Analytical Framework of New Structural Economics for Industrial Transformation of Resource-based Cities

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Keywords: Resource-based cities; Industrial transformation; New structural economics

Abstract: In the process of the development of industrial history in modern China, many resource-based cities have contributed to the industrial construction during the new China period. However, with the gradual depletion of urban resources, the development of these resource-based cities has also been limited. At present, China is in the period of rapid economic and social transformation. In this stage, appropriate methods must be adopted to help resource-based cities achieve transformation and upgrading. Based on this, this paper introduces an analytical framework of new structural economics to analyze the development path of resource-based cities, hoping to promote the transformation and upgrading of resource-based cities.

1. Introduction

The transformation and upgrading of resource-based cities cannot entirely rely on government support. Local enterprises should combine the analytical framework of circular economics to analyze the current situation with swot and explore the advantages, disadvantages, opportunities and challenges.

2.The concept of analytical framework of new structural economics

What is analytical framework of new structural economics? The so-called is mainly the use of factor endowment as the starting point of structural analysis, and then combines the regulatory role of market mechanisms to promote market transformation and upgrading. Generally speaking, the application path of the analytical framework of new structural economics consists of the following components: industry identification, optimization of endowment structure, improvement of infrastructure construction, and reduction of approach cost. Through these several paths, the economic structure transformation and upgrading of resource-based cities can be effectively promoted.

3.The role of analytical framework of new structural economics in the transformation of resource-based cities

(1) Optimizing and transforming the previous industry

Both the government and the enterprise have limited resources in their hands. Just like resources in resource-based cities, if it’s not used in the correct way, sooner or later there will be a day when resources are exhausted. Thus, the government and enterprises can use the analytical framework of new structural economics to analyze the previous industrial structure, the shortcomings and disadvantages of the current industrial structure, and then adopt the suitable measures for urban to carry out industrial transformation and upgrading. Meanwhile, it is necessary to organically integrate the traditional industries with the advantages of the new, carry out targeted transformation activities, and avoid all kinds of waste caused by blind transformation.

(2) Optimizing endowment structure

In the process of transformation and upgrading of resource-based cities, endowment structure is the key element of enterprise transformation and upgrading. Under the influence of endowment structure, cities can develop a more suitable structure for their own. But in the process of optimizing endowment structure, the two roles of market and government are needed to participate in it.

Although the natural resource endowment structure of a city is determined by natural resources, the reason why natural resources can enter into the daily industrial production and consumption field still needs the help of human resources.

(3) Improving urban infrastructure construction

In the production process of a company, the relative price has a higher market competitiveness than the potential alternative market price. But the key factor in determining the production of a company is the cost. Under the influence of the new economic structure, the city must adopt diversified measures to optimize infrastructure construction, and reduce the transaction cost by actively improving the urban road traffic, communication, power grid, environment and other infrastructure construction, and then lay a solid foundation for transformation and upgrading.

4.The application of analytical framework of new structural economics in the transformation of resource-based cities

(1) Promoting urban transformation and upgrading by broadening the vision of urban resources

In general, resource-based cities rely on the economic benefits of nature to develop and build, but the types of resources that can help economic benefits are very limited. The overly simple resource type is one of the important factors limiting the development of resource-based cities. Taking China's resource-based cities as an example, most of them rely on minerals, oil, forests and other non-renewable resources. Although such resources have the advantages of short production chains and easy conversion into funds, the quantity is limited. Once it is over-exploited, it will undoubtedly have a huge impact on the economic development of the city. Therefore, the resource-based city government should also broaden its resource horizon while exploiting nature, and rationally use the recyclable resources such as climate, human, ecology and land to help to achieve transformation and upgrading.

For example, a border city in the northwest is famous for oil exploitation. However, with the gradual depletion of urban resources, the city has experienced the migration of large numbers of residents. It has become a "Desert City" with the population of less than 20,000, while the residents of the city gradually migrated to the surrounding cities, such as Jiuquan, Jiayuguan. In order to effectively avoid the adverse effects of the depletion of petroleum on the urban economy, the city's government can rationally use the city's natural and human resources to promote urban transformation and upgrading. Since the city is located in the northwest, the annual light rate can reach more than 75%. Therefore, the city can rely on the unique solar energy to carry out photovoltaic power generation, and use clean energy and renewable resources to promote urban economic. In addition, the city is located in the fortress of the silk road surrounded by snow mountains and grasslands, and nearby is also famous for historical relics and the landform of Danxia. Based on this, the city government can make full use of natural resources and urban scenery to explore the city's tourism and promote the transformation and upgrading of the city by building a tourism city. Besides, during the transformation and upgrading, resource-based cities can no longer rely on their previous city brands to attract investment. For example, the northwest city mentioned above was called "the Hometown of Iron Man Wang Jinxi" or "Oil City", but these are no longer applicable to the construction and development of resource-based cities. Although the previous brand of the city will definitely help to enhance the city's popularity, it will become an important factor hindering the development. Therefore, the resource-based city can combine the current development trend to reposition the brand. For example, the city located in the heart of the Silk Road is now focusing on the development and construction of tourism, so investment can be attracted by creating urban brands such as the "Silk Road Fortress".

(2) Accelerating proper inter-regional capital flow

The main reason for the limited transformation of resource-based cities is that there is less and less capital circulating in cities. Under the condition of the gradual decrease of capital flow, the economic development of cities is restricted, and the capital within cities tends to flow out. Based on this, if resource-based cities want to accelerate the pace of transformation and upgrading, they must resort to the market's adjustment mechanism and the government's macro-control to

accelerate the rational flow of capital between urban areas. Among the resource-based cities in China, the most obvious capital outflow trend is the city of Yulin in northern Shaanxi. Yulin has a large amount of coal and mineral resources. In the period of resource dividend, many local people get rich by relying on natural resources, but with the development of cities and social progress, there are less and less non-renewable natural resources for urban development, which leads to the outflow of urban capital. Combined with the data of some scholars, it can be seen that a large number of resources in Yulin are concentrated in the central and provincial finance, and there are few resources that can be allocated to the districts and counties. In addition, the way of calculating and levying compensation fees for mineral resources formulated by Yulin municipal government is also unreasonable. In order to save costs, some enterprises have to shift their investment focus to other resource-based cities, resulting in the outflow of urban capital. According to the data analysis, the taxes and fees paid by Yulin have dropped from 7.5 billion yuan to 4 billion yuan since 2013. The sharp drop in taxes and fees reveals the poor resource exploitation, and it also shows the great loss of urban resources. Thus, the government must take reasonable ways to accelerate the proper flow of inter-regional capital, so as to promote urban transformation.

For example, a resource-based city in the northeast as an old industrial base has made outstanding contributions to the development and construction of New China. However, with the acceleration of urbanization and the intensification of capital outflows, the development of the city has experienced severe restrictions. Based on this, the municipal government of the city can adopt the mode of adjusting taxes and fees to attract investment and rely on the industrial base to weaken the capital outflow of the city, so that the capital initially allocated by the city can be redistributed through transfer payment. In addition, the city can also adjust its industrial structure, gradually draw closer to the tertiary industry from the previous primary and secondary industries, and attract new investment enterprises to enter the city through the tertiary industry to promote urban. At the same time, the government of the city can also actively respond to the call to revitalize the old industrial base in northeast China, and promote the sustainable development of industry by optimizing the industrial structure and changing the mode of industrial production and technology.

(3) Optimizing workforce knowledge, skills and structure

At present, the labor force is an important part of urban development. The quality and skill structure of the labor force determine the industrial structure trend of the city. Generally speaking, the types of labor in cities can be divided into the following types: academic labor, technical labor, and skilled labor. In resource-based cities, there is a widespread shortage of academic labor and too many skilled labor talents. As a result, the knowledge structure skills of resource-based cities are too rigid to drive urban development. Besides, the industries of resource-based cities are mostly built around natural resources. The added value of products produced by various enterprises is relatively low, mostly based on primary processing, which makes resource-based cities form a low labor demand for academic labor and technical talents. Under the influence of the labor supply and demand market, the labor structure of resource-based cities presents single skills and low level of knowledge. When the structure of labor supply and demand is formed, it will have a very adverse impact on the entry of new industries into resource-based cities. It will not only cause the loss of traditional labor, but also will further stiffen the structure of labor knowledge and skills in cities. Thus, the government should take necessary measures to break this vicious circle.

Taking a resource-based city in the south as an example, the city is currently facing a form of increasingly rigid labor resource structure in the city, which not only hinders the investment of the local government, but also adversely affects the economy of the city. In response to this phenomenon, the local government can adopt the talent orientation introduction strategy to attract a large number of academic talents to enter the city by improving the treatment of imported talents, thereby breaking the rigid situation of urban labor resources. In addition, the local government can also develop diversified talent cultivation strategies to reform the inherent labor resources of the city. For example, it can call on graduates from some cities to return home and participate in the urban industrial construction. For another example, the management mode and policy of enterprises can be changed by strengthening orientation training and the cultivation of management talents, and

make some heavy industry enterprises gradually develop into green industry. In the meantime, the local government can also allocate special human capital construction investment funds to all districts and counties, and encourage all governments to combine their own actual construction talent development strategies. But note that before the resource-based city hasn't decided to introduce enterprises, the reserve talents number must be restricted. Otherwise it will exacerbate urban employment competition environment and waste the government allocated personnel training funds if large quantities of new talents are reserved in the absence of new industries. Finally, the government of resource-based cities should also attach importance to the human resources investment in local universities and research departments, and change the rigid human resources structure in resource-based cities through a multi-pronged approach.

5.Conclusion

Resource-based cities have made great contributions in the early stage of China's economic construction. However, with the development of economy and society, the economy of resource-based cities has fallen into a deadlock due to the exhaustion of natural resources, rigid human structure, capital loss and other factors. Resource-based city governments can promote urban transformation and upgrading with the help of the analytical framework of new structural economics, and promote urban economic development by broadening the vision, strengthening inter-regional capital flows and optimizing labor skills and knowledge structure.

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