

Research on the Upgrading of Industrial Structure in Developing Countries

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Abstract. This article primarily explores how developing countries can achieve the dual economic development goals of fairness and efficiency through the upgrading of industrial structure in the context of globalization. The upgrading of industrial structure is key to enhancing competitiveness and promoting sustainable development. The article reviews the concept, theories, and current research status of industrial structure upgrading both domestically and internationally. By comparing and analyzing successful and unsuccessful cases, it reveals the general patterns and characteristics. The article mainly discusses the balance strategies and efficiency challenges in the process of industrial structure upgrading, proposing strategies such as strengthening technological innovation, optimizing resource allocation, promoting industrial chain collaboration, and enhancing international cooperation. These suggestions aim to help developing countries plan their upgrading paths scientifically, overcome obstacles, and seize opportunities. The upgrading of industrial structure is crucial for the sustainable economic development of developing countries, and it points out future research directions to deepen research in this field and provide more theoretical and practical guidance for developing countries.

Keywords: Developing countries, sustainable development, technological innovation, international cooperation.

1. Introduction

Arthur Lewis divided the economies of developing countries into two sectors: the "subsistence sector" dominated by traditional agriculture and the "capitalist sector" dominated by modern industry. In the traditional economic sector, labor supply is considered infinite relative to capital and natural resources. In this sector, the marginal productivity of labor is very low. Due to the existence of this sector, the modern economic sector can obtain the necessary labor supply at a constant wage level without restriction during its growth and expansion. Only when the modern economic sector has fully absorbed the surplus labor released by the traditional economic sector will the dual economic growth model gradually transform into a homogenized modern economic growth model? Therefore, the point at which the surplus labor is fully absorbed becomes an important turning point in the dual economic development process, known as the Lewis Turning Point [1]. In the tide of globalization, developing countries are at a critical crossroads of economic transformation, facing unprecedented opportunities for development as well as the challenge of profound contradictions between economic growth and social equity.

Improving efficiency and promoting fairness are the inevitable choices for resolving the imbalances and inadequacies in China's development in the new era, and they are also the value orientation for enhancing the quality of life and happiness of all people. Under the impetus of a series of policies aimed at strengthening the country and benefiting the people, such as market mechanism reform, opening up to the outside world, and rural revitalization, China's economy has achieved tremendous development, become the world's second-largest economy and entering the ranks of middle-income countries. However, China still faces an unprecedentedly complex situation in the process of promoting economic efficiency and social equity [2]. The potential of innovation-driven growth has not yet been fully unleashed, leading to a current over-reliance on factor-driven and investment-driven growth models, which are relatively inefficient and urgently need to be transformed into a more efficient innovation-driven growth model.

From a policy perspective, this article aims to provide the government with a series of policy recommendations that are both developmental and operational, to help the government formulate more scientific and reasonable economic policies, promote the optimization and upgrading of the economic structure, and at the same time focus on socially vulnerable groups to reduce the wealth gap. At the academic level, this research is dedicated to enriching and developing economic theories, providing new research perspectives and theoretical frameworks for academia through an in-depth analysis of the industrial upgrading of developing countries, guiding subsequent research to explore broader fields. At the social level, the goal of this research is to provide recommendations for urgent social issues such as poverty and employment.

2. The Theoretical Basis of Industrial Structure Upgrading

Ownership is the institutional guarantee for maintaining a certain relationship between efficiency and fairness. The advocacy and maintenance of which ownership structure is held varies with different stances, with differences not only reflected in the nuances of specific propositions but potentially touching on fundamental issues, forming starkly opposing and irreconcilable antagonistic positions. Whether to advocate and maintain private ownership or establish a new social system—public ownership—is the essential difference between Marxists liberal economists, and political philosophers, and also the dividing line between different efficiency and fairness propositions. However, understanding ownership, especially public ownership, requires returning to Marx's original texts for a correct interpretation [3]. The upgrading of industrial structure, as an important driver of economic development, has always been a hot topic in economic research. Early studies, such as Petty-Clark's theorem, revealed the general pattern of industrial structure shifting from agriculture to industry, and then to services with economic development. Subsequently, scholars like Kuznets and Chenery further refined the process and characteristics of industrial structure upgrading, proposing concepts of industrial structure sophistication and rationalization. These theories have provided important theoretical support for developing countries to formulate industrial upgrading policies.

3. The Status Quo and Challenges of Industrial Structure Upgrading in Developing Countries

3.1. Current Situation

From the practices of various countries, it is evident that due to the small domestic market size of small countries, they can only achieve economies of scale through specialized production by fully utilizing the world market. For example, it is in the open market that Finland's Nokia could compete vigorously with Motorola from the United States, as there is no longer a difference in economies of scale between the two. The New Structural Economics emphasizes that industries that follow their comparative advantages often do not need to rely on the domestic market. The vast market of large countries can provide significant support for technological innovation and application, especially allowing certain industries or products to gain competitive advantages through economies of scale from the outset. In contrast, small countries like Singapore need to utilize the world market as the foundation for technological innovation; while large countries in terms of population, such as India, due to the vast income disparity and lack of sufficient market purchasing power, also find it difficult to utilize the domestic market to transform their advanced software technology into competitive IT products. Therefore, considering the positive feedback effect between technological innovation and economies of scale, as well as the important role of economies of scale in industrial upgrading, economies of different sizes should and can adopt different approaches to industrial upgrading [4].

Research on industrial upgrading can be traced back to the "Petty-Clark Theorem." Building on the work of William Petty, Colin Clark analyzed and summarized labor input-output data from multiple countries and regions across the three industrial sectors, pointing out that a country's labor

force will sequentially shift from the primary sector to the secondary sector and then to the tertiary sector with the development of the national economy, thus revealing the evolutionary law of industrial structure for the first time. The restructuring of the global value chain provides developing countries with opportunities to participate in high-end manufacturing and services; on the other hand, factors such as technological barriers, market access restrictions, and international competitive pressures also constrain the pace of their industrial upgrading. Additionally, social equity issues have become increasingly prominent in the process of industrial upgrading, and how to balance economic growth with social justice has become an important issue that developing countries must face [5].

3.2. Challenge

These challenges are significantly reflected in the contradiction between insufficient technological innovation capabilities and excessive dependence on the import of core technologies, a contradiction that directly constrains the pace and depth of industrial upgrading. The increasingly fierce competition in the international market places significant pressure on developing countries as they strive for resources and market share. At the same time, issues of resource consumption and environmental pollution are becoming increasingly prominent, requiring industrial upgrading to balance economic benefits with sustainable development. Moreover, changes in employment structures bring employment pressures and the need to maintain social stability, which also demands higher requirements for industrial structure upgrading. Lastly, the imperfection of systems and mechanisms. Developing countries need to adopt comprehensive measures to address these complex and urgent challenges. How to explain the phenomenon that people in less developed areas have a higher sense of social fairness? Based on structural determinism, people in less developed areas have lower income levels, gain fewer benefits from social development, and objectively occupy lower social strata, so the structural theory cannot provide an effective explanation. Based on the theory of relative deprivation, people in backward areas have relatively fewer development opportunities, and national resources invested are also relatively less, their sense of deprivation will be stronger, and this theoretical perspective cannot effectively explain either. A possible explanation comes from the subjective level, if people in backward areas have higher expectations for social mobility, then they will have a stronger sense of social fairness [6].

4. Exploration of the Path and Model of Industrial Upgrading

4.1. Path and Pattern

Scholars such as Chen Dunxian emphasize the core role of technological innovation in industrial upgrading, believing that strengthening research and development investment and cultivating innovative talents can promote industrial upgrading. Other scholars focus on the importance of institutional innovation and policy support, proposing to provide strong guarantees for industrial upgrading through improving market mechanisms and optimizing the business environment. Still, other scholars analyze feasible paths for industrial upgrading from the perspectives of industrial chain integration and industrial cluster development. Strengthening cross-industry integration and collaborative innovation promotes the diversification and deepening of industrial upgrading. Cross-industry integration can break down traditional industry barriers, achieving complementarity and sharing in technology, market, and resources; while collaborative innovation can gather the wisdom and strength of all parties, accelerating the birth and application of new technologies and models, thereby advancing industrial upgrading to a higher level and broader fields.

In terms of choosing models for industrial upgrading, developing countries generally adopt a combination of market orientation and government guidance. Market orientation emphasizes flexible adjustment of industrial structure and product strategies according to market demand and competitive situations to meet the diverse needs of the market. As the main market entity, enterprises play a leading role in technological innovation, product development, and market expansion. The government, on the other hand, creates a favorable policy environment for industrial upgrading by

formulating industrial policies, and providing fiscal subsidies, and tax incentives. At the same time, the government guides social capital to invest in key areas and critical links through planning guidance. This model that combines market and government not only plays the decisive role of the market but also reflects the guidance and regulation of the government, which helps to promote the smooth progress of industrial upgrading.

4.2. Exploration of Industrial Upgrading Pathways -- International Cooperation and Regional Synergy

Facing the challenges and opportunities of globalization, developing countries actively seek international cooperation and regional collaborative development strategies in the process of industrial upgrading. By strengthening cooperation and exchanges with other countries and regions, and introducing advanced technology and management expertise, they jointly promote industrial upgrading. At the same time, they enhance the collaborative development of industries within the region, forming industrial clusters and synergies in the industrial chain, and improving the overall competitiveness of the region. This strategy of international cooperation and regional collaboration helps developing countries achieve resource sharing, complementary advantages, and mutual benefit, and win-win outcomes in the process of globalization. Through deep integration with the international market and continuous deepening of regional cooperation, developing countries can better integrate into the global industrial and value chains, achieving a new leap in industrial upgrading and economic development.

4.3. Exploring the Path of Industrial Upgrading: Perspectives from New Structural Economics and New Structural Finance

From the perspectives of New Structural Economics and New Structural Finance, the following two pieces of advice can be drawn upon by developing countries. First, governments should formulate industrial policies that are in line with their realities, fostering the development of corresponding financial structures. Developing countries generally face the challenge of relatively lagging infrastructure and encounter various bottlenecks at different stages of their development. However, each developing country has comparative advantages in terms of geographical location, resource endowment, or other aspects. Developing countries can formulate and dynamically adjust industrial policies according to their resource endowment conditions at different stages, and correspondingly adjust their financial structures. The process by which Singapore successfully achieved industrial upgrading was also a process of continuous optimization of its financial structure. Second, it is necessary to clarify the relationship between the government and the market and to play the role of the government's top-level design and overall coordination. In the process of economic transformation and industrial upgrading, it is important to respect the laws of the market economy while also leveraging the government's role in guiding the situation. When recognizing deviations in industrial or financial policies, timely corrections should be made, and one should not throw out the baby with the bathwater by going to extremes between the government and the market. For example, around 1985, Singapore experienced a rapid increase in labor costs due to the implementation of high wages, which in turn affected the international competitiveness of its products. After identifying the problem, the Singapore government took measures such as tax relief and controlling wage growth to turn the situation around and promote rapid economic recovery [7].

5. Conclusion

The upgrading of industrial structure is the key approach to achieving high-quality economic development. By optimizing the industrial structure, developing countries can break free from their dependence on low-value-added industries and move towards high-tech, high-value-added industries, thereby enhancing overall economic efficiency and competitiveness. This process not only promotes technological innovation and industrial upgrading but also drives improvements in employment

structure and the quality of the workforce. The upgrading of industrial structure requires the collaborative advancement of government, enterprises, and the market. The government should play a guiding role, in formulating scientific and reasonable industrial policies and plans to provide a good institutional environment and policy support for industrial upgrading. Enterprises should play a principal role, in increasing investment in research and development, promoting technological innovation and product upgrading, and enhancing market competitiveness. The market should play a decisive role, regulating resource allocation through supply and demand relationships, and promoting the development of industrial structure towards a more efficient and rational direction.

Attention should be paid to balancing fairness and efficiency. While pursuing economic benefits, social fairness and sustainable development should be fully considered. Through measures such as optimizing resource allocation, promoting employment, and fair income distribution, a virtuous cycle between industrial upgrading and social harmony can be achieved.

This study also points out that the future upgrading of industrial structures will face more opportunities and challenges. With the continuous development of the global economy and the advancement of technology, new forms of industry and business models will continue to emerge, providing more opportunities for development in developing countries. However, it should also be recognized that international competition will become more intense, and the pressure on environmental protection and sustainable development will continue to increase. Therefore, in the process of advancing the upgrading of industrial structure, developing countries should maintain a clear mind and firm determination, innovate boldly, and take responsibility, contributing their strength to achieving comprehensive and sustainable economic and social development.

In summary, the upgrading of industrial structure is an important way for developing countries to achieve sustained economic growth and comprehensive social progress. In the future, people should continue to deepen research and practice on the upgrading of industrial structure, constantly explore development paths that align with our national conditions and make greater contributions to the great rejuvenation of the Chinese nation and the prosperity and stability of the world economy.

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