

## Research on Tax Reduction Policies Affecting Innovation Level of High-tech Enterprises

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### Abstract

In recent years, in order to stimulate enterprise innovation and promote national economic development, the state has issued a series of preferential tax policies, and high-tech enterprises are an important position in the international economic and technological competition, and is the key field supported by the state. Therefore, it is necessary to study the tax reduction policies and applications of high-tech enterprise innovation. In 2019, the state introduced a series of preferential tax policies to encourage enterprises to promote social and economic development through independent scientific research and innovation, including a 15% income tax rate for high-tech enterprises and additional deductions for r&d expenses when calculating taxable income. This paper mainly explores the ways that preferential tax policies affect the innovation of high-tech enterprises and puts forward specific Suggestions on policy issues.combined with the characteristics of high-tech enterprises themselves ,make them conform to the policy trend, in order to achieve better and faster development, make corresponding counter measures.

### Keywords

Tax reduction policy, High-tech enterprises, Innovation.

### 1. Introduction

With the deepening of China's tax reform, how to effectively guide enterprises to innovate by using tax tools under the background of implementing innovation-driven development strategy is a hot topic at present. Technological innovation of enterprises is faced with such difficult problems as high risk, uncertainty and information asymmetry. Whether enterprises can "free ride" to "reduce taxes and fees", respond to national policies and enhance their level of technological innovation remains to be investigated and studied. High-tech enterprises are one of the main promoters of national technological innovation. The information technology update speed of high-tech industry is fast, the competition is fierce, and it is urgent to seek technological improvement. Its technological innovation is of great significance to the improvement of social and economic quality. Taking Chinese high-tech enterprises as the research object, this paper focuses on the impact of preferential tax policies on the technological innovation of high-tech enterprises under the current tax reduction and fee reduction environment in China, and puts forward Suggestions on relevant national tax policies, so as to provide a reference basis for promoting the development of high-tech enterprises.

### 2. Literature review

Hu Wenlong (2017) sorted out a series of preferential tax policies and measures oriented by innovation at present, analyzed the main problems existing in the preferential tax policies oriented by innovation at present in China, and proposed targeted solutions. Liu Meizhi (2018) described the current situation, difficulties and countermeasures of tax reduction and fee reduction in China through policy research. Yang Canming (2017), on the basis of summarizing the existing effects of China's tax and fee reduction policies, systematically analyzed the institutional and institutional obstacles for further implementation of the tax and fee reduction policies, and discussed the possible next reform path from the long-term and short-term perspectives, in order to provide decision-making reference for the continuous improvement of China's tax and fee reduction policies. Liu Fang (2019) described that despite China's continuous introduction of tax reduction and fee reduction measures and

intensified implementation, some enterprises still felt that they did not have a strong sense of obtaining preferential policies, which was caused by incomplete implementation of policies, contradictions between policies and misunderstanding of grassroots tax officials. In order to enhance enterprises' sense of obtaining preferential tax policies and solve the structural problem of reducing burden effect, he put forward a series of Suggestions and countermeasures. Lin Zi Ang and Ye Qitong (2019) took China's high-tech listed enterprises from 2011 to 2017 as the research objects, collected and sorted the patent application data of high-tech enterprises manually, and studied the impact of tax reduction and fee reduction on the technological innovation level of high-tech enterprises in China. It is found that tax incentives are conducive to high-tech enterprises to increase innovation input, but the level of innovation output has not been effectively improved. Enterprise scale plays a promoting role in innovation of high-tech enterprises. The problem of enterprise's time limit and agency restrains the innovation activities of high-tech enterprises to a certain extent.

Based on the background of tax reduction and fee reduction, the "Cost reduction" tax and fee cost research group of The Chinese Academy of Fiscal Sciences went to 12 provinces (autonomous regions and municipalities directly under the Central Government) to conduct field research on the tax and fee cost of enterprises. The research shows that the tax and fee reduction policy is real and has a significant positive impact on the confidence and vitality of market subjects and the burden on taxpayers, which effectively promotes the high-quality development of China's economy. However, in addition to the overall benefits of enterprises, there are still some problems such as the poor transmission mechanism of policies and the fiscal sustainability of local governments. Jiang Min (2018) studied and analyzed the effects of the current tax reduction policies by selecting some of them, pointed out the existing problems and put forward Suggestions for further improvement. Yan Kun and Yu Shu (2018) conducted structural decomposition of macro tax burden and found that starting from the "tax sense" of market subjects could form policy ideas for effectively expanding and reducing macro tax burden space and open a new era of tax reduction and reduction. Zhang Junrui, Chen Yixin and Wang Fangjun (2016), based on an in-depth survey of 195 enterprises in Shaanxi Province, used the stochastic frontier analysis method to study and found that the policy of additional deduction of R&D expenses can improve the innovation efficiency of high-tech enterprises, but has no significant impact on the innovation efficiency of non-high-tech enterprises. On the basis of paired samples, the double difference model is used to analyze and find that the current preferential income tax policy for high-tech enterprises cannot significantly improve the innovation efficiency of high-tech enterprises. The paper puts forward some policy Suggestions to strengthen pertinence and effectiveness.

To sum up, there are few researches on tax policy and technological innovation. It is necessary to study the relationship between tax policies with Chinese characteristics and technological innovation of enterprises according to the actual situation of China. Therefore, based on China's actual reform experience, it is necessary to study the effect of tax reduction and fee reduction policies on the technological innovation of high-tech enterprises at the present stage.

### **3. Tax reduction policies to encourage innovation by high-tech enterprises**

#### **3.1 Encourage high-tech enterprises to invest in research and development**

R&D is the head of the chain of independent innovation, and the effect of incentive R&D on incentive independent innovation is the most direct. For example, in 2018, the pre-tax deduction ratio of r&d expenses of Chinese enterprises will be adjusted, and the allowable deduction ratio will be increased from 50% to 75%, and the amortization ratio of intangible assets will also be increased from 150% to 175%.

In addition, accelerated depreciation of fixed assets such as production and r&d equipment is also conducive to increasing enterprises' investment in research and development and promoting the transformation of their scientific and technological achievements. These policies have a significant incentive effect on the independent innovation of enterprises with high cash flow pressure or large

amount of amortized depreciation of fixed assets and intangible assets. Also introduced to extend the high and new technology enterprises in China and technology-based small and medium-sized enterprises in the policy of carryover loss, since January 1, 2018, when the small and mid-sized enterprise with high and new technology enterprise or qualification of the enterprise, its five year occurred before the qualifying year has yet to make up for the loss, to carry forward future, fixed number of year of the longest carryover from 5 years to 10 years.

### **3.2 The innovation achievements of high-tech enterprises have been more widely enjoyed**

The government implements the policy of reducing the corporate income tax rate to encourage enterprises to reduce their tax payments. The corporate income tax rate for high-tech enterprises is reduced from 25% to 15%, equivalent to a 40% reduction. If the actual tax burden of VAT exceeds 3%, the software enterprises will pay it back immediately. Eligible enterprises can enjoy "two exemption and three halving" enterprise income tax preference; The incomes of enterprises and individuals engaged in technology transfer, technology development and related technical consulting and technical services are exempt from value-added tax; Part of the income from technology transfer of a resident enterprise not exceeding 5 million yuan shall be exempted from enterprise income tax, and part of the income tax exceeding 5 million yuan shall be halved, etc. These preferential tax policies enable enterprises to better enjoy the fruits of innovation and enhance economic benefits.

### **3.3 Promote the construction of innovation teams and talents in high-tech enterprises**

Government policies can encourage enterprises to strengthen the training of scientific and technological talents and help them retain innovative talents. On the one hand, policy incentives include tax incentives for enterprises to independently cultivate innovative talents and R&D teams. For example, the employee education expenditure incurred by enterprises can be deducted before tax if it does not exceed 8% of the total salary. On the other hand, the individual income tax of the innovator shall be given preferential treatment. For example, for the transformation of scientific and technological achievements of new and high technology enterprises, the relevant technical personnel of the enterprise shall be given equity awards. If the individual has difficulty in paying tax once, he/she may pay the tax in installments within no more than five Calendar years (including).

### **3.4 Relieve the capital pressure of high-tech enterprises**

It is a difficult problem for high-tech enterprises to encourage capital investment in innovation field. Financing is an important basis for the production development of enterprises. In order to realize the goal of transforming technological innovation into productivity and products, we must increase internal and external financing. However, the uncertainty of enterprise development and the asymmetry of capital market information make it impossible for most enterprises to adopt general financing means. To encourage investment, according to the national venture capital enterprises and personal tax pilot angel investment policy, company type startup investment enterprise direct investment in the equity investment ways of seed, leading science and technology enterprises, with 2 years, can be in accordance with the investment in the equity holding 70% of the full 2 years the deduction of taxable income of the company system startup investment enterprise; If the deduction is not sufficient for the current year, the deduction may be carried forward to the subsequent tax year; If an enterprise or individual becomes a shareholder with its technological achievements, deferred tax payment is allowed when the conditions are met. In addition, public welfare donations used to support science and education are allowed to be deducted before tax within a certain limit.

## **4. Policy issues and implementation of tax reduction policies**

### **4.1 The preferential tax model does not match the existing tax structure**

At present, our country's innovation mode of lay particular stress on income tax preferential tax policy, the current tax structure is the income tax, enterprise income tax, individual income tax) and b (value added taxes and consumption taxes, tariffs, etc.) and pattern, the circulation of goods services is the main source of tax revenue in our country, the enterprise income tax revenue ratio is relatively low. On this basis, the preferential tax policy focusing on income tax has no tax reduction effect on the

turnover tax of goods and services, and has limited incentive effect on the innovation enterprises in the stage of low profit or loss, so it is difficult to achieve better innovation incentive policy effect. In addition, preferential tax policies mainly based on corporate income tax may restrict the space of preferential tax policies for goods and services turnover tax. For example, high-tech enterprises, technologically advanced service enterprises and other innovative subjects can only enjoy preferential corporate income tax for sales income related to high-tech products, but cannot obtain preferential VAT tax.

#### **4.2 Tax policies are not systematic, diversified policies lead to unclear innovation incentive guidance**

First, the current tax policy supporting innovation in China is not systematic enough, and has not yet formed a mature policy system. Many support innovation of preferential tax policy only with the interim regulations on the state administration of taxation, notice, DaFuHan, added the "patch" scattered scattered in multiple tax files, in the form of legal hierarchy and effectiveness is low, there is no unified tax laws and regulations, or file to specify the tax policy of encouraging innovation, hard to follow the statutory taxation principle. At the same time, there is a lack of internal links between various tax preferential policies oriented to stimulate innovation, and the information transparency of tax preferential legislation process is low, which tends to give people the feeling of simple listing and hasty introduction, lacking authority, systematicness and stability. At the same time, tax authorities have great flexibility in the actual law enforcement process, which increases the difficulty for enterprises to implement and also affects the implementation effect of tax preferential policies to a certain extent.

Second, most preferential tax policies have multiple target orientation, and it is difficult to identify the orientation of tax incentive innovation., for example, the preferential tax policies and measures (such as enterprise income tax preferential typically) in reducing the specific type enterprise, such as small micro enterprise tax burden, promote specific industries such as electronic information technology and other high-tech industry development, key support groups (such as college students, colleges and universities, scientific research personnel, personnel of unemployment of come off sentry duty, retired soldiers, etc.), business innovation, encouraging innovation venture investment, such as small and medium-sized high-tech enterprises investment can be classified into the scope of the taxable income amount deducted 70%) have appeared in the multiple policy objectives, such as whether it is difficult to identify the main policy objective innovation oriented. At present, there are a lot of preferential tax policies for different regions and different enterprises' qualification identification, so it is difficult to clearly define which kind of preferential tax measures are aimed at stimulating innovation, and to accurately evaluate the actual implementation effect of a certain innovation-oriented preferential tax measures.

#### **4.3 Illegal behaviors in collection and payment seriously affect the tax effect**

In order to encourage mass entrepreneurship and innovation, there are many ways to reduce and exempt corporate income tax, and different policies for enterprises in different industries. According to the available data, the effect of corporate income tax reduction policy is not obvious, but the tax burden tends to increase. In the daily supervision, it is found that the collection and payment of enterprise income tax is not collected by the tax department in accordance with laws and regulations, which directly affects the reduction and exemption effect of the tax. For high-tech enterprises, they shall enjoy a preferential tax rate reduction of 15% according to the Enterprise Income Tax Law, but the tax authorities still levy the enterprise income tax at the benchmark rate of 25%. To the end of the year for the enterprise tax refund. This kind of "levy first and retreat" mode makes the tax incentives that enterprises should enjoy greatly reduce, greatly reduces the cash flow of enterprises, eats up the profits of enterprises, and increases the financing cost of enterprises, which seriously violates the original intention of the tax reduction policy to encourage high-quality enterprises to improve their technology and enhance the international competitiveness of their products.

In addition, in the tax refund of enterprise income tax, there is the overpayment of tax in the final settlement, and the enterprise delays the application for tax refund. According to the provisions of Article 11 of the Measures for the Administration of The Final Settlement and Payment of Enterprise Income Tax, if a taxpayer prepays enterprise income tax in a tax year more than the amount payable, the competent tax authorities shall handle the tax refund in time according to the relevant provisions, or offset the amount of enterprise income tax payable in the next year with the consent of the taxpayer. According to the investigation of enterprises due to the application of tax refund, the tax department to audit its accounts, cumbersome procedures, so enterprises will choose to offset the next year's tax, rather than timely application for tax refund.

#### **4.4 High recognition standards or long certification time for high-tech enterprises, high threshold for tax reduction policies**

The specific identification criteria for small and micro enterprises are formulated according to their respective industries, involving such indicators as enterprise employees, business income, total assets, etc., and there are three other indicators that need to be met simultaneously in terms of tax payment, which virtually raises the threshold for small and micro enterprises to enjoy tax reduction and fee reduction policies. And as a high and new technology enterprise authentication conditions is involved in the proportions of the scientific research personnel, research and development costs, number of independent intellectual property rights, achievement transformation ability and so on more than framework, and certification need science and technology, finance, national tax, land tax department's audit at the same time, from the enterprise to submit an application to the certification of approval for a long time, in addition, the high and new technology enterprise qualification certificate is valid for 3 years, companies also need to apply for reexamination within three months before the expiry of the in, otherwise, the qualification of new and high technology. High certification costs cause enterprises to lose initiative, and the expected macro effect of tax reduction and fee reduction is inconsistent with the micro efficiency of the policy itself.

### **5. Policies and implementation Suggestions on relevant tax reduction policies**

#### **5.1 Establish a tax policy system oriented by innovation incentives**

The country should combine the reality of our country with the innovation demand to construct the perfect innovation incentive tax legal policy system. First, China should speed up the legislative process, improve the legislative level of innovation-incentive-oriented tax policies, and form a tax system and policy framework that supports "mass entrepreneurship and innovation". The second is to sort out various tax policies that encourage innovation in the existing legal system, sort out and optimize the tax policies formulated by various departments, and ensure that each policy system is standardized, with clear goals and strong operability. Third, when formulating the new incentive tax policies for innovation, it is necessary to make detailed provisions on the way, content, subject and procedure, and timely issue detailed implementation rules, so as to improve the standardization and transparency of tax policies supporting innovation.

#### **5.2 Expand the coverage and support of VAT and other taxes on innovation incentives**

We should give full play to the role of other taxes such as VAT in stimulating innovation, expand the preferential scope of other taxes such as VAT, and gradually shift the emphasis from income tax preference to income tax and VALUE-ADDED tax preference, so as to better adapt to the current tax structure of paying equal attention to both direct and indirect taxes in China.

First, we will improve preferential VAT policies for high-tech enterprises. We will break the restriction that VAT pay-and-return preferential treatment only applies to software and integrated circuit industries, and gradually extend this policy to all high-tech enterprises, technologically advanced enterprises, scientific and technological enterprises and cultural enterprises that meet the recognized standards, so as to encourage all enterprises to strengthen innovation.

Second, we will establish, improve and standardize the implementation and operation methods of enterprise tax refund when the VAT is negative, so as to avoid the tax authorities taking up a large

amount of tax retained by enterprises and alleviate the burden on enterprises. Third, it is suggested that value-added tax (VAT) be levied and refunded on intellectual property transactions, and that the exemption or reduction of deed tax and stamp tax on intellectual property be promoted by signing contracts, so as to promote the transformation of scientific and technological RESEARCH and development achievements. Fourth, we will streamline the STRUCTURE of VAT rates and do a good job of bridging the gap between the abolition of the 13% VAT rate.

### **5.3 Further optimize tax payment services**

Relevant government departments should further optimize tax payment services and strengthen the publicity of existing policies so as to make policy publicity widely available. We will strengthen tax guidance, actively guide enterprises to standardize their operations and obtain preferential policies, and ensure that taxpayers can fully enjoy them. Law enforcement officials at the grassroots level should strengthen research and visits, timely understand the problems in the implementation of the tax reduction policy and solve them to enhance the effect of tax reduction. At the same time, we will further improve the procedures for tax collection and administration, streamline and optimize tax returns, actively promote the facilitation of tax payment in different places, improve the convenience of tax payment, and reduce the tax burden on enterprises.

### **5.4 Expand the scope of benefits for enterprises and add transitional tax incentives to help technological R&D enterprises get started**

Government should moderate broaden the small micro enterprise, high-tech enterprise certification standards, for example, in the small micro enterprise tax qualifications, the current requirements in line with the annual taxable income does not exceed 300000 yuan, according to the existing tax policy simple calculation, corporate annual actual profit does not exceed 2.4 million yuan, so can relax by income tax allowance, lower threshold, make more in the development of innovative enterprises can continue to enjoy preferential tax, real support enterprise development, cultivating new tax sources.

As the conditions for the recognition of high-tech enterprises are relatively strict, and the qualification certification time is long, the tax reduction policy for high-tech enterprises in Shenzhen Special Economic Zone can be used for reference, and the transitional tax preference can be added to compensate or alleviate the capital pressure of enterprises in the initial stage. The specific implementation policy is to exempt the enterprise income tax from the first year to the second year, and to halve the enterprise income tax from the third year to the fifth year according to the statutory tax rate of 25% from the first year to the fifth year. In the critical first five years of the enterprise's development, the transitional tax policy will be calculated on the basis of the enterprise's annual tax income of RMB 1 million. Compared with the current tax reduction policy which is directly levied at 15% tax rate, the total preferential tax policy will be RMB 375,000. Further calculated on the basis of the five-year loan interest rate of 4.75%, the financing cost will be RMB 464,100.

## **6. Strategies for high-tech enterprises to respond to preferential tax policies**

References are cited in the text just by square brackets [1]. (If square brackets are not available, New and high technology enterprises should increase the investment in r&d, and innovation r&d is the lifeline of new and high technology enterprises. High and new technology enterprises can improve their core competitiveness and expand market demand to maintain their survival and development by increasing r&d expenditure. Moreover, research shows that r&d expenditure has a significant positive correlation with the increase in business performance and market value of enterprises. New and high technology enterprises may directly invest the tax savings as special expenses into r&d expenses, on the one hand, in order to meet the strict stipulated proportion of tax and other related policies on r&d expense investment of new and high technology enterprises; On the other hand, the r&d expenses of high-tech enterprises can be additionally deducted and amortized, and the deductible ratio (75%) and amortized ratio (175%) are relatively high, which can play the role of tax deduction. Enterprises can effectively reduce the taxable income amount and obtain tax saving benefits by tax planning with additional deduction of r&d expenses. At the same time, high-tech enterprises can give equity

incentives to R&D personnel and increase the pre-tax deduction of welfare funds within the limit of 14% of the total salary. The compensation of R&D personnel is included in the R&D expenses. On the one hand, it can mobilize the enthusiasm of R&D personnel and retain talents; On the other hand, it makes use of salary management to carry out tax planning. High and new technology enterprises increase their investment in research and development expenses by direct investment in research and development expenses and by increasing the remuneration of research and development personnel, so as to offset the increase in their taxable income amount. Therefore, a series of tax reduction policies promulgated by the government have a strong promoting effect on the improvement of the innovation level of enterprises. Enterprises should fully understand the tax reduction policies, seize the policy opportunities, integrate into the innovation trend, and strive to improve the innovation level, so as to achieve faster and better development.

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