

Reshaping of the Spatial Pattern of the Regional Labor Market by the Platform Economy: Taking Live Streaming E-commerce Industry as an Example

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Abstract. The rapid development of the platform economy is profoundly changing the spatial pattern of the traditional labor market. Taking live-streaming e-commerce as an example, its decentralized and cross-regional characteristics are reshaping the labor allocation model and also significantly strengthening the management of the institutional environment of the labor market. Based on the spatial attributes of the platform economy, this paper explores its impact mechanism on the regional labor market, analyzes the regional aggregation patterns of the live-streaming e-commerce industry, and examines the structural changes in the labor market. Recent research has suggested that the platform economy matches supply and demand through big data algorithms, which not only directly reduces transaction costs for both parties but also effectively promotes the "platformization" of labor mobility, while simultaneously exacerbating the differentiation of the labor market across regions. Finally, this paper proposes some suggestions from a policy perspective to optimize the structure of the regional labor market.

Keywords: Platform economy, live streaming e-commerce, labor market, spatial pattern, regional development.

1. Introduction

With the rapid development of globalization and digital technology, the platform economy stands out with its innovative and data-centric operational characteristics [1]. The platform economy is a bilateral market established based on networks, covering multiple industries through resource integration, allocation, and information exchange, forming an economic form that is decentralized, de-corporatized, and de-organized [2]. This economy breaks the boundaries of traditional industries with its advantages, such as low cost, efficient resource allocation, and breaking down barriers between regions, industries, information, and resources, promoting the formation of a unified large market [3]. Taking live streaming e-commerce as an example, as an emerging business model, it is rapidly emerging with the development of the platform economy. According to the "54th Statistical Report on Internet Development in China", as of December 2024, the number of live streaming users reached 833 million, an increase of 17.37 million compared to 2023, with a netizen penetration

rate of 75.2%. Among them, the number of e-commerce live streaming users was 597 million, accounting for 54.7% of the total netizens. According to the "Research Report on the Development of Online Audio-Visual Industry in China (2024)", 71.2% of users make purchases as a result of watching short videos or live streams, indicating the explosive growth of the live streaming e-commerce industry and the rapid development of the platform economy [4].

The regional labor market refers to the regionalized labor market formed by relying on the transfer of labor population and the growth of the labor force level. Depending on the duration, the influencing factors are different, and each factor has a greater or lesser impact on the development of the regional economy [5].

This article starts from the perspective of space, reveals the mechanism by which the platform economy reshapes the spatial pattern of regional labor markets, provides a theoretical basis for the balanced development of regional economies, and also promotes the government to formulate differentiated policies in practice, thereby optimizing the allocation of labor resources. Taking the live streaming e-commerce platform economy as an example, this article synthesizes relevant research from both domestic and international sources to analyze how the live streaming e-commerce platform economy reshapes the spatial pattern of regional labor markets; reveals the regional agglomeration characteristics of the live streaming e-commerce industry and changes in the labor market, and proposes policy recommendations to optimize the structure of the regional labor market.

2. Theoretical basis and analytical framework

2.1. The platform economy's spatial attributes

The platform economy is a collection and integration of ecosystems formed around the resource allocation field built through digital infrastructure and algorithmic systems on the basis of internet platforms. The platform economy connects the spatial and temporal distribution network of offline physical production factors through digital technology, forming a spatial node network of online stores, distribution stations, food delivery services, and source factories [6]. As the backbone of this network, platforms play a crucial mediating and organizing role. Platform enterprises rely on technological innovation to drive the development of new-generation information and communication technologies such as big data, cloud computing, and artificial intelligence, serving the promotion, sales, and distribution of the e-commerce live streaming platform economy, thereby achieving precise delivery and efficient allocation [7]. The deep integration of virtual space and physical space makes the division of labor break through geographical constraints.

2.2. Constituent elements of the spatial pattern of regional labor markets

Due to variations in economic development speed, geographical environment, industrial model, and market demand across different regions, traditional regional labor markets exhibit differences in development priorities, market needs, and the composition of labor market spatial patterns [8]. The emergence of the platform economy, however, offers a solution to the issue of regional disparities in labor markets. The constituent elements of the spatial pattern of regional labor markets based on platforms constitute a multidimensional and multi-layered complex system, primarily encompassing labor supply, employment opportunities, and institutional environment.

According to Marx, socially necessary labor time is a crucial factor in determining the value of a commodity. The existence of the platform economy, enabled by the widespread application of digital

and information technology, allows for more precise and intelligent production processes within shorter timeframes. Leveraging the algorithms and analytical capabilities of big data, platform enterprises can swiftly respond to market demands and precisely target specific users, thereby reducing the socially necessary labor time for commodity production. This reduction directly leads to a demand for more labor, providing new income and employment opportunities for different groups, especially low-skilled laborers in developing countries. For instance, in the operation of the platform economy, to effectively utilize or reduce socially necessary labor time, it requires a robust industrial reserve force in the platform economy: timely and continuous input of new forms of labor, such as gig work, temporary work, and remote labor [9]. Zhang Wei and Ma Bo's research shows how the platform economy's development can impact labor demand, it is concluded that the development of the platform economy significantly increases the demand for labor. Furthermore, with the broad range of labor directions in the platform economy, the demand for labor in various sectors is high and requires stable output, and the recruitment platforms and task allocation platforms in the platform economy provide more direct, more numerous, and more convenient employment pathways for low-skilled workers. The platform economy is highly inclusive and flexible, but it absorbs more high- and low-skilled labor, with less demand for medium-skilled labor. It can be seen that the development of the platform economy and the digital economy can easily lead to polarization in the employment skill structure.

With the development of the platform economy, the phenomenon of chaos in the platform economy is increasingly common. In order to maintain the healthy and stable sustainable development of China's platform economy, relevant laws and regulations concerning the platform economy are all playing their roles. In the mid-to-late 1970s, Western developed countries were deeply troubled by economic stagnation due to the long-term implementation of Keynesian demand-side management. As a result, the supply school emerged. The relaxation of regulation in the supply school once led some developed and developing countries in the late 1970s to follow suit and achieve economic growth for a certain period of time. However, the relaxation of government regulation depends on market failures, and the greatest consequence of government regulation to address market failures is regulatory failure. This situation is very similar to the phenomenon of "chaos when relaxing, death when regulating" in China's economic regulation. Therefore, countries are facing the problem of exploring "appropriate regulation". In the platform economy of the digital economy era, China's regulatory system adopts an attitude of encouraging entrepreneurs to explore innovative spirits in the early stages of digital economy development. It grants various entrepreneurs relatively loose policies within the "within the law, outside the negative list" framework, giving them opportunities to test the waters. In January 2019, the "E-commerce Law of the People's Republic of China" was officially implemented, and related legislative research focused on the excessive abuse of dominant positions by operators in the platform economy. This established a dual regulatory approach suitable for market supervision and the development of the digital economy, promoting fair competition among operators in the platform economy [10]. The 'Anti-monopoly Guidelines for the Platform Economy (Draft for Comments)' were issued by the State Administration for Market Regulation in February 2021, promoting national regulation of anti-monopoly issues in the platform economy. The most notable example is the anti-monopoly punishment imposed on Alibaba Group's e-commerce platform, Meituan, in 2021 [11]; the Political Bureau of the CPC Central Committee stressed the importance of introducing specific measures to help the platform economy develop consistently and sustainably. Currently, the platform economy is no longer a simple new economic model. The country was emphasizing strengthening the regulation

of the platform economy and implementing a model of joint governance by law and technology [12].

2.3. Theoretical mechanism of platform economy

The platform economy exhibits imbalanced development across industries, urban-rural areas, and regions, resulting in disparities between urban and rural areas as well as among different regions. Due to the strong scale effect of the platform economy, most internet companies, media companies, and the like are located in regions such as Beijing, Shanghai, Guangzhou, Shenzhen, Hangzhou, and Suzhou. This uneven development objectively widens the divide between urban and rural areas and distinct regions. In the context of the platform economy, this phenomenon is inevitable due to differences in technology and economic development, and is a result of economies of scale, agglomeration effects, and diffusion effects [13].

The agglomeration effect refers to the relationship of both competition and cooperation exhibited by enterprises in traditional industries on internet platforms. Leveraging this relationship, enterprises achieve full resource sharing through collaborative development, enabling businesses located in the area to gain economies of scale and significantly boost the competitiveness of all industrial clusters. Based on the platform, cooperation among enterprises is increasing and becoming more complex, especially when traditional offline enterprises fully collaborate with online platform-based enterprises, breaking geographical constraints and aggregating through the medium of internet platforms. This leads to a higher degree of dependence among enterprises on the platform, with each leveraging their respective resource advantages for full sharing and utilizing the most precise operational methods to connect with each customer, achieving the highest economic benefits compared to others. This mutual dependence and cooperation among enterprises also accelerates the integration of industries [14].

The diffusion effect is primarily manifested in the spread of employment opportunities from first-tier cities to second and third-tier cities; regional spillover in industrial chain links; diffusion of consumer markets and business ecosystems; and partial bridging of inter-regional development gaps. The platform economy possesses multilateral attributes and network extensibility, enabling the expansion of economic scale. Through the connectivity of online platforms, timely matching of supply and demand by platform algorithms reduces the dependence of commercial venues on geographical agglomeration, enabling remote live-streaming e-commerce and the formation of non-fixed platform e-commerce venues [15]. The supply sources relied upon by live-streaming e-commerce have extended from inherent industrial zones such as Yiwu small commodities and Guangzhou clothing to inland product villages or individual and private households; supporting logistics, warehousing, training institutions, etc. can also spread from core cities to the periphery of industrial belts. Unknown regions leverage live-streaming e-commerce to build regional brands, such as Liuzhou snail rice noodles and Chaoshan beef balls; physical stores in second and third-tier cities broaden sales channels through live streaming, increasing customer sources and sales volume. In the platform economy, geographical economic constraints and differences in prices are removed. Similarly, the income earned by platform economy practitioners from live-streaming sales is comparable to that of platform economy practitioners in first-tier cities.

3. Regional development characteristics and labor market structure of the live streaming e-commerce industry

3.1. Regional agglomeration model of live streaming e-commerce industry

Since its emergence, the live streaming e-commerce industry has exhibited significant geographical agglomeration characteristics, with its development primarily revolving around two types of core regions: one is the e-commerce hub cities represented by Hangzhou and Guangzhou, and the other is the industrial belt cities represented by Yiwu and Linyi. In cities with developed e-commerce, such as Hangzhou and Guangzhou, the industry's development primarily relies on the professional operations of leading MCN institutions. MCN institutions are intermediary organizations that specialize in providing commercial operation support for content creators. Their core functions include incubating streamers, connecting with brands, managing traffic, and managing supply chains. The steady start of the live streaming e-commerce industry was initially largely guided by services like those provided by MCN institutions to establish a firm foundation. Meanwhile, in cities with a solid industrial foundation such as Yiwu and Linyi, a characteristic development model dominated by small and medium-sized streamers was emerging.

3.2. Structural changes in regional labor markets

With the development of the platform economy, structural changes have already occurred in the regional labor market. These changes are primarily manifested in the transformation of employment scale, skill demand, and changes in wage levels. In terms of employment scale, relying on the development of the platform economy and the continuous advancement of technologies such as intelligence and informatization, more and more job opportunities are being provided to a larger number of people. Now, the number of flexible employees in China is exceeding 200 million, and the number of jobs directly driven by live streaming e-commerce is expected to surpass 10 million by 2023. Regarding talent selection, there is a shift from traditional "sales ability" to a combination of skills such as "content creation + data analysis" and related composite talents [16]. In terms of wage levels, there is a significant disparity between the daily income of big-name streamers and ordinary practitioners, with regional differentiation intensifying.

When labor flows from offline to platforms, it engages in the live streaming e-commerce industry. Streamers access domestic and foreign markets through the platforms, and physically, the need for geographical relocation decreases. Moreover, employment in the platform economy is relatively flexible, allowing streamers to take multiple part-time jobs simultaneously, as well as engage in other small-scale economies within the platform economy. Labor relations are relatively loose.

4. Conclusion

This article takes the streaming live in the e-commerce industry as an example, summarizing the reshaping of the spatial pattern in the labor market caused by the rise and development of the platform economy, including labor supply, employment opportunities, and institutional environment. It demonstrates that the platform economy, through spatial restructuring, drives the labor market to shift from "geographical concentration" to "virtual agglomeration", with the live streaming e-commerce industry exhibiting a "core-periphery" hierarchical pattern. While the rapid development of the platform economy has already provided many employment opportunities and effectively

alleviated the problem of labor surplus, it has already exacerbated the differentiation of labor markets across regions and the subsequent emergence of platform chaos. To strengthen and regulate the reshaping of the spatial pattern of the labor market by the platform economy, it is necessary to increase investment in digital infrastructure in lower-tier cities, improve the social security system for platform employees, and promote the coordinated development of inter-regional industrial chains featuring "first-tier city operations + manufacturing in third- and fourth-tier cities." The hidden impact of algorithmic power on labor control in the platform economy must be taken into account in the future, as well as the long-term effects of the digital divide across regions.

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