

# Research on Financial Support for the Development of Advanced Manufacturing Industry

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**Abstract:** Advanced manufacturing industry is an important pillar of building a modern socialist country. Increasing financial support for the development of advanced manufacturing industries will give full play to the role of financial resource allocation and serving the real economy, and inject new kinetic energy into China's transformation from a big manufacturing country to a powerful manufacturing country. This paper analyzes the main contradiction of financial support for the development of advanced manufacturing industry in China, and puts forward countermeasures of financial support for the development of advanced manufacturing industry in China.

## 1. Introduction

Advanced manufacturing industry, as an important pillar of building a modern socialist country, is the leading force to promote the transformation and upgrading of China's manufacturing industry, an important base for national independent innovation and enhancing international competitiveness, and undertakes the dual strategic tasks of developing economy and ensuring national security. Finance, as the core of modern economy, is an important dynamic mechanism to guide the allocation of economic resources. Financial intervention and support for the development of advanced manufacturing industry can promote the close coupling of technology and finance in the industrial sector, expand the industrial growth space and promote the high-quality development of manufacturing industry. On March 28, 2017, the People's Bank of China and other five ministries and commissions issued guidance on financial support for the construction of a manufacturing power. It is clear that we must always adhere to the problem orientation and focus on the difficult pain points of manufacturing development, and strive to strengthen financial support for the transformation and upgrading of manufacturing technology innovation <sup>[1]</sup>. At present, China is in a critical period of moving from a big manufacturing country to a powerful manufacturing country. Grasping the complexity and particularity of financing of advanced manufacturing industry, giving full play to the role of financial industry in resource allocation and serving the real economy, promoting the scientific development of advanced manufacturing industry, and transforming financial power into economic growth power is an urgent task with great practical significance in China at present.

## 2. The Main Contradictions Faced by China's Financial Support for the Development of Advanced Manufacturing Industry at Present

In recent years, China's financial system reform has promoted policy finance, development finance, local finance and other coordinated efforts in supporting the development of advanced manufacturing industries and achieved some practical results. But in the aspect of financial support for the development of advanced manufacturing industry, there are still contradictions between development concept and realistic demand, system operation, enterprise investment and financing, industrial development and internal and external environment, which restrict the benign development of advanced manufacturing industry.

## **2.1 The Contradiction Between the Development Concept and the Actual Needs**

In recent years, in order to improve the utilization efficiency of resources and technology in advanced manufacturing industry, relevant state departments have successively issued support policies in terms of capital injection, loan interest subsidies and investment subsidies to promote the development of advanced manufacturing industry. However, the financial market structure in China is dominated by state-owned banks, and the renewal of financial system lags behind the market demand, and the support for advanced manufacturing industry is still insufficient. When banks allocate credit resources to advanced manufacturing enterprises, they still pay attention to the "origin" and "background" of enterprises, which makes small and medium-sized advanced manufacturing enterprises have no financing advantages in terms of ownership structure and scale. For the sake of the safety of capital and property, banks tend to invest in enterprises with large scale, good economic benefits and collateral, but give relatively little financial support to small and medium-sized emerging enterprises<sup>[2]</sup>. Banks attach importance to stable operation and pursue stable income, which makes their capital investment in emerging manufacturing relatively insufficient, resulting in small and micro enterprises with large quantity and wide scope in manufacturing industry. Private enterprises are facing financing difficulties in the transformation of scientific and technological innovation. However, private financial institutions are often reluctant to provide financing services for emerging manufacturing industries due to factors such as lack of experience, unclear policies and systems, lack of investment courage and investment methods, which leads to the lack of financial support for many small and medium-sized private enterprises with development potential, which directly affects their R&D and production activities and restricts the all-round development of advanced manufacturing industries.

## **2.2 The Contradiction Between the Operation of the System and the Investment and Financing of Enterprises**

First, the investment policy needs to be adjusted and improved. The survey shows that the overall relationship between advanced manufacturing industries such as China's Internet industry and information industry and traditional manufacturing industries is coordinated and the overall development trend is good. However, in terms of financial investment, only the state-owned manufacturing industry can enjoy the national scientific research and production guarantee conditions, and it is difficult for small and micro enterprises and private enterprises to win investment support. Second, the financial security system needs to be improved. At present, the capital guarantee mechanism of many advanced manufacturing construction projects is unstable and the capital bottleneck problem is more prominent. Many provinces have no financial institutions that explicitly support advanced manufacturing industries, and have not introduced policies and systems to guide social capital to strengthen the construction of advanced manufacturing industries. Third, the financing mechanism of advanced manufacturing industry is not perfect. Although China has promulgated the interim provisions on investing in financial institutions in the Company Law and Trust Law, it provides a certain basis for market diversified financing. However, from the practical operation level, there is still a lack of detailed system regulations and safeguard measures for advanced manufacturing financing. Fourth, the development of advanced manufacturing industry is highly dependent on investment<sup>[3]</sup>. At present, the development of advanced manufacturing industry is still in the stage of policy support, and some advanced manufacturing clusters that have formed are still in the initial stage, so it is difficult to achieve intensive and orderly development through their own benefits. In addition to the direct support from the government, the construction and development of the existing parks mainly rely on investment-driven, that is, to promote the development and growth of the whole industrial chain through enterprises' investment and attract investment, which makes the endogenous growth ability of the industry weak.

## **2.3 The Contradiction Between Industrial Development and Internal and External Environment**

First, the government's promotion of advanced manufacturing needs to be strengthened. In the

development of advanced manufacturing industry, although the government has done a lot of work in policy inclination and financial support, etc. However, as advanced manufacturing industry is capital-intensive, technology-intensive and talent-intensive, many enterprises lack understanding of entry routes, development prospects, government policies, risks and other aspects, and face difficulties in making choices. In addition, although some provinces (cities) have introduced investment and financing policies, some supporting measures are not objective enough to follow up and are difficult to implement. Second, there are shortcomings in the development of advanced manufacturing enterprises themselves. The advantages of large manufacturing enterprises mainly lie in technical funds and R&D capabilities, but the disadvantages such as weak adaptability, slow investment recovery, multi-level management and low efficiency are also obvious. The advantages of small and medium-sized enterprises are strong adaptability, short construction period, high management efficiency and strong competitive vitality, but there are also some problems such as low technical level, poor anti-risk ability and difficult financing<sup>[4]</sup>. According to the statistical division method of large, medium and small enterprises issued by the National Bureau of Statistics in 2021, more than 90% of private enterprises in China belong to the category of small and medium-sized enterprises, which are greatly affected by economic fluctuations, policy changes and changes in the international environment.

### **3. Thoughts on China's Financial Support for the Development of Advanced Manufacturing Industry**

In the new era, China should focus on building the strategic system and ability of an advanced manufacturing power, improve the capital chain around the advanced manufacturing industry chain, increase the intensity and precision of financial support for advanced manufacturing industries, and build an advanced manufacturing financial support system with "clear division of labor, efficient management, complementary advantages and obvious benefits" to provide a "financial booster" for the scientific development of advanced manufacturing industries.

#### **3.1 Constructing the Financial Layout of Advanced Manufacturing Industry**

The essence of financial support for advanced manufacturing industry is to effectively aggregate the main forces of resources such as government, enterprise, market and intermediary institutions by using multi-level and systematic modern financial instruments, to provide mechanism guarantee for improving the use efficiency of national capital in advanced manufacturing industry, to provide institutional guarantee for social capital to enter advanced manufacturing industry reasonably, legally and effectively, to provide methods and means for enhancing the guarantee, application and supervision of advanced manufacturing capital, and to inject new vitality into promoting economic construction and development. At present, we should focus on the strategic development layout of China's manufacturing industry, start from the dimensions of functional tasks, development fields, geopolitical space, etc., and construct the financial capital layout of advanced manufacturing industry that is compatible with the development strategy according to the implementation strategy of financial and entity docking financing and integration of intelligence<sup>[5]</sup>. We should establish and improve the exclusive financial service organization system such as banking, securities and insurance, set up financial support for advanced manufacturing franchise institutions, financial service centers and teams, gather and couple professional talent resources and information, introduce special policies, optimize business processes, and form a joint force of financial support for advanced manufacturing industries such as banking, securities and insurance.

#### **3.2 Coupling the Relationship Between State-Owned Enterprises and Private Enterprises**

In the development of advanced manufacturing industry, state-owned enterprises should use the financing channels of civil enterprises, such as absorbing private enterprises' own funds, bank loans, stock financing and other capital to develop enterprises. At the same time, private small and medium-sized enterprises can participate in the manufacturing system of state-owned enterprises and carry out technology research and development and supporting production suitable for leading products in

order to obtain asset-specific investment and research and development and production funds provided by large enterprises, which can alleviate the financing difficulties of small and medium-sized private enterprises to a certain extent. Local legal person financial institutions should give full play to the advantages of short management radius and flexible operating mechanism, and try to embed financial support functions into the development process of local advanced manufacturing industries <sup>[6]</sup>. On the basis of regulating bank credit, special funds for advanced manufacturing development and venture capital funds can be set up under the advocacy of the government, to support small and medium-sized enterprises, especially high-tech small and medium-sized enterprises, so that enterprises and local institutions (including financial industry associations, individuals and other organizations) can share high risks, high investments and high returns.

### **3.3 Improve the Investment System of Advanced Manufacturing Industry**

First, explore the establishment of advanced manufacturing investment funds, venture capital funds and other projects, broaden fund raising channels and actively borrow social capital to promote the development of advanced manufacturing. In terms of financing sources, we should selectively absorb specialized bank credit funds, non-bank financial institutions funds, private capital, etc. By expanding financing channels, optimizing the use of funds, increasing the support of funds for projects, reducing the operational risks of participants, and giving play to the new engine role of funds in promoting advanced manufacturing industries <sup>[7]</sup>. Second, actively promote the support policy funds of various science and technology industries to the advanced manufacturing industry, effectively play the role of financial leverage and market mechanism regulation, and encourage related enterprises to use the New Third Board to list and issue joint bonds and other channels for financing. Obtaining direct financing through listing and issuing bonds to reduce financing costs is also conducive to establishing a good public image of enterprises in society and enhancing their credibility and popularity. At the same time, the strict supervision and accounting system after listing will urge enterprises to improve various management systems and continuously improve the scientific management level of the company. Third, explore the establishment of a park construction fund. The park, together with social capital and enterprises in the park, jointly set up a fund to invest in the development and construction of the park <sup>[8]</sup>. Third, explore the establishment of industrial zone construction fund. The industrial zone, together with social capital and enterprises in the zone, jointly set up a fund to invest in the development and construction of the industrial zone. Raise construction funds by issuing corporate bonds and private placement funds, and give full play to the leverage of funds. Adopt market-oriented operation, set up scientific and technological research and development and achievements transformation and application fund, support enterprises to carry out joint research on key technologies, and promote the transformation and application of scientific research achievements. Establishing the reserve system for scientific and technological research and development of advanced manufacturing industry, allows enterprises to include research and development expenses in costs according to the actual amount incurred, and reduces the tax burden of enterprises. Fourth, improve the service support system of technology and finance. Encourage banks, brokers, insurance companies, venture capital companies and other financial institutions to use credit loans, equity pledge loans, M&A loans, credit insurance, trade financing, intellectual property pledge loans and other financial instruments to strengthen financial support for advanced manufacturing enterprises. Support small and medium-sized private enterprises to issue direct financing products such as trust plans, corporate bonds, collective bills and private debt to solve financing difficulties.

### **3.4 Improve the Venture Capital Mechanism of Advanced Manufacturing Industry**

Venture capital is a kind of investment method that invests capital in the research and development of high-tech and its products which contain failure risk, so as to promote the commercialization and industrialization of high-tech achievements as soon as possible and obtain high capital income. Introducing venture capital mechanism into advanced manufacturing industry, with its unique function, promotes enterprises to carry out technological innovation and efficiently realize the transformation of scientific and technological achievements. At present, many countries in the world

use venture capital mechanism to promote the independent research and development of advanced manufacturing industry. According to the actual situation of China's economic and social development, venture capital mechanism should be introduced in a timely manner to give full play to its function of promoting enterprises to carry out scientific and technological innovation and speeding up the industrialization of scientific research achievements. First, the government guides venture capital into advanced manufacturing industry. Establish a venture capital fund with financial funds to participate in holding, invest a certain share of funds after risk assessment of enterprises with strong driving force in advanced manufacturing industry by professional institutions, and focus on cultivating a number of high-tech enterprises with strong innovation ability, good development prospects and strong driving force for regional economy, and mobilize and guide social risk investors to actively inject capital and participate in shares <sup>[9]</sup>. Second, enterprises, social legal persons and scientific research institutions should jointly set up joint-stock venture capital companies, which should be supported by certain preferential policies from the government. Formulate and promulgate preferential policies such as giving tax incentives to the income obtained by venture capital companies investing in enterprises and enjoying risk compensation and credit guarantee. Third, perfect the system of property right transaction market, standardize the behavior of venture capital and acquisition, standardize accounting and auditing work, and provide fair and equitable services for the liquidation or bankruptcy of venture capital enterprises

### **3.5 Establish Insurance Policy for Advanced Manufacturing Industry**

In the process of R&D of advanced manufacturing industry, there is a great risk. The high failure rate and the high loss after the failure of this risk require the establishment of high cost investment and risk management safeguard measures for enterprises. Industrial insurance can effectively reduce the risks of enterprises in production, research and development. It is the government that provides guarantee for developing scientific and technological research and development under the condition of market economy, entrusts commercial insurance companies or establishes special policy insurance institutions to set up a kind of insurance for enterprises by using commercial insurance mode <sup>[10]</sup>. In order to give full play to the guarantee function of insurance, we should focus on four aspects: First, make full use of the relevant policies of national insurance to establish an advanced manufacturing production insurance support system that combines government-led legal means, fiscal policy and administrative measures. Second, explore the advanced manufacturing insurance mechanism with the participation of government insurance companies, scientific research institutions, intermediaries and production enterprises. Actively improve the insurance types and improve the insurance system according to the business characteristics, risk needs and other factors of enterprise production. Especially in private enterprises participating in scientific research and production, they provide insurance support and continuously expand the field of insurance services. Third, explore ways and means for insurance funds to participate in scientific research and production and investment in major scientific research projects. Fourth, country should give strong subsidy support. Insurance reflects the state's support for manufacturing scientific research activities and reflects the state's policy orientation. At present, many countries give subsidies to policy insurance business. China's scientific research insurance work is in an opportunity period of development, and it needs more support from the state in terms of laws, policies and funds.

## **4. Conclusion**

In the critical period when China is moving from a big manufacturing country to a powerful manufacturing country, we should give full play to the functions of financial industry in resource allocation and serving the real economy. Adhere to the problem orientation and focus on solving the contradictions faced by China's financial support for advanced manufacturing industries. By constructing financial layout, strengthening financial relations among enterprises, perfecting investment system, perfecting venture capital mechanism and establishing insurance policy, we can promote financial support for the sound and rapid development of advanced manufacturing industry.

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