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# Executive Turnover and Firm Performance in China

By TAKAO KATO AND CHERYL LONG\*

Executive turnover and its link to firm performance can provide a crucial measure of how effectively a firm solves the two sets of principal-agent problems: (a) the diverging interests between top management and shareholders, which may result in managerial entrenchment; and (b) the diverging interests between controlling shareholders and minority shareholders, which may lead to the expropriation of the latter by the former or “tunneling,” as referred to in the literature.<sup>1</sup> Tying the personal fortune of top executives to the firm’s performance aligns the interests of shareholders and those of management. It also breaks up the “insider” alliance between the controlling shareholder and management, thereby helping protect the interests of minority shareholders.

Although there is a large literature on executive turnover in Western firms, research on executive turnover in non-Western firms is limited, and this paper is the only one on China. A closer look at the executive turnover-performance link in China (one of the two major internal discipline mechanisms in corporate governance) is particularly relevant, since effective markets for corporate control are missing in China, the largest developing and transitional

economy in the world.<sup>2</sup> Furthermore, China is an interesting case because both types of agency problems are acute due to poorly defined property rights and weak investor protection, which result largely from its command economy legacy.

## I. Data and Hypotheses

The executive turnover literature on Western firms tends to focus on CEOs. For each listed firm in China, we carefully identify the individual who holds the position closest to that of CEO in Western firms.<sup>3</sup> Our sample consists of 638 firms and 2,181 observations during the period of 1998 to 2002. The summary statistics indicate that CEOs in Chinese listed firms are predominantly male (96 percent) with an average age of 50.<sup>4</sup> The average annual CEO turnover rate for our sample is 24 percent, substantially higher than those of the United States and Japan (Steven N. Kaplan, 1994).

These listed firms share two common features: highly concentrated ownership and predominance of state ownership. Over 42 percent of the firms have a shareholder who owns more than half of the company stock. While for 83 percent of them the government is the “ultimate controller,” only 10 percent have a private individual or a private firm as the “ultimate controller.”<sup>5</sup>

It has been argued that in countries with weak investor protection, concentrated control and

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<sup>1</sup> Due to space limitation, we will not provide detailed references in this paper (see Kato and Long, 2006, for more complete references).

<sup>2</sup> See Kato and Long (2005) for the second major internal discipline mechanism in China (CEO pay-performance link).

<sup>3</sup> Our extensive field research at a number of Chinese listed firms in the summer of 2004, as well as reading of the Chinese literature on the subject, greatly aided our identification of CEOs in China’s listed firms. See Kato and Long (2006).

<sup>4</sup> See Kato and Long (2006) for detailed summary statistics.

<sup>5</sup> The rest are mostly owned by collective enterprises, nonprofit organizations, or employee stock holding committees. The “ultimate controller” is defined using the 10-percent threshold level as is typically done in the corporate governance literature (Raphael La Porta et al., 1999).

ownership of firms give the controlling shareholder more incentive to monitor top executives and discipline them when performance is poor (La Porta et al., 2000). Thus, we first test:

**HYPOTHESIS 1:** *The presence of a majority controlling shareholder makes CEO turnover more sensitive to firm performance.*<sup>6</sup>

Our second hypothesis relates to the state's ultimate control of firms in China. In addition to the various reasons discussed in the literature predicting weaker incentives for state-controlled firms to pursue profit maximization and increase firm value (Andrei Shleifer and Robert W. Vishny, 1997; William L. Megginson and Jeffrey M. Netter, 2001; Nicholas Lardy, 1998), personnel procedures followed by state controlled firms in China also predict weaker turnover-performance links for these firms. The appointment of senior executives still needs the ultimate approval of the Chinese Communist Party's (CCP) Department of Organization, which considers not only firm performance, but also a variety of other factors in its decisions.

**HYPOTHESIS 2:** *Sensitivities of CEO turnover to performance are lower for listed firms controlled by the state than for privately controlled listed firms.*

Next, we study the effect of introducing independent directors, a measure adopted by the China Securities Regulatory Commission (CSRC) to address the problem of "insider" control in Chinese listed firms. Although ownership concentration and consequent "insider" control help reduce the principal-agent problem between owners and management, they aggravate the conflict of interest between the controlling shareholder and the minority shareholders. To protect the interests of minority shareholders, the CSRC requires a minimum number of independent directors on the board of listed firms not affiliated with either the controlling shareholder or the listed firm. To the extent that independent directors are truly independent of the controlling shareholders, their presence has

the potential of substantially improving the quality of corporate governance.

**HYPOTHESIS 3:** *The presence of independent directors enhances turnover-performance sensitivities.*

Although China's labor market for executives is still in its early stages of development, the increased executive turnover since the beginning of the reform era suggests that executive turnover may serve as an effective mechanism to infuse new blood into the firm's management and turn around a company's poor performance. For reasons previously discussed, however, CEO turnover may have different effects on performance improvement for listed firms with different ownership structure. Thus, we test:

**HYPOTHESIS 4:** *Improvement in firm performance after the replacement of the CEO is greater for listed firms with a majority controlling shareholder and listed firms with private individuals/firms as the ultimate controller.*

## II. Econometric Specifications and Results

We augment a standard logit model of CEO turnover by ownership structure and corporate governance variables relevant to China's listed firms. Specifically, we estimate

$$\begin{aligned}
 (1) \quad & \ln[\text{Pr}(\text{TURNOVER})/1 - \text{Pr}(\text{TURNOVER})] \\
 &= \alpha + \beta_1 \text{PERFORMANCE} + \beta_2 \text{MAJORITY} \\
 & \quad + \beta_3 \text{PRIVATE} + \gamma_3 \text{INDEPENDENT} \\
 & \quad + \beta_{21} \text{PERFORMANCE} * \text{MAJORITY} \\
 & \quad + \beta_{31} \text{PERFORMANCE} * \text{PRIVATE} \\
 & \quad + \gamma_{31} \text{PERFORMANCE} * \text{INDEPENDENT} \\
 & \quad + \gamma Z
 \end{aligned}$$

where TURNOVER = 1 if the firm replaces its CEO during the year, 0 otherwise; PERFORMANCE = firm performance in the previous year; MAJORITY = 1 if the firm's largest

<sup>6</sup> Paolo F. Volpin (2002) develops and tests a similar hypothesis using Italian data.

TABLE 1—TURNOVER-PERFORMANCE SENSITIVITIES, OWNERSHIP, AND CORPORATE GOVERNANCE: LOGIT ESTIMATES

Independent variable	PERFORMANCE =			
	RETURN		ΔROA	
	Estimated coefficient	Standard error	Estimated coefficient	Standard error
PERFORMANCE	0.194	(0.198)	-0.918	(1.304)
PERFORMANCE*MAJORITY	-1.034	(0.364)**	-5.410	(1.961)**
MAJORITY	0.120	(0.107)	0.028	(0.109)
PERFORMANCE*PRIVATE	-1.497	(0.717)*	-1.373	(1.915)
PRIVATE	0.716	(0.203)**	0.600	(0.198)**
PERFORMANCE*INDEPENDENT	-8.989	(4.547)*	-16.285	(10.256)
INDEPENDENT	-0.983	(1.037)	-0.127	(0.227)
Observations	2,181		2,171	
Part B: Magnitude of effects (probability of turnover at x-percentile performance)				
	25%	75%	25%	75%
MAJORITY = 1 & PRIVATE = 1	0.390	0.248	0.298	0.238
MAJORITY = 1 & PRIVATE = 0	0.210	0.173	0.184	0.149
MAJORITY = 0 & PRIVATE = 1	0.336	0.259	0.267	0.249
INDEPENDENT = 1/3	0.174	0.087	0.174	0.140

*Notes:* The data are based on a pooled cross-sectional time series dataset of 634 listed firms over the time period of 1998–2002. All value variables are measured in RMB and adjusted for inflation using CPI (1995 = 100). All models include various dummy variables capturing the possible influences on CEO turnover of the CEO's age, gender, tenure as CEO, and job title (general manager, or chair/GM dual position), as well as firm size (measured by the logarithm of the firm's market value) and time effects. Robust standard errors controlling for clustering at the firm level are in parentheses.

*Sources:* Data on CEOs as well as accounting and financial data are from the China Stock Market and Accounting Research Database (CSMAR) developed by Shenzhen GTA Information Technology Company. Data on ownership structure and corporate governance are from the database developed by Sinofin Information Services.

+ Significant at 10-percent level.

\* Significant at 5-percent level.

\*\* Significant at 1-percent level.

shareholder owns more than 50 percent of the firm, 0 otherwise; PRIVATE = 1 if the firm's ultimate controller is a private individual or firm, 0 otherwise; INDEPENDENT = the proportion of independent directors; and Z is a vector of control variables. To mitigate the potential issue of endogeneity, MAJORITY, PRIVATE, and INDEPENDENT all take the one-year lagged values. For PERFORMANCE, we use the stock market performance measure (industry adjusted stock return or RETURN) as well as accounting measures (i.e., industry adjusted changes in ROA or ΔROA).

The control variables capture the possible influence on CEO turnover of age, gender, tenure, and previous job titles, as well as firm size and time effects. To control for CEO age and tenure is particularly important since we are unable to separate CEO turnover due to normal retirement from disciplinary turnover.

Table 1 provides the maximum likelihood estimates of equation (1). First, the estimated coefficient on PERFORMANCE\*MAJORITY is negative and statistically significant at the one-percent level, whether we consider stock market or accounting performance. This is consistent with our first hypothesis that the largest shareholder of the listed firm will monitor the CEO more carefully and make his/her fate more tied to firm performance when there is a greater stake in the firm.<sup>7</sup>

Second, insofar as stock market performance is concerned, the estimated coefficient on PERFORMANCE\*PRIVATE is negative and statistically significant at the 5-percent level,

<sup>7</sup> A similar result is obtained for Italy by Volpin (2002). For a similar result using an alternative continuous measure, the proportion of shares owned by the largest shareholder, see Kato and Long (2006).

confirming the hypothesis that there is a higher CEO turnover-performance sensitivity for listed firms with private individuals/firms as their ultimate controllers. On the other hand, PRIVATE has no statistically significant impact on turnover-performance sensitivities for the accounting measure, suggesting that listed firms ultimately controlled by private individuals/firms rely more on stock market performance than accounting performance, which may be more subject to management manipulation.

Third, the estimated coefficients on PERFORMANCE\*INDEPENDENT are negative for both stock and accounting performance measures and statistically significant at the 5-percent level in the case of RETURN, and close to significant at the 10-percent level in the case of  $\Delta$ ROA, supporting our hypothesis that the presence of independent directors will enhance turnover-performance links.

To illustrate the magnitude of various effects on turnover-performance sensitivities, we use the estimated coefficients to predict the change in CEO turnover probability when firm performance improves from the twenty-fifth percentile to the seventy-fifth percentile of the industry. We begin by calculating the probability change for the two extreme cases: (a) MAJORITY = 0 and PRIVATE = 0; and (b) MAJORITY = 1 and PRIVATE = 1, followed by two intermediate cases: (c) MAJORITY = 0 and PRIVATE = 1; and (d) MAJORITY = 0 and PRIVATE = 1. In calculating the changes, we assign the modal values to all other dummy variables and the median values to all other continuous variables used in the regression. The results are shown in panel B of Table 1, indicating that the significant effects discussed above are of economically important magnitudes.

Following an improvement in stock performance from the twenty-fifth percentile to the seventy-fifth percentile of the industry, the firm with MAJORITY = 1 and PRIVATE = 1 displays the most substantial reduction in the probability of CEO turnover, from 39 percent to 25 percent, whereas we observe little change in CEO turnover probability for the firm with MAJORITY = 0 and PRIVATE = 0. The two intermediate cases reveal a sensible pattern, i.e., in both cases a substantial reduction in CEO turnover rate, but smaller than that experienced by the firm with MAJORITY = 1 and PRIVATE = 1, pointing to the importance of

both majority control and ownership change in tightening performance-turnover link. Similarly, the effect of having independent directors is also economically important. In the absence of independent directors (INDEPENDENT = 0), the same performance improvement as above will result in little reduction in the predicted probability of CEO turnover, whereas when a third of the board members are independent directors, the predicted turnover rate decreases considerably from 17 percent to 9 percent following such a performance improvement. Results corresponding to  $\Delta$ ROA are very similar.

The final hypothesis, that improvement in firm performance after the replacement of the CEO is greater for privately controlled firms and firms with majority controlling shareholders, is tested as follows:

$$\begin{aligned} (2) \quad \text{PERFORMANCE}_{+t} &= \alpha + \beta_1 \text{TURNOVER} + \beta_2 \text{MAJORITY} \\ &+ \beta_3 \text{PRIVATE} \\ &+ \beta_{21} \text{TURNOVER} * \text{MAJORITY} \\ &+ \beta_{32} \text{TURNOVER} * \text{PRIVATE} + u \end{aligned}$$

where  $\text{PERFORMANCE}_{+t}$  is firm performance  $t$  years after CEO turnover and  $t = 1, 2, \text{ and } 3$ . Table 2 presents the OLS estimates of equation (2). For listed firms with majority controlling shareholders and privately owned listed firms, the post-turnover performance experiences greater improvement than for state-controlled listed firms without majority shareholders.

### III. Concluding Remarks

Using comprehensive financial and accounting data on China's listed firms from 1998 to 2002, augmented by unique data on CEO turnover, ownership structure, and board characteristics, we estimate logit models of CEO turnover. We consistently find, for both stock market performance and the accounting measure, that the CEO turnover-performance link is stronger for firms with a majority shareholder. Insofar as stock performance is concerned, the turnover-performance link is weaker for listed firms controlled by the state, while the appointment of independent directors enhances the

TABLE 2—EFFECTS ON NET-OF-INDUSTRY STOCK RETURN OF CEO TURNOVER  
(OLS ESTIMATION)

	Dependent variable =					
	RETURN <sub>+1</sub>	RETURN <sub>+2</sub>	RETURN <sub>+3</sub>	ΔROA <sub>+1</sub>	ΔROA <sub>+2</sub>	ΔROA <sub>+3</sub>
TURNOVER	0.003 (0.027)	-0.028 (0.020)	-0.039 (0.035)	0.019 (0.008)*	0.008 (0.021)	0.067 (0.040) <sup>+</sup>
PRIVATE	0.019 (0.029)	0.023 (0.023)	-0.003 (0.045)	-0.004 (0.009)	0.041 (0.024) <sup>+</sup>	-0.033 (0.051)
PRIVATE* TURNOVER	0.161 (0.059)**	-0.008 (0.047)	0.238 (0.094)*	0.012 (0.018)	-0.037 (0.048)	0.721 (0.107)**
MAJORITY	0.016 (0.016)	0.019 (0.013)	-0.021 (0.022)	0.001 (0.005)	-0.004 (0.013)	0.018 (0.025)
MAJORITY* TURNOVER	0.029 (0.037)	0.012 (0.028)	0.140 (0.049)**	-0.009 (0.011)	-0.001 (0.028)	-0.076 (0.056)
Observations	1,535	743	274	1,506	731	269
R-squared	0.04	0.02	0.06	0.01	0.01	0.21

Note: Standard errors in parentheses.

Source: See Table 1.

<sup>+</sup> Significant at 10-percent level.

\* Significant at 5-percent level.

\*\* Significant at 1-percent level.

turnover-performance link. Finally, listed firms appear to experience greater performance improvement after the replacement of their CEOs, when the firms are privately controlled or have a majority controlling shareholder. Consistent with the “law and finance” approach to corporate governance and the literature on economic transition, these findings suggest that any fundamental improvement in China’s corporate governance will require a broad program that encompasses not only privatization, but also effectively enforced laws that provide better protection for investors.

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