Research on the Impact of Mixed Reform of State-owned Enterprises on Enterprise Innovation Capability

Lin Tong

School of Economics, Guangzhou College of Commerce, Guangzhou 511363, China.

Abstract

This article mainly examines Science and Technology Innovation board listed the equity financing behavior for enterprise innovation ability will influence, this article try to win the board in 2019 listed 77 companies as samples, empirically tested in association with the equity financing SOEs mixed change, corporate performance and R&D spending the influence of three factors on enterprise innovation ability. The research shows that, for the science and technology enterprises that choose to be listed on the science and technology innovation board, although the operating income of most enterprises increases obviously when they are listed, the average R&D intensity of each enterprise only shows a slight increase, and the R&D achievements even have a trend of decline. In view of the above conclusions, this paper puts forward some policy suggestions, such as focusing on motivating the innovation enthusiasm of major shareholders, making full use of the financial leverage effect within the range of controllable risks, and guiding more capital to participate in the equity financing of sci-tech enterprises by government and enterprises, so as to promote the improvement of the innovation ability of listed companies on the science and innovation board.

Keywords

Mixed Reform of State-owned Enterprises; Science and Technology Innovation Board; Innovation Ability; Research and Development.

1. Introduction

The state-owned economy has always been an important pillar of the Party's ruling and rejuvenating the country. The Decision adopted at the Fourth Plenary Session of the 19th CPC Central Committee stressed the need to explore various forms of public ownership, optimize the distribution and structural adjustment of the state-owned economy, develop a mixed-ownership economy, enhance the competitiveness, innovation, control, influence and risk resistance of the state-owned economy, and make state capital stronger, better and bigger. Since the reform and opening up, the reform of state-owned enterprises has never stopped. It has been nearly 40 years since SOE reform began, from the introduction of township enterprises, the separation of government functions from enterprises, the stock market reform, to the ongoing mixed-ownership reform. This is one of the longest and most successful property ownership reforms in Chinese history, which has improved the efficiency of production and resource allocation. It may attract the focus of economic development and other academic research. Today, mixed ownership reform has become the core of the current reform of state-owned enterprises in China.

Based on the data of state-owned and non-state-owned enterprises listed on the science and innovation board, this paper tries to examine the impact of the listing on the innovation ability of state-owned and non-state-owned enterprises. By comparing the macroeconomic environment of different industries and different regions, we find that the impact on the innovation ability is different. Article fusion macro and micro perspectives, based on the
analysis of enterprise innovation ability under the premise of the important influence factors, establishing econometric model of relationship between small and medium-sized enterprise innovation ability, research different sources of financial input to the enterprise innovation ability of science and technology, and analysis of financial development level of science and technology this influence changes in different areas.

Because the innovation activity is different from the general production activity, the innovation activity has the characteristics of high risk, high investment, long cycle and uncertain return. In terms of productivity and innovation, state-owned enterprises (SOEs) have long been regarded as a proxy for inefficiency compared with non-SOEs. According to a 2017 report by the International Monetary Fund, the productivity of SOEs is on average a quarter lower than that of non-SOEs, due to agency problems, policy burdens and soft budget constraints. In addition, SOE managers generally lack professional management skills, because they are usually appointed directly by the management, unlike the strong performance competition among leadership candidates in private enterprises. In addition, the policy burden is one of the main reasons why SOEs lack sufficient autonomy and flexibility.

Generally, innovation activities can only be carried out if enterprises have both innovation ability and innovation willingness. For state-owned enterprises, capital is relatively abundant, but the administrative management system and administrative intervention make the management not willing to bear the additional risk of innovation, innovation ability but lack of innovation motivation. For private enterprises, the management level is generally equipped with high market sensitivity and competitive awareness to survive in the market competition, but the enterprises often do not have strong financing ability and risk tolerance. Therefore, even if the management has a strong sense of innovation, but often lack of innovation motivation.

China's state-owned sector reform since 1978, and has long been regarded as an important task of the government, the reform and opening up for many years, in order to establish and perfect modern enterprise system, a large number of state-owned enterprise property right reform, the corporate governance structure is increasingly perfect, gradually realize the diversified ownership structure, and then develop the mixed ownership enterprise. After decades of reform, both in theory and in practice, it can be seen that the reform has brought new vitality and opportunities to the innovation and efficiency of enterprises. So, what is the effect of state-owned enterprises' mixed ownership reform? As an entry point to measure the effectiveness of SOE reform, is the mixed-ownership reform of SOEs beneficial to the improvement of enterprise innovation ability? Compared with other ownership enterprises, has the innovation ability of enterprises after the mixed ownership reform improved? This series of problems are the major issues that the society, the government and the academic circle pay attention to and discuss.

November 15, 2013, is considered to be the beginning of China's mixed-ownership reform. The Third Plenary Session of the 18th CPC Central Committee clearly put forward the mixed ownership reform of SOEs, and pointed out that the purpose of the reform is to improve the efficiency of SOEs. In August 2015, the Communist Party of China and the State Council released more details about the reform, known as the 1+N document. The documents define the reform in detail, calling for the introduction of other capital into state-owned enterprises in competing industries. This reform aims to improve the economic efficiency of enterprises, especially the efficiency of innovation. The National Development and Reform Commission (NDRC) has put forward the reform policy of improving the operation ability and innovation efficiency of enterprises by establishing the corporate governance structure with coordinated operation and effective control, perfecting the market-oriented incentive and restraint mechanism. Recently, steady progress has been made in four batches of pilot mixed-ownership reforms. The SASAC and the National Development and Reform Commission just announced on April 18, 2019, that 100 enterprises will be included in the fourth batch of pilot projects so far. The main goal of the
fourth batch of pilot is to "expand volume" and "expand area". The above policies illustrate that China's mixed-ownership reform allows other capital to merge with state-owned enterprises. The focus and purpose is to overcome the problems and shortcomings of state-owned enterprises and establish a more efficient and modern enterprise system.

2. Literature review

Most scholars agree that the innovation input and efficiency of state-owned enterprises are lower than those of enterprises with different ownership properties. State-owned enterprises are better able to make use of the national science and technology incentive policy to carry out research and innovation. The question is, why is their innovation ability low? Wu Yanbing (2007) explained that the innovation advantages of state-owned enterprises in resources and capital are offset by the inefficiency of principal-agent brought about by the impersonal property rights[1]. Zhang Wei et al. (2014) studied the property right structure of mixed-ownership enterprises, the efficiency and welfare of cooperative research and development, and found that the R&D investment level of the firm was positively correlated with the proportion of non-state-owned capital[2]. Wu Yanbing (2014) believes that mixed-ownership enterprises have the strongest technological innovation ability among enterprises of various ownership types, while state-owned enterprises are the weakest[3]. Zhang Xiufeng et al. (2015) analyzed the impact of the nature of enterprise ownership on the performance of industry-university-research cooperation in the three stages of the innovation value chain, and concluded that in the stage of knowledge innovation, state-owned enterprises are not bad; in the stage of scientific research innovation, private enterprises are significantly better than state-owned enterprises; in the stage of product innovation, The cooperative innovation performance of mixed-ownership enterprises is significantly higher than that of state-owned enterprises, while that of foreign-funded enterprises is significantly higher than that of state-owned enterprises[4]. Wang Jing and Luo Fukai (2017) believe that thanks to the governance role of mixed equity, mixed equity has a greater promoting effect on the positive relationship between technological innovation and enterprise value when decision-making rights are separated[2].

There are several reasons why SOEs are cutting back on R&D spending. The first is the policy burden (Lin & Tan, 1999)[3]. The government will implement strong intervention measures on business operations to achieve certain political objectives (1994), which will enable state-owned enterprises to take short-term investment decisions in special political objectives, give up the risks and profits of investment projects with new high levels, and generate less new technological innovation (Gao, Xu,& Li,2018). The cross-shareholding among different classes of capital is one of the objectives of mixed ownership reform, which will increase the intervention cost of the government in privatized companies (Sappington & Stiglitz, 1987) and help companies to carry out more value-added innovation activities[4].

Second, corporate governance. The agency problem is more serious in state-owned enterprises due to the lack of effective incentive and supervision mechanism for managers (Laffont & Tirole, 1993)[2]. Mixed ownership reform can help enterprises improve corporate governance, reduce the moral hazard of managers, and encourage enterprises to carry out innovation activities by increasing the proportion of non-state shares, employee stock ownership plan and improving the state-owned capital operation system. This may be consistent with Aghion, Van Reenen and Zingales(2013). Aghion, Van Reenen and Zingales(2013) find that more institutional ownership is associated with more innovation, and they explore the mechanism contrary to the "lazy manager" hypothesis[5].

Third, administrative monopoly. Unlike other forms of monopoly, administrative monopoly erects barriers to competitors through licensing, resulting in lagging productivity and
Innovation. Mixed ownership reform introduces competition by breaking monopolies and forcing SOEs to improve production efficiency and innovation.

3. Possible reasons for the mixed reform of state-owned enterprises to promote innovation

Mixed ownership reform of state-owned enterprises has significantly promoted the innovation of enterprises. Possible reasons are as follows:

3.1. The characteristics of high risk and high investment in innovation

Different from general productive activities, innovation activities of enterprises are characterized by long-term nature, uncertainty, high risk and high input. Because of the long-term nature and uncertainty of innovation, state-owned enterprises will not stimulate innovation by improving corporate governance structure, resulting in the loss of innovation efficiency of state-owned enterprises is greater than the loss of production efficiency. The characteristics of high risk and high investment in innovation make the managers of state-owned enterprises have a higher probability of innovation failure and higher cost, so that the possibility of earning profits through innovation is reduced. Many studies have confirmed that the managers of state-owned enterprises have no incentive or motivation to make innovation investment, and the innovation efficiency of state-owned enterprises is low compared with other ownership enterprises. Therefore, the mixed ownership reform of state-owned enterprises and the addition of private capital or foreign capital and other non-state-owned capital into state-owned capital can enable the restructured enterprises to absorb diversified capital investment, expand research and development funds and increase technical resources.

3.2. Actively cooperate in technology and management

Mixed ownership reform of state-owned enterprises can enable investment subjects to complement each other and actively cooperate in technology and management and integrate superior resources of enterprises, so as to realize scale economy and specialized division of labor, promote enterprises to increase investment in research and development and improve the quality of product innovation, so as to improve the innovation ability of enterprises.

3.3. Reducing the policy burden of enterprises

In the process of mixed ownership reform of state-owned enterprises, the government reduces the proportion of state-owned shares in enterprises by transferring part or all ownership of state-owned enterprises to non-state-owned economic entities. The reduction of state-owned equity ratio will reduce the political pressure exerted by the government on enterprises, thus reducing the policy burden of enterprises, which is conducive to enterprises to achieve the business goal of maximizing profits by carrying out more innovative activities.

3.4. The entry of diversified capital

In the absence of supervision and incentive mechanism, the management of state-owned enterprises tends to make more stable investment, and less to participate in innovative investment with greater risk. After the mixed ownership reform of state-owned enterprises, the entry of diversified capital is conducive to the non-state-owned economic subjects to obtain partial ownership of enterprises, so that the enterprise management has the motivation to engage in innovative activities under the supervision and incentive mechanism.

4. Conclusion

Based on the above analysis, the following suggestions are proposed:
First of all, in terms of the selection of listed enterprises on the science and technology innovation board and the contents of enterprise information disclosure after admission, we suggest that information should be included in three aspects simultaneously: R&D input, R&D output and economic benefits. Specific index information should be able to support investors to make reasonable judgments on R&D efficiency (R&D output/R&D input) and R&D benefit (economic benefit/R&D input) of R&D enterprises.

1. Enterprise R&D input information
   In order to evaluate R&D input, it is necessary to include basic information that can reflect the scale of the enterprise, including manpower input and capital input. In the research and development investment, the better application effect is the amount of additional deduction for research and development.

2. Patents and unique indicators of various industries, such as new drug varieties, integrated circuit layout, crop varieties and quantity, are widely used in the evaluation of R&D output of enterprises.

   The overall profit information of the enterprise can be reflected by operating income, total profit, total tax and its growth rate. In addition, it is necessary to disclose the situation where R&D generates profits, such as revenue from sales of new products. At present, the definition of sales revenue of new products needs to be studied by different industries.

Secondly, technology research and development achievements are included in the performance assessment indicators of mixed-ownership enterprises. The "general" backwardness of scientific research investment of important enterprises will inevitably lead to the shortage of long-term sustainable competitiveness, and will inevitably affect the effective implementation of the transformation of old and new driving forces in Shandong Province. Therefore, it is necessary to take technology research and development as a hard index for performance assessment of mixed-ownership enterprises, promote technological progress, and change the soft constraint of technological progress into a hard one. As an appropriate compensation for the R&D input cost, the government can give corresponding R&D preferences to mixed-ownership enterprises, such as preferential treatment in taxation, subsidies and other policies, and give preferential treatment to important scientific research achievements.

   If appropriate incentives are given, a long-term mechanism to promote scientific research investment and technological progress should be established as soon as possible.

Mixed ownership reform in China is an initiative reform under the arrangement of administrative power, and it takes it for granted that the ownership structure is an exogenous variable. However, Cao Tingqiu et al. (2007) found that the ownership structure is endogenous. Wu Yanbing (2012) believes that innovation has a special attribute different from general production, and the reform measures of state-owned enterprises carried out cannot help to achieve the matching of residual claims and residual control rights generated by innovation, so the innovation efficiency of state-owned enterprises cannot be improved. This means that we should not take the change of equity composition as the purpose of reform. It is just a means.

   The purpose of reform is to play its supervisory and supervisory role by increasing the proportion of non-state-owned equity, so as to encourage managers of mixed-ownership enterprises to strengthen innovation, improve performance and create more social wealth.

In addition, the empirical study on the innovation kinetic energy of human capital such as activating scientific and technological talents in various forms such as employee stock ownership shows that "mixing" only in the ownership structure cannot effectively promote the effective optimization and reorganization of capital and labor force, but technological progress. Finally, still depends on the kinetic energy of human capital innovation, it will need to continue to explore creative in the proper way to activate human capital, the literature suggests that employee shareholding is one of the more effective incentive ways, the key is what type of
employees have more creative potential and be stimulated, and the majority employee-owned policy in China are in favors of the "management", obviously biased, It is worth further study.

Acknowledgments

This work was financially supported by the University-level important construction project of Guangzhou College of Commerce in 2018(NO. 2018XJZDK03).

References