

Research on Tax Policy for the Development of China's High-end Equipment Manufacturing Industry

Kejie Chen*

School of Digital Economy & Trade, Wenzhou Polytechnic, Wenzhou 325035, China

*Corresponding author: Kejie Chen (Email: 353011497@qq.com)

Abstract

The high-end equipment manufacturing industry is one of China's strategic emerging industries, including not only the transformation and upgrading of traditional manufacturing, but also the high-end equipment required for the development of emerging industries. It is located in the core link of the industrial chain, with high added value and capital intensive. The development of high-end equipment manufacturing is conducive to China's industrial transformation. At present, China is already a big country in equipment manufacturing, but the industry is not strong. Compared with advanced manufacturing countries, China's industrial capacity is insufficient, and there are some problems such as weak independent innovation and lack of key technologies, which affects China's transition from "Made in China" to "Created in China". Therefore, in the early stage of the development of high-end equipment manufacturing industry, the government is supposed to play the role of visible hand, and accelerate the promotion of the healthy development of high-end equipment manufacturing industry through taxation. By analyzing the current tax policies applicable to high-end equipment manufacturing industry, some suggestions are put forward for optimizing the tax policies from the perspective of turnover tax and income tax.

Keywords

Tax Policies; Tax Incentives; High-end Equipment Manufacturing Industry.

1. Introduction

The high-end equipment manufacturing industry, as a strategic emerging industry, is located at the high end of the value chain and the core segment of the industrial chain. And it plays an invaluable role in the development of the national economy. Based on the analysis of industrial chain, Zhao Hong and Wang Ling [1] argue that high-end equipment manufacturing industry plays a decisive role in the overall comprehensive competitiveness of the industrial chain, and is a strategic choice for China to seize the commanding heights of future economic and technological development. With the advancement of policy dividends such as the "Made in China 2025" plan, China's high-end equipment manufacturing industry has shown a promising development trend. However, compared with advanced manufacturing countries like Germany, China's industrial capabilities are relatively weak, facing issues such as weak independent innovation, incomplete basic supporting systems, and low product reliability, which have impeded the process of industrial transformation and upgrading.

Tax policy, as one of the tools for national macroeconomic regulation, can accelerate the development of the high-end equipment manufacturing industry. Tax policies mainly impact the technological innovation, product manufacturing, and commodity sales. However, unlike other strategic emerging industries such as software, tax policies for high-end equipment manufacturing industry are scattered in routine documents, lacking specificity. And many Chinese scholars have conducted research on the tax burden status and tax policies of

manufacturing enterprises. Li Chunyu [2]proposed that the overall tax burden on China's manufacturing industry is heavy based on the data of Chinese listed manufacturing companies. He also pointed out that while the income tax burden remains stable with a slight increase, the profit tax burden has also risen significantly. Qiu Shuqin [3]proposed that China should accelerate the reform of the tax system and reduce the tax burden on Chinese manufacturing enterprises to adapt to the new economic situation, by comparing and analyzing the comprehensive tax burden of the manufacturing industries between China and the United States. Liao Zijian[4]analyzed the development status of pilot demonstration enterprises of intelligent manufacturing and general manufacturing enterprises in Sichuan Province, discussed the shortcomings of current tax policies, and put forward suggestions on promoting the development of intelligent manufacturing through tax policies.

Value-added tax and corporate income tax are the primary taxes for the high-end equipment manufacturing industry, but they currently have some issues that are not conducive to the sustainable development of the industry. Therefore, a tax analysis of China's high-end equipment manufacturing industry is conducive to promoting the improvement of tax policies for the industry, enabling it to seize strategic development opportunities arising from global economic division adjustments.

2. Analysis of High-end Equipment Manufacturing Industry

2.1. The Meaning of High-end Equipment Manufacturing Industry

Although discussions on high-end equipment manufacturing industry in Chinese academic circles are becoming increasingly intense, there is no systematic definition and explanation of high-end equipment manufacturing industry. Instead, most of scholars adopt the explanations in the relevant documents issued by the Chinese government. It is generally believed that high-end equipment manufacturing industry is the high-end part of the equipment manufacturing industry, specifically referring to the use of machinery, computer electronic equipment, materials, and modern management skills in the production process to achieve intelligence and informatization in research and development, manufacturing, marketing, and services, and able to achieve good economic and social benefits. According to the "Twelfth Five-year Plan", high-end equipment manufacturing industry spans both traditional and emerging industries, with five key development areas: rail transit equipment, ocean engineering equipment, aviation industry, satellite and its application industry, and intelligent manufacturing equipment.

2.2. Characteristics of High-end Equipment Manufacturing industry

High-end equipment manufacturing industry has evolved from the equipment manufacturing industry. Therefore, it not only possesses the basic characteristics of the equipment manufacturing industry but also has the characteristics of being "high-end", including capital intensiveness, high technological content, high value-added, high industrial relevance, and positive externalities.

3. Tax Policies for China's High-end Equipment Manufacturing Industry

3.1. Current Status of Tax Policies for High-end Equipment Manufacturing Industry

China's tax system is mainly divided into three categories: income tax, goods and services tax, and property and behavioral tax. According to the "Annual Tax Report of China (2023)" released by the State Taxation Administration, there are currently 18 types of taxes in China. Value-added tax, corporate income tax, additional taxes, and tariffs have a significant impact on the tax burden of high-end equipment manufacturing enterprises.

Since the 1990s, the Chinese government has attached great importance to the development of the equipment manufacturing industry. Under the guidance of macroeconomic policies, including tax policies, the market mechanism has been continuously optimized, and economic resources have been tilted towards high-end equipment manufacturing. From the perspective of turnover taxes, China's tax incentives mainly focus on reducing or refunding import value-added tax and retained value-added tax, aiming to reduce the actual tax burden on high-end equipment manufacturing enterprises. From the perspective of corporate income tax, tax incentives for high-end equipment manufacturing cover many aspects, which have a positive role in promoting industrial development. Specifically, they include: 1. Increasing support for equipment investment, upgrading, and upgrading of the equipment manufacturing industry. 2. Continuously updating tax incentives for high-tech enterprises to promote the development of high-tech enterprises and small and medium-sized enterprises. 3. Increasing the additional deduction ratio for research and development expenses to enhance enterprises' enthusiasm for innovation activities. 4. Implementing targeted tax policies for the integrated circuit industry to promote industrial structural upgrading.

3.2. Issues with Tax Policies in the High-end Equipment Manufacturing Industry

3.2.1. Weak Support for Investment in the High-end Equipment Manufacturing Industry

The current policy framework provides insufficient support for expanding fixed asset investments. Although China has issued relevant documents to broaden the scope for accelerated depreciation, the new scope does not fully encompass the high-end equipment manufacturing industry. Consequently, some high-end equipment manufacturing enterprises cannot benefit from the time value of deferred tax payments, which negatively impacts their enthusiasm for investing in fixed assets. Additionally, according to the policy regulations, only enterprises with an A or B tax credit rating are eligible for the VAT retention refund policy. However, newly established companies with new projects, which have not yet generated production and operation income, are often rated as M-grade and therefore cannot enjoy the retention refund benefits. This situation adversely affects their investment enthusiasm in new projects. Furthermore, there is a lack of tax incentive policies for venture capital investment in the high-end equipment manufacturing industry. Venture capital firms investing in high-end equipment manufacturing enterprises do not enjoy the tax incentives available for investments in high-tech enterprises unless the high-end equipment manufacturing enterprise is recognized as a high-tech enterprise. Therefore, there is an urgent need to establish a venture capital system for the high-end equipment manufacturing industry to ensure that enterprises have adequate funding channels.

3.2.2. Insufficient Incentives for Technological Innovation in the High-end Equipment Manufacturing Industry

The tax policies supporting technological innovation are largely limited to principled provisions, lacking comprehensiveness and systematic approach. Some policies are poorly implemented, resulting in a significant gap between actual outcomes and expectations. The main issues are as follows: 1. The criteria for collecting R&D expenses for the additional deduction policy are not uniform. Since the additional deduction for R&D expenses essentially represents a concession of national tax revenue, the collection criteria are quite stringent. In practice, the R&D expenses that enterprises can deduct range from only 30% to 80% of their actual expenditures. 2. The current standards for recognizing high-tech enterprises in China are singular and set a high threshold, with a narrow scope of support. Many enterprises, especially small and medium-sized ones, find it difficult to meet these standards. Furthermore, the existing recognition policy focuses on tax exemptions based on sales revenue derived from

technological innovations, providing insufficient support for tax incentives during the R&D process.

3.2.3. Lack of Talent Support Policies for the High-end Equipment Manufacturing Industry

One of the obstacles encountered in the development of China's high-end equipment manufacturing industry is the shortage of high-end talent. The current talent support policies have the following major issues: First, in the high-end equipment manufacturing industry, companies often need to offer high salaries to attract talent. However, these high salaries do not qualify for tax incentives in corporate income tax payments. Second, the existing tax incentive policies do not cover the urgently needed equipment management personnel and senior technicians in the high-end equipment manufacturing industry. The shortage of senior technicians is misaligned with the development needs of the high-end equipment manufacturing industry.

4. Optimization Pathways for Tax Policies in the High-end Equipment Manufacturing Industry

4.1. Simplifying the VAT Rate Structure

In recent years, China has consecutively reduced the highest two VAT rates, resulting in a VAT rate structure of four tiers: 13%, 9%, 6%, and zero rate. Additionally, there are two main collection rates of 5% and 3%. It is evident that the basic tax rate applicable to the manufacturing industry has been reduced to 13%. The reduction of tax rates is a significant measure to alleviate the burden on enterprises and enhance market vitality. However, China has only reduced the rates without simplifying the VAT rate structure. In contrast, most countries have only two or three VAT rates, while China's VAT system includes four general taxpayer rates along with collection rates of 5%, 3%, 2%, and 1.5%. This complexity can lead to capital flowing towards industries with lower tax burdens and higher returns. Therefore, in establishing the tax system, efforts should be made to continue merging the tax rates, combining the three rates of 13%, 9%, and 6% into two rates, thus simplifying the tax system to support the healthy development of the industry.

4.2. Establishing a Reasonable Industry VAT Credit Refunds

Based on the characteristics of VAT as an external tax and its nature of withholding and remittance, the input tax borne by enterprises is the actual VAT burden, while the output tax is merely collected by enterprises from purchasers to offset the input tax. Therefore, the amount of unused VAT credits can affect the tax burden on enterprises, which in turn impacts their operational status and the funding required for transformation and upgrading. It is recommended to broaden the scope of the VAT credit refund policy to alleviate the financial pressure on new projects. For new projects, it is suggested to establish a special refund mechanism, clearly defining the scope of application to enhance investment willingness. Additionally, simplifying the refund approval process should be considered, using big data and other information technology methods to improve approval efficiency and thus enhance enterprises' cash flow management capabilities.

4.3. Guiding Venture Capital Activities in the High-end Equipment Manufacturing Industry

The high production cycles and costs associated with high-end equipment products result in substantial capital requirements and frequent financing activities for high-end equipment enterprises. However, there is currently a lack of tax incentives for venture capital investments in China's high-end equipment manufacturing industry. Therefore, to ensure stable capital

sources and broaden financing channels for this industry, certain income tax incentives can be offered for venture capital in the high-end equipment manufacturing sector: firstly, implement a preferential corporate income tax rate of 15% on the income from venture capital investments in the high-end equipment manufacturing industry; secondly, allow venture capital investors to offset their losses from investments in the high-end equipment manufacturing industry against their venture capital income for the next five years or against other venture capital income in the same year; thirdly, if venture capital investors reinvest the investment income they have obtained from high-end equipment manufacturing enterprises in other high-end equipment manufacturing projects, that portion of the income will be tax-free.

4.4. Enhancing Support for Technological Innovation in Enterprises

4.4.1. Increasing the Additional Deduction Base for R&D Expenses

Currently, certain core technologies in China's high-end equipment manufacturing industry have high technological content. Due to considerations of labor costs or the success rate of R&D, enterprises often entrust R&D activities to external units. However, according to tax regulations, only 80% of the expenses incurred from R&D activities conducted by external units are allowed for additional deduction. Therefore, it is recommended to increase the deduction ratio to over 90% or allow full deduction, enabling enterprises to fully benefit from policy incentives.

4.4.2. Enhancing Additional Deductions for R&D Expenses

In the scientific research cooperation model of "University-Key Laboratory-Enterprise", donations made by enterprises to laboratories and universities with the aim of promoting the industrialization of scientific research achievements should be allowed to be treated as charitable donations, and shall be deductible from taxable income in accordance with the provisions of the tax law.

4.4.3. Formulating Tax Incentives to Promote the Marketization and Industrialization of Scientific and Technological Achievements

Although tax incentives for enterprise R&D have increased in recent years, the innovation output of enterprises has not increased proportionally. In fact, the impact of tax incentives on innovation input and innovation output is different. Therefore, it is recommended to implement an additional low tax rate on income derived from technological innovation within enterprises. Additionally, certain tax incentives should be granted for the sharing of research results and the transfer of key technologies related to high-end equipment manufacturing. This includes the possibility of exempting or halving the corporate income tax on such income within a certain range, thereby encouraging the application of innovative achievements and the market circulation of advanced technologies.

4.4.4. Supporting Talent Development in the High-end Equipment Manufacturing Industry

A complete talent pipeline is a crucial foundation for enterprises to conduct product research and development as well as technological innovation. Therefore, the high-end equipment manufacturing industry must prioritize the acquisition of human capital as a core development strategy. Currently, there are no tax incentive policies in China's corporate income tax framework specifically targeting the recruitment of high-end human capital by enterprises. Additionally, although China has implemented personal income tax incentives for high-end talent, these policies have certain deficiencies and are primarily aimed at non-profit institutions such as universities and research institutes. Therefore, it is recommended to further increase the pre-tax deduction ratio for employee education expenses in high-end equipment manufacturing enterprises and to allow enterprises to apply for deductions of talent recruitment costs from their income taxes, thereby encouraging investments in human capital.

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