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Industrial Transfer and Regional Economic Growth: a Theoretical Analysis Based on Factor Flow

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Abstract

Based on regional economic theory, this article explores the relationship between industrial transfer and regional economic growth, focusing on analyzing the mechanism of factor flow (labor, capital, technology) in the process of industrial transfer and its impact on regional economic development. The study combines neoclassical economic growth theory, new economic geography and gradient transfer theory to construct a theoretical framework of industrial transfer and factor flow, and verifies the applicability of the theoretical model through practical cases of industrial transfer in China (such as the transfer of industries from the Pearl River Delta to the central and western regions). The study found that industrial transfer has significantly promoted regional economic growth by optimizing factor allocation, promoting technological spillovers and industrial agglomeration, but it may also exacerbate regional development imbalances. To this end, this article puts forward policy suggestions, including strengthening regional policy coordination, improving labor skill matching, optimizing ecological environment governance, etc., to promote high-quality development of industrial transfer and sustainable growth of regional economy.

Keywords

industrial transfer, regional economic growth, factor flow

1. Introduction

In the context of globalization and regional economic integration, industrial transfer has become an important force in promoting regional economic structural adjustment, transformation and upgrading. With the evolution of the global economic landscape, the industrial division of labor between developed countries and emerging economies continues to adjust. Production factors such as labor, capital, and technology are flowing at an accelerated pace around the world, forming a multi-level and multi-dimensional wave of industrial transfer. This process not only changed the global industrial layout, but also had a profound impact on regional economic growth. From a theoretical perspective, the motivations and mechanisms of industrial transfer have always been one of the core topics in regional economics research. Classic theoretical frameworks such as new economic geography, gradient transfer theory, and comparative advantage theory provide rich perspectives for understanding the internal logic of industrial transfer. However, as the global economic landscape becomes more complex, traditional theories are unable to explain the dynamic impact of industrial transfer on regional economic growth. In recent years, factor mobility, as an important accompanying phenomenon of industrial transfer, has gradually become the focus of academic attention. The flow of labor, capital, technology and

other factors is not only a direct result of industrial transfer, but also a key driving force for regional economic growth. The scale, direction and efficiency of factor flow directly affect the vitality and competitiveness of the regional economy. In the context of the shift of the center of gravity of the global economy to emerging markets, the regional economic structure of developing countries such as China is also undergoing profound changes. In particular, China's industrial transfer practice, the gradient transfer from the eastern coastal areas to the central and western regions, has not only reshaped the domestic regional economic pattern, but also provided new experience and inspiration for global industrial transfer. In this context, in-depth study of the relationship between industrial transfer and factor flow and its impact mechanism on regional economic growth not only has important theoretical value, but also provides a realistic basis for the formulation of regional economic policies.

This study aims to systematically explore the intrinsic mechanism of how industrial transfer affects regional economic growth through factor flow. Specifically, the research will build a comprehensive framework from a theoretical level to analyze the flow mechanism of labor, capital, technology and other factors in the process of industrial transfer and its long-term and short-term effects on regional economic growth. On the one hand, the research will focus on how industrial transfer triggers factor flows, including the cross-regional migration of labor, the regional reallocation of capital, and the diffusion and spillover of technology, to reveal the mechanism of these factor flows in regional economic growth. On the other hand, the research will explore the feedback mechanism of factor flow on industrial transfer, analyze how labor flow affects the scale and direction of industrial transfer, how capital flow optimizes regional resource allocation, and how technology flow promotes industrial upgrading and innovation. In addition, the research will also combine practical cases of industrial transfer in China, especially the industrial transfer experience in the Pearl River Delta and the west bank of the Pearl River, to further verify the applicability and explanatory power of the theoretical framework. Through in-depth analysis of the dynamic relationship between industrial transfer and factor flow, this study hopes to provide a new perspective for the development of regional economic theory and provide policy suggestions for promoting coordinated development of regional economies, optimizing industrial layout, and enhancing regional economic competitiveness.

2. Theoretical Basis

2.1 Theoretical Framework of Regional Economic Growth

Regional economic growth is one of the core topics in regional economics research, and its theoretical basis involves the expansion and application of multiple classic and modern economic growth theories. Neoclassical economic growth theory emphasizes the key role of capital accumulation and technological progress in economic growth, but its assumed "frictionless" factor flow and homogeneous spatial conditions make it difficult to explain differences in economic growth between regions. On this basis, the new economic growth theory introduces factors such as human capital, technological spillovers, and increasing returns to scale to further explain the endogenous mechanism of regional economic growth. In particular, Arrow's learning effect and Romer's technology spillover model provide a new perspective for understanding the dynamic process of regional economic growth. These theories believe that regional economic growth not only depends on capital and labor input, but is also significantly affected by technological progress, human capital accumulation, and innovative activities.

New economic geography provides a richer theoretical framework for regional economic growth from the spatial dimension. This theory emphasizes the importance of spatial agglomeration effects and inter-regional division of labor, and believes that industrial agglomeration can promote regional economic growth through mechanisms such as sharing of intermediate inputs, labor pool effects, and technology spillovers. At the same time, the division of labor and specialization between regions further optimizes resource allocation and promotes coordinated development of regional economies. In addition, new economic geography also introduces the "center-periphery" model to explain the uneven phenomenon of regional economic growth, that is, economic activities tend to be concentrated in certain areas, while other areas lag relatively behind. This mechanism of unbalanced growth provides an important theoretical basis for understanding the impact of industrial transfer and factor flow on regional economic growth. By integrating the theoretical results of neoclassical growth theory, new economic growth theory and new economic geography, this study constructs

a comprehensive regional economic growth framework to analyze the mechanism of industrial transfer and factor flow in regional economic growth.

2.2 Theoretical Basis of Industrial Transfer

Industrial transfer is an important phenomenon in regional economic development, and its theoretical basis is derived from the expansion and application of multiple classic and modern economic theories. From the perspective of traditional economics, the core motivation for industrial transfer is the difference in cost of production factors between regions and the dynamic changes in comparative advantages. According to the Heckscher-Ohlin (H-O) model, differences in factor endowments between regions lead to the comparative advantages of different industries, thereby promoting the transfer of industries from areas with higher factor costs to areas with lower factor costs. This process not only optimizes the allocation of resources between regions, but also promotes the coordinated development of regional economies.

In modern economic theory, new economic geography provides a richer explanatory framework for industrial transfer. This theory emphasizes the dynamic balance of industrial agglomeration and dispersion, and believes that industrial transfer is not only the result of cost-driven, but also affected by multiple factors such as market potential, technology spillover, and policy environment. At the same time, with the acceleration of globalization, the strategic adjustment of multinational companies has also become an important driving force for industrial transfer. Multinational companies optimize global resource allocation by locating production links to lower-cost areas. This process not only promotes the international transfer of industries, but also promotes the global integration of regional economies. In addition, industrial transfer is also affected by regional policies. The government guides industrial layout through industrial policies and promotes the coordinated development of regional economies.

2.3 Theoretical Basis of Factor Flow

Factor flow is one of the core driving forces of regional economic development, and its theoretical basis involves the dynamic allocation mechanism of labor, capital, technology and other factors between regions. In regional economics, the Todaro model is a classic theoretical framework for analyzing labor mobility. This model points out that labor mobility is not only affected by wage differences between regions, but is also related to employment opportunities and expected returns. Labor flows from low-wage areas to high-wage areas in pursuit of higher economic returns and a better employment environment. However, this mobility is not entirely based on immediate wage differences but is affected by a combination of expected earnings and employment probabilities. In addition, labor mobility is also affected by education level, skill matching and regional policies, which together determine the direction and scale of labor mobility. The cross-regional flow of labor not only optimizes the allocation of labor resources between regions, but also promotes the coordinated development of regional economies through skill spillover and technology diffusion.

The theoretical basis of capital flows mainly revolves around the diminishing marginal returns of capital and the differences in investment return rates between regions. Neoclassical economic growth theory believes that capital will flow from capital-intensive areas to capital-scarce areas to achieve higher investment returns. This flow not only promotes capital balance between regions, but also promotes coordinated development of regional economies. Capital flows take various forms, including direct investment, financial investment and capital reallocation in industrial transfers. Capital flows not only bring about the transfer of funds, but may also drive the spread of relevant technology and management experience, thereby producing a multiplier effect on regional economic growth. In addition, capital flows are also affected by regional policies, infrastructure and investment environment, which together determine the path and efficiency of capital flows.

Technology flow is the most dynamic and spillover part of factor flow, and its theoretical basis is mainly based on technology spillover and innovation diffusion mechanisms. Technology spillover theory points out that the spread and diffusion of technology is not only limited to within enterprises, but also spreads across regions through labor mobility, industrial agglomeration, and cooperation and competition between enterprises. This kind of technological spillover effect can significantly improve the regional technological level and production efficiency, and promote industrial upgrading and economic growth. In addition, studies by Tang Yu and Hu Anjun (2022)[1] indicate that technology flow is also closely related to the regional innovation environment. A good innovation ecosystem can accelerate the absorption and re-innovation of technology,

thus promoting the sustainable development of the regional economy. Technology flows not only optimize the allocation of resources between regions, but also promote the coordinated development of regional economies through technological upgrading and innovation diffusion.

3. Mechanism Analysis of Industrial Transfer and Factor Flow

3.1 Flow of Factors Caused by Industrial Transfer

As an important way to adjust regional economic structure, one of the core mechanisms of industrial transfer is to trigger the flow of labor, capital, technology and other factors by changing the industrial layout. Industrial transfer usually proceeds from economically developed areas to less developed areas. This process not only changes the industrial distribution between regions, but also optimizes regional resource allocation through the flow of factors. First, labor mobility is one of the direct results of industrial transfer. As industries move from high-cost areas to low-cost areas, employment opportunities also migrate, prompting the flow of labor from areas with excess labor to areas with strong labor demand. This flow not only alleviates labor pressure in labor-importing areas, but also provides new employment opportunities for labor-exporting areas and promotes labor market equilibrium among regions. At the same time,such as An Shuwei and Xiong Xueru (2023)[2] argue that labor mobility also brings about the spread of skills and experience, further promoting inter-regional knowledge diffusion and technology spillover.

Capital flows caused by industrial transfer are an important driving force for regional economic growth. The direction of capital flow is usually consistent with the direction of industrial transfer. Capital flows from capital-intensive areas to capital-scarce areas in pursuit of a higher return on investment. This flow not only optimizes the regional allocation of capital, but also drives the spread of relevant technology and management experience, promoting the coordinated development of the regional economy. Capital flows take various forms, including direct investment, financial investment, and capital reallocation in industrial transfers. Through capital flows, receiving regions can obtain more financial support to promote industrial upgrading and infrastructure construction, thus enhancing the overall competitiveness of the regional economy.

3.2 Feedback Mechanism of Factor Flow on Industrial Transfer

Factor flow is not only the direct result of industrial transfer, but also has a feedback effect on industrial transfer through various mechanisms, thereby affecting the dynamic development of regional economy. First, the feedback mechanism of labor mobility on industrial transfer is mainly reflected in skill matching and adjustment of labor costs. As labor flows from developed to underdeveloped regions, the technical level and production efficiency of labor-importing regions are improved, which provides the necessary human capital support to undertake industrial transfers. At the same time, labor mobility also alleviates the labor shortage problem in importing areas, reduces labor costs for enterprises, and further enhances the area's attractiveness for industrial relocation. However, Studies by Wei Hong et al. (2019)[3] indicate that labor mobility may also lead to labor shortages in exporting areas, prompting companies to make up for the shortage of labor through technological upgrading and automated production. This adjustment, in turn, promotes the shift of industries toward higher value-added.

The feedback mechanism of capital flow on industrial transfer is reflected in capital accumulation and industrial agglomeration. The inflow of capital provides necessary financial support to the receiving area and promotes the improvement of infrastructure construction and industrial supporting capabilities, thereby enhancing the area's ability to undertake industrial transfers. Capital flows also further optimize regional resource allocation through the industrial agglomeration effect, improving production efficiency and economies of scale. However, excessive concentration of capital may also lead to intensified competition among regions and even lead to problems such as industrial hollowing out. Therefore, rationally guiding the direction of capital flows and optimizing regional capital allocation are crucial to achieving coordinated development of regional economies. The feedback mechanism of technology flow to industrial transfer is mainly reflected in technological innovation and industrial upgrading. Technological spillover effects enable receiving regions to absorb and apply advanced technologies faster, thus promoting industrial upgrading and economic structure optimization. Technology flow not only improves the production efficiency of the receiving region, but also promotes inter-regional knowledge sharing and technological upgrading through the

innovation diffusion mechanism. However, technology flow may also lead to problems of technology dependence and insufficient innovation, especially when the receiving region lacks independent innovation capabilities. Therefore, the receiving region needs to enhance its independent innovation capabilities by strengthening investment in education and scientific research to better utilize technological spillover effects and achieve sustainable development of the industry.

3.3 Dynamic Mechanism of Factor Flow

The dynamic mechanism of labor mobility is comprehensively affected by inter-regional economic disparities, employment opportunities and policy environments. In the short term, labor mobility is mainly driven by wage differences and employment opportunities, manifesting as rapid movement from low-wage areas to high-wage areas. However, in the long term, labor mobility will be constrained by factors such as education level, skill matching and regional living costs. For example, when labor market saturation or skills mismatch occurs in labor-importing regions, labor mobility may slow down or even reverse. In addition, policy factors such as the household registration system, social security and equalization of public services will also have an important impact on the long-term trend of labor mobility. This dynamic adjustment mechanism makes labor mobility not only an economic phenomenon but also a social policy issue.

Secondly, Studies by Niu Xixi et al. (2015)[4] indicate that the dynamic mechanism of capital flows is characterized by sensitivity to the regional investment environment and expected rates of return. In the early stages of industrial transfer, capital flows were mainly attracted by cost advantages and preferential policies, manifesting as rapid inflows from developed regions to less developed regions. However, with the economic development and industrial structure upgrading of the receiving area, the driving force of capital flows will gradually shift from cost orientation to market potential and technological upgrading. In the long term, the path of capital flows will also be affected by regional financial environment, infrastructure and policy stability. For example, capital flows may slow or even stagnate when financial systems in receiving regions are imperfect or policy uncertainty increases. Therefore, the dynamic mechanism of capital flows not only depends on short-term economic interests, but is also affected by the long-term institutional environment.

The dynamic mechanism of technology flow reflects the interactive relationship between innovation diffusion and regional absorptive capacity. In the short term, technological spillovers are mainly realized through cooperation between enterprises, labor mobility and industrial agglomeration effects. However, in the long run, the effectiveness of technology flows depends on the absorptive and innovative capabilities of the receiving region. If the receiving region lacks adequate education, research investment, and innovation infrastructure, technology spillover may not translate into actual productivity gains. In addition, the dynamic mechanism of technology flow is also affected by intellectual property protection and market competition environment. For example, when IP protection in the receiving region is imperfect, technology spillover may be inhibited, thus affecting the sustainability of technology flows. Therefore, such as Chen Qifei and Li Pinghua (2013)[5] argue that the dynamic mechanism of technology flow not only depends on technology supply, but is also constrained by the regional innovation ecosystem.

4. The Impact Mechanism of Industrial Transfer on Regional Economic Growth

4.1 Factor Driving Mechanism of Economic Growth

The core driving force of regional economic growth comes from the accumulation and effective allocation of factors, and industrial transfer provides an important driving force for regional economic growth by promoting the flow of labor, capital, technology and other factors. First, the mechanism of labor mobility on regional economic growth is reflected in the optimal allocation of human capital. As industries shift from developed to underdeveloped regions, the increase in labor demand prompts labor flows from low-productivity areas to high-productivity areas. Studies by Qu Jianwen(2009)[6] indicate that this flow not only increases the marginal product of labor, but also enhances the overall human capital level of the receiving region through skill spillovers and technology diffusion. In addition, the diversity and competitive effects brought about by labor mobility further stimulate the innovative vitality of enterprises, thereby promoting regional economic growth. However, labor mobility may also lead to a brain drain from labor-sending regions, so education and training policies need to be used to mitigate this potential negative impact.

Capital flows are one of the key factors in regional economic growth. During the process of industrial transfer, capital flows from capital-intensive areas to capital-scarce areas, optimizing the efficiency of capital allocation between regions. Capital inflows into regions can obtain more financial support for infrastructure construction, industrial upgrading and technological innovation, thus enhancing the overall competitiveness of the region. At the same time, capital flows also promote the coordinated development of regional economies through the industrial agglomeration effect, forming economies of scale and scope. However, the path dependence and lock-in effect of capital flows may lead to unbalanced development among regions, so policy guidance and regional cooperation mechanisms are needed to promote the rational flow and balanced allocation of capital.

4.2 Regional Economic Growth Effects of Industrial Transfer

The impact of industrial transfer on regional economic growth is multi-dimensional, and its core mechanism is to promote the dynamic development of the regional economy through the flow of factors and optimization of resource allocation. First, industrial transfer promotes regional economic growth through industrial agglomeration and economies of scale. Industrial agglomeration can reduce the production costs of enterprises and improve production efficiency. At the same time, such as An Shuwei and Xiao Jincheng(2016)[7] argue that it can enhance the overall competitiveness of the regional economy through mechanisms such as sharing of intermediate inputs, labor pools and technology spillovers. This agglomeration effect not only improves the industrial concentration in the receiving area, but also forms a complete industrial cluster through the extension of the industrial chain and the coordinated development of upstream and downstream enterprises, further promoting regional economic growth. For example, by undertaking the transfer of manufacturing industries from Hong Kong and Macao, the Pearl River Delta region has formed an industrial cluster with electronic information, home appliances and other industries as its core, significantly improving the competitiveness and innovation capabilities of the regional economy.

Industrial transfer promotes regional economic growth through industrial upgrading and structural adjustment. As industries transfer from developed to underdeveloped regions, the receiving regions not only gain advanced production technology and management experience, but also promote the upgrading and transformation of local industries through technology spillover and innovation diffusion mechanisms. Studies by Guan Aiping and Wei Liqiang (2013)[8] indicate that this kind of industrial upgrading not only improves the production efficiency and added value of the receiving area, but also optimizes the regional industrial structure and reduces reliance on traditional low value-added industries. At the same time, industrial transfer also promotes the coordinated development of regional economies by promoting division of labor and collaboration between regions. For example, by undertaking the industrial transfer from the eastern coastal areas, the central and western regions have realized the transformation of the economic structure from agriculture-led to industry-led, significantly improving the overall level of the regional economy.

4.3 Regional Imbalance Effects of Industrial Transfer

While industrial transfer promotes regional economic growth, it may also lead to unbalanced development among regions. This imbalance effect is mainly reflected in the following aspects. During the process of industrial transfer, the path dependence and agglomeration effect of factor flows may lead to further widening of development gaps between regions. Industrial transfers tend to flow to areas with complete infrastructure and superior policy environments. These areas are better able to undertake and utilize the spillover of resources and technology brought by transferred industries. However, this agglomeration effect may further marginalize resource-poor regions and exacerbate inter-regional economic imbalances. For example, the eastern coastal areas have attracted a large number of industrial transfers and factor inflows due to their superior geographical location and policy support. However, Studies by Wei Yanjiao et al. (2024)[9] indicate that some areas in the central and western regions have difficulty in effectively undertaking industrial transfers due to insufficient infrastructure and weak industrial supporting capabilities, leading to the widening of regional development gaps.

Industrial relocation may have a crowding-out effect on labor-sending areas. As labor flows from underdeveloped to developed regions, labor-sending regions may face problems such as labor shortages and loss of human capital, thus inhibiting the development of local industries. At the same time, although labor inflow areas can obtain abundant labor resources in the short term, in the long term, they may face new

challenges due to rising labor costs and a single industrial structure. This imbalance of labor mobility between regions not only affects the economic development of less developed regions, but may also pose potential risks to the industrial upgrading and sustainable development of developed regions. Policy guidance and market mechanisms in industrial transfer may also exacerbate regional imbalances. When the government promotes industrial relocation, it often attracts investment through preferential policies, but these policies may be more concentrated in developed areas or specific regions, leading to over-concentration of resources. In addition, the spontaneous regulatory role of market mechanisms in industrial transfer may also lead to intensified competition between regions and further widen the economic gap between regions. Therefore, in order to achieve coordinated development of regional economies, it is necessary to optimize the path of industrial transfer and resource allocation through policy guidance and regional cooperation mechanisms, and promote balanced development among regions.

5. Case Study: China's Industrial Transfer and Regional Economic Growth

5.1 Background and Current Situation of China's Industrial Transfer

As the world's largest developing country, China has significant imbalances in regional economic development, and industrial transfer has become an important means to promote coordinated regional development. Since the reform and opening up, China's eastern coastal areas have taken the lead in undertaking international industrial transfers and achieved rapid industrialization and urbanization by virtue of their superior geographical location, preferential policies and good infrastructure. However, with the rapid economic development, the eastern region is facing problems such as rising labor costs, tight land resources, and increasing environmental pressure, and the inherent demand for industrial transfer is gradually increasing. At the same time, Studies by Li Weidong et al. (2024)[10] indicate that with the support of national policies, the central and western regions have continued to improve their infrastructure, gradually optimized their investment environment, and have the basic conditions to undertake industrial transfers. In recent years, the Chinese government has actively promoted the transfer of industries from the eastern coastal areas to the central and western regions through the implementation of regional development strategies the "Rise of Central China" and the "Great Western Development" to narrow the development gap between regions and promote the coordinated development of regional economies.

In the practice of industrial transfer in China, it shows obvious characteristics of gradient promotion. The eastern region mainly focuses on high-end manufacturing, high-tech industries and modern service industries, while the central and western regions undertake more labor-intensive industries and resource-based industries. This gradient transfer model not only optimizes the industrial layout between regions, but also promotes the reasonable flow of labor, capital, technology and other factors. Taking the Pearl River Delta region as an example, with the acceleration of industrial upgrading, some labor-intensive industries have gradually moved to western Guangdong and Guangxi. At the same time, high-tech industries and modern service industries have further gathered in the Pearl River Delta region, promoting the high-quality development of the regional economy. However, the process of industrial transfer also faces many challenges, such as insufficient inter-regional policy coordination, differences in industrial supporting capabilities, and ecological and environmental pressures. These problems not only affect the efficiency of industrial transfer, but also put forward higher requirements for the coordinated development of regional economies. Therefore, further optimizing the paths and mechanisms of industrial transfer and strengthening inter-regional cooperation and coordination are of great significance to achieving the balanced development of China's regional economy.

5.2 The Role of Factor Flow in China's Industrial Transfer

In the practice of industrial transfer in China, the flow of factors such as labor, capital, and technology has played a key role and has become the core driving force for regional economic growth and coordinated development. First, labor mobility is an important support for industrial transfer. As the industrial structure in the eastern coastal areas upgrades and labor costs rise, labor-intensive industries gradually shift to the central and western regions. Studies by Qu Qian et al. (2024)[11] indicate that in this process, a large number of rural labor and low-skilled labor flowed from the central and western regions to the eastern coastal areas, accumulating rich experience and skills. With the advancement of industrial transfer, these labor forces have returned to the central and western regions, bringing back advanced production technology and management

experience, providing important human capital support for the central and western regions to undertake industrial transfer. For example, the transfer of industries from the Pearl River Delta region to western Guangdong and Guangxi not only alleviates local labor demand, but also promotes industrial upgrading in the central and western regions through the return flow of labor.

Capital flow plays a role in optimizing resource allocation in industrial transfer. In the process of industrial upgrading, the eastern region has transferred some capital-intensive industries to the central and western regions, which has also promoted the flow of capital. This flow includes not only direct investment, but also the inflow of financial capital to support infrastructure construction and industrial supporting capacity improvement in the central and western regions. The inflow of capital provides the necessary financial support for the central and western regions to undertake industrial transfers and promotes the rapid development of the regional economy. For example, the transfer of industries from the Yangtze River Delta region to the central and western regions has promoted the construction of local industrial parks through capital flows and improved the overall competitiveness of the region. Finally, technology flow is the most spillover form of factor flow in industrial transfer. As industries shift from the east to the central and western regions, advanced production technology and management experience also spread to the central and western regions through cooperation between enterprises, technical training and industrial agglomeration. Technology spillover not only improves production efficiency in the central and western regions, but also promotes the innovation capabilities of local enterprises. For example, in the process of industrial transfer from the Pearl River Delta region to western Guangdong, technological spillover effects have significantly improved the local manufacturing level and promoted industrial upgrading and economic structure optimization in the central and western regions. However, the effect of technology flow is also restricted by the absorptive capacity and innovation environment of the central and western regions. Therefore, it is necessary to further optimize the path and mechanism of technology flow through policy guidance and institutional innovation to achieve coordinated development of the regional economy.

5.3 The Impact of Industrial Transfer on China's Regional Economic Growth

Industrial transfer plays an important role in China's regional economic development, and its impact on economic growth is reflected at multiple levels. First of all, from the perspective of coordinated regional development, industrial transfer has effectively promoted the rational allocation of labor, capital, technology and other factors between regions, and promoted the industrialization and urbanization process in the central and western regions. By undertaking the transfer of industries from the eastern coastal areas, the central and western regions not only gain a driving force for economic growth, but also enhance the overall competitiveness of the regional economy through industrial agglomeration and economies of scale. For example, the transfer of industries from the Pearl River Delta region to western Guangdong and central and western regions has led to the improvement of local infrastructure construction and industrial supporting capabilities, and promoted the rapid development of the regional economy. However, such as Deng Chuyao and Wang Fuyou(2025)[12] argue that the process of industrial transfer has also exposed some problems, such as intensified competition among regional industries, over-concentration of resources, and increased pressure on the ecological environment. These problems have posed challenges to the sustainable development of regional economies.

The long-term effect of industrial transfer on regional economic growth is reflected in industrial upgrading and improvement of innovation capabilities. As industries move from the east to the central and western regions, the receiving areas not only gain advanced production technology and management experience, but also promote the upgrading and transformation of local industries through technology spillover and innovation diffusion mechanisms. This kind of industrial upgrading not only improves the production efficiency and added value of the receiving area, but also optimizes the regional industrial structure and reduces reliance on traditional low value-added industries. For example, by undertaking the industrial transfer from the eastern coastal areas, the central and western regions have realized the transformation of the economic structure from agriculture-led to industry-led, significantly improving the overall level of the regional economy. However, the effect of industrial upgrading is also restricted by the absorptive capacity and innovation environment of the receiving region. Therefore, it is necessary to enhance the positive effects of technology flow through measures such as strengthening investment in education, improving intellectual property protection, and optimizing the innovation ecosystem. The impact of industrial transfer on regional economic growth is also

reflected in the sustainable development capabilities of the regional economy. Industrial transfer not only brings short-term economic growth, but also enhances the long-term competitiveness of the regional economy by improving regional innovation capabilities, optimizing resource allocation, and promoting coordinated development among regions. However, industrial transfer may also bring about some negative effects, such as excessive concentration of resources, environmental pollution, and uneven regional development. Therefore, the receiving area needs to optimize the industrial layout and improve the quality and efficiency of industrial transfer through policy guidance and institutional innovation, so as to achieve sustainable growth of the regional economy.

6. Policy recommendations

Industrial transfer has a profound impact on regional economic growth, but it also brings many challenges. In order to give full play to the positive role of industrial transfer and promote the coordinated development of regional economies, systematic guidance and optimization need to be carried out from the policy level. First, inter-regional policy coordination and cooperation should be strengthened, the restrictions of administrative divisions should be broken, and a cross-regional industrial transfer coordination mechanism should be established. The government can guide the transfer of industries to areas with better resource endowments by formulating unified industrial policies, and reduce the cost of industrial transfers and improve the capacity of receiving areas through financial subsidies, tax incentives and other means. At the same time, attention should be paid to inter-regional infrastructure interconnection, improving the efficiency of logistics, information flow and capital flow, and creating good external conditions for industrial transfer.Attention should be paid to improving the quality of the workforce and matching skills. At the same time, a flexible labor market mechanism should be established to promote the rational flow and optimal allocation of labor. Optimize the ecological environment and sustainable development mechanism for industrial transfer. In addition, the ecological compensation mechanism between regions should be strengthened to promote coordinated regional development and achieve the unification of economic and social benefits from industrial transfer.

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