A Study on the Constraint of the Resource Environment to the Development of the Urban Economy in China

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Keywords: Natural resources environment; Innovation driving force; Urban environmental protection; Sustainable economic development.

Abstract. With the rapid development of urbanization and urban economy in China, in the face of the sustainable development of urban economy restricted by environmental resources and on the basis of analyzing the influence and restraint characteristics of environmental resources on the space of economic development, the development of low-carbon energy and utilization of renewable energy are studied. The scientific and technological progress plays an important role in solving the constraint problem. This paper puts forward a concept of sustainable development of a new type of city based on the optimal allocation of social resources, and makes a beneficial discussion on the realization of sustainable development and the promotion of core competitiveness.

Introduction

In the long river of the development of the society, the human beings always make unremitting efforts and innovations in the aspects of their living quarters, environmental conditions and economic development, so as to get the harmonious development. In the light of the limited nature of the natural resources, the severe nature of the economic development of the human society has been the consensus of the world. At present, with the development of China's urbanization and the rapid development of the urban economy, the dependence of the resource environment has seriously affected the sustainable development of the urban economy, which has attracted the attention of the society.

How to fully and properly utilize the existing natural resources environment, adopt advanced scientific and technological means to innovate and develop new energy, green, environment-friendly, efficient and energy-saving to ensure the harmonious development, this issue has been recognized in the western countries in the 20th century. They have been passing through in the development and progress of science and technology to break through the constraints of the limited natural environment on the development of social and economic development, and to start the practice, such as the development and application of new energy such as solar energy, wind energy and nuclear energy. The generation of new energy can make the regions of natural resources such as coal, oil and the like in a certain range be replaced, so that the dependence of some cities and the economic development on the resources is reduced. But the development and the utilization of the new transportation means are made and the globalization process is accelerated, the rational exploitation and utilization of natural resources in any corner of the world can be made. In the western contemporary economic theory, the economic growth restriction factor produced by this kind of actual phenomenon is attributed to the shortage of effective demand [1].

On the other hand, according to Keynesian economic theory, the effective way to promote social and economic development is to expand the fiscal expenditure of the state and the government, build public facilities projects, stimulate demand and increase employment. Under the guidance of this thought of neglecting the restriction of natural resources and vigorously driving up the speed of economic development at the expense of natural resources, some western countries once appeared the terrible situation of urban economic development accompanied by serious pollution of natural resources and environment in the process of economic development, which led some economists to think about this economic phenomenon anxiously. There will be serious problems that affect the
survival of human society. According to the report published by the Rome Club in the 1970s, the future of the world's economy will be stalled due to resource depletion, population growth and environmental pollution, and may lead to a collapse. For this reason, Meadows once put forward a kind of coping idea. That is the dividing the whole global system into five subsystems: population system, agricultural food production system, industrial system, non-renewable resource system and environmental system, and relying on the interaction of these intertwined subsystems to have an impact on the sustainable development economy.

On October 22, 2019, President Xi Jinping said in a congratulatory letter from the Taiyuan International Energy and Low-carbon Development Forum that “the low-carbon energy development is about the future of mankind.” China attaches great importance to low-carbon energy development and actively promotes energy consumption, supply, technology and institutional revolution. China is willing to work with the international community to strengthen energy cooperation, safeguard energy security, deal with climate change, protect the ecological environment, promote sustainable development, and better benefit the people of all countries in the world.

Since 1979, according to the national conditions, under the dual impetus of reform, opening up and urbanization, urban economic construction and development have made great progress. In the face of the international financial crisis and the adjustment of domestic industrial structure, upgrading and transformation, it has also done so on the basis of Keynesian economic theory. However, on the basis of the system advantage of the socialism with Chinese characteristics, under the guidance of the idea of green harmony and sustainable scientific development view, the concept of balanced development, multi-scale and urban circle, the development of small and medium-sized or large-scale towns is given, including its development level and speed, according to the natural environment, the urban industrialization level, the urban population, the city economic development level and the regional division of labor, the problem of urban development scale is to be considered [2]. While paying attention to the development of urban economy, we should take into account the measurement, analysis and prediction of speed. With the effective implementation of a series of policy measures, the urban scale and economic development speed of our country have increased obviously since 1996. But a series of new problems affecting urban economic growth have also emerged.

Therefore, we must stick to the initial mind and keep constant. We must strive to achieve the new development concept of innovation, coordinated development, green development, open development and shared development in a comprehensive way to achieve the goal of green, circular and low-carbon development driven by innovation [3], so as to work out a path of equal emphasis on the efficiency and quality of socialism with Chinese characteristics, and the harmonious development of economic growth and environmental protection.

The Price Constraint Mechanism of the Market Economy of Natural Resources

China is a great country in the population. Although it is a great power in the aspect of natural resources, it is not a powerful country. The per capita cultivated land is only 1/2 of the world average, the per capita forest occupancy is 1/4, the per capita fresh water resource is 1/3, the per capita environment and natural resources are far lower than the per capita standard level of the world, and the distribution of natural resources is also very uneven. This imbalance in geographical space leads to the incompatibility with the development structure of regional economy in China, which leads to the increasing imbalance with the rapid development of urban construction and urbanization. In contrast to that foreign country, however, China has two major characteristics or characteristic advantages: Firstly, the agricultural productivity is low compared with that of the developed country. The population in the agriculture is large and the income is low, and the labor supply amount of the agricultural population is very sufficient. Strong human resource support for urban construction and development; Secondly, the labor productivity and benefit level of industry, commerce, construction industry, service industry and other related industries in the city are high.
But restricted by the government planning and compilation, the number of people in the staff is full. With the gradual increase of the rural labor force pouring into the city, new vitality will be injected into the development of urban industrial economy, and it will also have a strong driving force for the development of new industries. However, it is worth paying great attention: with the increasing population density of the city, the dependence of the natural resources and the pollution degree of the environment will be gradually increased, and it will have a certain influence on the healthy development of the city economy.

Nowadays, under the background of fierce competition in the global economic integration, the development and utilization of natural resources is completely regulated and controlled by the market mechanism. As natural resources are limited by geospacial natural environment, such as limited nature and non-renewable nature, it is difficult to remedy the damage once damaged, and become an international problem of great concern. Many social and economic research results show that the natural resources that restrict the social and economic development are closely related to the price mechanism of the market [4]. The constraint mechanism of natural resources on the long-term growth of urban economy is in fact the market price mechanism plays a leverage role. With the scarcity of natural resources, the price of the market in which it is purchased is high, resulting in an increase in the price of the production products, and the price of the product marketing also has a direct impact on the development of the urban economy. In particular, under the impact of the supply and impact of natural resources, the price changes caused by the rise in the cost of the product production process would be bring a significant impact on the urban economic development. If the supply of natural resources is declining, the impact of the increase in the market price of the product would be accompanied by the increasing development of the urban economy.

For example, during the 1950s and 1980s, there must be a positive correlation between the rising crude oil prices and the subsequent weakness of the world economy. As a result of the rising market value of crude oil, a natural resource (essential raw materials for the production of a variety of industrial products), the shock wave of the role of the market mechanism and the price of products in most countries around the world have led to a series of problems, such as runaway markets and serious disconnection between production and consumption, which had not only given rise to a great impact on the economies of importing countries, but also had a deep negative impact on the economies of exporting countries. So that was a resulting in a wide range of world economic depression and crisis.

The painful lessons of history are telling the world that the resources given by nature to human existence are sacred and cannot be taken arbitrarily. In order to develop their own economy, we must rely on the power of science and technology, develop and utilize non-renewable natural resources, innovate and develop new types of energy, and reduce the risks caused by the relationship between the constraints of natural resources and the market price mechanism.

Since the 1980s, with the rapid development and continuous progress of science and technology, China has given full play to the superiority that the socialist system can concentrate its efforts on major events, showing that it has a strong ability to regulate and control the energy market and prevent the risks caused by the market price mechanism, and rely on science and technology to drive innovation and develop a new urban economy. With the development and application of a series of new energy sources, such as solar energy, wind energy, nuclear energy, natural gas and biogas, new energy-saving, environmentally friendly green energy products and equipment continue to emerge, and their popularization and application are becoming more and more extensive. However, in order to protect the natural environment on which we depend for our survival, it is still a long way to go to replace the goal of developing the economy at the expense of natural resources.

The Restraint Effect of Resources and Environment on Sustainable Development of Urban Economy

In the process of urban construction and development, natural resources have long-term and varying degrees of contractual impact on many developing countries. For example, in some countries in Latin America in the 1980s, when the economic situation was expected to be good, the
glorious days of the world's attention had appeared. However, due to the neglect of the restrictive role of natural resources and environmental factors, the development speed was too fast, coupled with the political, economic, cultural and other aspects of the resulting decisions that did not adapt to the rapid development, which once led to the stagnation of its urban construction and economic development. After that, the developing countries, in turn, had not changed the traditional pattern of economic development based on natural resource model and the development of corresponding coordinated development strategies, leading to the poor economic development environment and political instability of their countries, and further, the instability of the urban economic construction is increased. Although rich in natural resources, it was still in a difficult situation and missed a good period of development.

At the same time, it is worth learning that Australia, Canada and other developing countries, such as Australia and Canada, are also rich in resources. Due to the use of advanced development concepts, advanced scientific and technological means and production methods, the traditional natural-resource-based urban economic structures was transformed into a new model of urban economic development that is suitable for the rational utilization of natural resources and economic development. So they had entered the ranks of developed countries by seizing the opportunity of development [5].

In Asia, there are also some emerging countries that have entered the ranks of developed countries, such as Japan, Singapore, South Korea and so on, have a strong sense of hidden danger that they have relatively scarce natural resources and are at a disadvantage in the development of competition. Therefore, they attach great importance to the rational use of natural resources and how to develop the economy and environment. In terms of urban economic development and governance structure, there is a corresponding national policy for solving the dependence of natural resources. The long-term strategy has the development plan and the implementation of the plan. While learning to draw on the experience of the advanced countries, it is more important to play its own advanced scientific and technological advantages to improve the innovation ability and the core competitiveness, so as to guarantee the economic growth rate to be compatible with the exploitation and utilization of natural resources and environmental governance.

The development of the urban economy is inseparable from the consumption of natural resources. The exploitation and utilization of natural resources exist a positive correlation between the urban economic growths. The economic growth pole theory holds that the restriction of natural resources can lead to the development of the world economy and the urban economy to stop and even collapse [4]. The main reason is as follows.

Natural environment resources are unrenewable and scarce resources, and in the process of urban construction and economic development, in addition to over-exploitation and utilization, the production of urban waste and industrial waste will result in difficult to estimate environmental pollution. The natural environment around the city body is seriously damaged, so that the scarce resources are exhausted.

The damage to the urban environment will also have a serious impact on the lives of the residents, survival and health, the development of urban civilization and many other aspects. Even disastrous consequences maybe appear. The growth of urban population, especially the rapid growth of migrant workers, will also directly lead to more consumption of natural resources, and eventually form a great hindrance to the development of urban economy, which restricts the development speed and quality of urban economy.

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The Countermeasures of Constructing Urban Economic Innovation and Development to Deal with the Constraints of Resources and Environment

China is a large developing country not a powerful country. Since the reform and opening up in 1978, China has made considerable social and economic development and scientific and
technological progress, but it has not really reached the level of developed countries. In order to achieve the goal of "two hundred years"—the great Chinese dream, we should take the history as the mirror, and carefully absorb the historical lessons that have taken place in the development of the urban economy in the foreign countries. And draw on them to be in different historical periods and different geographical space, they could break free of the constraints of natural resources to the development of urban economy, and still maintain good sustainable development speed and quality. The successful experience of becoming developed countries is to be used for reference.

In today's world, the primary strategy to deal with the constraints of the resource environment to the development of the city's economic development is to vigorously innovate and develop the low-carbon energy economy. It is related to the future of mankind. And the contradiction between the energy demand and the sustainable development of the continuous increase is also the common goal of all countries, Taiyuan International Energy low carbon Development Forum 2019 has fully demonstrated China's determination to promote energy change [5]. In that past five years, under the guidance of a new strategy for cooperation and energy security by Chairman Xi Jinping, the energy industry faces various risk challenges. The energy consumption structure is obviously optimized, the supply quality is greatly improved, the scientific and technological innovation is fruitful, and the system of organization has undergone profound changes. For example, the green low-carbon is taken as the direction, the fossil energy clean-up and the non-fossil energy scale are promoted, and the clean low-carbon and safe and high-efficiency energy system is accelerated; we will vigorously develop renewable energy, hydropower, wind power and solar power generation capacity in the world. With the advance of technology, energy storage will change from high cost, low performance, short life, low density to low cost, high performance, long life and high density. It can be foreseen that the future energy storage will be presented in the form of light (high quality energy density), small (high volume energy density), low price(low production cost)and efficient plug-and-and-play form; The great blue future energy that represents the potential of the representative, such as Wind power generation, offshore wind power, deep-sea oil and gas development, cold-water ice mining, floating nuclear power station, wave energy generation and so on, it also possible to apply the development and implementation.

No matter how the global economic situation is changing in the future, it is the top priority to solve the challenges we face. So the present study is of the view that: to solve the problems of environmental resources to the development of urban economic development in our country, we should adhere to the following guiding principles and principles.

1) Adhere to economic development at the expense of non-renewable resources

The development and utilization of natural resources must have medium and long term development planning, and cannot be overexploited and destroyed the natural environment on which people depend. The development and utilization of natural resources must be adapted to the development of urban economy to ensure the harmonious development and sustainable development. We must not develop for the needs and achievements of the market economy.

2) Adhere to People-oriented, Focus on the Speed and Quality of Sustainable and Healthy Development

Under the guidance of the scientific concept of development, in order to realize the concept of green, energy-saving, environmental protection, and sustainable development, formulate a good development strategic plan and concrete implementation deployment plan; adhere to the changing circumstances and changes, and the competent leadership and organization remain unchanged.

3) Focus on the Construction of a New Type of Urban Construction Development and Governance Structure System

With the support of advanced science and technology, we should constantly improve the ability of urban innovation and core competitiveness, constantly improve a technical security control system that can realize resource sharing, information exchange, convenience and intelligence, real-time prediction and scientific decision-making, so as to provide escort for urban innovation, development and governance. Adhere to demonstration to promote the application, for the use of R&D territorial, industry-oriented management and control application system.
4) Vigorously Innovating and Developing Low-carbon Energy Economy

To develop new energy sources, pay attention to the regeneration and utilization of natural energy, promote the development of green circular economy, and focus on encouraging the development of low-carbon energy emerging industries, so as to have planned measures and support policies. Follow the project establishment to be innovative and the measures are guaranteed.

5) Help to Construct the Highland of Human Intellectual Resources

Scientific and technological innovation is the driving force of social and economic development, and human intelligence resources are the source of innovation and development. In order to manage and make good use of the valuable resources of the occupants, we should vigorously develop the tertiary industry and other emerging industries, increase employment, achieve convenient service, reasonable salary, social security, social stability, create a social environment in which people stay and play a role. At the same time, we should attach great importance to the introduction and introduction of high-end scientific and technological and management talents, and help build the highland of human intellectual resources. So that people have feelings, love and keep the hearts of the people.

In view of the fact that the construction of the governance structure of new urban development is an important aspect of innovative development of urban economy, based on the analysis and research results in recent years and the practical experience of engaging in the construction of intelligent city, the paper puts forward some viewpoints and suggestions that can be used for reference.

1) To formulate medium- and long-term plans for urban innovation and development, more attention should be paid to the sustainability of urban economic growth capacity.

Because sustainable economic growth lies in the sustainability of growth mode, in order to achieve the goal of sustainable development, we need the compatibility and harmony of urban economy, social population, natural resources and environment. This kind of ecological good, social fair development foundation is a strong guarantee to improve the development efficiency and sustainability, and the overall goal of urban economic sustainable development is to improve the quality of life, social welfare, human settlement identity and satisfaction of urban residents in an all-round way, followed by the growth of social wealth.

2) In order to realize the development of urban economic innovation and the promotion of core competitiveness, the construction of environmental resources should bear the brunt.

We should stand at the height of strategic development, take the promotion of the core competitiveness of economic development as the starting point, take the inclusive and harmonious mentality of reform and opening up, meet the needs of the city and inside and outside the city, and attract domestic and foreign enterprises to actively participate in fair competition. Nowadays, the driving force driving the sustainable development of urban economy is no longer determined by the quantity of traditional natural resources and general elements, but mainly by the high-end hard environment and soft environment with high quality. The driving force of innovation to support sustainable development mainly comes from the internal supply elements such as talent and intelligence, capital and financial resources and technological innovation [6]. To this end, the government is playing an increasingly important role in building the urban innovation system (including key elements such as system, policy, culture and environment) and improving the efficiency and quality of service.

In addition, the determinants of urban economic competitiveness are shifting from production factors to environmental factors, while indirect or long-term factors (such as innovation ability, science and technology level, multi-cultural characteristics and social harmony) affect their sustainable development power. The natural environment and the ecological environment level, etc. have diversity, mutual and comprehensive understanding [7]. Therefore, the innovative industrial development layout for the sustainable and healthy development of the urban economy cannot rely on the single or professional industrial agglomeration, but also the more needs are regional, the industrial agglomeration of the supply chain, and the diversified and intelligent emerging industries.
3) Construction of Multi-dimensional Evaluation system and Evaluation Standard for Urban Economic Development.

In order to ensure that natural resources and urban construction adapt to sustainable development, in the construction of multi-dimensional evaluation system and evaluation standard of urban economic development, it is necessary to establish a multi-dimensional index evaluation standard system, which can not only be limited to eight aspects, such as livable degree, economic vitality, innovation motive force, ecological environment, social harmony, open culture and urban-rural coordination. Specific evaluation indicators should also be refined to: technological innovation ability, living consumption level, natural resources exploitation and use management, climate index, pollution monitoring, innovative productivity energy investment, number of immigrants and immigration adaptability, transportation convenience, government investment amount, government investment in environmental protection, government investment in natural environment governance, government management and planning, construction system, urban population, municipal planning, urban and surrounding areas of innovative industrial agglomeration, urban population age distribution, urban space environment and urban public space and other aspects [8]. At the same time, we should pay attention to fully taking the new generation information technology as the support, using big data, the Internet of things, block chain, artificial intelligence and other advanced modern information technology means to optimize the multi-dimensional evaluation standard system, so as to make the evaluation index more scientific and reasonable, and provide a strong scientific decision-making basis for the sustainable development of urban construction and economy.

Summary

Along with our country wisdom city construction and the urbanization development unceasingly speeds up, the resources environment and so on factor restricts its economic development speed and the quality function to be more prominent. As natural resources are affected by the price regulation of market mechanism, the market price competition is becoming more and more serious. In order to effectively deal with the constraints, relying on the progress of modern science and technology to develop new low-carbon energy, to enhance the development and utilization of non-renewable energy, to achieve the sustainable urban construction and economic development, to use the new generation of information technology means, to build a new urban economic development governance structure and multi-dimensional evaluation standard system, to provide a strong scientific decision-making basis for innovation and development, to deal with the resource and environmental factors constraints facing the problem, will have more practical significance.

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