

Evolution Mechanism on Non-State-Owned Science and Technology Enterprises Development Policy in China

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Abstract—Non-State-Owned Science and Technology Enterprises have become a force to promote technological development and innovation. In general, although Non-State-Owned Science and Technology Enterprises remain sustainable and healthy development, but they bear the impact of the global financial crisis and industrial policy changes and other factors, and they suffer the great difficulties, stand historical turning point on. The analysis of Non-State-Owned Science and Technology Enterprises development policy would conduce to identify the shortage of policies and proposal the reasonable measures. It found that policy desalination, the problems in tax policy support, and the talent problem are the main reason to hinder the development of the Non-State-Owned in China.

Index Terms—Non-State-Owned Science and Technology enterprises, policy, problem, measures

I. INTRODUCTION

Non-state-owned science and technology enterprise is a new form of business organization along with China's reform on system of economic and science and technology. It has walked development process from small to large, and from weak to strong. Currently, it has become an important part of science and technology enterprises and an important force in the national economy. At present, they have become the most active and the most obvious economic growth point in the national economy. They play an important role in promoting economic development and providing employment for the country and the society. There are several obvious advantages of Non-State-Owned science and technology enterprise, the management form is flexible, the market-degree is high and social burden is relatively low. Currently they are in the process of changing from the initial stage of development to the middle stage of deve

lopment. Their transformation and development direction is more reasonable and more scientific. At the same time, Non-State-Owned science and technology enterprise also have the problems of small scale, single product, unscientific management and short life cycle. Although some enterprises are actively looking for their

own development path, but still have the majority of enterprises in the old development model.

II. POLICY EVOLUTION

Non-state-owned science and technology enterprise is a new thing in our science and technology system innovation, is a product of our enterprise system innovation. Hangzhou Institute of Application Cross Technology as the first Non-state-owned science and technology enterprise in China was born in 1979, "The Department of Developmental Services of Plasma Advanced Technology Institute" was born in 1980 in Zhongguancun, they broken the dominance of state-owned technology enterprises impasse and opened the beginning the new historical period of development of non-state-owned science and technology enterprise. With the continuous expansion of private technology enterprises scale and scope of activities, the party and government attach great attention to its development, unveiled a series of policy to allow and encourage the development.

A. The Policy of Exploration Stage (1980s)

"CPC Decision on the Reform of the Science and Technology System" published in March 13, 1985, issued clearly stated "Allowing the collective and individual to establish scientific and technical services", and called "The local government should manage the services and give guidance and assistance." The Decision has created a very relaxed policy environment for most of members of scientists and technicians, encouraged more scientists and technicians involved in this reform practice, so that the development of private scientific institutions appeared the first climax.

Subsequently, the State Council introduced a number of policies on reform on science and technology system. Especially the "Decision on Deepening the Reform of Science and Technology Issues" published in March 1988 continued to encourage and promote the development of private scientific institutions, further proposed research institutions involved in research and production business entities, guided the state-owned research institutes, colleges and universities, large and medium enterprises to set up new technology enterprises with the extra-budgetary funds according to the business

model of private science and technology institutions. These enterprises were not the same as private science and technology institutions, but they were a new management mechanism, constituted a Chinese characteristics private technology enterprise group with others. Then non-state-owned science and technology enterprises entered the second surge of development. As the end of April 1989, private scientific institutions registered in the business sector and approved by the county, district Science and Technology Commission were about more than 15,000, full-time employees reached about 30 million, and total revenue has more than 40 billion yuan [1].

B. *The Policy of Growth Stage (1990s)*

China's gradually entered the main battlefield of technology, became new force with vibrant, full of competitiveness, with unlimited growth potential.

Southern tour speech by Deng Xiaoping in 1992 theoretically clarified a series of problems such as the "Capitalist or Socialist" and "Plans or Market", proposed "three favorable" standard, ended development situation of ups and downs of non-state-owned science and technology enterprises, very great promoted it to development. In the same year, Report of the 14th National Congress of CPC proposed ownership structure was "It was common development of public ownership as the main body including state-owned and collectively owned economy, and the individual economy and the private economy as supplement ingredients. The report provided a good basis for non-state-owned science and technology enterprises in China. During this period, non-state-owned science and technology enterprises have developed rapidly. According to statistics of Ministry of Science and Technology of the People's Republic of China, there were 25797 non-state-owned science and technology enterprises in 1992, achieved total revenue about 29.7 billion yuan, exported worth about \$ 195 million, gained gross profit about 3.3 billion yuan, taxed about \$ 1.2 billion [2].

The former Ministry of Science and Technology of the People's Republic of China and the former State Commission for restructuring jointly issued "Decision on the Development of non-state-owned science and technology enterprises" in June. "National Conference on Non-State-owned Science and Technology Enterprises" convened in same year in Zhengzhou, it announced and raised the "private" flag. These initiatives create a favorable external environment for further development of non-state-owned science and technology enterprises.

"CPC and State Council Decision on Accelerating Scientific and Technological Progress" issued non-state-owned science and technology enterprises were effective strength for the development of high-tech industry in China, must continue to encourage and guide their healthy development". This was the first use the concept of non-state-owned science and technology enterprises in CPC document. "State Council Decided on Deepening Reform of Science and Technology during the 'Ninth Five Plan'" emphasized "It would continue to encourage the development of private science and

technology enterprises." The former Ministry of Science and Technology of the People's Republic of China and the State-owned Assets Supervision and Administration Commission has issued four policy documents, the spirit of these was "who invests, who all", these definite non-state-owned science and technology enterprises, and basically solved historical issues that it long plagued the healthy development of non-state-owned science and technology enterprises.

A series of theoretical broken through after the "Fifth Session of the National People's Congress" provided a theoretical and policy basis. Revised "Several Opinions on Promoting the Development of non-state-owned science and technology enterprises" by Ministry of Science and Technology of the People's Republic of China in 1998 made a new more flexible definition on non-state-owned science and technology enterprises.

CPC and the State Council jointly issued "Decision on Strengthen Technological, and development high-tech, and industrialization", it cleared "non-state-owned science and technology enterprises was a new force during he development of the national high-tech industry", "to help and support non-state-owned science and technology enterprises solve the problem of unclear property rights", "allow non-state-owned science and technology enterprises to use options and other forms, mobilize enthusiasm of innovative technology professionals and management personnel". In the same year, the introduction on "Decision on the Promotion of Scientific and Technological Achievements" and the establishment of national SME innovation fund set off a new round to found non-state-owned science and technology enterprises and continues today.

The policy showed by national have recognized the importance of the development of the private economy, made developing non-state-owned science and technology enterprises as an important work of the country's economic development, and paid attention to it. The enhance environment of policy became a force building for the growth rate of non-state-owned science and technology enterprises. By 1999, there were 79477 non-state-owned science and technology enterprises, and achieved industrial output value about 962total income of Trade and Industry about 1045.6 billion yuan, profit 68.3 billion yuan, taxes 55.9 billion yuan[2].

C. *The Policy of Comprehensive Development Stage (The First Seven Years of the 21st Century)*

China continued to improve the policy environment in the 21st century. There were several important breakthroughs on private economic theory and policy innovation.

Firstly, the report including six people as builders of socialism not only broken the limitations of the policy of non-state-owned science and technology enterprises, but also provided a solid foundation, and the same time proposed new development requirements[3].

Secondly, support for non-state-owned science and technology enterprises showed in the Report of the 16th National Congress of CPC indicated the private economy would usher in a golden period, and non-state-owned

science and technology enterprises would usher in a new spring growth [4].

Thirdly, the theoretical on the development of private economy have been gradually transformed into concrete laws and policies after the 16th National Congress of CPC. For example, "CPC Decision on a Number of Issues of Perfecting the Socialist Market Economic System" published in October 2003, "Several Opinions on Encouraging and Suggesting and Guiding the Non-public Economic Development" published in February 2005, "National Plan on Medium- and Long-term Science and Technology Development (2006-2020)" published in February 2006 and so on brought unprecedented opportunities for development of the private economy. Especially 2004 Constitution Amendment twenty-second provision on "Don't violate lawful private property of citizens", it was milestone significance of private property into the Constitution, which was long-term and profound impact for promoting the development of private economy, building Chinese characteristics socialism. The theoretical system of Chinese social characteristics proposed by the Report of the 17th National Congress of CPC has provided a strong political guarantee. Since then, non-state-owned science and technology enterprises once again ushered in a great development opportunity.

D. The Policy of Transition Phase Stage (Since 2008)

Since the 2008 financial crisis, from the central to local levels of government have introduced policies to support, and organized work to help. These measures included to increase the amount of credit, reduce the burden on enterprises and stable capital markets and so on.

In 2010 the State Council promulgated "Opinions on Encouraging and Guiding the Healthy Development of Private Investment" (known as "the New 36") and a series of policy measures to encourage and guild private capital into areas of access that haven't been prohibited by the laws and regulations. In order to implement national policy the relevant state ministries and commissions actively supported and carried out measures. For example, National Development and Reform Commission issued "Opinions on Encouraging and Guiding Non-state-owned Enterprises to Strategic Emerging Industries". It and Ministry of Science and Technology of the People's Republic of China jointly drafted "Opinions on Accelerating the Construction of Non-state-owned Enterprises institutions in R & D". It jointed 12 units formulated "Opinions on Encouraging and Guiding Non-state-owned Enterprises to Actively Invest Abroad" etc. Under the guidance of national policy, Beijing, Shanghai, Tianjin and other places have been introduced supporting policies associated with non-state-owned enterprises, these policies and measures has played a certain role for development of private enterprises.

III. POLICY DEFICIENCIES IN EVOLUTION

The results achieved by non-state-owned science and technology enterprises in China haven't separated with

support of national policy, especially local policy. Since 1993 to 2007, the provinces and municipalities have made the decision to develop non-state-owned science and technology enterprises, and 19 provinces and regions have legislated by National People's Congress Standing Committee of the regions. They have issued "Development Act on Non-state-owned Science and Technology Enterprises" and "Regulation on Non-state-owned Science and Technology Enterprises". But as the financial crisis swept the globe since 2008 to 2009 and Ministry of Science and Technology of the People's Republic of China stopped the statistics of national, they began to face enormous pressure and challenges.

A. Policy Desalination

According to statistics, only Shanghai, Jiangsu, Hubei and a few others provinces and regions continued to manage and statistics the relevant data on non-state-owned science and technology enterprises. Most of provinces and regions have appeared the phenomenon diluting the policies and laws. Prior Decision and Regulations were no longer run properly, even after the 6th country document issued by State Council in 2006. In the process, national R & D and tax incentives have more gone to central level scientific research institutions, colleges and universities, state-owned enterprises and other departments, while non-state-owned science and technology enterprises as the main force of technological innovation were ruthlessly excluded from the policy.

B. The Problems in Tax Policy Support

The tax incentives issued in 1980s and 1990s including corporate income tax return, a zero tax rate levied by fixed asset investment direction adjustment tax, etc. were an important measure to guild non-state-owned science and technology enterprises to innovated activities in regions, and have played a huge role in promoting development and industrialization of scientific and technological achievements. But after 2008, only Shanghai, Jiangsu, Hubei and a few others provinces and regions insisted some preferential tax policies, most other provinces were no longer running. The state tax department began to shift the focus of tax incentives to high-tech zones and high-tech enterprise, and place non-state-owned science and technology enterprises outside the scope of the national R & D funding policy. These initiatives were obviously extremely unreasonable because the total R & D investment community has been more than 50% of non-state-owned science and technology enterprises [5].

In addition, there was a "logical problem" on tax incentives. The current tax policy was a problem to non-state-owned science and technology enterprises and high-tech enterprises, because it mainly focused on relief. It needed a process from initial investment to scientific and technological achievements into practical productive forces, which doomed the enterprises can't get the higher earnings, therefore many companies were difficult to benefit from income tax relief.

C. The Outstanding Problems in Talented Person

Talent is source of strength to promote the healthy development of enterprises, non-state-owned science and technology enterprises are no exception. But as the war for talent intensified, the cost of employment raised and high-tech talent gathered to economically developed areas, the growth non-state-owned science and technology enterprises or which in remote areas often have to pay higher costs than large companies to attract long-term retention of talent, appeared to be inadequate, and were at a disadvantage in competing. While some non-state-owned science and technology enterprises adopt a series of measures in talent management, but it does not solve the fundamental problem of talent, need to continue to strengthen initiatives.

Secondly, because a lot of non-state-owned science and technology enterprises are family management, some lack of management innovation. According to statistics, about 80% of non-state-owned science and technology enterprises human capital are still in the initial evolution from “experience” to “complex technology management”. And in the market they are more accustomed to “experience-based” business philosophy and “patriarchal” management mode. The traditional family management mode often becomes an obstacle to the personal development for employees. Thereby they have restricted the development and growth of private technology enterprises.

IV. CONCLUSION AND POLICY RECOMMENDATIONS

Policy support is an important manifestation to optimize the innovation environment, and an important means to encourage business innovation. In recent years, especially after 2008, although the country supported innovation through the integrated use of fiscal and financial policy, continued to promote the project, funding, personnel and other resources for innovation into enterprises, but compared to the state-owned enterprises, the policy was relatively thin, support was relatively low. “The Research and Analysis Report on Top 500 Private Enterprises in China in 2013” released by All-China Federation of Industry and Commerce showed a net profit after tax, sales, and assets had decreased. Asset turnover and per capita have yet declined. The majority of enterprises have faced a lot of constraints, especially the raise of labor costs, raw material costs, capital costs, and talent lack and so on. These resulted in shrinking the profit margins, reduced business efficiency. How to reverse the current situation and enhance innovation capability were not only need enterprises to change their own development and but also need the government to strengthen policy support, providing a favorable policy environment.

A. Restart Statistics and Identify Policy on

Non-state-owned Science and Technology Enterprises

Private enterprises have become an important force in China’s economic development and an important component of the socialist market economy. As of the end of August 2013, total operating income of private

enterprises has more than ten trillion, operating income over billions of companies have more than ten [6]. Since Ministry of Science and Technology of the People’s Republic of China suspended statistical work on non-state-owned science and technology enterprises, many people have confused non-state-owned science and technology enterprises, high-tech enterprises and innovative enterprises. Which caused in policy support existed duplication and deviations. While these three enterprises are indispensable in the current and future economic development, but non-state-owned science and technology enterprises have a more inclusive in business ownership, technical personnel, financial management, etc. Restart annual statistical work, issue relevant statistics and identify policies will provide a good theoretical reference to define the boundaries on non-state-owned science and technology enterprises and grasp the development.

B. Improve the Investment and Financing and Tax Policy

Funding is an important guarantee for the development of scientific and technological innovation. But financing and tax are currently restricting non-state-owned science and technology enterprises development bottleneck [7]. Though “the New 36” and other policies have relaxed restrictions on non-state-owned science and technology enterprises and promoted their development in some aspects, but we should also see that the restrictions on private capital investment has not really relax. Especially for small and medium sized, start-up and growth companies, they generally often suffer unfair treatment competing with other state-owned enterprises and other administrative injustice, face financial pressure and so on. Therefore, in order to alleviate the too burden on tax, unreasonable burden on businesses and support more funding to technological innovation, it should recommend government to regardless the state-owned or private, implement uniform tax relief policies for new establishing company.

We also see that the lack of investment in innovation remains an important factor restricting non-state-owned science and technology enterprises enhance innovation capability. Although some enterprises continue to increase investment, get rid of internal barriers and enhance R & D results, but compared to the state-owned enterprises, R & D investment is still low, the overall level of technological innovation is not high enough. Therefore, the state should increase the relevant deduction guiding policy on technology research and development, technology transfer implementation to increase R & D and technology transfer efforts, and punish violation.

C. Implement Effective Personnel Policy

The non-state-owned science and technology enterprises require should be included in country or region personnel planning. On the basis of national personnel policy, the country should increase to train and to manage high-level and technical key person, to advise region government to draw up supporting the

development of policies and measures. The state should let local governments to participate in talent training, and create the conditions to implement plans to support the development of non-state-owned science and technology enterprises. At the same time, it should strengthen human resources development and vocational trainings, bring up a number of complex talents who understand technology, will operate and management. It should encourage a certain scale enterprises to establish their own system manager. These non-state-owned science and technology enterprises should improve the internal distribution system, actively explore and apply incentive and restraint mechanisms recognized in international to retain key personnel and a number of top-flight talents.

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