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# Political Turnover and the Stock Performance of SOEs in China

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**Abstract:** This paper analyses the reasons behind the long-term underperformance of China's stock market. We argue that the price growth of local state-owned enterprises (SOEs) is hindered by the control of state shares by local cadres, who often sell the shares below market prices during their time in office. Our empirical analysis reveals that political turnover of prefectural Party Secretary has a significantly negative impact on the selling of state-owned shares and the price growth of local state-owned enterprises, while there is no such impact on private enterprises and state-owned enterprises controlled by the central government.

**Keywords:** Political turnover; State-owned enterprises; Local cadres.

**JEL Classifications:** G1, O1, P2.

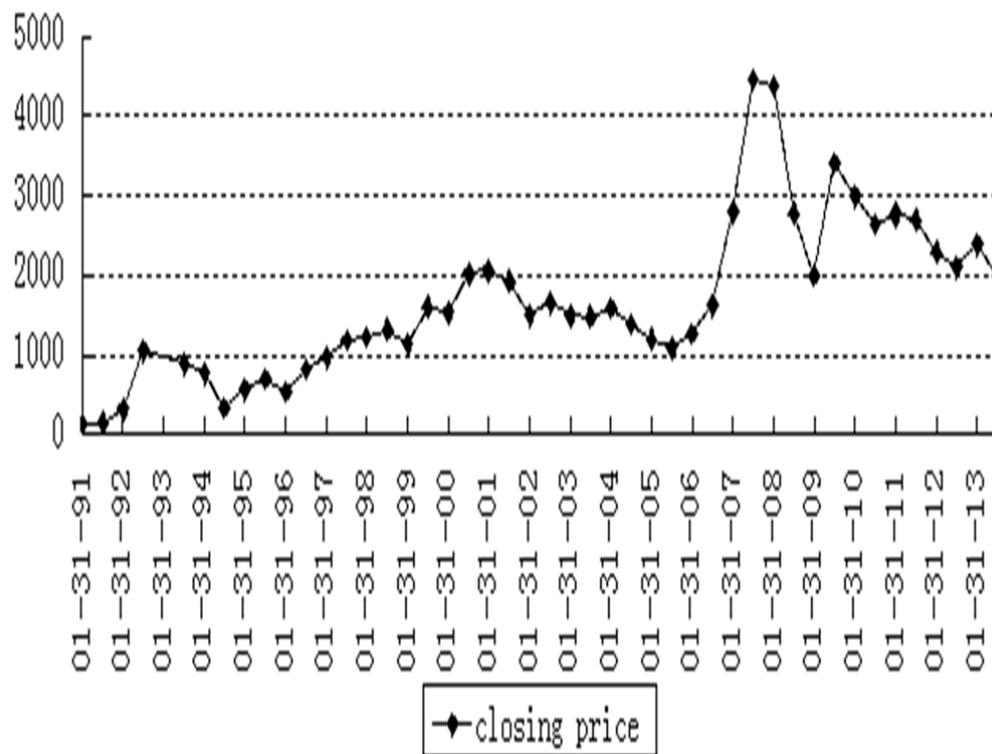
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## 1. Introduction

From the time since its establishment in the 1990s, the Chinese stock market remained stagnant from 2000 to 2013, and has been consistently failing to achieve its expected growth. Figure 1 shows the closing prices of the Shanghai Composite Index from 1991 to 2013.

**Figure 1.** The Shanghai Composite Index



Source: China Stock Market & Accounting Research Database

The market experienced rapid growth from 2005 to 2006 as a result of SOE share reforms. Huang *et al.* (2008) test for structural change in the Chinese stock-price level caused by the nontradable share (NTS) reform. Using the net-of-market-trend stock-price series, it is shown that the NTS reform drives stock prices up in more than two-thirds of the cases. However, this proved to be an isolated event because the growth was only temporary. Using a multivariate cointegration and vector error correction

model, Liang and Willett (2015) show that economic factors have a long-term equilibrium relationship with stock market performance in China. After the Chinese stock market crashed in 2007, stock variations became more responsive to changes of economic fundamentals suggesting that there had been a bubble. Overall, the growth rate of China's stock market still significantly lags behind the country's average 10% economic growth rate, even after including the stock market's sharp rise in the first half of 2015.

Since the stock exchange was established, the Chinese government has practiced a "quota system", which only allows state-recommended companies to be listed. As a result, listed companies are mostly SOEs. In 1999, the quota system was replaced by the approval system, which allows companies to go public upon fulfilling a number of conditions, thus increasing the percentage of non-state-owned listed companies. By the end of 2012, SOEs held by local governments (local SOEs) accounted for about 26% of the total stock market by market value, and SOEs held by the central government (central SOEs) accounted for as much as 48%. The average stock price of local SOEs rose by only about 20%, far below that of the central SOEs and the privately owned companies, which rose by about 31% and about 75% respectively. The underperformance of local SOEs is therefore a prominent cause of the sluggishness in the stock market.

We argue that the ambiguity with regard to the property rights of SOEs, and the agency problem in SOEs, are major causes of staggered stock price growth. Central SOEs in China are under the jurisdiction of the State-owned Assets Supervision and Administration Commission of the State Council (SASAC), the Ministry of Finance, or other related departments. Local SOEs are controlled by local SASACs or other related municipal departments.

The central government only allows state shares to be traded through private agreements, rather than through public offerings. This private and non-transparent trading mechanism leaves room for local cadres, mainly a city's Mayor and Party Secretary, to sell state shares at low prices for personal gain. Buying firms are often owned by local officials, or by other closely connected individuals. There are two ways to sell state shares: 1) by introducing new shareholders or 2) by having the parent company divest state shares, which is more common. As the performance of

local SOEs is not directly linked to the professional interests of local cadres,<sup>2</sup> they have a high incentive to sell state shares at low prices for private benefits before they leave office,<sup>3</sup> which is a major obstacle to the price growth of local SOEs.

In addition, such under-the-table transactions may be known by the public, which might decrease trade volumes on the stock exchange, and indirectly affect the market price of the stocks. Previous studies (Miller, 1977; Harrison and Kreps, 1978; Chen, Hong and Stein, 2002; Lamont and Thaler, 2003; Ofek and Richardson, 2003; Cochrane, 2003; Scheinkman and Xiong, 2003; Mei et al., 2009) analyse the connection between trading volumes and stock prices from the perspective of optimistic investors' speculative motives. Our paper contributes to the literature by revealing that political turnover might also influence prices through reducing the trade volumes.

We use the turnover frequency of prefectural Party Secretaries and prefectural Mayors during 2001 to 2012 to proxy prefectural political turnover. The results show that the political turnover of Party Secretaries does have a significantly negative impact on the selling of state-owned shares, while there is no impact on the selling of stock shares of the private enterprises and central SOEs. Furthermore, the political turnover of Mayors has no impact on the selling of stock shares. By using political turnover as an instrumental variable of the selling of state-owned shares, the 2SLS estimates show a significantly negative impact on the stock prices of local SOEs, while there is no significant correlation between the selling of stock shares and the stock prices of private enterprises and central SOEs.

The remainder of the paper is organised as follows. Section 2 provides the background of this study. Section 3 presents the model and the estimation results. Section 4 concludes the paper.

## **2. Background**

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<sup>2</sup> Oi and Rozelle (2000) and Kung, Cai and Sun (2009) argue that the behaviours of local cadres are determined mainly by two factors: career incentive and revenue incentive. The former incentive might curb the selling of state shares, while the latter might stimulate officials to sell state shares for personal benefits before their departure. See also Shih, Adolph and Liu (2012), Opper and Brehm (2007) and Jia, Kudamatsu and Seim (2013).

<sup>3</sup> Reasons for leaving office includes being transferred, promoted or demoted.

## **2.1 The share of SOEs in the stock market**

In 2012, 833 out of around 2,600 listed companies in China were local SOEs, which are under the jurisdiction of local SASACs or other related municipal departments. Local cadres, especially the Party Secretaries of cities, control the trade of state-owned shares. Local cadres are promoted or transferred once every three or five years, regardless of the performance of local SOEs. Because of their relatively short tenures, they might be indifferent to the negative impacts of selling state shares below market value if doing so could bring them personal benefits. As a result, we observe a much larger reduction in shares held by the majority shareholders in local SOEs than in private enterprises.

In this paper, we calculate the percentage increase of stock prices, where the starting value is the daily closing price in the beginning of 2003 and the ending value is the average daily closing price between 2003 and 2012. We use the average daily closing price rather than the price of the last day of the period (31 December 2012), because the former is not affected by the volatility of daily stock prices. Between 2003 and 2012, the percentage increase in the prices of local SOEs was about 20.3%, while those of private enterprises and central SOEs were about 75.8% and about 31.1%, respectively.

## **2.2 The trading of state shares**

Table 1 reports the average decline of shares held by majority shareholders of local SOEs, central SOEs, and private enterprises. We calculate the percentage of reduction in shares held by majority shareholders, where the starting value is the number of shares in 2003 and the ending value is the average number of shares held by the majority shareholders in each year between 2003 and 2012. We have taken into account the rights issues in the calculations. Table 1 shows that since 2003, the decline in the number of shares held by majority shareholders in local SOEs has been more significant than those in private enterprises and central SOEs. The decline in local SOEs is about 1.5 times that of the private sector, and 3 times that of central SOEs.

Since there are only around 200 listed central SOEs, the reduction of shares in

central SOEs is less than that in local SOEs due to there being a smaller number of central SOEs. Most central SOE leaders are ministerial-level officials, and out of career concerns are less likely to sell state shares during their tenure, as this presents a much higher probability of being promoted. Additionally, the central government also implements much stricter regulations for selling state shares in central SOEs than in local SOEs.

**Table 1:** Differences in the reduction of shares held by the majority shareholders between 2003 and 2012

|                     | Number | Min (%) | Max (%) | Mean (%) |
|---------------------|--------|---------|---------|----------|
| Private Enterprises | 850    | -67     | 0       | -12.24   |
| Local SOEs          | 833    | -65     | 0       | -18.00   |
| Central SOEs        | 267    | -81     | 434     | -7.63    |

Source: China Stock Market & Accounting Research Database

There are three levels of local SOEs, namely the provincial, prefectural and county levels. Table 2 shows the political turnover of Prefectural Party Secretaries, reduction of shares of the majority shareholders, and price growth. Note that from Table 2, more frequent political turnover in Prefectural Party Secretaries has resulted in a significantly greater selling of state-owned shares and significantly negative impacts on the price growth of local state-owned enterprises. There are no similar impacts on private enterprises and state-owned enterprises controlled by the central government.

**Table 2** Political turnover of Prefectural Party Secretary, reduction of shares held by majority shareholders and price growth

| Local SOEs                     |           |            | Private enterprises & Central SOEs              |           |            |
|--------------------------------|-----------|------------|---|-----------|------------|
| Political turnover (frequency) | Low (1-3) | High (4-5) | Political turnover (frequency)                  | Low (1-3) | High (4-5) |
| Decrease of state shares       | -0.102    | -0.125     | Decrease of state/Majority Shareholders' shares | -0.048    | -0.055     |
| Price growth                   | 18.227    | 8.622      | Price growth                                    | 7.32      | 7.52       |
| Obv.                           | 526       | 277        | Obv.  | 901       | 455        |

Source: China Stock Market & Accounting Research Database, City Records.

### 3. Empirical analysis

#### 3.1 Reduction of shares held by majority shareholders

In this subsection, we analyse the cross-sectional differences in the reduction of shares owned by a sample of 2662 listed companies from the CSMAR Database and “10jqka” Financial Service Net.

The listed company is defined as a local SOE if its majority shareholder is a local SASAC, a municipal department, or a school. If the majority shareholder is the central SASAC, the listed company is defined as a central SOE. The listed company is defined as privately held if a family, an individual or a foreign investment entity directly controls the firm.

#### *Dependent Variable*

For firm  $i$ , we define

$bprice_i$  as the closing price of the first trading day in 2003;

$$pricechange_i = (P_{2003-2012, i} - bprice_i) / bprice_i \times 100$$

where

$P_{2003-2012, i}$  is the 10 year average daily closing price between January 2003 and December 2012 of firm  $i$ .

### ***Key Independent Variable***

We let  $CEOtradev_i$  be the percentage reduction of shares held by the majority shareholder of firm  $i$  between 2003 and 2012, where

$$CEOtradev_i = (MS_{2012, i} - MS_{2003, i}) / MS_{2003, i} \times 100$$

$MS_{2003, i}$  is the ratio of shares held by the majority shareholder to the total shares of firm  $i$  in 2003;

$MS_{2012, i}$  is the ratio of shares held by the majority shareholder to the total shares of firm  $i$  in 2012.

### ***IVs***

Among the 833 local SOEs, less than 10 per cent belong to the county-level local government, while around 40 per cent belong to the prefectural local government. The remaining 50 per cent belongs to the provincial-level government, which is located in different prefectures. We use four indexes to proxy political turnover. The first is the frequency of turnover of prefectural Party Secretary during 2003 to 2012, which varies from 1 to 6. The second is the frequency of turnover of prefectural Mayor, which varies from 1 to 6. The third is the political turnover of provincial Party Secretary for provincial SOEs and political turnover of prefectural Party Secretary for Prefectural-level and lower SOEs. The fourth is the political turnover of governors of

provinces that have provincial SOEs, and political turnover of mayors of prefectures for those Prefectural-level and lower SOEs.

### ***Controls***

Other explanatory variables include the initial number of shares owned by the majority shareholders in year 2003, denoted by “*initial*”, and two dummy variables for local SOEs and central SOEs, denoted as *SOE* and *COE*, respectively. We also include firm-level variables (as defined in Table 3) that might affect both the trade volumes and the performance of listed companies, such as their size, debt-paying ability, anti-risk ability and growth ability.

**Table 3:** Definitions of firm-level independent variables

| Variable Name        | Definition  |
|----------------------|---|
| <i>size</i>          | Total assets of a firm in 2012                        |
| <i>debt – paying</i> | Ratio of total debt to liquid assets in 2012          |
| <i>anti – risk</i>   | Net operating revenue divided by total profit in 2012 |
| <i>PEratio</i>       | Ratio of prices to earnings in 2012                   |

Table 4 reports the descriptive statistics of the main variables.

**Table 4:** Descriptive statistics

| Descriptive statistics    | N    | Minimum | Maximum | Mean  | Std. Deviation |
|---------------------------|------|---------|---------|-------|----------------|
| <b>Dependent Variable</b> |      |         |         |       |                |
| <i>pricechange</i>        | 2614 | 0.123   | 45.219  | 0.398 | 2.297          |

| <b>Key Independent Variable</b> |      |         |          |          |          |
|---------------------------------|------|---------|----------|----------|----------|
| <i>CEOtradevo</i>               | 2527 | -81     | 434      | -14.8    | 6.911    |
| <b>IVs</b>                      |      |         |          |          |          |
| <i>Secretary<sub>city</sub></i> | 2038 | 1       | 6        | 2.625    | 0.915    |
| <i>Major</i>                    | 2034 | 1       | 6        | 3.295    | 0.886    |
| <i>Secretary<sub>prov</sub></i> | 2038 | 1       | 6        | 2.963    | 0.898    |
| <i>Governor</i>                 | 2034 | 1       | 6        | 3.335    | 0.887    |
| <b>Controls</b>                 |      |         |          |          |          |
| <i>initial</i>                  | 2527 | 0.16    | 100      | 43.049   | 16.785   |
| <i>SOE</i>                      | 2504 | 0       | 1        | 0.335    | 0.472    |
| <i>COE</i>                      | 2435 | 0       | 1        | 0.122    | 0.328    |
| <i>size</i>                     | 2656 | 2562376 | 1.87E+13 | 4.98E+10 | 6.45E+11 |
| <i>debt – paying</i>            | 2656 | -4.898  | 442.319  | 0.187    | 8.584    |
| <i>anti – risk</i>              | 2656 | -0.684  | 50.459   | 0.614    | 2.164    |
| <i>PERatio</i>                  | 2250 | 0.987   | 13125    | 128.561  | 604.109  |
| <i>bprice</i>                   | 2590 | 0.27    | 600.4    | 22.408   | 569.774  |

To study what affects the percentage reduction of shares held by the majority shareholder, we estimate the following model:

$$CEOtradevq = \alpha_i + \beta_0 SOE_i + \beta_1 COE_i + X_i \beta + \varepsilon_i \quad (1)$$

Table 5 reports the estimation results. Note from Table 5 that, compared with private firms and central SOEs, the reduction of shares held by the majority shareholders in local SOEs is significantly higher.

**Table 5:** Regression results: dependent variable = CEOtradevo

|                      | Model 1               | Model 2               | Model 3               |
|----------------------|-----------------------|-----------------------|-----------------------|
| <i>c</i>             | -11.290***<br>(4.060) | -8.801**<br>(4.255)   | -12.790***<br>(4.339) |
| <i>SOE</i>           | -2.028***<br>(0.564)  |                       | -2.546***<br>(0.596)  |
| <i>COE</i>           |                       | -0.908<br>(0.826)     | -2.066<br>(1.863)     |
| <i>initial</i>       | -0.359***<br>(0.015)  | -0.361***<br>(0.016)  | -0.354***<br>(0.016)  |
| <i>size</i>          | 1.076**<br>(0.190)    | 0.943***<br>(0.199)   | 1.145***<br>(0.204)   |
| <i>debt – paying</i> | -2.265***<br>(0.837)  | -2.178**<br>(0.880)   | -1.700**<br>(0.883)   |
| <i>anti – risk</i>   | -0.005<br>(0.027)     | -0.006<br>(0.027)     | -0.003<br>(0.027)     |
| <i>PERatio</i>       | -0.001**<br>(0.0004)  | -0.001**<br>(0.00048) | -0.001**<br>(0.00048) |
| Adj R <sup>2</sup>   | 0.216                 | 0.210                 | 0.216                 |
| <i>obv.</i>          | 2109                  | 2078                  | 2078                  |

Notes: 1) The numbers in parentheses are standard deviations; 2) \*\*\*, \*\* and \*, respectively,

represent 1%, 5% and 10% significance levels.

### 3.2 Effects of reduction of shares held by majority shareholders

To investigate the impact of a reduction in shares held by the majority shareholders on stock prices, we estimate the following model:

$$\begin{aligned} pricechange_i = & \alpha_i + \beta_0 CEOtradevo_i \\ & + \beta_1 SOE_i * CEOtradevo_i + \beta_2 COE_i * CEOtradevo_i + X_i \beta \end{aligned} \quad (2)$$

Table 6 reports the estimation results.

**Table 6:** Regression results: dependent variable = pricechange

|                         | Model 4              | Model 5              | Model 6              |
|-------------------------|----------------------|----------------------|----------------------|
| <i>c</i>                | 20.081***<br>(2.320) | 20.404***<br>(2.371) | 20.082***<br>(2.401) |
| <i>CEOtradevo</i>       | -0.022<br>(0.015)    | 0.012<br>(0.014)     | 0.008<br>(0.018)     |
| <i>SOE * CEOtradevo</i> | 0.052***<br>(0.021)  |                      | 0.084***<br>(0.023)  |
| <i>COE * CEOtradevo</i> |                      | 0.127***<br>(0.032)  | 0.106***<br>(0.034)  |
| <i>bprice</i>           | -0.326***<br>(0.016) | -0.324***<br>(0.016) | -0.321***<br>(0.016) |
| <i>size</i>             | -0.537***<br>(0.104) | -0.557***<br>(0.106) | -0.535***<br>(0.108) |
| <i>debt – paying</i>    | -0.289***<br>(0.110) | -0.322***<br>(0.119) | -0.315***<br>(0.119) |

|                    |                     |                     |                     |
|--------------------|---------------------|---------------------|---------------------|
| <i>anti – risk</i> | -0.023<br>(-0.017)  | -0.024<br>(-0.017)  | -0.024<br>(-0.017)  |
| <i>PEratio</i>     | -0.0002<br>(0.0003) | -0.0002<br>(0.0003) | -0.0002<br>(0.0003) |
| Adj R <sup>2</sup> | 0.157               | 0.160               | 0.155               |
| <i>obv.</i>        | 2458                | 2465                | 2656                |

Notes: 1) The numbers in parentheses are standard deviations; 2) \*\*\*, \*\*, and \*, respectively, represent 1%, 5% and 10% significance levels.

Two conclusions can be drawn from the results in Table 6. First, for private enterprises, the reduction in shares held by majority shareholders does not have a significantly negative impact on stock prices. Second, the negative impact of the reduction in shares held by majority shareholders in local and central SOEs is significant.

### 3.3 Political Turnover and Stock Price

There are several reasons why the effects of the reduction in shares held by the majority shareholder in local and central SOEs are negative. First, due to the non-public and non-transparent mechanism of state share trading, the negotiated selling prices of state shares can be much lower than market prices. Among the 1221 cases of selling state shares, 605 of which are sold for free. The remaining 616 cases were sold at a price below the market price<sup>4</sup>. For private enterprises, majority shareholders tend to sell shares at the market prices. This explains why the negative impact on local and central SOEs is significantly higher than that on private enterprises. Second, political turnover leads to the selling of state shares at a much lower price, with the public knowing about such transactions shortly after their completion, resulting in a decrease of the trade volume and the stock price. The trade volume in the year state shares are sold is usually 20-50 per cent lower than normal, while the price is much lower.

<sup>4</sup> Data are collected from Auction and Transfer of State Shares Dataset, CSMAR.

Take the Shanghai International Port (Group) Co., Ltd as an example. The Shanghai SASAC held about 75.19% of state shares in 2004, which decreased to about 44.23% in 2005. After remaining unchanged for a long period, this decreased to about 40.28% in 2011. Furthermore, the average daily trade volumes on the stock exchange in the years 2005 and 2011 were the lowest throughout the ten years.

### 3.3.1 2SLS Estimates

Table 2 has shown a close correlation between the frequent turnover of Prefectural Party Secretaries, selling of state shares, and the price growth of local SOEs. Here we use the turnover frequency of prefectural Party Secretaries between 2003 and 2012, and the turnover frequency of prefectural Mayors as an instrumental variable of the selling of state shares. The results are shown in Table 7. Panel B shows that the political turnover of Party Secretaries has a significantly negative impact on the selling of state-owned shares, while there is no impact on the selling of stock shares of private enterprises and central SOEs. Furthermore, the political turnover of Mayors has no impact on the selling of stock shares. By using political turnover as an instrument of the selling of state-owned shares, Panel A shows that the selling of state-owned shares has a significantly negative impact on the stock prices of local SOEs, while there is no significant correlation between the selling of stock shares and the stock prices of private enterprises and central SOEs.

**Table 7:** Political Turnover, State-owned Shares and Stock Price of Local SOEs

|                                | Party Secretary |                                      |          | Major      |                                      |         |
|--------------------------------|-----------------|--------------------------------------|----------|------------|--------------------------------------|---------|
|                                | Local SOEs      | Private Enterprises and Central SOEs | Total    | Local SOEs | Private Enterprises and Central SOEs | Total   |
| <i>Panel A: 2SLS Estimates</i> |                 |                                      |          |            |                                      |         |
| <i>c</i>                       | 4.882***        | 2.303***                             | 3.005*** | 9.472      | 2.525                                | 5.487   |
|                                | (0.242)         | (0.602)                              | (0.711)  | (18.111)   | (2.003)                              | (4.738) |

|                         |          |         |          |         |         |         |
|-------------------------|----------|---------|----------|---------|---------|---------|
| <i>CEOtradevo</i>       | 0.076*** | 0.013   | 0.039    | -0.518  | -0.012  | -0.250  |
|                         | (0.019)  | (0.066) | (0.078)  | (1.759) | (0.226) | (0.555) |
| <i>SOE * CEOtradevo</i> |          |         | 0.132*** |         |         | -0.048  |
|                         |          |         | (0.030)  |         |         | (0.172) |
| <i>bprice</i>           | Y        | Y       | Y        | Y       | Y       | Y       |
| <i>size</i>             | Y        | Y       | Y        | Y       | Y       | Y       |
| <i>debt – paying</i>    | Y        | Y       | Y        | Y       | Y       | Y       |
| <i>anti – risk</i>      | Y        | Y       | Y        | Y       | Y       | Y       |
| <i>PERatio</i>          | Y        | Y       | Y        | Y       | Y       | Y       |
| Adj R <sup>2</sup>      |          |         |          |         |         |         |
| <i>obv.</i>             | 641      | 1274    | 1915     | 640     | 1271    | 1911    |

**Panel B: First Stage**

|                                       |            |          |           |          |          |           |
|---------------------------------------|------------|----------|-----------|----------|----------|-----------|
| <i>c</i>                              | 10.242***  | 0.367*** | 11.877*** | 9.562*** | 0.271*** | 9.326***  |
|                                       | (1.943)    | (0.078)  | (1.243)   | (2.596)  | (0.069)  | (1.244)   |
| <i>Secretary<sub>city</sub></i>       | -0.0005*** | -0.021   | -0.519    |          |          |           |
|                                       | (0.00005)  | (0.018)  | (0.322)   |          |          |           |
| <i>Secretary<sub>city</sub> * SOE</i> |            |          | -0.488**  |          |          |           |
|                                       |            |          | (0.193)   |          |          |           |
| <i>Major</i>                          |            |          |           | 0.215    | 0.010    | 0.345     |
|                                       |            |          |           | (0.702)  | (0.011)  | (0.300)   |
| <i>Major * SOE</i>                    |            |          |           |          |          | -0.567*** |
|                                       |            |          |           |          |          | (0.199)   |
| <i>bprice</i>                         | Y          | Y        | Y         | Y        | Y        | Y         |

|                      |      |      |      |      |      |      |
|----------------------|------|------|------|------|------|------|
| <i>size</i>          | Y    | Y    | Y    | Y    | Y    | Y    |
| <i>debt – paying</i> | Y    | Y    | Y    | Y    | Y    | Y    |
| <i>anti – risk</i>   | Y    | Y    | Y    | Y    | Y    | Y    |
| <i>PEratio</i>       | Y    | Y    | Y    | Y    | Y    | Y    |
| Adj R <sup>2</sup>   | 0.21 | 0.08 | 0.21 | 0.21 | 0.08 | 0.21 |
| <i>obv.</i>          | 641  | 1274 | 1915 | 640  | 1271 | 1911 |

Notes: 1) The numbers in parentheses are standard deviations; 2) \*\*\*, \*\* and \*, respectively, represent 1%, 5% and 10% significance levels.

### 3.3.2 Party Secretary and Governor of Province as IV

Table 8 shows the correlations between the selling of state shares and the turnover of Party Secretaries and Governors of different provinces. Panel B shows that although the political turnover of Party Secretaries and Governors have a negative impact on the selling of state-owned shares, it is not significant. Provincial-level Party Secretaries and Governors have a much weaker relationship with local SOEs than prefectural level leaders, which makes it easier for the latter to sell state shares. Furthermore, provincial level leaders are more hesitant to sell state shares, as the opportunity cost of corruption is too high for them.

**Table 8** Party Secretary and Governor of Province as IV

|                                | Party Secretary |                                      |         | Governor   |                                      |        |
|--------------------------------|-----------------|--------------------------------------|---------|------------|--------------------------------------|--------|
|                                | Local SOEs      | Private Enterprises and Central SOEs | Total   | Local SOEs | Private Enterprises and Central SOEs | Total  |
| <i>Panel A: 2SLS Estimates</i> |                 |                                      |         |            |                                      |        |
| <i>c</i>                       | 3.644           | 2.303***                             | 6.064** | 2.316      | 2.525                                | 20.734 |

|                         |         |         |          |         |         |          |
|-------------------------|---------|---------|----------|---------|---------|----------|
|                         | (9.200) | (0.602) | (2.567)  | (5.105) | (2.003) | (38.987) |
| <i>CEOtradevo</i>       | 0.142   | 0.013   | 0.012    | 0.244   | -0.012  | -0.411   |
|                         | (0.762) | (0.066) | (0.070)  | (0.465) | (0.226) | (1.119)  |
| <i>SOE * CEOtradevo</i> |         |         | 0.125*** |         |         | 0.022    |
|                         |         |         | (0.025)  |         |         | (0.381)  |
| <i>bprice</i>           | Y       | Y       | Y        | Y       | Y       | Y        |
| <i>size</i>             | Y       | Y       | Y        | Y       | Y       | Y        |
| <i>debt – paying</i>    | Y       | Y       | Y        | Y       | Y       | Y        |
| <i>anti – risk</i>      | Y       | Y       | Y        | Y       | Y       | Y        |
| <i>PEratio</i>          | Y       | Y       | Y        | Y       | Y       | Y        |
| Adj R <sup>2</sup>      |         |         |          |         |         |          |
| <i>obv.</i>             | 735     | 1274    | 2009     | 734     | 1271    | 2005     |

**Panel B: First Stage**

|                                       |          |          |           |          |          |           |
|---------------------------------------|----------|----------|-----------|----------|----------|-----------|
| <i>c</i>                              | 44.093   | 0.367*** | 43.992*** | 43.436   | 0.271*** | 41.347*** |
|                                       | (34.393) | (0.078)  | (2.580)   | (33.800) | (0.069)  | (2.590)   |
| <i>Secretary<sub>prov</sub></i>       | -0.285   | -0.021   | -0.603*   |          |          |           |
|                                       | (0.328)  | (0.018)  | (0.314)   |          |          |           |
| <i>Secretary<sub>prov</sub> * SOE</i> |          |          | -0.604*** |          |          |           |
|                                       |          |          | (0.195)   |          |          |           |
| <i>Governor</i>                       |          |          |           | -0.027   | 0.010    | 41.347    |
|                                       |          |          |           | (0.182)  | (0.011)  | (0.300)   |
| <i>Governor * SOE</i>                 |          |          |           |          |          | -0.671*** |
|                                       |          |          |           |          |          | (0.183)   |
| <i>bprice</i>                         | Y        | Y        | Y         | Y        | Y        | Y         |

|                      |      |      |      |      |      |      |
|----------------------|------|------|------|------|------|------|
| <i>size</i>          | Y    | Y    | Y    | Y    | Y    | Y    |
| <i>debt – paying</i> | Y    | Y    | Y    | Y    | Y    | Y    |
| <i>anti – risk</i>   | Y    | Y    | Y    | Y    | Y    | Y    |
| <i>PEratio</i>       | Y    | Y    | Y    | Y    | Y    | Y    |
| Adj R <sup>2</sup>   | 0.19 | 0.08 | 0.21 | 0.19 | 0.08 | 0.21 |
| <i>obv.</i>          | 735  | 1274 | 2009 | 734  | 1271 | 2005 |

Notes: 1) The numbers in parentheses are standard deviations; 2) \*\*\*, \*\*, and \*, respectively, represent 1%, 5% and 10% significance levels.

### 3.3.3 Another Measurements of Price Change

To examine whether the results are robust after the change of the dependent variable, we redefine  $pricechange_2$  as

$$pricechang_{2i}$$

$$= (\text{one year average daily closing price in 2012 of firm } i - bprice_1) / bprice_1 \times 100$$

The results are reported in Table 9. Overall, we find minute variations with Table 7.

**Table 9:** Robustness check: dependent variable =  $pricechange_2$

|                                | Party Secretary |                                      |           | Major      |                                      |        |
|--------------------------------|-----------------|--------------------------------------|-----------|------------|--------------------------------------|--------|
|                                | Local SOEs      | Private Enterprises and Central SOEs | Total     | Local SOEs | Private Enterprises and Central SOEs | Total  |
| <i>Panel A: 2SLS Estimates</i> |                 |                                      |           |            |                                      |        |
| <i>c</i>                       | 31.183***       | 11.655                               | 21.862*** | 179.814    | 9.926                                | 70.893 |

|                       |         |         |         |           |          |          |
|-----------------------|---------|---------|---------|-----------|----------|----------|
|                       | (8.346) | (3.647) | (8.153) | (444.033) | (13.085) | (87.727) |
| <i>CEOtradevo</i>     | 1.595*  | -0.056  | 0.222   | -12.918   | 0.136    | -5.520   |
|                       | (0.919) | (0.372) | (0.594) | (43.199)  | (1.411)  | (10.111) |
| <i>SOE*CEOtradevo</i> |         |         | 1.311** |           |          | 0.424    |
|                       |         |         | (0.582) |           |          | (3.065)  |
| <i>bprice</i>         | Y       | Y       | Y       | Y         | Y        | Y        |
| <i>size</i>           | Y       | Y       | Y       | Y         | Y        | Y        |
| <i>debt – paying</i>  | Y       | Y       | Y       | Y         | Y        | Y        |
| <i>anti – risk</i>    | Y       | Y       | Y       | Y         | Y        | Y        |
| <i>PEratio</i>        | Y       | Y       | Y       | Y         | Y        | Y        |
| Adj R <sup>2</sup>    |         |         |         |           |          |          |
| <i>obv.</i>           | 641     | 1274    | 1915    | 640       | 1271     | 1911     |

*Panel B: First Stage*

|                       |            |          |           |          |          |           |
|-----------------------|------------|----------|-----------|----------|----------|-----------|
| <i>c</i>              | 10.242***  | 0.367*** | 11.877*** | 9.562*** | 0.271*** | 9.326***  |
|                       | (1.943)    | (0.078)  | (1.243)   | (2.596)  | (0.069)  | (1.244)   |
| <i>Secretary</i>      | -0.0005*** | -0.021   | -0.519    |          |          |           |
|                       | (0.00005)  | (0.018)  | (0.322)   |          |          |           |
| <i>Secretary* SOE</i> |            |          | -0.488**  |          |          |           |
|                       |            |          | (0.193)   |          |          |           |
| <i>Major</i>          |            |          |           | 0.215    | 0.010    | 0.345     |
|                       |            |          |           | (0.702)  | (0.011)  | (0.300)   |
| <i>Major* SOE</i>     |            |          |           |          |          | -0.567*** |
|                       |            |          |           |          |          | (0.199)   |
| <i>bprice</i>         | Y          | Y        | Y         | Y        | Y        | Y         |

|                      |      |      |      |      |      |      |
|----------------------|------|------|------|------|------|------|
| <i>size</i>          | Y    | Y    | Y    | Y    | Y    | Y    |
| <i>debt – paying</i> | Y    | Y    | Y    | Y    | Y    | Y    |
| <i>anti – risk</i>   | Y    | Y    | Y    | Y    | Y    | Y    |
| <i>PEratio</i>       | Y    | Y    | Y    | Y    | Y    | Y    |
| Adj R <sup>2</sup>   | 0.21 | 0.08 | 0.21 | 0.21 | 0.08 | 0.21 |
| <i>obv.</i>          | 641  | 1274 | 1915 | 640  | 1271 | 1911 |

Notes: 1) The numbers in parentheses are standard deviations; 2) \*\*\*, \*\*, and \*, respectively, represent 1%, 5% and 10% significance levels.

#### 4. Conclusion

Previous studies on the stock market of China employ GDP or other macroeconomic variables to explain the ups and downs of the market. Such an approach is somewhat problematic because the stock market of China does not grow proportionally to its GDP. This puzzling phenomenon has not yet been fully explained in the literature. This paper analyses the long-term underperformance of China's stock market through highlighting the effect of the principal-agent problem in China's bureaucratic system, and argues that the sluggishness of the Chinese stock market is due to the underperformance of SOEs. As Fama and French (1992) postulate, small firms tend to outperform large firms, which helps explain why private firms outperform SOEs in China. However, firm size effect cannot completely account for our results, as the percentage increase of the prices of large central SOEs is not the lowest in our findings.

We argue that the slow growth of the stock prices of SOEs can be attributed to the reduction in shares held by majority shareholders, as outgoing local cadres possess incentives to sell state shares at a lower price during their tenure for private benefits. We conclude that the ambiguity of SOE ownership, the network-dominated promotion scheme of Chinese officials, and the illiquidity of state-owned shares are the major reasons for the long-term sluggish performance of the Chinese stock market. To boost the stock market, the Chinese government should promote transparency in the transaction of state shares. In addition, local officials in control of the SOEs should be

made accountable for their company's performance. The development of a derivative market might also contribute to the process of price discovery in SOEs, and thus reduce incidents of stock manipulation.

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