

Analysis of the Coordinated Development Relationship between Town Land Use Efficiency and Economic Growth

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Abstract. Land is the material basis for human survival and development, the means of labor for social production, and the source of all production and existence. The utilization status of land resources can affect economic growth, which in turn changes the utilization status of land resources. The regional difference pattern of town land use efficiency is objective and unbalanced, which not only affects the industrial base of cities, but also affects the economic growth of areas with low land use efficiency. When analyzing the influence of land elements on urban economic growth, we should not only consider the promotion ability of scale expansion, but also consider whether the use of construction land is effective. Scientific technology and management methods can be used to rationally distribute the land use structure in space, and the effective use of land can be increased by improving the efficiency of land use. This article analyzes the harmonious growth relationship between town land use efficiency and economic growth, and points out that each city should find a land use mode that adapts to its own characteristics to promote local economic growth.

Keywords: Land Use Efficiency; Economic Growth; Harmonious Growth.

1. Introduction

Since the reform and opening up in China, land resources have been an important driving force for the rapid economic growth, and the sustainable utilization of land resources has always been the core issue in the economic and social growth of China. Cities are the basic units to promote social and economic growth, and also an important carrier to promote national economic growth [1]. The development level of urbanization reflects the economic growth level of a country in a disguised form, which can not only promote the growth of regional economy, but also be the core driving force for the future growth of society. In the current stage of rapid urbanization in China, there are two seemingly contradictory phenomena: First, due to the needs of urban economic growth, urban construction land expands rapidly, occupying a large quantity of cultivated land; Second, the inefficient use of urban stock land is prominent [2]. Economic reform enables local governments to promote economic growth through land transfer, and at the same time, it also causes the rapid transfer of agricultural land to town land in areas with significant economic growth, and the scale of cities continues to expand [3]. The essence of modern economic growth is not a simple enlargement of the scale ratio of the original traditional economy, but an economic growth dominated by structure. It can be seen that the development path of promoting the optimization and upgrading of industrial structure and saving and intensive use of resources is an inevitable strategic choice for the growth of China in the new period [4].

The state of economic growth and the stage of urbanization reflect the current state of development in China. At present, to measure the growth of a region, we should not only look at the state and speed, but also give consideration to efficiency, so as to ensure that urban construction has input and benefits and enter a virtuous circle [5]. The rapid economic growth in China has promoted the rapid expansion of urban construction land, and the quantity of cities within the optimal scale has been increasing, but it has also led to a large quantity of agricultural land conversion and social problems caused by overpopulation in some cities [6]. With the growth of the city, the available land resources in the city are increasingly tense, and the problem of urban development cannot be solved through the extension expansion of town land [7]. This article analyzes the harmonious growth relationship between town land use efficiency and economic growth, and points out that each city should find a land use mode that adapts to its own characteristics to promote local economic growth.

2. Relationship between Town Land Use Structure and Industrial Structure

The improvement of town land use efficiency from the perspective of decoupling, that is, decoupling urban economic growth and population growth from town land resource consumption. In other words, the growth rate of urban economy and population is faster than the consumption rate of town land resources. Under the influence of market mechanism and land value law, land use will consciously pursue the maximization of benefits, and the land use structure will be constantly adjusted to achieve the best land use allocation and the best land use efficiency. Town land is not only the production factor of urban economic growth with labor, technology and capital, but also provides space and place for urban industrial development. The value of land resources can only be realized by the growth of other industries [8]. Industrial structure can be divided into static structure and dynamic structure. The former refers to the allocation, transformation and output composition of various industrial resources at various time points.

Whether the land use mode is reasonable directly affects and restricts the development and evolution of urban industrial structure; Whether the industrial structure is optimized in an orderly manner also affects the land use mode, structure and spatial layout, and ultimately affects the allocation and utilization efficiency of land resources. Town land use intensity is a comprehensive reflection of land use situation, and ensuring reasonable land development and utilization intensity is the key link to improve land use efficiency. Town land use not only bears the economic and social benefits of economic and social development and improvement of people's lives, but also bears the ecological benefits of ensuring ecological quality and protecting the environment. The workflow of dynamic monitoring of town land use is shown in Figure 1.

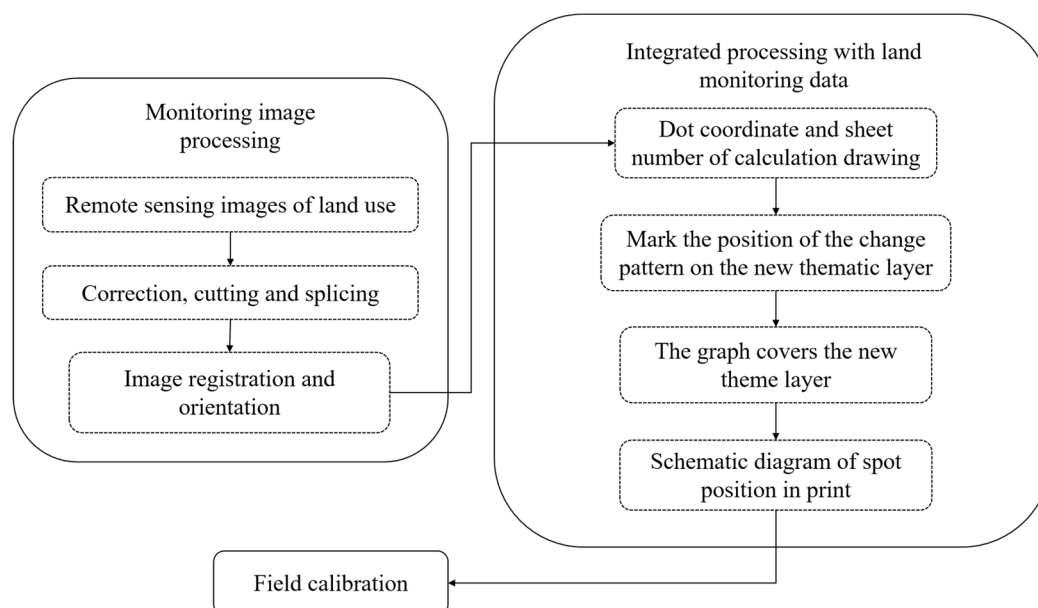


Figure 1. Work flow of town land use dynamic monitoring

The land structure of town land is not only manifested in different spatial combinations and patterns, but also realized as the evolution and process in time. The growth of any industry must be located on the land, which requires a certain amount of land resources input. Town land provides space and place for industrial development. Due to the non-renewable nature of land resources, the scarcity of town land resources supply and various suitability of land resources utilization, it is necessary to optimize the allocation pattern of land resources. The essence of economic growth quality is not only to choose the optimal path of economic growth, but also to realize the social and environmental effects of economic growth. Its core is to promote the coupling of economic system, social system and natural system quality, which coincides with the ultimate goal of town land use [9]. The optimal allocation of land resources should reflect the best use of the land, make the land

resources reasonably distributed in various industries and make the land use efficiency reach the highest level, thus promoting the optimization of industrial structure and transforming the mode of regional economic growth.

With the growth of urban economy, the town land use structure will inevitably change accordingly, and the spatial performance of urban economic operation is the adjustment process in different spatial locations. Therefore, the changes of town land use structure are analyzed from the horizontal and vertical angles respectively. The adjustment of industrial structure makes the agglomeration effect and scale effect of industry play an effective role, promotes more agricultural labor force to transform into secondary and tertiary industries, accelerates the growth of cities, and drives the changes of town land use form, structure and nature. From the perspective of space, the utilization structure of land resources determines the industrial layout and structure to a great extent, and the land utilization structure is the industrial structure in a certain sense. The transformation stage of land utilization structure is essentially the stage of spatial reconstruction of urban industrial functions, and the optimization of land utilization structure will inevitably promote the rationalization of industrial structure, thus promoting economic transformation and upgrading.

3. Coupling Mechanism between Town Land Use Efficiency and Economic Growth

As we all know, technology is the driving force of social development, and technological progress has promoted the emergence of industrial revolution and improved living standards and equipment. Nowadays, with the continuous growth of urbanization, advanced technology and equipment are introduced, which promotes the changes of industrial structure and employment structure, makes full use of various resources and improves the utilization rate. For a long time, the core problem of economic research is how to realize the optimal allocation of resources. Improving the efficiency of resource allocation is an important condition for achieving sustained economic growth. The scale of land use mainly includes the input scale of land elements and the input scale of non-land elements. The input scale of non-land elements determines the efficiency of land use to a certain extent, while the scale of land elements largely determines the speed, scale and direction of China's economic growth.

In the stage of urbanization, there will be two effects: agglomeration and radiation. Agglomeration effect refers to the centralized production and utilization of resources, technology and manpower, and the use of centralized advantages to promote the overall efficiency. As the support of all human production and living activities, the source of production resources and means of production, land is undoubtedly a scarce resource. For urban construction land, the increase of land area invested in one functional area means the decrease of land resources that can be invested in other functional areas [10]. Sustained and stable land supply is an important guarantee for China's rapid economic growth. However, with the rapid growth of land demand, town land resources are increasingly scarce, and the traditional development model relying on land scale expansion is unsustainable, so it is necessary to carry out land supply-side reform. From the layout point of view, the layout structure of urban road network should match the flow direction of traffic demand, otherwise the road capacity will not be fully exerted, the land resources occupied by roads will be wasted, and the overall transportation cost will not be optimal.

In the stage of urbanization, rural energy, land and labor all flow to cities, and the growth of production by using advanced technology and equipment in cities is obviously better than the previous decentralized production in rural areas, resulting in agglomeration effect. The improvement of town land use efficiency makes the use of unit land elements more fully, increases the economic supply of land, reduces the scarcity of town land, effectively improves the shortage of total land supply and provides material support for economic growth. As the skeleton of supporting urban development, the capacity, layout and hierarchical structure of urban road network largely determine the transportation cost within the city. From the capacity point of view, the overall construction scale

of urban roads should adapt to the development stage and level of social economy, otherwise the traffic demand will not be met, and there will inevitably be uneconomical phenomena such as road congestion and frequent accidents, and all kinds of transportation costs will also rise. The regional economic impact indicators are shown in Figure 2.

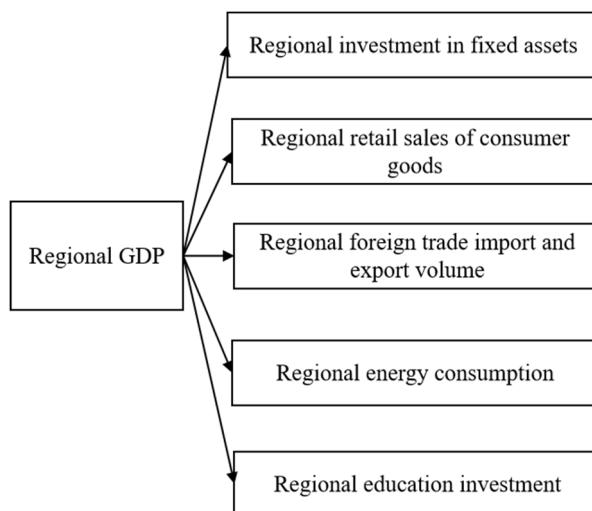


Figure 2. Regional economic impact indicators

With the growth of urbanization, the industrial structure has changed, and the employment structure has also changed. With the popularization of mechanization and technology, the growth of agriculture is now dominated by machinery, and the labor consumption is greatly reduced compared with before. Under the market conditions, land elements are constantly flowing from low-efficiency or low-growth sectors to high-efficiency or high-growth sectors under the action of price leverage. This change in land supply structure makes labor, capital, technology and other factors shift and relatively concentrate, which will drive the transformation of investment structure and industrial structure, promote the industry to achieve scale benefits and agglomeration benefits, and promote the optimization and upgrading of industrial structure. The allocation of urban industrial land and commercial service land should be able to guide enterprises to gather in the core area of urban industry, promote industrial cluster development, reasonably control the area of industrial land, shorten the spatial distance between transaction subjects, improve the transaction density and reduce the transaction cost caused by the distance attenuation of information dissemination.

4. Conclusion

Town land use efficiency and economic growth quality have a two-way interactive and symmetrical influence, and there is a coupling mechanism that interacts and restricts each other. Industrial development and land resources are intrinsically linked. The level of industrial development and industrial structure affect the allocation pattern and utilization efficiency of land resources, thus affecting the utilization mode and spatial layout of land resources. Compared with the output elasticity of capital factors and labor factors, the output elasticity of construction land input is smaller, indicating that the role of land factors in urban economic growth in China is relatively weak. With the help of the agglomeration effect of urban economy, urban economic growth can be promoted through intensive land use without relying too much on the input of land elements. The transformation of industrial structure is reflected by the corresponding land use change, which is reflected in the redistribution and combination of land resources and other resources among industries and departments, which also constitutes an important content of land use change. Modern economic growth is reflected in the economic growth led by structure, which realizes the quality improvement on the basis of the original total amount and presents the characteristics of intensive and gradual progress. While realizing economic growth, this transformation of economic growth mode can avoid

the disadvantages of inefficient use of town land and the occupation of a large quantity of cultivated land by urban construction.

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