



International Experience and Lessons Learned from Financial Support for Advanced Manufacturing Industries

Jiaying Zhai

China Foreign Affairs University, Beijing 102206, China

DOI: 10.32629/memf.v5i5.2910

Abstract: Advanced manufacturing industry is the core of modern industrial system, which is highly informatized, intelligent, environmentally friendly and globalized, and is the backbone of promoting high-quality economic development. The importance of advanced manufacturing lies not only in the automation and digital production technology, but also in the intelligent and personalized adaptation of the production process through the integration and application of Internet of Things, big data analysis, artificial intelligence and other technologies. These characteristics of the advanced manufacturing industry dictate a highly flexible and innovative financial support system to meet rapidly changing technological and market demands.

Keywords: financial support; advanced manufacturing; international experience

1. Introduction

Advanced manufacturing is a pillar industry of the global economy, and its level of development is directly related to a country's comprehensive strength and international competitiveness. Advanced manufacturing can not only promote technological innovation and industrial upgrading, but also provide higher value-added products and services, thereby boosting employment and economic growth. Taking Silicon Valley in the United States as an example, its innovation ecosystem has spawned a large number of high-tech enterprises with the injection of venture capital, which have not only changed people's lifestyles, but also had a great impact on the U. S. and even the global economy. The position and role of advanced manufacturing in the global economy is reflected in the global economy. Through the global network of multinational enterprises, advanced manufacturing can achieve optimal allocation of resources and improve production efficiency.

2. International experience in financial support for advanced manufacturing industries

2.1 Combination of policy guidance and market mechanisms

Drawing on international experience in financial support for advanced manufacturing industries, it is very important to combine policy guidance with market mechanisms. For example, in Germany, the strength of its manufacturing industry is inseparable from the policy guidance of its government and the close cooperation of its banking system. The German government invests money in key technologies and innovations through tax incentives, research and development funds, and other means. At the same time, the German banking system, especially financial institutions such as savings banks and cooperatives, has provided stable financial support for the manufacturing industry through long-term borrowing and low-interest policies. This combination of policies and markets has not only contributed to the sustained growth of the German manufacturing sector, but has also ensured Germany's competitiveness in the international market[1].

For China, the combination of policy guidance and market mechanisms should be further strengthened to promote the development of advanced manufacturing. At present, China's financial system support for advanced manufacturing industry still exists in the financial products and services are not rich enough, the risk investment market is not mature enough and other problems. To this end, China may consider setting up special funds, granting tax incentives and other policy orientations in order to fully mobilize the vitality of the market. At the same time, it can further open up the financial market with the help of market mechanisms, promote financial innovation and achieve optimal allocation of resources. The combination of policy guidance and market mechanism has played a good role in supporting the development of advanced manufacturing industry, promoting value-added industries and optimizing economic structure.

2.2 Role of Venture Capital and Private Equity

Drawing on the experience of international advanced manufacturing financial support, venture capital and private equity have a non-negligible role in the development of China's manufacturing industry. In the case of the United States, a large part of Silicon Valley's success is due to aggressive venture capitalists who not only provide startups with the startup capital they need, but also the management experience, marketing channels, and industrial networks that allow for rapid growth[2]. The entry of venture capital and private equity not only injects capital into the advanced manufacturing industry, but also brings new business models and operation concepts to promote industrial valorization and transformation.

Private equity and venture capital also play an important role in Germany, especially in promoting the harmonization of manufacturing and banking. Germany's banking system has always relied on long-term loans, but the involvement of private equity and venture capital has provided additional sources of funding for high-end manufacturing projects that require significant upfront R&D investment. This model not only provides banks with diversified risks, but also provides companies with more flexibility to adapt to changes in the market.

2.3 Financial innovation and the development of science and technology finance

From the perspective of global financial support for advanced manufacturing, financial innovation and science and technology finance have become an important driving force for industrial progress. Venture capital does not just provide financial support to startups, but also management, marketing, and strategy. The German banking system has formed a close synergy with the manufacturing industry in the form of long-term lending and credit support, which has played a positive role in promoting the stable development of the advanced manufacturing industry. The Japanese Government's policy-oriented financial institutions, represented by the Development Bank of Japan, had effectively promoted the recovery of Japanese industry by means of low-interest loans and credit guarantees. Practice had proved that the development of financial innovation and technology finance could not only support the advanced manufacturing industry, but also provide diversified financial products and services, reduce the innovation risk of enterprises and accelerate the transformation of scientific and technological achievements[3].

Drawing on international experience, China should also focus on financial innovation, science and technology finance and other aspects of development to promote the development of advanced manufacturing. China's manufacturing industry has a strong foundation and growing technological innovation capacity, but the degree of integration between the financial system and the industry is not high enough. In recent years, China's venture capital industry has developed greatly, but compared with developed countries, there are still problems of low investment amount and inadequate exit mechanism. To this end, China should continue to improve its multi-level capital market and establish a more flexible exit mechanism, such as reforming the Science, Technology and Innovation Commission (STIC) and the Growth Enterprise Market (GEM), in order to attract more venture capital and private equity investment.

3. Drawing on international experience to promote the development of advanced manufacturing in China

3.1 Policy recommendations to improve the financial support system

The combination of policy guidance and market mechanism is the key to building a global financial support system for advanced manufacturing. Among them, the cooperative development model between the German banking industry and the manufacturing industry is of great significance for the development of the banking industry in China. Germany's all-purpose banking system, which allows banks to own stakes in firms, has not only increased their willingness to invest in manufacturing firms over the long term, but has also fostered close cooperation between them. Drawing on this model, China could consider relaxing restrictions on equity investment in manufacturing enterprises and encouraging banks and insurance funds to provide long-term, stable financial support for high-end industries through equity investment and other means.

Venture capital and private equity are important forces in the development of advanced manufacturing. The U. S. venture capital model provides fertile ground for the growth of innovative companies, and Silicon Valley has been successful largely because of venture capital involvement[4]. China can learn from the experience of the United States, adopt tax incentives, set up state-controlled funds and other forms to attract venture capital into advanced manufacturing industries, especially high-growth, technologically innovative industries. On this basis, the establishment of a sound multi-level capital market and the introduction of a venture capital exit mechanism will form a virtuous investment cycle.

To improve the financial support system, it is necessary to enhance the innovative capacity of financial services. As an important part of financial support for the advanced manufacturing industry, financial institutions should continue to explore new modes of integration with technology, such as big data, artificial intelligence and other risk assessment and

credit decision-making technologies, to improve the efficiency and precision of financial services. At the same time, the government should strengthen the cooperation with financial institutions, combined with the characteristics of high-tech industries, develop special industry-specific loans, industrial funds and other financial products and services to promote the efficient allocation of financial resources.

3.2 Measures to promote the deep integration of finance and industry

The deep integration of finance and industry has become an important force in promoting the development, innovation and growth of the global high-end manufacturing industry. The synergistic development model of banking and manufacturing in Germany, for example, is a good reference for countries around the world. Germany's all-purpose banking system allows banks to hold shares in companies, which not only provides a stable source of capital for the manufacturing industry, but also allows banks to have a deeper understanding of the business process and thus provide more precise financial services. This model facilitates long-term investment and risk management, and lays a solid foundation for China's manufacturing industry to achieve sustained innovation and modernization.

Drawing on international experience, China should take a series of measures to promote the development of the financial sector. First, a combination of policy guidance and market mechanisms is very important. Encourage financial institutions to invest more in advanced manufacturing by formulating targeted policies, such as tax incentives and tax subsidies[5]. At the same time, through the sound multi-level capital market and other market mechanisms, to provide diversified financing channels for manufacturing enterprises, reduce the cost of financing, and improve the efficiency of the use of capital.

Financial innovation and science and technology finance are also important elements in promoting the deep integration of finance. For example, the construction of an industrial finance big data platform to monitor and analyze the credit status of manufacturing enterprises in real time and improve the precision and efficiency of financial services. This is conducive to financial institutions to better serve the manufacturing industry, but also conducive to optimize the allocation of financial resources.

4. Conclusion

In summary, against the background of the evolving competitive pattern of the global manufacturing industry, the future development of China's advanced manufacturing industry is not only the key to economic transformation and upgrading, but also to realizing high-quality development. In the future, China's advanced manufacturing industry faces many challenges and opportunities. With huge market potential and a complete industrial chain, China has the conditions for the development of advanced manufacturing. Therefore, China should increase scientific and technological innovation and financial support to promote advanced manufacturing to a new level.

References

- [1] Wei Wei. International experience and reference of financial support to advanced manufacturing industry[J]. China Business Journal,2024,33(16):122-125.
- [2] Kun He . Discussion on the strategy of financial support for the development of advanced manufacturing industry[J]. Times Economy and Trade,2024,21(07):190-192.
- [3] Han Zhan,Xiaomei zhao,Shu HAN. Research on the importance and countermeasures of financial support for the development of advanced manufacturing industry[J]. China Banking Industry,2023,(06):39-41.
- [4] Baibing Yang,Han Ji. Research on the Problems and Countermeasures of Financial Support for the Development of Advanced Manufacturing Industry--Based on the Perspective of International Comparison[J]. Globalization,2022,(04):52-60+133.
- [5] Zhang Wei. A stone from another mountain: international experience of financial support for advanced manufacturing industry[J]. Finance Global,2019,(10):63-65.

Author Bio

Jiaying Zhai (2006-1-26), female, Han ethnic group, Taiyuan, Shanxi, undergraduate. Field of study: Finance.