor market. Moreover, it is observed in the sample that about 10.71% of incoming management for firms with GA shareholders is outsider and the percentage of outsider replacement management is only 6.96% and 9.72% for firms with corporate state-share holders and non-state-share holders, respectively.
6.4. Robustness checks

The first robustness check replaces the performance measures with changes of industry-adjusted accounting earnings (ROAIC) and market-adjusted return (MARET) in the logistic regressions of Eq. (7) to Eq. (10). Panel B of Table 12 presents the results of these regressions. The calculation of ROAIC needs two consecutive years’ accounting data, resulting in the reduction of the sample size to 537 firm-years with 274 turnovers. Panel B reveals that there is no significant inverse relation between changes in industry-adjusted accounting earnings (ROAIC) and likelihood of management turnover, which suggests that changes in accounting earnings is not a key determinant of management turnover in China’s listed companies. Panel B of Table 12 also reveals that market-adjusted return (MARET) has a similar relation with likelihood of turnover to industry-adjusted market-adjusted return (MARETI) reported in Panel A.

The different results of ROAI and ROAIC raise an alert on the results reported in Panel A of Table 12. The significant inverse relation between performance (ROAI) and likelihood of turnover could be caused by the inclusion of firms that has only one year accounting earnings immediately preceding the turnover year. For a robustness test, Eq. (7) to Eq. (10) are performed with the sample after deleting observations with missing values of ROAIC and the results are presented in Table 13. The results in Table 13 is very similar to that reported in Panel A of Table 12, i.e., the coefficient on the performance measure (ROAI) is still significantly negative in all equations. Thus the level of accounting measures is more important than change to explain the managerial turnover in China’s listed companies.

[Insert Table 13 Here]

43 Huson, Parrino, and Starks (2001) also do not find any significant relation between change in ROAI and likelihood of turnover for U.S. firms.
The logistic regressions of Eq. (8) to Eq. (10) include three ownership structure dummies as independent variables to explain the likelihood of management change. It is necessary to show whether the main results would alter if ownership percentages are included in the regression models. Hence, Eq. (8) to Eq. (10) are performed by substituting ownership dummies (STATED, GAD, and CORPD) with ownership percentages (STATE%, GA%, and CORP%) and report the results in Table 14. Results in Table 14 are consistent with that reported in Panel A of Table 12. Thus, the results are the same when ownership is measured as a dummy variable or as percentage.

[Insert Table 14 Here]

6.5. Summary

Managerial perspective of the inefficiency role of state shareholdings predicts that state-share holders have less incentive to monitor top management, compared with private owners. The empirical results presented in this section generally support the managerial hypothesis, but the results for stock market performance measures are not statistically significant at the conventional level of 0.05 (see the results for Eq. (8) in Table 12). However, when state-share holders in China’s listed companies are classified into GA shareholders and corporate state-share holders, they are found to have different degrees of monitoring function. The sensitivity of management turnover to poor firm performance for firms with state-owned shares held by GA is significantly less than that for firms with state-owned shares held by corporate holders. In addition, there is no significant difference in the monitoring function of corporate state-share holders and non-state shareholders. The interpretation is that
corporate state-share holders in China’s listed companies have much more autonomy than GA shareholders and they behave more like private owners and thus perform better.