

The Impact of Political Promotion Incentives on Innovation Performance in SOEs

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ABSTRACT

SOEs are essential to innovation and play a guiding role in high-quality economic development. The political promotion of executives is the implicit incentive to drive the design of state-owned enterprises (SOEs). This article hand-selected the data sample of the listed SOEs between 2014 and 2018. The findings show that political promotion incentives improve SOEs' innovation performance, and innovation investment plays an intermediary role. Besides, corporate financialization reduces the promotion of political promotion incentives on innovation performance.

Keywords: *Political promotion incentive, enterprise financialization, innovation performance, SOEs*

1. INTRODUCTION

Under the background of the transition economy and "salary restriction order," political promotion incentive has a profound impact on executives' investment decisions in SOEs. Compared with salary, political advancement has a more significant incentive effect on executives [1]; the promotion of executives can also promote economic development [2]. Innovation activities are an essential source of the long-term competitiveness of enterprises. The investment decision-making of executives is the premise of innovation activities, and their decision-making behaviour is often affected by political promotion incentives. However, there are two views in the existing literature: some scholars believe that executive promotion will reduce innovation investment [3]; others believe that political promotion incentive increases innovation investment [4].

The government has always attached great importance to economic transformation and innovation and has issued a series of documents to encourage SOEs to innovate. The central government encourages the rotation of senior executives between government organs and SOEs. The political promotion incentive defined in this paper refers to the opportunity and expectation of executives to enter government departments. This paper enriches the literature on political promotion incentive and innovation performance and complements tournament theory research. Besides, this paper also verifies that R&D investment has a partial mediating effect. Finally, the conclusion provides new evidence for understanding the relationship between financialization and innovation performance.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1. Political Promotion Incentive and Innovation Performance of SOEs' Executives

The "top-down" promotion tournament has made SOEs' executives attach importance to technological innovation. According to existing research, experienced executives are good at seizing growth opportunities [5]. The government stipulates that executives who have a significant impact on SOEs' performance due to innovation failure can be exempted from punishment. Besides, as an essential part of China's economy, SOEs should drive social innovation and development. Innovation activity is the power to improve enterprise performance and a relevant standard to measure the ability of executives. It leads to the close relationship between political promotion and enterprise innovation ability, which eases enterprises' agency problem. Performance appraisal and political promotion incentives promote executives to improve innovation performance.

Executives with outstanding innovation performance are more likely to be recognized by the government, thus achieving political promotion [6]. Based on policy protection and assessment pressure, SOE executives will improve innovation performance and strive for promotion opportunities. When the promotion probability of executives is small, there is no motivation to improve enterprise innovation efficiency, resulting in lower innovation performance than SOEs with substantial promotion opportunities. Based on this assumption, hypothesis 1 is put forward:

Hypothesis 1: executive political promotion incentive will have a significant positive impact on SOEs' innovation performance.

2.2. Mediating Effect of R&D Investment

According to the political tournament theory and agency theory, SOEs' executives can use their management authority to grab personal private interests and obtain some inherent benefits, such as entering the government to take office, more network resources and on-the-job consumption. It can be seen that when the monetary compensation incentive is insufficient, political promotion incentive becomes a possible implicit incentive mode, which restricts the operation and investment behavior of executives. Compared with the internal promotion and salary incentive, external political advertising is more useful for the executives. Some scholars believe that management ability can't directly lead to the improvement of innovation performance, but through innovation investment decision-making and other behaviors [7]. Some scholars have found that innovation investment-related decisions, such as R&D expenditure and R&D personnel arrangement, have a significant positive impact on innovation performance [8]. R&D investment is an inexhaustible driving force to improve the performance of SOEs. As the premise of innovation activities, innovation investment and decision-making play a crucial role. As the strategic investment driver of SOEs, it has a significant impact on innovation decision-making. Therefore, hypothesis 2 is put forward:

Hypothesis 2: innovation investment will mediate the relationship between political promotion incentives and innovation performance.

2.3. The Regulatory Role of Financialization

At present, there are different conclusions about the relationship between financialization and innovation. Financial assets have high liquidity, short payback period and reversibility, while technological innovation has a substantial investment amount and long income cycle. Therefore, the profit-seeking nature of capital drives enterprises to increase investment in financial assets and invest less in fixed assets with higher risks [9]. Executives in SOEs may be inclined to benefit from commercial channels, improve corporate performance in the short term, and relieve performance appraisal pressure. As a result, "short-sighted" business behavior and less uncertain innovation investment [10]. Therefore, hypothesis 3 is put forward:

Hypothesis 3: financialization reduces the promotion effect of political promotion incentives on innovation performance.

3. EMPIRICAL TEST METHOD

3.1. Data Sources

This paper selects A-share listed SOEs in Shanghai and Shenzhen stock markets from 2014 to 2018, excluding ST, PT, financial industry, missing value, and adopts a 1% tail reduction treatment for the main variables. Among the 4452 samples, the data related to enterprise innovation comes from CNRDS. The GDP ranking data of provinces and cities come from the official website of the Statistics Bureau, and the financial data of enterprises come from the CSMAR database.

3.2. Model Design

According to the existing literature [11] and the criterion of mediating effect The following equations are constructed to verify hypothesis 1 and hypothesis 2: equation (1) reflects the relationship between the independent variable (PP) and dependent variable (INV); equation (2) analyzes the influence of independent variable (PP) on the intermediate variable (RD); equation (3) explains the collective impact of an independent variable (PP) and intermediary variable (RD) on a dependent variable (INV), in which the independent variable (PP) and intermediate variable (RD) are concerned The change of coefficient size and significance.

$$Inv_{it} = \alpha_1 + \beta_1 PP_{it} + Controls + \sum Industry + \sum Year + \varepsilon_1 \tag{1}$$

$$RD_{it} = \alpha_2 + \beta_2 PP_{it} + Controls + \sum Industry + \sum Year + \varepsilon_2 \tag{2}$$

$$Inv_{it} = \alpha_3 + \beta_3 PP_{it} + \beta_4 RD_{it} + Controls + \sum Industry + \sum Year + \varepsilon_3 \tag{3}$$

To test hypothesis 3, we add the cross multiplication term between financialization and independent variables in the model (1):

$$Inv_{it} = \alpha_5 + \lambda_1 PP_{it} + \lambda_2 Fina_{it} + \lambda_3 PP_{it} \times Fina_{it} + Controls + \sum Industry + \sum Year + \varepsilon_4 \tag{4}$$

Where α_i is the constant term in the equation, β_i and λ_i are the coefficients of each variable, control is the control variable, and ε_i is the error term of the equation.

3.3. Definition of Variables

(1) Innovation performance (INV): We take the number of patents granted, and invention patents granted as innovation performance indicators, and take logarithm after adding one respectively. Due to the lag of patent

grant, in the robustness test, the $T + 2$ -period data of innovation performance is used for robustness tests.

(2) An incentive for the political promotion of senior executives (PP): referring to the research of Lu Xin et al. [4], this paper constructs a comprehensive index with eight variables to measure the incentive intensity of political promotion of executives, and reflects the incentive opportunities and environment of political advancement faced by executives through multi-dimensional index construction. The values of these indicators are 0 or 1, and the meanings when they are equal to 1 are as follows. Grade (= 1) indicates that the actual controller is a central or state agency; Aroe (= 1) suggests that the return on net assets is higher than the average value; Sex (= 1) argues that the gender of senior executives is male; ID (= 1) indicates that the senior executive was once a deputy to the National People's Congress or a member of the Chinese people's Political Consultative Conference; Exp (= 1) indicates that senior executives have worked in government departments; Area (= 1) suggests that the enterprise headquarters are in the top 15 provinces of GDP in China; Acpir (= 1) indicates that the value maintenance and appreciation rate of capital are higher than the average value; Age (= 1) suggests that the senior executives are under 50 years old.

(3) Innovation investment (RD): divide the R&D expenditure by the total assets at the end of the period as the measurement standard of innovation investment activities. R&D is defined as the proportion of R&D expenditure in the operating income at the end of the period.

(4) Adjustment variables and control variables. Fina is selected as the moderating variable; the control variables are selected as follows: enterprise size, enterprise growth, return on total assets (ROA), the proportion of net cash flow from operating activities to total assets (cash), asset-liability ratio (Lev), etc. In regression analysis, industry and year dummy variables were controlled, and heteroscedasticity robust standard error was used.

4. EMPIRICAL TEST

4.1. Descriptive Statistics

The descriptive statistics of the main variables show that the average value of political promotion incentive (PP) of executives is 0.460, indicating a widespread political promotion incentive for executives. The ordinary benefits of RD1 and RD2 are 0.014 and 0.027, meaning that the R&D level of SOEs is generally low. The correlation coefficients of the main variables were all lower than 0.4, and there was no severe multicollinearity between variables.

4.2. Political Promotion Incentive and Innovation Performance

As shown in column (1) of Table 1, the impact of executive promotion incentives on innovation performance is significantly positive at 1%. It can be attributed to macro and micro factors. First of all, in terms of macro policy, we should advocate the responsible persons of SOEs to undertake the responsibility of promoting overall innovation and lead SOEs to play an exemplary role in social change. Secondly, from the micro-level, the policy increases the evaluation of innovation performance and allows the moderate risk and loss caused by innovation failure of executives. Based on this, executives have the incentive to take measures to improve enterprise innovation performance actively. Therefore, the conclusion of hypothesis 1 is confirmed.

4.3. The Mediating Effect of R&D Investment

In column (2) in Table 1, innovation input (RD1) has a significant positive impact on innovation performance at the level of 5%. It can be seen from column (3) that the coefficients of an independent variable (PP) and regulatory variable (RD1) are still significant, and the coefficient of an independent variable (PP) is significantly decreased by 0.015, which indicates that innovation input plays a part of the intermediary role. Under the effect of macro policy and appraisal, executives improve innovation performance by increasing R&D investment. The R&D investment index of column (4) and (5) is RD2, and the conclusion is consistent with the above. Therefore, political promotion can effectively stimulate executives to improve innovation performance. Accordingly, hypothesis 2 is tested empirically.

4.4 The Moderating Effect of Financialization

4.4.1. Impact of Financialization

It can be seen from column (1) and column (2) of Table 2 that if the degree of financialization is low, the coefficient of political promotion incentive on innovation performance is greater. Furthermore, it can be seen from column (3) that the cross multiplier (PP \times Fina) is significantly negative at the level of 1%, which verifies the relationship between reverse financial regulation of political promotion incentives and innovation performance. The improvement of the level of financialization reduces the R&D investment and then reduces the innovation performance. Accordingly, hypothesis 3 is confirmed.

Table 1 The mediating effect of R&D investment

| | (1) Inv | (2) RD1 | (3) Inv | (4) RD2 | (5) Inv |
|----------------|--------------------|-------------------|--------------------|------------------|--------------------|
| PP | 1.254*** (9.09) | 0.027** (2.20) | 1.239*** (9.01) | 0.054* (1.85) | 1.244*** (9.04) |
| RD 1 | | | 0.530* (1.83) | | |
| RD 2 | | | | | 0.174** (2.45) |
| N | 4452 | 4452 | 4452 | 4452 | 4452 |
| R ² | 0.494 | 0.006 | 0.496 | 0.003 | 0.495 |

t statistics in parentheses,* p < 0.1, ** p < 0.05, *** p < 0.01.Control variables, year and industry is controlled.

Table 2 Impact of Financialization

| | (1) High | (2) Low | (3) Cross Multiplier |
|--------------------|--------------------|--------------------|-------------------------|
| PP | 0.840*** (3.40) | 1.381*** (7.99) | 1.571*** (8.21) |
| PP×Fina | | | -2.591*** (-2.66) |
| Fina | | | 1.228*** (2.66) |
| N | 1583 | 2869 | 4452 |
| Adj.R ² | 0.533 | 0.477 | 0.494 |

t statistics in parentheses,* p < 0.1, ** p < 0.05, *** p < 0.01.Control variables, year and industry is controlled.

4.4.2. Grouping Test

In Table 3, group regression is conducted according to the level of enterprise financing constraints, listing years and leverage ratio. Compared with the control group, when the enterprise financing constraint is low, the listing period is short, and the asset-liability ratio is low, the inhibition effect of financialization on the relationship between political promotion incentive and innovation performance is more significant; this may be since when the financing constraint and leverage ratio are low, enterprises are easier

to obtain Taking loans, there are surplus funds to meet the needs of financial investment outside the daily operation and management. Through investment in financial assets, the enterprise can also obtain short-term income; when the listing period of the enterprise is short, it is generally in the start-up and growth period and has flexible cash flow and rapid expansion scale, to obtain short-term income by allocating financial assets, to alleviate the funds caused by scale expansion Pressure.

5. ROBUSTNESS TEST

In this paper, the following robustness tests are carried out: first, we use the last two periods to regress. Results, as shown in column (1) of Table 4, political promotion incentives are significantly positively correlated with the number of patents granted in the next two years. Secondly, it verifies the mediating effect of lagged innovation investment on the relationship between political promotion incentive and innovation performance. (2) to (5) are the results of the lag mediating effect of R&D investment. Among them, the mediating variable in columns (2) to (3) is the proportion of R&D investment in total assets. The incentive coefficient of political promotion significantly decreases by 0.014. The incentive coefficient of political promotion and innovation investment is significant after the decrease, verifying the partial mediating role of innovation investment. The proportion of R&D investment in operating revenue in columns (4) to (5) verifies the mediating role of innovation investment. Thirdly, considering the characteristics of innovation performance with a large number of zero value, low value and positive integer, Poisson and Tobit method are used to recalculate, and the positive incentive of political promotion incentive to innovation performance is highly significant at the level of 1%, which verifies the robustness of the results. Fourthly, the number of patents granted by the explanatory variable is replaced by the number of invention patents granted, which verifies the positive correlation between political promotion incentive and innovation performance, and the mediating role of R&D investment on political promotion incentive and innovation performance.

Table 3 Grouping Test

| | (1) Financing ⁺ | (2) Financing ⁻ | (3) Age ⁺ | (4) Age ⁻ | (5) Lev ⁺ | (6) Lev ⁻ |
|--------------------|-------------------------------|-------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| PP | 2.000*** (5.75) | 1.504*** (6.76) | 0.991*** (3.87) | 2.387*** (7.49) | 1.371*** (4.84) | 1.831*** (6.57) |
| Fina | 0.684 (0.67) | 1.690*** (3.03) | 0.534 (0.88) | 2.994*** (2.85) | 0.920 (1.05) | 1.658** (2.53) |
| PP×Fina | -1.566 (-0.73) | -3.720*** (-3.15) | -0.987 (-0.77) | -6.738*** (-3.04) | -2.161 (-1.14) | -3.228** (-2.39) |
| N | 1893 | 2559 | 2540 | 1912 | 2274 | 2178 |
| Adj.R ² | 0.560 | 0.376 | 0.469 | 0.535 | 0.525 | 2178 |

t statistics in parentheses,* p < 0.1, ** p < 0.05, *** p < 0.01.Control variables, year and industry is controlled.

Table 4 Robustness Test

| | (1) | (2) | (3) | (4) | (5) |
|----------------|-------------------|-----------------|-------------------|-----------------|-------------------|
| | Inv | RD1 | Inv | RD2 | Inv |
| PP | 1.44*** (7.35) | 0.04* (1.73) | 1.42*** (7.29) | 0.08* (1.67) | 1.43*** (7.30) |
| RD1 | | | 0.40** (2.24) | | |
| RD2 | | | | | 0.14*** (2.94) |
| N | 2449 | 2449 | 2449 | 2449 | 2449 |
| R ² | 0.52 | 0.00 | 0.52 | 0.00 | 0.52 |

t statistics in parentheses,* p < 0.1, ** p < 0.05, *** p < 0.01. Control variables, year and industry is controlled.

6. CONCLUSIONS AND SUGGESTIONS

The results of this paper show that the direct relationship between political promotion and innovation performance can encourage executives to improve innovation performance. The political promotion has different incentives for different levels of executives, so we should focus on key executives. The research shows that the political promotion incentive of executives significantly improves the innovation performance, which shows that the greater the political promotion incentive faced by the executives, the more actively promote innovation and development activities; innovation investment has a partial intermediary role between the political promotion incentive and innovation performance, which indicates that political promotion incentive promotes the executives to improve innovation performance by increasing innovation investment. Besides, financialization weakens the promotion effect of political promotion incentive on innovation performance and plays a different regulatory role in different enterprise characteristics.

Under the background of deepening the reform of SOEs in China, the incentive mode and effect of senior managers' political promotion need to be further improved. Therefore, this paper proposes: first, improve the performance appraisal, pay attention to the innovation performance evaluation of executives, enhance the independent innovation ability of SOEs, and give full play to the role of political promotion in stimulating and guiding executives. Second, improve the long-term and effective executive compensation incentive system and regulatory mechanism, and activate the compensation incentive of executives through salary marketization and structure rationalization. executives pursue political promotion to make up for the compensation control loss caused by the "salary restriction order," which may lead to political pandering behavior, which is not conducive to the development of SOEs in the long run. Third, we should strengthen the supervision of state-owned assets, strictly control the proportion of financial assets, and prevent the development of the real economy due to excessive financial inhibition of enterprise innovation and R&D. Fourth, considering the characteristics of SOEs, financial status and listing years

and other different conditions, design comprehensive innovation performance evaluation indicators.

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