

Policy Burdens, Firm Performance, and Management Turnover : Some Empirical Evidence from China¹

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Abstract

Lin, Cai, and Li (1998) argue that under information asymmetry, SOE managers can use state-imposed policy burdens as excuses of poor performance and make the State accountable for it. The argument implies that turnover-performance sensitivity of SOEs decreases as policy burdens increase and that such impact depends on the extent of information asymmetry. Accordingly, this paper empirically explores how policy burdens affect top management turnover of Chinese listed firms between year 2000 and 2005. We find that surplus labor significantly reduces the sensitivity of chairman turnover to performance for state-controlled firms, while private firms do not exhibit such a pattern. Furthermore, our results show that surplus labor reduces the turnover-performance sensitivity more for firms with greater information asymmetry. Overall, we find strong evidence supporting the implications of Lin, Cai, and Li (1998). In addition, we also find that chairman turnover of Chinese firms is sensitive to different performance measures for state-controlled firms and private firms.

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1. Introduction

China started to switch from planned economy to market economy in 1978. After 30 years of gradual transition, the Chinese economy is now one of the greatest and most vital in the world. The success of transition relies greatly on reforms of state-owned enterprises (henceforth SOEs). To improve the efficiency of SOEs, the Chinese government partially privatized a large number of SOEs and listed them in two stock exchanges in Shanghai and Shenzhen. The government, however, still manages to control, directly or indirectly, the majority of the listed firms as the largest shareholder. As a result, these state-controlled listed firms often have to bear policy burdens imposed by the State, such as redundant workers and the persistence of price distortions (Lin and Tan, 1999). Such policy burdens are considered to be the cause of soft-budget constraint problems (Lin, Cai, and Li, 1998).

SOEs incur losses from bearing policy burdens. But the information asymmetry between the State and SOE managers makes it very difficult for the state to distinguish between the policy-induced losses and the operational losses of SOEs. Thus, the managers can use the policy burdens as excuses of poor firm performance and make the State accountable for it, even if the losses are due to managerial discretion (Lin, Cai, and Li, 1998).³ The argument has very interesting implications. First, without perfect information, the State has to consider both types of losses when evaluating managerial performance. Thus, the turnover-performance sensitivity of managers will be reduced. Second, with less information asymmetry, the State can better distinguish the policy-induced losses from losses incurred by managerial discretion. In this case, the policy burdens are less likely to reduce the turnover-performance sensitivity.

In this paper, we attempt to test the implications of Lin, Cai and Li (1998). Specifically, we explore how policy burdens affect top management turnover-performance sensitivity of Chinese listed firms. Furthermore, we examine whether or not the influence of policy burdens depends on information asymmetry between the State and the managers. To our best knowledge, we are unaware of any literature that empirically examined how policy burdens affect managerial turnover-performance sensitivity.

China's listed firms are suitable for the purpose of this study because of the following reasons. Firstly, Chinese SOEs tend to bear substantial policy burdens. Li and Xu (2001) estimate the average labor redundancy of Chinese SOEs to be 23.5% during the 1993 to 1996 period. The study by Dong and Putterman (2003) finds that the labor redundancy is even higher, about 44% in the years from 1991 to 1994. Secondly, the state government is still the ultimate controller of most listed firms, so it can influence the appointment of management directly or indirectly. Chen, Fan, and Wong (2002) find evidence suggesting that the intervention from Chinese local government can jeopardize the professionalism of board of directors. Thirdly, with typically high ownership

³ In their Chinese publication of 2004, Lin and Li further develop a theoretical model that shows under information asymmetry, policy burdens will lead to moral hazards of SOE managers.

concentration and low managerial ownership, both types of agency problems are acute in Chinese listed firms. In the absence of a strong investor protection and efficient external monitoring mechanism, internal discipline mechanisms to remove incompetent managers are particularly important for shareholders. Lastly, China is also interesting because it has is the greatest transition economy, and therefore, a fast growing importance to the world.

Consistent with Dong and Putterman (2003) and Bai, Lu, and Tao (2006), we use surplus labor as a proxy for policy burdens, and examine its impact on company chairman turnover for the years from 2000 to 2005. We do not follow the classical literature (e.g. Huson, Parrino and Starks, 2001) to examine CEO turnover, since a Chairman in China is an executive position and has the highest rank in the Chinese corporate hierarchy.

Our results show: (1) Chairman turnover is sensitive to different performance measures for state-controlled firms and private firms. For state-controlled firms, chairman turnover is reversely sensitive to all four performance measures including ROE, ROA, Growth of ROE and Growth of ROA, while it is sensitive only to ROE and ROA for private firms; (2) Surplus labor does not influence company chairman turnover directly; (3) Surplus labor significantly reduces the sensitivity of chairman turnover to performance in the sample of state-controlled firms, while private firms do not have such a pattern; and (4) Surplus labor reduces the turnover-performance sensitivity more for smaller and indirectly-controlled state firms.

Overall, our findings provide strong support for the implications of Lin, Cai, and Li (1998). Our results indicate that the dual roles of state-controlled firms in China cause managerial turnover decisions by the state to deviate from standards of firm performance. We find that policy burdens significantly reduce the turnover-performance sensitivity of state-controlled firms. Policy burdens seem not to be a direct factor affecting managerial turnover, but a factor affecting the evaluation of firm performance by the State. Furthermore, when the information asymmetry between the State and managers is higher, policy burdens reduce the turnover-performance sensitivity more. Our results suggest that removing policy burdens and increasing information disclosure in state-controlled firms can align managerial incentives better and improve firm value.

Our findings relate to the large body of literature in soft budget constraints. SOEs bargain with the state for ex ante policy favors or ex post administrative assistance (Kornai, 1986). The problem often continues to exist even after SOEs are privatized (World Bank, 1996, p.45). Lin, Cai, and Li (1998) argue that soft budget constraints arise from various state-imposed policy burdens. They argue that removing policy burdens can provide sufficient information about managerial performance of SOEs and make managers' incentives more compatible. However, there is little empirical evidence in the literature about how policy burdens affect managerial incentives of SOEs. This paper fills in the gap by specifically examining the impact of policy burdens on turnover-performance sensitivity. Our findings support the argument of Lin, Cai, and Li (1998) in that policy burdens significantly reduce the turnover-performance sensitivity of a company chairman.

Our paper also contributes to the international literature in management turnover. Extant empirical

evidence indicates that poor performance precedes forced turnover in all major markets in the world, such as the U.S. (Huson, Parrino and Starks, 2001), the U.K. (Conyon and Florou, 2002), Japan (Kaplan, 1994a), and Germany (Kaplan, 1994b). Existing literature also finds that the important factors to affect management turnover include law enforcement (DeFond and Hung, 2004), large outside shareholders (Kang and Shivdasani, 1995), top management shareholdings (Goyal and Park, 2002), the proportion of non-executive directors (Suchard, Singh and Barr, 2001), and separation of the chairman and CEO positions (Goyal and Park, 2002), etc. However, studies on managerial turnover in China have been unexplored. Groves et al. (1995) find that managerial turnover in non-listed SOEs is negatively related to performance in the 1980s. Two more recent papers (Firth, Fung, and Rui, 2006; Kato and Long, 2006) also examine turnover-performance sensitivity of Chinese listed firms for the period of 1998 to 2002 and find that management turnover is statistically sensitive to firm accounting performance.

Our paper contributes to the management turnover literature by examining a new perspective of the research, the influence of policy burdens. This new line of research is particularly meaningful for transition economies like China's. Moreover, we test if the impact of policy burdens on turnover-performance sensitivity differs with the extent of information asymmetry. Lastly, we find that managerial turnover of state firms and private firms are sensitive to different performance measures in China. We construct performance measures that are consistent with stipulations of state regulations, which no other related studies have considered.

The remainder of this paper proceeds as follows. In the next section, we provide the background information for policy burdens and performance evaluation of Chinese SOEs. Testable hypotheses will be developed in Section 3, followed by the discussion of our data and research design in Section 4. Then, we present our empirical findings in Section 5. Section 6 concludes.

2. Background Information

In order to well understand the paper's motivation and methodology, this section provides the background information for policy burdens and performance evaluation of Chinese SOEs.

2.1. Policy Burdens of Chinese SOEs

Since 1949, China chose to develop a planned economy system of the former Soviet type. Chinese SOEs typically bear three types of policy burdens: Retirement pensions and other welfare costs, redundant workers, and the persistence of price distortions (Lin, Cai, and Li, 1998). Beginning from the late 1970s, China has undergone a series of economic reforms to restructure its SOEs. As a result, SOE managers have gradually gained autonomy in operating, investing, and financing decisions. Despite increasing autonomy, many SOEs are still inheriting the policy burdens from the pre-transition system.

In earlier years, SOEs had to bear all retirement pensions and other welfare costs of employees. As China establishes and improves its social security system, retirees of Chinese SOEs can now depend more on local social security systems for their pensions. Moreover, SOEs often provide a

broad range of social services, such as hospitals and schools. Nowadays Chinese listed SOEs typically do not have to bear such costs directly. Listed firms in China are encouraged to divest such non-operating assets. A common practice is to transfer such assets to its non-listed controlling shareholder.

The State has been hesitant to allow SOEs to lay off their surplus labor due to the following three reasons. First, for a very long period, SOEs have been adopting a low wage policy, which in nature attaches an implicit contract for riskless employment. Second, the high population of China puts a great pressure on employment. The state government treats employment and social stability as important measures of local governments' performances. The competition between local governments drives them to limit layoffs by the SOEs under their governance. Third, the social security system of China is still immature and often fails in providing sufficient unemployment aids. Severe unemployment and poor social security provision can cause social instability and damage the whole economy (Bai, et al, 2005). In the 1990s, the estimated average labor redundancy of Chinese SOEs ranges from 23.6% (Li and Xu, 2001) to 44% (Dong and Putterman, 2003). Compared to typical SOEs, state-controlled public firms usually are more profitable and have access to more resources, so they are expected to share even more burdens for the state. In particular, listed firms controlled by local government face more pressure in hiring redundant workers since creating employment is one of the major objective of local governments.

Since the economic reforms in 1978, the State has relaxed restrictions on most products. However, output prices in certain industries, such as the energy industry, are still highly regulated. Firms in these industries are unable to change their output prices unless approved by the State. Most listed firms in such industries are ultimately controlled by the State and the policy burdens can be very heavy for these firms. A well-known case is PetroChina, an oil company in China. As the price for crude oil surges, the company suffers greatly for its refining business, in that they have to sell petro chemical products at regulated prices, currently even lower than their costs.

2.2. Performance Evaluation of Chinese SOEs

There are two types of SOEs: SOEs controlled by the central state government and SOEs controlled by local governments. The central state government usually controls only super large firms or SOEs of strategic importance. For the rest of the SOEs, the central government released the power of control to local governments as economic reforms deepened.

The basis for the appointment and dismissal of SOE managers is more than an evaluation of performance. Chinese SOEs pursue dual goals during their operations. On the one hand, they need to achieve good performance to ensure the appreciation of state-owned assets. On the other hand, SOEs have to bear the state-imposed policy burdens to maintain social stability and improve employment. Such dual goals often conflict with one another. As a result, the evaluation of SOE managers' performances reflects these goals.

The Chinese central government has two sets of important regulations in the performance evaluation of SOE managers. In June 1999, the Ministry of Finance, the state Economic and Trade

Commission, the Ministry of Personnel, and the state Development Planning Commission jointly promulgated “the Regulations for the Performance Evaluation of State-Owned Capital” (henceforth, the Regulation). The second set of regulations, “the Temporary Methods for Operating Performance Evaluation of Principals in Central Enterprises” (henceforth, the Method), was declared by the State-Owned Assets Supervision & Administration Commission in November 2003. Following the spirit of these regulations, local governments made their corresponding versions of policies for the performance evaluation of local SOEs.

The two sets of regulations include the following important features: (1) ROE and ROA are the two most important measures of evaluation. As specified in the Regulation, ROE and ROA are two basic measures of financial conditions and have the largest weights⁴ in the final score of evaluation. According to the Method, ROE is one of the two basic measures of yearly performance evaluation and ROA is one of the key measures in its category; (2) The targets set for the performance comparison and evaluation shall consider the industry and history of firms; and (3) Although the evaluation is based mainly on quantitative analysis, other qualitative factors are considered as well. The feature leaves room for bargaining between the State and managers. For instance, the Regulation specifies “with approval, the evaluation can be made mainly by qualitative analysis if the firm operations are affected by objective factors in a relative high degree.” Moreover, the Method requires an index of operation difficulty to be reflected in the final evaluation score. The index is determined by total assets and the average number of staff and workers, etc. According to this specification, the extent of surplus workers is likely to affect the index of operations difficulty and the final evaluation score. Furthermore, the evaluation score can be used as “a reference of management appointment and dismissal.” Overall, the specifications in the two sets of regulations leave a great deal of room for SOE managers to use policy burdens as excuses, and to shirk the responsibility of poor performance.

3. Hypotheses Development

Based on the introduction and background description in the previous two sections, now we are about to develop four hypotheses in this Section 3 and will test them in Section 5.

The majority of Chinese listed firms are still controlled directly or indirectly by the State (Lin and Zhu, 2001). As a result, the State makes the final decision about the appointment and dismissal of the management of state-controlled listed firms. Due to the dual goals of these listed firms, they incur the losses of policy burdens. While the State needs to consider the impact of such policy burdens when evaluating managers, information asymmetry makes the State unable to differentiate between the losses caused by policy burdens and the losses incurred by managerial discretion, and, therefore, is unable to determine the exact losses caused by policy burdens. As a result, the State has to consider all losses when adjusting the performance evaluation score of managers. In this case, the managers can use policy burdens as excuses to shirk their responsibility and obtain a higher retaining probability, even if the losses are incurred by their poor decisions. Therefore, we would like to test the first hypothesis as follows:

⁴ Among the four aspects of conditions specified in the Regulation to evaluate, the weight of financial conditions is 42%, while conditions of asset operation, conditions of solvency and conditions of development ability have weights of 18%, 22% and 18% respectively.

Hypothesis 1: For state-controlled firms, policy burdens reduce managerial turnover-performance sensitivity.

Private-controlled firms face a different situation. First of all, as independent entities, they bear much less policy burdens. In addition, there is usually a negotiation process between the State and firms when determining the compensation for the policy burdens imposed. Thus, policy burdens do not have much of a negative impact on the performance of private-controlled firms. Second, shareholders of private firms only care about their returns on the firms. Even if the firms do not receive enough compensation from the State for bearing policy burdens, they usually do not take policy burdens into consideration when evaluating management performance. So managers can hardly use policy burdens as excuses for their lackluster poor performance. Therefore, we would like to test:

Hypothesis 2: Policy burdens have less impact, if any at all, on turnover-performance sensitivity of private-controlled firms than on that of state-controlled firms.

The information asymmetry between the State and managers is the key to understand how policy burdens can affect turnover-performance sensitivity of SOE managers. When the information asymmetry is low, it is easier for the State to decide whether losses are induced by policy burdens and it is harder for managers to shirk responsibility for poor performance caused by their own discretion. In this case, policy burdens tend to reduce turnover-performance sensitivity to a smaller extent. When the information asymmetry is high, it is easier for managers to use the policy burdens as excuses for poor performance and to make the state accountable for it, even if the losses are due to managerial discretion (Lin, Cai, and Li, 1998). In this case, policy burdens are likely to reduce turnover-performance sensitivity in a greater extent. In this paper, we use firm size and method of state control⁵ as proxy of information asymmetry.

Firm size is one proxy for information asymmetry for the following two reasons. First, large firms receive more attention from the capital market (Breman and Hughes, 1991) so that they are more transparent than small firms. Second, large firms also tend to voluntarily disclose more information (Chow and Wong, 1987). Therefore, the greater the firm size is, the lower the information asymmetry between the State and managers. Therefore, we would like to test:

Hypothesis 3: Policy burdens reduce turnover-performance sensitivity of state-controlled firms more for small firms than for large firms.

We use the method of state control as another proxy to information asymmetry between the State and managers, as the State has more information about the firms they control directly. The more layers there are between the State and firms, the weaker is the control of the State (Fan, Wong, and Zhang, 2005). Therefore, compared with firms directly controlled by the State, managers of firms indirectly controlled by the State have more flexibility in decisions. With less direct

⁵ The method of state control measures if the firm is directly controlled by the state or indirectly controlled by the state. If there is no intermediate layer of control between the state and the firm, we define it as direct control. If there is at least one intermediate layer of control, we define it as indirect control.

participation in operations, the State faces a higher information asymmetry. Therefore, we would like to test:

Hypothesis 4: For state-controlled firms, policy burdens reduce turnover-performance sensitivity more for indirectly controlled firms than for directly controlled firms.

4. Data and Research Design

4.1. Data and Sample Selection

We obtain data of chairman turnover, number of employees, financial measures, and characteristics of boards of directors from the CSMAR dataset. Ownership structure, the nature of ultimate controller, and industry data are from the CCER dataset. Moreover, we hand-collected data of chairman age, chairman tenure, the level of ultimate state controller⁶ and method of state control from annual reports and company websites.

We start from an initial sample of 7,314 firm-year observations of the years 2000 to 2005 for non-financial A share listed firms in China. As shown on Table 1, we eliminate observations according the following steps.

First, the CCER dataset classifies the ultimate controller of listed firms as state, private entity, foreign investment, collective entity, social entity and employee holding entity. We exclude the latter four types of controllers from our study since the nature of such ownership is complex.⁷ Observations missing the ultimate controller are also excluded. Furthermore, we eliminate firms ultimately controlled by the central state government due to the fact that central state firms do not typically bear as many redundant workers as local state firms. In total, we exclude 1,807 firm-year observations, or about 24.7% of the initial sample.

Second, firms with negative shareholder equity or with no operating income are more likely to be in financial distress, and they are unable to adjust their scale of employment correspondingly. To avoid distortion in the calculation of surplus labor, we eliminate 148 observations (about 2%) with negative shareholder equity or without operating income.

Third, since our study investigates the sensitivity of managerial turnover to firm performance, turnover caused by non-performance factors create significant noise to our analysis. Therefore, we exclude 124 observations of chairman turnover due to change of controlling shareholder, involvement in law suit, health, retirement and promotion⁸, about 1.7% of the initial sample.

⁶ The level of ultimate state controller measures if the ultimate controller is a local government or the central state government.

⁷ The CCER dataset defines the ultimate controller of firms controlled by institutions of higher education, science and research institutions and the Xinjiang Production and Construction Corps as state. However, these entities are in nature not different from social entity defined in the dataset. Therefore, we also eliminate these observations from our analysis.

⁸ The CSMAR dataset does not include disclosure about causes of chairman turnover for some observations. We checked related public announcements or did search using Baidu.com to trace the chairman after his turnover.

Fourth, due to the lag between performance evaluation and actual turnover, we need to examine the relationship between chairman turnover and managerial performance of the previous year. So we eliminate 1,787 observations (about 24.4%) with chairman tenure of less than two years.

Fifth, we further exclude 384 observations (about 5.3%) with abnormal disclosure of the number of employees. We use two standards to measure the abnormal disclosure: (1) Current or previous disclosure of the number of employees is less than 200. Chinese listed firms are not likely to have less than 200 employees. Disclosures with less than 200 probably count in employees in their headquarters only.⁹ 322 observations are eliminated by this standard; (2) The average salary of the current or the previous year, calculated by the number of employees and total salary and compensation, is less than 1% or greater than 99% of the whole sample.¹⁰ 62 observations are eliminated according to the second standard.

Finally, we eliminate 42 observations (about 0.6%) missing important variables, such as the ratio of independent directors and the first ten largest shareholdings.

In summary, we include 3,022 firm-year observations in the final sample, about 40% of the initial sample. In the final sample, there are 2,407 observations of state-controlled firms, among which 1,920 observations are indirectly controlled by the State and 487 observations are directly controlled.¹¹ The rest of the 615 observations are private-controlled firms.

4.2. Measures of Important Variables

4.2.1. Measure of Top Management

Existing literature typically defines a CEO as the representative of top management. However, there is no such title in most Chinese listed firms. There is not yet an agreement about which position in China is equivalent to CEO. The dispute is mainly between “chairman” and “general manager.” We define a chairman as the CEO of Chinese listed firms and investigate the turnover of company chairman for the following four considerations. First, the Chinese corporate law stipulates that a chairman is the legal representative of the company. Second, most chairmen are appointed by controlling shareholders. Because of the highly concentrated ownership structure in China, chairmen typically have the highest authority in firms and they can intervene with decisions of daily operations by general managers (Kato and Long, 2006). Third, when the China Securities Regulatory Commission (henceforth CSRC) required the separation of chairman and general manager position, most corporate leaders with dual position chose to keep their position of chairman. Lastly, chairmen bear more responsibility than general managers when their firms are punished by the CSRC for any violation of regulations.

⁹ We also adopt a standard of 150 or 250 and it does not change our results significantly.

¹⁰ The 1% percentile and 99% percentile of the whole sample (excluding observations with less than 200 employees) are 3,247.54 and 228,664 RMB respectively. We also adopt the standard of 5% and 95% to define the abnormal disclosure, and it also does not affect our results significantly.

¹¹ If the largest shareholder of the firm is a government agency or a state-asset management company, we define it directly controlled by the state. If the largest shareholder is a state-controlled company, we define it indirectly controlled by the state.

4.2.2. Measure of Policy Burdens

Following the literature (Dong and Putterman, 2003; Bai, Lu, and Tao, 2006), we adopt surplus labor as the proxy for policy burdens. We feel it is a good proxy for firm's overall level of policy burdens for the following two reasons: (1) Surplus labor is one of the most typical policy burdens in China. Unemployment has been a concern of priority for local governments; (2) Many other policy burdens are highly correlated with labor surplus. For instance, retirement welfare and provision of hospital and schools are based on the scale of a firm's total employment. Moreover, to maintain social stability, local governments often request listed firms to acquire other insolvent SOEs and accept all of their workers. Such policy burdens will ultimately increase the surplus labor of listed firms.

We estimate surplus labor percentage using a similar method to Bai, Lu, and Tao (2006). Bai, Lu, and Tao (2006) consider the number of employees per unit sales above its industry average to be surplus labor. We follow their logic and use total assets instead of sales. Our method of using total assets can potentially get more accurate estimates, since the sales of Chinese listed firms fluctuate to a much larger extent than assets while total employment maintains relative stable. Our formula to estimate surplus labor percentage is as follows:

$$Exemprate_i = (Employ_i - Indemp \frac{Asset_i}{Indasset}) / Employ_i$$

where Exemprate is surplus labor percentage, Employ is the number of employees, Asset is total asset, Indemp is the industry¹² average number of employees and Indasset is the industry average assets.

Since surplus labor is a common problem for Chinese firms, the estimates of surplus labor by such a method tend to underestimate the level of surplus labor for the whole sample. That is to say, the estimate of surplus labor in this paper is a relative measure of the extent of surplus labor and it has no economic meaning about the absolute level of labor surplus by itself. To reduce the impact of outliers and data errors, we winsorize Exemprate at 1% and 99% of the sample.

4.2.3. Measures of Accounting Performance

Following extant studies¹³ and the regulations¹⁴ of the Chinese government, we select ROE, ROA, Growth of ROE and Growth of ROA as measures of firm performance. Specifically, the regulations stipulate ROE and ROA as two basic measures of financial conditions. Moreover, the regulations require the performance evaluation to reflect the targets of all measures, which are determined mainly by historical levels. Our measures of growth of ROE and ROA comply with such prescription.

¹² The industries are classified by the CSRC standards. Manufacturing industries are classified by first two-digit industry code (composed of one letter and one digit) and other industries are classified by the first letter.

¹³ Chen and Wang (2006); Firth, Fung, and Rui (2006); Kato and Long (2006).

¹⁴ The related regulations of the central government are "the Regulations for the Performance Evaluation of State-Owned Capital" and "the Temporary Methods for Operating Performance Evaluation of Principals in Central Enterprises".

We calculate ROE as the ratio of net income to average shareholder equity¹⁵ as specified in the regulations. ROA is constructed as the ratio of sum of operating income and interest expenses to average total assets.¹⁶ Then we adjust the performance measures by industry medians. Such adjustment provides relative performance measure to their peers and mitigates the econometrics problem of mean reversal caused by the difference in long-term performance of industries (Huson, Parrino, and Starks, 2001). Lastly, to exclude the effects of extreme values,¹⁷ we winsorize all four industry-adjusted performance measures at 1% and 99%.¹⁸

4.2.4. Model Specification

To examine how policy burdens affect managerial turnover-performance sensitivity, we construct the following Logit model.

$$\begin{aligned} \text{Ln} \frac{\text{Prob}(\text{Turnover}_{it} = 1)}{1 - \text{Prob}(\text{Turnover}_{it} = 1)} = & \alpha + \beta_1 \text{Perf}_{it-1} + \beta_2 \text{Burden}_{it-1} + \beta_3 \text{Burden}_{it-1} \times \text{Perf}_{it-1} + \beta_4 \text{First}_{it} + \beta_5 \text{Equil}_{it} \\ & + \beta_6 \text{Dual}_{it} + \beta_7 \text{Indratio}_{it} + \beta_8 \text{Age}_{it} + \beta_9 \text{Tenure}_{it} + \beta_{10} \text{Size}_{it} + \beta_{11} \text{Lev}_{it} \\ & + \sum_{j=1}^5 \gamma_j \text{Year}_{itj} + \varepsilon_{it} \end{aligned}$$

Turnover is the dummy variable for chairman turnover in the year. If the turnover happens, turnover is set to 1. Otherwise turnover is equal to 0. **Perf** is a measure for firm performance. As described above, we adopt ROE, ROA, Growth of ROE or Growth of ROA after adjusting for its industry median. Since there is a lag between firm performance and resulting turnover, we use the firm performance measures of the previous year. We predict the coefficient of Perf to be negative, i.e., a chairman is more likely to be replaced if firm performance is poor. **Burden** is surplus labor percentage. We also use its one-year lag in the regression. Since the measures of performance evaluation specified in the regulations do not include surplus labor directly, we do not expect the coefficient of Burden to be significant in any direction. **BurdenXPerf** is the interaction term between Burden and Perf, to examine if policy burdens have any impact on the turnover-performance sensitivity. To avoid a multi-linearity problem, we centralized both variables in the interaction term. According to Hypothesis 1, we expect the coefficient of the interaction term to be positive for state-controlled firms. Hypothesis 2 predicts the coefficient for private-controlled firms to be insignificant or positive but with much less significance than state-controlled firms. Moreover, Hypothesis 3 and 4 anticipate that the coefficient is more significant (and positive) for smaller or indirectly controlled state firms.

Control Variables are defined as folloes. **First** is the largest percentage shareholding. A chairman

¹⁵ The average is defined in the regulations as the arithmetic average of period beginning and period end.

¹⁶ The calculation of ROA is slightly different from the specification of the regulations. Instead of the sum of net income and interest expense specified in the regulations, we use the sum of operating income and interest expense to be consistent with the literature. We tried to use net income and it does not have significant impact on our results. We also tried the interest expenditure measure provided by the WIND dataset and did not find significant change in our results.

¹⁷ There are many extreme observations for the performance measures, in particular for ROE.

¹⁸ In the following analysis, we set all observations less than 1% percentile of the measures to the 1% percentile and set all observations greater than 99% percentile of the measures to the 99% percentile. Nevertheless, using the measures winsorized by year or without winsorizing does not significantly hange our empirical results.

is usually the representative for the largest shareholder. The higher the shareholding, the stronger the control of the largest shareholder, and the lower the probability of turnover. Thus, we predict a negative coefficient for **First**. **Equil** is the sum of squared percentage holdings of the second to the tenth largest shareholders. **Equil** is a measure for ownership concentration of smaller shareholders. The greater **Equil** is, the better the governance is and the less likely a poor chairman is to be retained. Its coefficient is expected to be positive. **Dual** is the dummy variable measuring if company chairman and general manager is the same person. We predict its coefficient to be negative since a chairman is harder to be replaced if he has more power in the firm. **Indratio** is the percentage of independent directors. Independent directors can strengthen the governance of the board and, therefore, increase the probability of replacing an incompetent chairman. So its coefficient shall be positive. **Age** is the age of the chairman. In general, the older a chairman is, the more likely he is to be replaced. Therefore, we expect the coefficient of age to be positive. **Tenure** is the tenure of chairman up to the year. There is no clear prediction about the sign of its coefficient in the literature. **Size** is firm size and **Lev** is firm financial leverage. They are basic financial characteristics of firms. **Year** is the year dummy variable to control for the impact of macro economic environment on managerial turnover. We set five year dummy variables for the period between 2000 to 2005.

Finally, to avoid biases caused by clustering observations, we report estimates adjusted for clustering effects for all models.

5. Empirical Findings

5.1. Summary Statistics

As shown in Table 3, the turnover rate of chairman is 16.1% between 2000 and 2005. The number is lower than the 24% turnover rate in Kato and Long (2006) and much lower than the 40% turnover rate in Firth, Fung, and Rui (2006). The different estimate arises from differences in definition of top management, sample selection process, and sample periods. In our sample, 14.6% chairmen are holding the position of general manager at the same time. On average, chairmen are around 50 years old and have worked in the position for about four years.

Reported surplus labor percentage and four accounting measures are winsorized and industry-adjusted. The growths of ROE and ROA have only 2,719 and 2,722 observations due to negative shareholder equity and missing variables. The largest shareholding of the sample has a mean of 43.5% and median of 42.7%, indicating high ownership concentration. Independent directors are on average 24.6% of total directors. **Equil** is relatively small, with a mean of 0.017 and a median of 0.004, suggesting the dominance of the largest shareholders.

We also present correlation analysis of all variables in Table 4. The analysis indicates that, except between four performance measures, correlations between most variables are not high. Therefore, our regression analysis should not have severe problems of multi-collinearity.

5.2. Surplus Labor and Chairman Turnover for State-Controlled Firms

The multi-variable logistic regression results for state-controlled firms are reported in Table 5. We construct the regressions to test Hypothesis 1. The dependent variable of the regressions is chairman turnover. We run two regressions for each of the four accounting performance measures. The first regression does not include the interaction term between surplus labor percentage and performance measure but the second regression does. There are 2,407 observations for each of the Model 1 to 4; 2,169 observations for Model 5 and 6; and 2,172 observations for Model 7 and 8.

As shown in the Table 5, we find that in Model 1, chairman turnover is reversely related to ROE with a coefficient of -2.959 and Z statistics of -5.7. The results suggest that if the ROE of a state-controlled firm is 1% higher than its peers, its chairman will have about 3% lower probability of being replaced. In Model 2, we introduce into the regression the interaction term between surplus labor percentage and ROE. ROE still significantly reduces the probability of chairman turnover and **BurdenXPerf** is positively associated with chairman turnover with a coefficient of 0.596 and Z statistics of 1.75. The positively significant coefficient of the interaction term suggests that, given the same negative ROE, the greater the surplus labor percentage, the smaller the probability of chairman turnover. Therefore, high surplus labor will reduce the probability of chairman turnover when performance is poor, and will lead to lower turnover-performance sensitivity.

Overall, coefficients of all performance measures are significant and negative at 1% level, suggesting the chairman turnover of state-controlled firms is very sensitive to performance. The findings are consistent with the stipulations of the regulations from the Chinese government, in that both ROE/ROA and their historical levels are reflected in final turnover decisions. Our policy burden measure, surplus labor percentage, does not appear to significantly affect the final turnover decisions in any of the eight models. The interaction terms, **BurdenXPerf**, have positive coefficients and are significant for three of the four models. This is to say, given the same performance measure, the larger the surplus labor is, the smaller negative impact the performance measure has on chairman turnover. In general, our results provide support for Hypothesis 1, i.e., policy burdens reduce managerial turnover-performance sensitivity for state-controlled firms

Moreover, we find that the coefficients of the largest shareholding and independent directors are not significant in all eight models. The results imply that actual holdings do not matter in deciding chairman turnover, as long as the state has the final word on the decision. The insignificance of independent directors in the regressions reflects the ineffectiveness of governance in the boards of state-controlled firms. The coefficients of Equil are positive and significant at 1% or 5% level in regressions, indicating that the higher the concentration of smaller shareholders, the more sensitive the chairman turnover is to performance. The estimates for Dual are in line with our prediction, with negative coefficients significant at 1% level in all models. The findings support the argument that when a chairman holds the position of general manager as well, it is harder to replace him. The estimates of Age indicate that the older a chairman is, the easier he is to be replaced. We also find that the tenure of a chairman significantly reduces his probability of turnover, supporting the theory that the tenure of a chairman increases his control of the firm. Lastly, our results suggest that larger firms tend to have a lower probability of chairman turnover, and more levered firms are

more likely to have chairman turnover.

5.3. Surplus Labor and Chairman Turnover for Private-Controlled Firms

We estimate the same models as in Table 5 for private-controlled firms, and present the results in Table 6. We examine how policy burdens affect the turnover-performance sensitivity of private firms. There are 615 observations for each of Model 1 to 4, and 550 observations for Model 5 to 8.

We find chairman turnover of private firms is still very sensitive (negative and significant at 1% level) to ROE and ROA. The results suggest that if the ROE (ROA) of a private-controlled firm is 1% higher than its peers, its chairman will have about 2.5% (7.6%) lower probability of being replaced. However, the coefficients of ROE growth and ROA growth are no longer significant. Such findings are interesting, in that private firms seem to have different performance evaluation measures from state-controlled firms. Our explanation is that private firms have different incentives and they do not have to obey the regulations set for state firms. Moreover, coefficients for **BurdenXPerf** are negative and no longer significant in all four models. Our findings are consistent with Hypothesis 2, suggesting that policy burdens borne by private firms do not affect their turnover-performance sensitivity.

Different from the results in Table 5, we find the coefficients of the largest shareholding are negative and significant at 5% level in all eight models. The results indicate that higher holdings of the largest shareholder in private firms strengthen the control power of chairman, and reduce his probability of being replaced. Chairman age, firm size, and financial leverage are all found to have the same pattern in private firms as in state-controlled firms. Also, we find that older chairman have a greater probability of being replaced, larger firms have less frequent chairman turnover and more levered firms are more likely to replace their chairmen.

5.4. Information Asymmetry, Surplus Labor and Turnover-Performance Sensitivity

We adopt firm size and method of state control as two proxies for information asymmetry between the State and managers. To test Hypothesis 3, we divide state-controlled firms into two groups by the median firm size of the sample¹⁹ and examine the relationship of surplus labor with turnover-performance sensitivity in the two subsamples. We estimate Model 2, 4, 6 and 8 of Table 5, respectively, for each group of firms. Estimated results are reported in Table 7.

We find that small state-controlled firms are significantly sensitive to all four performance measures, while large firms are sensitive only to ROE and ROA. Moreover, coefficients of **BurdenXPerf** for small firms are positive in all four models and significant in three models (except for ROA). Nevertheless, for the group of large firms, coefficients of the interaction term are not significant in any models, and even negative in one model (ROA). The results indicate that surplus labor reduces the turnover-performance sensitivity more for small state firms. Therefore, our findings provide strong evidence supporting Hypothesis 3.

¹⁹ We further divide the small firms into two groups by median firm size of the small firms and find very similar patterns to the table 7.

We further examine how surplus labor affects turnover-performance sensitivity for State firms under a different control method. Similarly, we divide state-controlled firms into two groups by method of state control, i.e., direct control and indirect control. We end up with a group of 487 directly controlled firms and a group of 1,920 indirectly controlled firms. Table 8 presents the estimation results of Model 2, 4, 6 and 8 for the two subsamples. As shown in Table 8, for the subsample of indirectly controlled state firms, coefficients of **BurdenXPerf** are positive in all four models and significant in three models (except for ROA). Differently, for the subsample of directly controlled state firms, coefficients of the interaction term are not significant in any models, and even negative in three models. The results show that surplus labor reduces the turnover-performance sensitivity more for indirectly controlled state firms. The findings are consistent with the hypothesis 4.

Overall, we find the impact of surplus labor on managerial turnover-performance sensitivity significantly depends on both proxies of the information asymmetry. Our results are supportive of the implication of Lin, Cai and Li (1998) that policy burdens reduce the turnover-performance sensitivity more for SOEs with higher information asymmetry.

5.5. Robustness Checks

To test if our empirical findings are robust to other measures of surplus labor, we re-estimate all models using surplus labor per unit assets, which is calculated by the following model:

$$Empas_{it} = \alpha + \beta_1 Size_{it} + \beta_2 Grow_{it} + \beta_3 Fixas_{it} + \sum_{t=1}^6 \gamma_t Year_{it} + \sum_{j=1}^{20} \lambda_j Industry_{ij} + \varepsilon_{it}$$

where *Empasis* is the number of employees per unit assets, *Size* is firm size measured by the natural log of operating income, *Grow* is the growth of sales, *Fixas* is the percentage of total assets in fixed assets, *Year* is a year dummy variable and *Industry* is an industry dummy variable classified by CSRC standards. We estimate the model for years 1999 to 2004 to obtain the measure for surplus labor. The fitted values estimated by the model are the expected employees per unit assets and the residual values are estimates of surplus labor per unit assets.

We report estimates of **BurdenXPerf** for all models in Table 9. For state-controlled firms, coefficients of **BurdenXPerf** are positive in all four models and significant in three models (Except for ROA), while **BurdenXPerf** does not appear to significantly affect chairman turnover for private firms. Similarly, for the subsample of small state-controlled firms, coefficients of **BurdenXPerf** are positive in all four models and significant in three models (except for ROA), while coefficients of **BurdenXPerf** are not significant in any models for large state firms. Lastly, **BurdenXPerf** significantly increases the probability of chairman turnover for indirectly controlled state firms in all four models, while for directly controlled SOEs, coefficients of **BurdenXPerf** are positive and significant only in two models. In general, our results estimated using surplus labor per unit assets are not significantly different from our results presented in the previous tables.²⁰

²⁰ We also try to estimate the model for *Empasis* by industry and do not find significant change in our results.

We also use surplus labor per unit sales²¹ or the number employees per unit assets adjusted by industry median to estimate the measure for surplus labor, and still find very similar results to our previous findings.

Since policy burdens and managerial turnovers can have different patterns for regulated industries, such as electricity and water supply industry, we eliminate observations in regulated industries and estimate all models. Moreover, there was a significant accounting change²² effective on Jan. 1, 2001, and it can affect the comparability of accounting information across years in our sample. To address this concern, we also estimate all models for managerial turnovers from 2002 to 2005. Our estimation results show that all patterns we find are robust to the above adjustments in sample size.

Finally, it can be argued that for private firms, the impact of policy burdens on turnover-performance sensitivity can be hardly detected due to their low policy burdens in general. We divide the sample of private firms into two groups by its median surplus labor percentage and set a dummy variable for high policy burdens. Instead of using policy burdens to interact with performance measures, we use the dummy for high policy burdens. The change in methodology does not significantly affect our findings for private firms.

6. Conclusion Remarks

In this paper, we attempt to test the implications of Lin, Cai, and Li (1998). Specifically, using a dataset for Chinese listed firms between the years 2000 and 2005, we test whether or not policy burdens reduce managerial turnover-performance sensitivity of state-controlled firms, and, further, whether policy burdens reduce the turnover-performance sensitivity more for state-controlled firms with greater information asymmetry. We measure Chinese top management by company chairman, policy burdens by surplus labor, and information asymmetry by firm size and method of state control.

We have three sets of interesting findings: (1) Surplus labor significantly reduces the sensitivity of chairman turnover to performance for state-controlled firms, but not for private firms; (2) Surplus labor reduces the turnover-performance sensitivity more for smaller and indirectly controlled state firms, i.e., firms with greater information asymmetry; (3) The determinants of chairman turnover are quite different for state-controlled firms and private firms. In particular, turnover of state-controlled firms is sensitive to ROE, ROA, Growth of ROE and Growth of ROA, while turnover of private firms is sensitive only to ROE and ROA.

Our findings provide strong support for the implications of Lin, Cai, and Li (1998). This is so far the first piece of empirical evidence in the literature about the impact of policy burdens on turnover-performance sensitivity. We contribute to the literature by providing new empirical evidence in the economic consequence of policy burdens. Our paper also adds to the international literature of managerial turnover, in that we empirically test a new important factor, policy burden,

²¹ Instead of using the number of employees per unit assets, we use the number of employees per unit sales for the estimation.

²² The ministry of finance promulgated “Accounting Regulations for Enterprises” on Dec 29th of 2000.

in determining managerial turnover of transition economies. Moreover, we contribute to the managerial turnover literature of China in finding different determinants of chairman turnover for state firms and private firms. In particular, we find that turnover decisions of state-controlled firms are sensitive to four performance measures²³ constructed according to stipulations of state regulations, while private firms are sensitive to ROE and ROA only.

Our findings have wide policy implications. The current literature (e.g. Kato and Long, 2006) finds the managerial turnover-sensitivity of Chinese firms statistically significant, but still not economically important. In addition to existing explanations, such as inadequate legal protection and weak governance, our paper help to understand the economic unimportance of managerial turnover in China from a new angle: policy burdens. The evidence shows that the dual roles of Chinese SOEs cause managerial turnover decisions by the state to deviate from standards of firm performance, and, therefore, result in lower turnover-performance sensitivity. Our results suggest that removing policy burdens can enhance the efficiency of managerial turnover decisions of SOEs, and increasing information disclosure of SOEs can mitigate the negative influence of policy burdens.

²³ The four measures are ROE, ROA, the growth of ROE and the growth of ROA.

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Table 1: Sample Selection Process

	2000	2001	2002	2003	2004	2005	Total
Initial Non-financial Listed Firms	1053	1135	1192	1251	1343	1340	7314
Minus: Not-Selected Ultimate Controller	-280	-303	-300	-308	-308	-308	-1807
	<u>773</u>	<u>832</u>	<u>892</u>	<u>943</u>	<u>1035</u>	<u>1032</u>	<u>5507</u>
Minus: Negative Shareholder Equity or without Operating Income	-14	-18	-18	-23	-33	-42	-148
	<u>759</u>	<u>814</u>	<u>874</u>	<u>920</u>	<u>1002</u>	<u>990</u>	<u>5359</u>
Minus: Turnover due to Law Suit, Health, Retirement and Promotion	-39	-20	-11	-24	-21	-9	-124
	<u>720</u>	<u>794</u>	<u>863</u>	<u>896</u>	<u>981</u>	<u>981</u>	<u>5235</u>
Minus: Chairman Tenure < 2 Years	-291	-313	-299	-293	-338	-253	-1787
	<u>429</u>	<u>481</u>	<u>564</u>	<u>603</u>	<u>643</u>	<u>728</u>	<u>3448</u>
Minus: Abnormal Disclosure of Employees	-59	-66	-62	-58	-61	-78	-384
	<u>370</u>	<u>415</u>	<u>502</u>	<u>545</u>	<u>582</u>	<u>650</u>	<u>3064</u>
Minus: Missing Important Variables	-13	-8	-10	-8	-2	-1	-42
Final Sample Size	<u>357</u>	<u>407</u>	<u>492</u>	<u>537</u>	<u>580</u>	<u>649</u>	<u>3022</u>
By the Ultimate Controller:							
State-Controlled Firms	324	363	408	409	434	469	2407
Private Firms	33	44	84	128	146	180	615

Note: We exclude firms with ultimate controller classified as foreign investment, collective entity, social entity or employee holding entity, and also exclude firms with ultimate controller classified as state, but controlled by institutions of higher education, science and research institutions and the Xinjiang Production or Construction Corps.

Table 2: Variable Definition

Code	Variable	Definition
Turnover	Chairman Turnover	Dummy Variable for Chairman Turnover. If there is a turnover in the year, Turnover is equal to 1. Otherwise, Turnover is equal to 0.
Burden	Surplus Labor Percentage	$(\text{Number of Employees} - \text{Normal Employees Estimated by Average Assets and Employees in the Industry}) / \text{Number of Employees}$
ROE	Industry-Adjusted ROE	$2 \times \text{Net Income} / (\text{Shareholders' Equity of Year Beginning} + \text{Shareholders' Equity of Year Ending}) - \text{Its Industry Median}$
ROA	Industry-Adjusted ROA	$2 \times (\text{Operating Profit} + \text{Financial Expenses}) / (\text{Assets of Year Beginning} + \text{Assets of Year End}) - \text{Its Industry Median}$
Droe	Industry-Adjusted Growth of ROE	Industry-Adjusted ROE- Industry-Adjusted ROE of the Previous Year
Droa	Industry-Adjusted Growth of ROA	Industry-Adjusted ROA- Industry-Adjusted ROA of the Previous Year
Size	Firm Size	Natural Log of Total Assets
Lev	Financial Leverage	Total liabilities/Total Asset
First	The Largest Shareholdings Percentage	The Percentage of holdings by the Largest Shareholder
Equil	Ownership Concentration of Smaller Shareholders	Sum of the Squared Percentage Holdings by the Second Largest to the Tenth Largest Shareholders
Dual	The Same Person in Chairman and General Manager	Dummy variable for dual position. If chairman and general manager are the same person, Dual is equal to 1. Otherwise, Dual is equal to 0
Indratio	Percentage of Independent Directors	Number of Independent Directors/Number of All Directors
Age	Chairman Age	Chairman Age
Tenure	Chairman Tenure	The tenure of chairman in the position.

Table 3: Summary Statistics

Variable Name	No of Obs.	Mean	Median	Std. Dev.	Min	Max
Panel A : Managerial Turnover						
Turnover	3022	0.161	0.000	0.368	0.000	1.000
Panel B : Performance Measures						
Roe	3022	-0.009	0.003	0.113	-0.606	0.229
Roa	3022	0.003	0.003	0.050	-0.169	0.144
Droe	2719	-0.009	-0.002	0.117	-0.546	0.522
Droa	2722	-0.003	-0.002	0.041	-0.144	0.148
Panel C : Policy Burdens						
Burden	3022	-0.403	0.048	1.405	-7.607	0.794
Panel D : Chairman Characteristics						
Age	3022	49.780	50.000	8.233	24.000	80.000
Tenure	3022	4.029	3.000	2.103	2.000	13.000
Panel E : Governance Variables						
First	3022	0.435	0.427	0.168	0.032	0.850
Equil	3022	0.017	0.004	0.026	0.000	0.194
Dual	3022	0.146	0.000	0.353	0.000	1.000
Indratio	3022	0.246	0.333	0.142	0.000	0.667
Panel F : Firm Characteristics						
Size	3022	21.236	21.162	0.817	18.543	24.384
Lev	3022	0.485	0.489	0.178	0.011	0.994

Table 4: Correlations

	Turnover	Roe	Roa	Droe	Droa	Burden	First	Equil	Dual	Indratio	Age	Tenure	Size
Roe	-0.165*** (0.000)												
Roa	-0.147*** (0.000)	0.808*** (0.000)											
Droe	-0.078*** (0.000)	0.606*** (0.000)	0.385*** (0.000)										
Droa	-0.057*** (0.000)	0.431*** (0.000)	0.445*** (0.000)	0.739*** (0.000)									
Burden	0.041** (0.023)	-0.062*** (0.001)	-0.051*** (0.005)	0.008 (0.682)	0.002 (0.924)								
First	-0.061*** (0.001)	0.072*** (0.000)	0.095*** (0.000)	0.031 (0.111)	0.017 (0.365)	0.074*** (0.000)							
Equil	0.062*** (0.001)	-0.031* (0.089)	-0.036** (0.050)	0.011 (0.586)	0.013 (0.503)	-0.016 (0.387)	-0.392*** (0.000)						
Dual	-0.069*** (0.000)	-0.040** (0.028)	-0.021 (0.257)	-0.013 (0.492)	-0.005 (0.800)	-0.018 (0.319)	-0.068*** (0.000)	-0.033* (0.074)					
Indratio	-0.077*** (0.000)	0.002 (0.916)	0.023 (0.208)	-0.005 (0.776)	0.043** (0.024)	-0.030 (0.103)	-0.078*** (0.000)	0.109*** (0.000)	-0.102*** (0.000)				
Age	0.125*** (0.000)	0.026 (0.155)	0.045** (0.014)	0.001 (0.945)	0.006 (0.762)	0.007 (0.688)	0.090*** (0.000)	-0.065*** (0.000)	-0.047*** (0.010)	-0.046** (0.012)			
Tenure	-0.058*** (0.001)	-0.035* (0.054)	-0.052*** (0.004)	-0.022 (0.262)	-0.027 (0.163)	-0.002 (0.924)	-0.080*** (0.000)	-0.112*** (0.000)	0.041** (0.026)	0.143*** (0.000)	0.183*** (0.000)		
Size	-0.105*** (0.000)	0.259*** (0.000)	0.267*** (0.000)	0.089*** (0.000)	0.047** (0.014)	-0.238*** (0.000)	0.193*** (0.000)	-0.087*** (0.000)	-0.061*** (0.001)	0.151*** (0.000)	0.110*** (0.000)	0.148*** (0.000)	
Lev	0.057*** (0.002)	-0.224*** (0.000)	-0.242*** (0.000)	-0.081*** (0.000)	-0.022 (0.260)	-0.050*** (0.006)	-0.161*** (0.000)	0.008 (0.680)	-0.019 (0.302)	0.135*** (0.000)	-0.066*** (0.000)	0.007 (0.702)	0.106*** (0.000)

Note: P-values are included in parentheses. *** indicates the significance level of 1%, ** indicates the significance level of 5%, and * indicates the significance level of 10%.

Table 5: Surplus Labor and Chairman Turnover for State-Controlled Firms

	Perf = Roe		Perf = Roa		Perf = Droe		Perf = Droa	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Perf	-2.959***	-3.019***	-6.723***	-6.728***	-1.982***	-2.105***	-4.159***	-4.601***
	(-5.70)	(-5.91)	(-4.89)	(-4.78)	(-3.33)	(-3.74)	(-2.89)	(-3.25)
Burden	0.067	0.086	0.070	0.070	0.056	0.087	0.051	0.066
	(1.29)	(1.51)	(1.30)	(1.28)	(1.04)	(1.45)	(0.92)	(1.16)
Burden×Perf		0.596*		0.027		1.002**		2.206*
		(1.75)		(0.02)		(2.48)		(1.76)
First	-0.508	-0.498	-0.484	-0.483	-0.315	-0.318	-0.273	-0.251
	(-1.15)	(-1.12)	(-1.09)	(-1.09)	(-0.69)	(-0.69)	(-0.60)	(-0.55)
Equil	5.496**	5.697**	5.457**	5.460**	7.001***	7.142***	7.114***	7.247***
	(2.43)	(2.53)	(2.44)	(2.44)	(2.98)	(3.05)	(3.07)	(3.15)
Dual	-1.036***	-1.044***	-0.974***	-0.974***	-1.033***	-1.047***	-1.000***	-0.998***
	(-4.84)	(-4.83)	(-4.55)	(-4.55)	(-4.61)	(-4.58)	(-4.43)	(-4.40)
Indratio	-0.171	-0.130	0.010	0.010	-0.217	-0.132	-0.025	0.010
	(-0.21)	(-0.16)	(0.01)	(0.01)	(-0.26)	(-0.16)	(-0.03)	(0.01)
Age	0.066***	0.065***	0.067***	0.067***	0.061***	0.060***	0.061***	0.061***
	(7.90)	(7.83)	(8.03)	(8.03)	(7.18)	(7.13)	(7.12)	(7.13)
Tenure	-0.098***	-0.098***	-0.102***	-0.103***	-0.104***	-0.105***	-0.106***	-0.108***
	(-2.92)	(-2.91)	(-3.07)	(-3.07)	(-2.98)	(-3.00)	(-3.05)	(-3.09)
Size	-0.176**	-0.178**	-0.184**	-0.184**	-0.291***	-0.286***	-0.326***	-0.323***
	(-2.07)	(-2.09)	(-2.15)	(-2.15)	(-3.32)	(-3.28)	(-3.76)	(-3.74)
Lev	0.509	0.514	0.604*	0.603*	0.897**	0.891**	1.086***	1.091***
	(1.39)	(1.40)	(1.65)	(1.65)	(2.37)	(2.36)	(2.96)	(2.98)
_cons	-1.174	-1.117	-1.147	-1.147	1.335	1.220	1.913	1.828
	(-0.64)	(-0.61)	(-0.63)	(-0.63)	(0.71)	(0.65)	(1.03)	(0.98)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2407	2407	2407	2407	2169	2169	2172	2172
Wald Chi2	157.31***	159.77***	149.98***	151.25***	132.52***	134.82***	133.06***	133.13***
Pseudo R2	0.094	0.096	0.091	0.091	0.085	0.089	0.082	0.083

Note: Z statistics after adjustment for clustering effects are reported in parentheses. *** indicates the significance level of 1%, ** indicates the significance level of 5%, and * indicates the significance level of 10%.

Table 6: Surplus Labor and Chairman Turnover for Private Firms

	Perf = Roe		Perf = Roa		Perf = Droe		Perf = Droa	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Perf	-2.534***	-2.522***	-7.650***	-7.559***	0.072	0.079	-0.941	-0.941
	(-2.88)	(-2.82)	(-3.31)	(-3.27)	(0.11)	(0.11)	(-0.41)	(-0.41)
Burden	0.066	0.067	0.071	0.070	0.106	0.106	0.105	0.105
	(0.80)	(0.80)	(0.86)	(0.87)	(1.28)	(1.28)	(1.26)	(1.26)
Burden×Perf		-0.081		-1.105		-0.033		-0.036
		(-0.12)		(-0.70)		(-0.06)		(-0.03)
First	-2.416**	-2.418**	-2.299**	-2.320**	-2.608**	-2.607**	-2.647**	-2.646**
	(-2.51)	(-2.51)	(-2.38)	(-2.40)	(-2.50)	(-2.50)	(-2.53)	(-2.52)
Equil	-4.510	-4.498	-4.898	-4.869	-4.201	-4.188	-4.189	-4.181
	(-0.93)	(-0.93)	(-1.00)	(-1.00)	(-0.83)	(-0.83)	(-0.83)	(-0.83)
Dual	-0.133	-0.135	-0.127	-0.141	-0.015	-0.016	-0.016	-0.016
	(-0.45)	(-0.45)	(-0.43)	(-0.47)	(-0.05)	(-0.05)	(-0.05)	(-0.05)
Indratio	-1.762	-1.753	-1.883	-1.853	-1.648	-1.639	-1.631	-1.630
	(-1.02)	(-1.01)	(-1.09)	(-1.07)	(-0.91)	(-0.89)	(-0.90)	(-0.91)
Age	0.026*	0.026*	0.028*	0.028*	0.026*	0.026*	0.026*	0.026*
	(1.73)	(1.73)	(1.85)	(1.90)	(1.67)	(1.67)	(1.72)	(1.72)
Tenure	-0.050	-0.050	-0.062	-0.064	-0.060	-0.060	-0.063	-0.063
	(-0.80)	(-0.80)	(-0.98)	(-1.01)	(-0.92)	(-0.92)	(-0.97)	(-0.97)
Size	-0.367**	-0.366**	-0.332**	-0.319*	-0.480***	-0.481***	-0.482***	-0.482***
	(-2.25)	(-2.25)	(-2.00)	(-1.93)	(-2.92)	(-2.92)	(-2.93)	(-2.93)
Lev	1.256*	1.259*	1.194*	1.209*	1.504**	1.504**	1.486**	1.486**
	(1.92)	(1.92)	(1.80)	(1.81)	(2.19)	(2.19)	(2.19)	(2.19)
_cons	4.984	4.943	4.290	3.972	7.382**	7.383**	7.400**	7.399**
	(1.47)	(1.47)	(1.24)	(1.16)	(2.16)	(2.16)	(2.16)	(2.16)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	615	615	615	615	550	550	550	550
Wald Chi2	51.11***	51.44***	52.63***	53.52***	45.80***	45.88***	45.93***	46.07***
Pseudo R2	0.111	0.111	0.115	0.116	0.096	0.096	0.097	0.097

Note: Z statistics after adjustment for clustering effects are reported in parentheses. *** indicates the significance level of 1%, ** indicates the significance level of 5%, and * indicates the significance level of 10%.

Table 7: Firm Size, Surplus Labor and Turnover-Performance Sensitivity

	Perf=Roe		Perf=Roa		Perf=Droe		Perf=Droa	
	Large Firm	Small Firm	Large Firm	Small Firm	Large Firm	Small Firm	Large Firm	Small Firm
Perf	-3.114*** (-3.54)	-3.057*** (-4.64)	-6.783*** (-2.96)	-6.978*** (-4.02)	-1.920 (-1.60)	-2.165*** (-3.21)	-3.700 (-1.49)	-5.350*** (-3.03)
Burden	0.044 (0.72)	0.191 (1.53)	0.035 (0.58)	0.168 (1.36)	0.047 (0.72)	0.191 (1.38)	0.042 (0.70)	0.137 (1.01)
Burden×Perf	0.091 (0.23)	1.420** (2.51)	-0.678 (-0.47)	1.692 (1.04)	0.610 (1.06)	1.599** (2.43)	1.812 (1.13)	3.453* (1.73)
First	-0.234 (-0.36)	-0.876 (-1.35)	-0.170 (-0.26)	-0.930 (-1.43)	0.133 (0.20)	-0.906 (-1.34)	0.142 (0.21)	-0.774 (-1.14)
Equil	2.764 (0.83)	7.726** (2.39)	3.113 (0.94)	6.713** (2.07)	5.715 (1.61)	7.298** (2.12)	6.292* (1.81)	7.153** (2.14)
Dual	-0.903** (-2.38)	-1.186*** (-4.23)	-0.843** (-2.19)	-1.090*** (-4.04)	-0.816** (-2.15)	-1.245*** (-4.13)	-0.806** (-2.12)	-1.150*** (-3.98)
Indratio	-0.256 (-0.20)	0.153 (0.14)	-0.254 (-0.20)	0.467 (0.44)	-0.366 (-0.27)	0.194 (0.17)	-0.327 (-0.24)	0.511 (0.46)
Age	0.077*** (6.17)	0.057*** (4.98)	0.079*** (6.32)	0.060*** (5.20)	0.073*** (5.70)	0.052*** (4.36)	0.075*** (5.78)	0.052*** (4.34)
Tenure	-0.124** (-2.50)	-0.073 (-1.57)	-0.129*** (-2.62)	-0.077* (-1.68)	-0.125** (-2.46)	-0.082* (-1.67)	-0.128** (-2.53)	-0.086* (-1.76)
Size	-0.018 (-0.11)	-0.488*** (-2.70)	0.011 (0.06)	-0.479*** (-2.69)	-0.122 (-0.72)	-0.607*** (-3.19)	-0.127 (-0.77)	-0.668*** (-3.59)
Lev	1.035* (1.87)	0.031 (0.06)	0.946* (1.72)	0.289 (0.60)	1.289** (2.30)	0.447 (0.89)	1.389** (2.53)	0.776 (1.61)
_cons	-5.524 (-1.50)	5.809 (1.53)	-6.201* (-1.66)	5.387 (1.43)	-3.406 (-0.89)	8.556** (2.13)	-3.418 (-0.91)	9.528** (2.43)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1203	1204	1203	1204	1110	1059	1111	1061
Wald Chi2	71.52***	118.25***	65.66***	104.68***	66.03***	90.78***	62.16***	88.37***
Pseudo R2	0.085	0.118	0.083	0.108	0.081	0.108	0.080	0.098

Note: Z statistics after adjustment for clustering effects are reported in parentheses. *** indicates the significance level of 1%, ** indicates the significance level of 5%, and * indicates the significance level of 10%.

Table 8: Method of State Control, Surplus Labor and Turnover-Performance Sensitivity

	Perf = Roe		Perf = Roa		Perf = Droe		Perf = Droa	
	Direct	Indirect	Direct	Indirect	Direct	Indirect	Direct	Indirect
Perf	-2.539** (-2.54)	-3.115*** (-5.20)	-9.374*** (-3.58)	-6.214*** (-3.87)	-1.260 (-1.10)	-2.363*** (-3.73)	-7.986** (-2.15)	-3.646** (-2.40)
Burden	0.004 (0.04)	0.129* (1.82)	0.003 (0.03)	0.103 (1.51)	-0.030 (-0.29)	0.142* (1.92)	-0.027 (-0.26)	0.096 (1.43)
Burden×Perf	-0.842 (-0.74)	0.720* (1.81)	-1.686 (-1.12)	0.558 (0.37)	-0.173 (-0.16)	1.205*** (2.76)	1.173 (0.31)	2.508** (1.96)
First	-0.414 (-0.42)	-0.653 (-1.26)	-0.518 (-0.52)	-0.585 (-1.13)	-0.088 (-0.09)	-0.461 (-0.86)	-0.097 (-0.10)	-0.338 (-0.62)
Equil	12.620*** (2.76)	3.840 (1.49)	11.954*** (2.59)	3.775 (1.47)	10.308** (2.12)	6.243** (2.32)	9.245* (1.87)	6.484** (2.43)
Dual	-1.262*** (-3.56)	-1.027*** (-3.73)	-1.288*** (-3.46)	-0.915*** (-3.41)	-1.110*** (-3.04)	-1.122*** (-3.71)	-1.113*** (-3.03)	-1.023*** (-3.47)
Indratio	0.532 (0.31)	-0.270 (-0.29)	0.629 (0.42)	-0.116 (-0.12)	0.848 (0.47)	-0.383 (-0.40)	1.135 (0.64)	-0.229 (-0.24)
Age	0.048*** (2.73)	0.070*** (7.34)	0.050*** (2.90)	0.072*** (7.46)	0.041** (2.29)	0.066*** (6.77)	0.041** (2.25)	0.067*** (6.74)
Tenure	-0.081 (-1.18)	-0.101*** (-2.61)	-0.088 (-1.25)	-0.104*** (-2.70)	-0.112 (-1.58)	-0.104** (-2.54)	-0.117 (-1.62)	-0.105*** (-2.59)
Size	-0.198 (-1.06)	-0.155 (-1.61)	-0.128 (-0.69)	-0.182* (-1.87)	-0.346* (-1.73)	-0.262*** (-2.67)	-0.364* (-1.85)	-0.315*** (-3.21)
Lev	0.220 (0.31)	0.553 (1.29)	0.039 (0.06)	0.721* (1.68)	0.541 (0.76)	0.923** (2.04)	0.519 (0.74)	1.205*** (2.73)
_cons	-0.256 (-0.06)	-1.694 (-0.83)	-1.700 (-0.42)	-1.325 (-0.65)	3.181 (0.73)	0.565 (0.27)	3.509 (0.82)	1.435 (0.69)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	487	1920	487	1920	458	1711	458	1714
Wald Chi2	52.96***	116.59***	52.90***	108.47***	40.28***	101.75***	42.57***	94.99***
Pseudo R2	0.135	0.092	0.142	0.085	0.108	0.090	0.116	0.080

Note: Z statistics after adjustment for clustering effects are reported in parentheses. *** indicates the significance level of 1%, ** indicates the significance level of 5%, and * indicates the significance level of 10%.

Table 9: Estimation Results of Measuring Policy Burdens by Surplus Labor per Unit Assets

	Perf = Roe	Perf = Roa	Perf = Droa	Perf = Droa
Panel A: Sub-samples by Controller Type				
State-Controlled Firm				
	7.184***	9.657	6.985***	15.316***
	(3.33)	(1.58)	(3.81)	(3.41)
Private-Controlled Firm				
	0.953	0.071	1.095	1.998
	(0.28)	(0.01)	(0.23)	(0.13)
Panel B: Sub-samples of State-Controlled Firms by Firm Size				
Large Firm				
	11.685	22.577	9.262	16.306
	(1.07)	(1.14)	(0.81)	(0.90)
Small Firm				
	7.872***	9.792	7.327***	15.891***
	(3.26)	(1.51)	(3.40)	(3.02)
Panel C: Sub-samples of State-Controlled Firms by Method of Control				
Direct Control				
	4.818	-0.064	8.238**	26.559**
	(1.00)	(-0.00)	(2.07)	(2.12)
Indirect Control				
	8.343***	12.050*	6.678***	13.287***
	(3.32)	(1.91)	(3.61)	(2.62)

Note: The coefficients estimated in the table are for the interaction terms of surplus labor and performance measures (Burden×Perf). Z statistics after adjustment for clustering effects are reported in parentheses. *** indicates the significance level of 1%, ** indicates the significance level of 5%, and * indicates the significance level of 10%.