



Analysis of the Technological Innovation Drive Mechanism of Industrial Agglomeration Affecting Tax Source Construction

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Abstract. This paper, from the perspective of technological innovation, deeply analyzes the drive mechanism of industrial agglomeration on tax source construction. By constructing a theoretical analysis framework, it systematically explains the action path of "industrial agglomeration - technological innovation - tax source construction", and through a literature review and logical deduction, reveals the internal correlation of each link. The study finds that industrial agglomeration stimulates technological innovation through mechanisms such as knowledge spillover, competition incentive, and specialized division of labor. And technological innovation promotes tax source construction from three dimensions: improving production efficiency, optimizing the industrial structure, and expanding new tax sources. The synergistic effect of industrial agglomeration and technological innovation can significantly magnify the growth potential of tax sources, providing important support for regional economic development and fiscal revenue increase. This study provides a theoretical basis for local governments to formulate industrial policies and tax policies, and has important practical significance for promoting industrial upgrading and optimizing the tax source structure.

Keywords: Industrial Agglomeration; Tax Source Construction; Technological Innovation; Drive Mechanism; Synergistic Effect

1 Introduction

Tax source construction is the core link of the national financial system, which is directly related to the stable growth of financial revenue and the sustainable development of the economy and society. The Third Plenary Session of the 20th Central Committee of the Communist Party of China clearly proposed the strategic goal of "increasing local independent financial resources and expanding local tax sources", highlighting the important position of tax source construction in regional economic development. With the acceleration of the process of global economic integration, industrial agglomeration, as an important economic phenomenon, widely exists worldwide and has a profound impact on regional economic development. From the

high-tech industry cluster in Silicon Valley, the United States, to the manufacturing agglomeration area in the Yangtze River Delta of China, industrial agglomeration not only reshapes the regional economic pattern but also profoundly affects the formation and development of tax sources through technological innovation, resource sharing, and other means.

Existing research shows that industrial agglomeration can promote regional economic growth through effects such as economies of scale, economies of scope, and external economies^[1]. As the core driving force of economic growth, technological innovation plays a key role in the interaction between industrial agglomeration and economic development. However, there are still some deficiencies in the research on the relationship among industrial agglomeration, technological innovation, and tax source construction. Most of the existing literature focuses on the relationship between industrial agglomeration and economic growth, as well as the relationship between technological innovation and economic growth, lacking a systematic study that incorporates industrial agglomeration, technological innovation, and tax source construction into a unified analysis framework. Some literature pays attention to the impact of industrial agglomeration on tax source construction, but has not deeply explored the mediating and regulatory roles of technological innovation in this process.

The research contributions of this paper are mainly reflected in the following three aspects: First, taking technological innovation as the core, this paper constructs a theoretical analysis framework of the impact of industrial agglomeration on tax source construction, systematically explaining the internal logical relationship among the three^[2]. Second, it deeply analyzes the action path of "industrial agglomeration - technological innovation-tax source construction", revealing the mediating effect of technological innovation in the process of industrial agglomeration affecting tax source construction. Third, it explores the synergistic effect of industrial agglomeration and technological innovation and its dynamic impact on tax source construction, providing a theoretical basis for local governments to formulate scientific and reasonable industrial policies and tax policies.

2 Literature Review

2.1 Industrial Agglomeration and Technological Innovation

The relationship between industrial agglomeration and technological innovation has always been a hot topic in academic circles. Marshall (1890) was the first to propose that industrial agglomeration can promote technological innovation through the knowledge spillover effect. He believed that in industrial agglomeration areas, the spatial proximity between enterprises enables the rapid dissemination of knowledge and information, thereby reducing the innovation costs of enterprises. Since then, many scholars have studied the relationship between industrial agglomeration and technological innovation from different perspectives^[3]. Audretsch and Feldman (1996) found through empirical research that industrial agglomeration can significantly improve the innovation ability of regions, and the knowledge spillover effect plays an important role in this process. Porter (1990) proposed that industrial clusters can

promote the technological innovation of enterprises through competitive and collaborative effects. The intense competitive pressure faced by enterprises within the cluster forces them to continuously increase R&D investment and improve their technological level.

2.2 Technological Innovation and Tax Source Construction

The impact of technological innovation on tax source construction is mainly reflected in two aspects. On the one hand, technological innovation can improve the production efficiency and product added value of enterprises, thereby increasing their sales revenue and profits and expanding the tax base. On the other hand, technological innovation can promote the upgrading of the industrial structure and the development of emerging industries, opening up new areas for tax source construction. Existing research shows that emerging industries such as high-tech industries and modern service industries have a high tax contribution ability, and technological innovation is the key factor driving the development of these industries.

2.3 Industrial Agglomeration, Technological Innovation and Tax Source Construction

Previous studies have separately explored the relationships between industrial agglomeration and technological innovation, as well as between technological innovation and tax source construction. However, research integrating industrial agglomeration, technological innovation, and tax source construction into a unified analytical framework remains scarce. Most existing literature either focuses on the promoting effect of industrial agglomeration on regional economic growth or on how technological innovation drives economic development, neglecting the mediating role of technological innovation in the process of industrial agglomeration influencing tax source construction. Although some scholars have touched upon the impact of industrial agglomeration on tax source construction, the underlying mechanisms, especially the dynamic interaction among the three elements, have not been thoroughly investigated. This research gap provides the impetus for this study, which aims to systematically reveal the internal logic and driving mechanism among industrial agglomeration, technological innovation, and tax source construction, filling an important void in the current academic research.

3 Theoretical Analysis Framework

3.1 The Drive Mechanism of Industrial Agglomeration on Technological Innovation

The drive effect of industrial agglomeration on technological innovation is mainly realized through three mechanisms: knowledge spillover, competition incentive, and specialized division of labor. First, knowledge spillover is an important way for in-

dustrial agglomeration to promote technological innovation. In industrial agglomeration areas, the spatial proximity and personnel mobility between enterprises enable the rapid dissemination of tacit knowledge such as technical knowledge and management experience. Through exchanges and cooperation with other enterprises, universities, and scientific research institutions, enterprises can obtain external knowledge, reduce innovation costs, and improve innovation efficiency^[4].

3.2 The Promotion Mechanism of Technological Innovation on Tax Source Construction

The promotion effect of technological innovation on tax source construction is mainly reflected in three aspects: improving production efficiency, optimizing the industrial structure, and expanding new tax sources. First, technological innovation can significantly improve the production efficiency of enterprises. By introducing new technologies, processes, and equipment, enterprises can reduce production costs, improve product quality and output, thereby increasing sales revenue and profits and expanding the tax base. For example, the application of intelligent manufacturing technology can realize the automation and intelligence of the production process, improve production efficiency and product accuracy, and bring more economic benefits and tax contributions to enterprises.

3.3 The Synergistic Effect Mechanism of Industrial Agglomeration and Technological Innovation on Tax Source Construction

The synergistic effect of industrial agglomeration and technological innovation forms a mutually reinforcing dynamic system that significantly enhances the driving force for tax source construction, manifested in: creating a "positive feedback loop" where industrial agglomeration fosters a favorable environment for technological innovation by accelerating knowledge spillover and resource integration to reduce innovation costs and risks, while technological innovation strengthens agglomeration effects by improving enterprise competitiveness and attracting more related enterprises and production factors to expand industrial cluster scale; promoting deeper industrial structure upgrading and tax source expansion through technological innovation-driven industrial agglomeration that boosts high-value-added and emerging industries with higher tax contribution rates, such as high-tech industry agglomeration generating direct tax revenue and driving upstream-downstream industries to form a multi-level tax source system; and improving tax source construction quality and efficiency via collaborative integration, as technological innovation enhances enterprise profitability and tax capacity, while industrial agglomeration strengthens tax source agglomeration to ensure more stable and sustainable tax revenue, thus expanding tax source scale and optimizing structure to support regional fiscal sustainability^[5].

4 The Action Path of Industrial Agglomeration Affecting Tax Source Construction

4.1 Knowledge Spillover and Tax Source Construction

The knowledge spillover effect generated by industrial agglomeration can promote the technological innovation of enterprises and further drive tax source construction. Knowledge spillover enables enterprises to obtain external technical knowledge and innovative ideas, reducing innovation costs and increasing the success rate of innovation^[6]. Enterprises can improve production efficiency and product quality through technological innovation, increase sales revenue and profits, and thus expand the tax base. At the same time, knowledge spillover can also promote the technological diffusion and upgrading within the industry, driving the development of the entire industry and providing a more solid foundation for tax source construction.

4.2 Competition Incentive and Tax Source Construction

Competition incentive is an important driving force for industrial agglomeration to promote technological innovation and tax source construction. In industrial agglomeration areas, the intense competition among enterprises prompts them to continuously increase R&D investment and carry out technological innovation. Technological innovation can improve the core competitiveness of enterprises, enabling them to occupy a dominant position in the market competition, obtain more market share and profits, and increase tax contributions^[7]. At the same time, competition incentive can also promote the optimization and upgrading of the industrial structure and the development of emerging industries, opening up new channels for tax source construction.

5 Conclusions

This paper deeply explores the technological innovation drive mechanism of industrial agglomeration affecting tax source construction by constructing a theoretical analysis framework. The study shows that industrial agglomeration can stimulate technological innovation through mechanisms such as knowledge spillover, competition incentive, and specialized division of labor. Technological innovation promotes tax source construction from three dimensions: improving production efficiency, optimizing industrial structure, and expanding new tax sources. Notably, there is a mutually reinforcing synergistic effect between industrial agglomeration and technological innovation—industrial clusters accelerate innovation through resource integration, while innovation strengthens agglomeration by attracting enterprises and factors, forming a "positive feedback loop" that significantly magnifies their promoting effects on tax source construction. This dynamic not only expands tax base scale but also enhances its quality and sustainability, providing critical theoretical support for regional economic policies and fiscal revenue optimization.

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