

Research on the Relationship between Government Subsidies and Innovation Development of High-tech Enterprises Based on the Perspective of Life Cycle

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Abstract: Based on the innovation-driven development strategy, it is of great significance to stimulate the innovative development of high-tech enterprises. In recent years, the state has strengthened the subsidies for the R&D investment of high-tech enterprises. Government subsidies, as an important means of national macro-control, play a pivotal role in supporting the innovation and development of high-tech enterprises, and effectively promote the innovation and development of high-tech enterprises. However, there are still some problems in government subsidies at this stage, which need to be improved gradually. Based on the perspective of life cycle and theoretical analysis and practical investigation, this paper deeply analyzes the impact of government subsidy policies on different stages of the life cycle of high-tech enterprises, explores the mechanism of government subsidy policies in promoting technological innovation of high-tech enterprises, and finally puts forward suggestions for improving government subsidy policies based on the life cycle theory.

Keyword: government subsidies; high-tech enterprises; life cycle; innovate

1. Introduction

With the promulgation of relevant national policies to encourage the innovation and development of high-tech enterprises in recent years, the government subsidy policy as a means of financial transfer payment has played an important role. Government subsidy, also known as government subsidy, is a government behavior in which specific government departments or organizations transfer economic benefits to micro-subjects, aiming to support and encourage technological innovation activities. The forms of government subsidies are mainly financial subsidies, technical incentives and tax relief policies. According to the statistical results of relevant data, the basic situation of government subsidies in recent years, both the amount of subsidies and the number of subsidized enterprises have shown an increasing trend year by year. It can be seen that government subsidies have become a “driver” to promote the innovation and development of high-tech enterprises.

Government subsidies provide financial support for the technological innovation of high-tech enterprises. At the same time, with the strong support of government subsidy policies, high-tech enterprises accelerate the cultivation of technological innovation of enterprises, which makes the quality and quantity of innovation input and innovation output of high-tech enterprises continue to grow, especially the number of invention patents increases year by year, and the growth rate also increases year by year. The technological innovation activities of high-tech enterprises have developed rapidly, and the innovation performance has been significantly improved. It can be seen that government subsidies play an important role on the road of technological innovation of high-tech enterprises and effectively promote the innovative development of high-tech enterprises.

2. The Important Role of Government Subsidies in the Innovation and Development of High-tech Enterprises

As mentioned above, government subsidies, as an important tool of national macroeconomic regulation and control, play a key role in supporting the innovation and development of high-tech industries. Government subsidies greatly reduce the risk of technological innovation and ease the financial pressure of high-tech enterprises. Through policy guidance, high-tech enterprises can avoid blind innovation and improve their innovation performance.

(1) Provide Financial Assistance for Innovation and Mobilize the Impetus for Enterprises to Innovate

Government subsidies provide innovative financial assistance to high-tech enterprises, prompting enterprises to invest more funds in independent research and development process, and stimulate the innovation potential of high-tech enterprises. On the other hand, the government’s subsidies for high-tech research and development also convey the signal that research and development projects may have good prospects for development, which further strengthens the determination of high-tech enterprises to research and development, and mobilizes the power of enterprise innovation.

(2) Ease the Constraints on the Amount of Capital and Reduce the Risk of Enterprise Innovation

High-tech enterprises generally have the characteristics of large investment and high risk, and the innovation and development of high-tech enterprises must have strong financial support. Government subsidies can not only help subsidized enterprises obtain direct financial support, but also encourage capital investment from other financial institutions by virtue of their influence, and provide external funds such as long-term loans and bond issuance for subsidized enterprises, so as to ease the constraints on the amount of capital in the independent innovation process of high-tech enterprises and reduce the risks of enterprise innovation.

(3) We will Strengthen Industrial Policy Guidance and Reduce the Cost of Innovation for Enterprises

As the maker of industrial policy, the government can accurately grasp the development direction of the frontier of science and

technology compared with enterprises. After obtaining government subsidies, high-tech enterprises can also obtain market policy guidance. By guiding enterprises' independent innovation behavior, the government enables enterprises to invest funds in more reasonable research and development projects, avoid blind investment in technological innovation, and facilitate high-tech products to better open the market. In this way, innovation costs of high-tech enterprises can be greatly reduced. Increase the revenue from R&D.

(4) Create a Good Market Environment and Improve the Innovation Performance of Enterprises

The government's financial subsidies, on the one hand, provide financial support for high-tech enterprises technology research and development projects, on the other hand, also create a good market business environment for enterprises, so as to bring additional resources for enterprise technology research and development innovation. Government subsidies are also a good signal, which can convey to the outside world the information that the subsidized enterprises have good investment value, build a bridge for high-tech enterprises to cooperate with external innovation entities, help enterprises get more opportunities for innovation cooperation, and help improve the innovation performance of enterprises.

3. Government Subsidy and Enterprise Technological Innovation Based on Life Cycle Theory

According to the enterprise life cycle theory, any enterprise is an organization with four life stages of establishment, growth, maturity and decline, and high-tech enterprises are no exception. High-tech enterprises in different stages of the life cycle, their R & D innovation needs are different, so there are obvious differences in the effect of government subsidy intervention in different life cycle stages. Therefore, based on the different development stages of high-tech enterprises, this paper integrates the perspective of life cycle into the conventional paradigm research that government subsidies can alleviate the capital pressure of enterprises and thus affect the innovation performance of enterprises.

At the early stage of the establishment of high-tech enterprises, capital needs are large, financing difficulties, and there are many innovation opportunities in front of high-tech enterprises, and the goal of enterprises at this time is to determine appropriate R & D investment projects in time to lay a solid foundation for future development. At this time, the issuance of government subsidies is conducive to easing the situation of capital shortage, reducing the problem of information asymmetry in the process of enterprise financing, and expanding the financing channels of enterprises.

In the growth stage, high-tech enterprises should adopt more expansionary policies and expand the scale of operation. At this time, the profit level of enterprises is unstable, the capital demand is greater, and the external financing demand is enhanced. At this time, the release of government subsidies not only alleviates the financial tension, but also the transmission of good information, which can accurately help enterprises to promote cooperative scientific research projects with stakeholders, significantly improve the R & D investment and innovation output during this period, and constantly convert high profits into accumulation to achieve the purpose of improving enterprise technological innovation.

After the growth period of enterprises lasts for a period of time, high-tech enterprises enter the mature stage. At this time, funds are gradually abundant, the external financing demand is relatively low, and the scale, venture investment ability and profitability of enterprises have reached a stable state. The operation goal of enterprises is to reduce venture investment. Therefore, the incentive effect of government subsidies on high-tech enterprises at this time is not as effective as that in the growth stage. Government subsidies cannot significantly improve the R&D input and innovation output of mature enterprises, and the driving effect of government subsidies on enterprises' independent innovation is limited. Meanwhile, enterprises' willingness to innovate and expand may decline.

When high-tech enterprises enter the recession stage, the profit level declines, the market share of high-tech products decreases, the innovation power is insufficient, and the operation is in a predicament. The business goal of enterprises is to maintain the current scale and not reduce, and the government subsidy becomes to a large extent the supporting force for high-tech enterprises to maintain the operation.

It can be seen that R&D technological innovation of high-tech enterprises is a complex and systematic activity, including innovation decision-making, innovation resource input and innovation output, and government subsidies run through the whole process of innovation activities. In terms of the whole life cycle of high-tech enterprises, with the evolution of the life cycle of enterprises, the effect of government subsidies on the R&D and innovation activities of high-tech enterprises is gradually weakened.

4. Suggestions on Improving Government Subsidy Policy Based on Life Cycle Perspective

Based on the enterprise life cycle theory, high-tech enterprises have different R&D and innovation needs at different stages of development, so there are obvious differences in government subsidy policies at different stages of life cycle. When formulating government subsidy policies, government departments should consider the characteristics of the operation and development of high-tech enterprises, and the subsidy measures should be different for enterprises in different life cycle stages.

(1) Strengthen the Orientation of Industrial Policy and Stimulate the Innovation Impetus of Enterprises in the Early Stage of Establishment

Since high-tech enterprises often face such problems as shortage of funds, lack of relevant management experience and weak market competitiveness in the early stage of establishment, the government should provide financial subsidies to high-tech enterprises in the early stage of establishment to clarify the orientation of industrial policy, transmit policy dividends, effectively solve the barriers encountered by enterprises in the process of R & D innovation, and help enterprises adapt to the market business environment as soon as possible. Maximize the release of innovative vitality of high-tech enterprises and stimulate the innovation power of enterprises in the early stage of

establishment.

(2) We Will Increase Subsidies to Help Growth-stage Enterprises Raise the Level of R&D and Innovation

For enterprises in the growth stage, the relevant government departments can increase subsidies through different subsidy modes such as direct subsidies and incentives, and solve the problem of excessive innovation investment burden of high-tech enterprises by comprehensively weighing all aspects of enterprises, so as to enable enterprises to expand capital investment in R & D innovation, make efficient use of government subsidy funds and rationally allocate resources. In order to promote enterprises to further improve the level of R & D and innovation, enhance their own competitiveness, and then achieve long-term stable development.

(3) Accelerate the Output of Technological Innovation and Improve the Transformation Efficiency of Innovation Achievements in Mature Enterprises

For mature enterprises, government departments should guarantee the R&D and innovation achievements of high-tech enterprises, actively create a market business environment conducive to the transformation of scientific and technological achievements of enterprises, and improve the efficiency of the transformation of innovation achievements of enterprises. Government departments should focus on the management of mature enterprises, constantly improve the market-oriented technology trading service system by providing technical guidance, and reasonably build diversified channels for the transformation of scientific and technological achievements, so as to accelerate the technological innovation output of high-tech enterprises and enhance the core competitiveness of high-tech enterprises.

(4) We Will Step up Supervision of Subsidy Funds and Carefully Subsidize Enterprises During the Recession

As mentioned above, when high-tech enterprises enter the recession stage, their profit level will decline, the market share of high-tech products will decrease, the innovation power will be insufficient, and the operation will be in a predicament. Therefore, the government departments should strengthen the supervision of government subsidy funds, which can be managed from multiple dimensions, multiple levels and sub-indexes. High-tech enterprises should avoid using government subsidies related to research and development and innovation for other purposes, and should be careful to subsidize high-tech enterprises in a period of decline.

5. Conclusion

To sum up, government subsidies play a key role in the process of R&D and innovation of high-tech enterprises. As an important tool of government macro-economic regulation, government subsidies play an important role in the process of innovation and development of high-tech enterprises. Based on the enterprise life cycle theory, high-tech enterprises have different R&D and innovation needs at different stages of development, so there are obvious differences in government subsidy policies at different stages of life cycle. In the early stage of the establishment of high-tech enterprises, the orientation of industrial policy should be strengthened to stimulate the innovation power of enterprises. In the growth period, subsidies should be increased to help enterprises improve the level of R&D innovation; In the mature stage, the output of technological innovation should be accelerated to improve the transformation efficiency of enterprise innovation achievements. In the recession period, we should strengthen the supervision of subsidy funds and carefully subsidize enterprises. Practice has proved that only continuous improvement and implementation of government subsidy policies can further accelerate the technological innovation and development of high-tech enterprises.

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