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Dynamic Mechanism for Development of Urban and Rural Spatial Integration

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Abstract The space is a place where human beings conduct social and economic activities, and also the carrier of any public living form and right action. Urban area and rural area are two integral parts of regional economic system. Without joint and coordinated development of urban and rural areas, it is impossible to realize global optimization of economy and maximization of social welfare. Through study of dynamic mechanism for development of urban and rural spatial integration, it is expected to understand laws, mechanism and means of urban and rural spatial structure evolution, so as to better promote sustainable development of urban and rural population, resources and environment.

Key words Urban area, Rural area, Space, Theory

1 Introduction

The space is a place where human beings conduct social and economic activities, and also the carrier of any public living form and right action. The space is evolved in historical development, and it recombines and transforms with evolution of history. Spatial structure is the form of spatial distribution and spatial combination of various economic activities of human beings in certain economic region. It is the comprehensive reflection of political, economic, social, cultural, production, natural conditions, engineering technology, and building space^[1].

Urban area and rural area are two integral parts of regional economic system. Only through joint and coordinated development of urban and rural areas, may it be able to realize global optimization of economy and maximization of social welfare. However, urban and rural dual economic feature is distinctive in China, and there is a great gap between urban and rural areas. As a result, it has brought about a series of social conflicts. Through study of dynamic mechanism for development of urban and rural spatial integration, it is expected to understand laws, mechanism and means of urban and rural spatial structure evolution, so as to better promote sustainable development of urban and rural population, resources and environment.

2 Study and determination of dynamic mechanism for urban and rural spatial integration

2.1 Economic development Only development counts. The overall arrangement of urban and rural employment, income and public service depends on development of urban and rural productivity. Only through productivity development and wealth growth,

may coordinated development of urban and rural space have precondition and foundation. China should not only speed up economic development, but also attach importance to economic growth quality and benefits. Specifically, China should gradually transform economic construction from establishing new projects to focusing on structural adjustment, quality and benefit growth. For example, it should make effort to develop advanced manufacturing industry and modern service industry, to realize industries back feeding agriculture, urban areas supporting rural areas, and constantly increasing comprehensive competitive power of urban and rural areas and sustainable development capacity.

According to the New Economic Growth Theory, economic growth stems less from the acquisition of additional capital and more from innovation and new ideas. Dynamic mechanism of economic growth is technological progress, rather than the investment stated in Traditional Economic Growth Theory, and economic innovation ability determines economic flexibility and vitality. China has basically established socialist market economic system. After entry to the WTO, the effect of government-leading regional inclination policies is drawing to an end. Regional economic development and growth is generally competition of economic strength and market-oriented resource allocation. Besides, economic growth depends largely on technological progress and efficiency. Low scientific research conversion capability and low opening degree greatly influence economic growth and development. China should shift attention from business cycle to education, new technological research and development, and trade reform. On the basis of keeping constant growth of investment on fixed assets and making effort to expand consumption demands, it is required to boost exportation, to realize investment, consumption and exportation going forward side by side, coordinated development of agriculture, industries and service industry, so as to jointly pull economic growth. Besides, it should actively bring into play scientific and technological advantages, promote economic development relying less on input of funds and resources and support of simple labor but more on human capital and technological progress, and promote high effi-

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cient allocation and comprehensive integration of scientific and technological resources, to realize close combination of science and technology with economy. In addition, it is required to energetically develop circular economy, change the simple linear cycle of resources \rightarrow products \rightarrow waste, promote informationization of national economy and society, and transform economic growth to the way of relying on science and technology, optimizing structure, increasing benefits, and reducing consumption.

2.2 Institutional innovation The institution is defined as any structure or mechanism of social order governing the behavior of a set of individuals within a given community; may it be human or a specific animal one. Institutions are identified with a social purpose, transcending individuals and intentions by mediating the rules that govern living behavior. Institutions are the rules of the game of a society or more formally are the humanly-devised constraints that structure human interaction. Without institutional constraint, limited rational people will pursue maximum personal benefits, which will generally result in disorder or low efficiency of social and economic activities^[2]. The institutional innovation is the process of institutional substitution, change and transaction. It is the replacement of a system with a higher effective innovation, and is realized through complex regulation and standard and the implementation of marginal adjustment of implementation. The institutional innovation includes innovation of institutional structure and institutional arrangement. The innovation of institutional structure is reform in the basic resource allocation, while the innovation of institutional arrangement is reform in specific transaction way.

Occurrence and evolution of institutions are to save transaction cost. As a type of public goods, the institutional change can be understood as the replacement of higher efficient system for another institution, and the institutional change plays a decisive role in economic growth^[3]. Opportunity cost and actual switching cost are constraints of institutional change. New institutional economists with Douglass C. North as representative incorporated property right structure, transaction cost, limited rational economic men, information asymmetry, state (government), and ideology into analysis framework of economic growth. They contended that the institution is a most important factor influencing economic development, and established the institutional change theory including property right theory, state theory, and ideology theory. Economic institution directly affects allocation efficiency of various resources and accordingly acts on regional economic growth. The formation of regional economic development strategy, determination of regional economic development mode, and guidance on spatial distribution of regional economic development, are all included into policies of regional economic development.

Institution has path dependence. Once an institution is established, it will be deepened along a fixed track. Even if there is better replacement scheme, it is difficult to change the fixed path, namely, forming the tendency of irreversible self-reinforcement. Famous economists, Karl Gunnar Myrdal and Albert Otto Hir-

schman, stated that the circular cumulative causation effect will occur in market mechanism that has no intervention, and it will bring about Matthew Effect: the poor will become poorer and the rich will become richer, thus market force generally tends to increase rather than reduce regional economic difference^[4]. From the practice of historical development, with constant advance of urbanization and industrialization, the relationship between urban and rural areas has become gradual coordinated from serious imbalance. However, this is not a natural process completely. In the early and middle period of transition of agricultural society to industrial society, since urban areas had aggregation function and higher comparative benefits of industries, it led to polarization effect higher than trickle-down effect. The gap between urban and rural development gradually got widened and natural evolution of urban and rural dual economic structure to modern economic structure was extremely long. Therefore, some developed countries had to take intervention measures to promote accelerated change of urban and rural relationship after they entered the middle and later period of industrialization.

When there is great change in external environment, the stability of institution evolves into ossification of institution, then it would hinder economic growth and social harmony. If the potential income of realizing institutional innovation and change is higher than the cost, it will have the incentive mechanism for breaking ossified institution. In rural areas of China, there is huge creative power, which is important motive force for reform of market economic system. After the Third Plenary Session of the Eleventh Party Central Committee, China implemented reform in rural areas, which raised the curtain of a huge and deep institutional change and social transformation and promoted political, economic and cultural progress. With implementation of the household contract responsibility system with autonomous production and management right as major content in rural areas, rural productivity was liberated to a great extent. In addition, supply ways of state institutions are constantly adjusted and modified, and the economic management mode is undergoing great change, namely, from government controlling economy and leading economy to government promoting economy. Practice of reform and opening-up has proved that institutional innovation is a powerful lever for promoting economic and social development and also an important means for increasing administrative efficiency, improving service quality and raising public interests. However, it should be clearly realized that there are still many problems and obstacles in China's market economic development. In some key fields, there is still problem of vacancy of government, which becomes the bottleneck for solving issues concerning agriculture, farmers and rural areas and restricting improvement of urban and rural relationship. With further release of potential of the household contract responsibility system, the growth of farmers' income lingered for a long time. Especially after 1997, the growth of farmers' income became slowly and the growth rate was lower than 5% for several consecutive years.

Change of the urban and rural relationship is also the process

of a country or region realizing modernization. In essence, the action logic of urban and rural dual structural system lies in building an insurmountable public system gap and barrier between urban area with less people and rural area with more people and forming an institutional constraint chain of urban and rural divide through construction of household registration system and a series of related systems^[5] (as shown in Fig. 1).

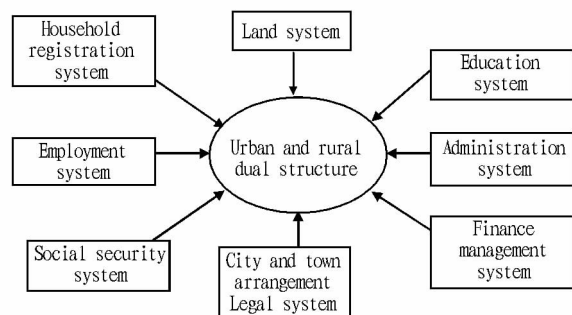


Fig. 1 Constraint of urban and rural dual system

China is experiencing the dual transformational period from planned economic system to market economic system and from traditional agricultural society to modern industrial society. The inertia of unbalanced development still supports constant growth of regional economy, and serious imbalance in urban and rural relationship has greatly affected realization of rural modernization. Therefore, system innovation becomes the key to solve the problem of urban and rural dual economic and social structure. In this situation, government should take active intervention measures to stimulate development of backward rural areas, even backward urban areas, further deepen reform of land use system, household registration management system, rural financial system, and social security system, fill the economic gap resulted from various cumulative causal cycle, and promote fair growth of regional economy.

2.3 Technological innovation Technological innovation not only promotes development, but also is one of fundamental motive forces driving urban and rural spatial development.

2.3.1 Technological innovation brings about changes in mode of production. In the period of industrial revolution, wide application of new machines accelerated resource development and caused emergence of factories in large numbers. Numerous rural people migrate to cities. Since large cities develop firstly, social economic activities are gradually concentrated in few large cities, and the spatial structure of urban and rural areas start to become out of balance. Application of computer technology and development of information industry promoted communication, finance, insurance, business, tourism service and some manufacturing industries and those largely depending on computer technology and information industry such as leading department and scientific research and design departments of companies to centralize in large cities. In addition, with development and improvement of traffic and communication technologies, the function of location factor gets relatively weak. Thus, production, management and living can be decentralized in space, which will promote some enterprises to de-

velop in broader space.

Technological progress is always expanding people's field of vision and activity space. In human history, water transport obtained considerable development prior to land transport. The development of navigating technology brought center of population and economic activities of many countries to move from inland to coastal regions. In ancient times, political and economic center of China was central plain area. Since Tang Dynasty, maritime traffic gradually developed, which directly promoted development of business, agriculture and handicraft industry in southeast coastal regions. By Northern Song Dynasty, the national economic center had moved to southeast coastal regions. Now, southeast coastal regions have become models of development and opening-up of China.

2.3.2 Technological innovation leads to transformation of industrial structure. Swedish geographer Torsten Hgerstrand expanded the technological innovation diffusion theory and laid foundation for spatial diffusion theory. Large scale technological innovation promotes upgrade of industrial structure and brings about difference in regional development. Since the ability of regions is different in technological innovation and accepting diffusion of technological innovation achievements, some regions fail in competition and become "crisis regions", while other regions obtain opportunities of further development and become "prosperous regions", and the formation of industrial clusters also tends to select regions adjacent to starting point of technological innovation. As a result, population and resources flow to prosperous regions, factories in crisis regions close down, the ability of social investment and private investment decreases, infrastructure supply deteriorates, and unemployment situation becomes worse. Deterioration of supply of infrastructure and decrease of employment jobs will cause labor and resources to flow to prosperous regions from crisis regions, forming the said circular cumulative causation effect and leading to geographical dual economic structure.

2.3.3 Technological innovation promotes urbanization development. Technological innovation brings innovation of labor tools, numerous agricultural labor flows to urban non-agricultural industries from rural agriculture, and urban areas obtain considerable development. In space, application and extension of technological innovation are not balanced. The birth place and area firstly applying the technology generally obtain higher benefits and the process of its urbanization will be accelerated. As a result, it will lead to further imbalance of spatial structure^[6].

2.3.4 Technological innovation promotes balanced development of regional space. Essential feature of metropolis is the close connection between urban and rural areas, and the degree of closeness is directly related to non-agricultural process of peripheral areas. In traditional technological condition, most non-agricultural industries have the feature of urban location orientation, but the technological revolution after World War II brings fundamental change to this pattern. Large-scale application of technological innovation achievements promotes economic development, leads to constant

increase of capital accumulation and investment ability, and changes the "cities – industry, countryside – agriculture" urban and rural labor division structure. With the advent of post – industrial society, service industry takes the place of manufacturing industry and becomes leading industry of central cities, while traditional manufacturing industry gradually diffuses from central cities to surrounding areas. Central cities and surrounding areas establish industrial connection based on different technological level and resource advantages. In addition, people pursue clean environment and easy and comfortable life, then the action of factors influencing economic spatial agglomeration declines. Development of traffic and communication and improvement of infrastructure in suburbs and rural areas greatly expand people's living space. Following living suburbanization and industrial suburbanization, there appears suburbanization of service industries, offices, and urban and rural integration becomes more significant, and the spatial structure of urban and rural areas becomes more balanced.

2.4 Urban and rural planning Urban and rural area is a complex. To promote it to evolve into urban and rural integrated entirety, it must stress the entirety of economic, social, economic and urban and rural spatial development in the region, and also properly deal with the mutual relationship in time and space. Metropolis planning is regional strategic thought and spatial planning. The planning content generally focuses on overall economic and social development strategy, regional spatial development mode and distribution infrastructure like traffic^[7].

For a long time, China's economic and social development always remains urban and rural dual structure, which separates organic connection between urban and rural areas. Although after the reform of administrative system, it implemented the municipality – governing – country system. In administration, urban and rural areas become an organic whole. But in urban planning concept, it still focus on urban areas, such as regional planning, urban system planning, overall urban planning, urban zoning planning, and detailed urban planning. It lacks overall consideration of urban and rural development and coordinated arrangement of urban and rural areas. Therefore, it is required to formulate strategic urban and rural integrated spatial development plan, closely connect spatial distribution and industrial distribution, change spontaneous evolution of urban and rural space to orderly evolution of urban and rural space, and guide industrial gradient distribution and cluster development to gradually form new regional economic pattern with reasonable labor division, mutual promotion, and coordinated development. These are objective demands for adapting to social economic reform and change of urban and rural relationship, and also importance measures for implementing "integrating urban

and rural economic and social development" of central government.

3 Conclusions

The development of all countries in the world has undergone the process of urban and rural opposition and urban exploiting rural areas. In larger part of the period since the foundation of new China, it basically adopts the policy of separate administration of urban and rural areas. Formulation of policies is generally first industry then agriculture, first urban areas then rural areas, and first citizens then farmers, leading to prosperous urban areas and backward rural areas, increasingly serious issues concerning agriculture, farmers and rural areas, and seriously obstructing development of productivity and building of harmonious society.

Spatial integration of urban and rural space combines two different economic and social units and living space together, and then people can seek joint development and coordinated growth in an interdependent region. Through economic development, institutional innovation, technological innovation and urban and rural planning, it is expected to promote urban and rural integration in planning construction, industrial development, market information, policies and measures, ecological environmental protection, and social cause development. Through the reform of household registration system, it is expected to provide urban and rural residents with equal rights of possessing property, education, employment, social security, and personal development, and change the existing urban and rural dual social and economic structure. In essence, the process of urban and rural spatial integration is also the process of solving the problem of agriculture, farmers and rural areas, and also the process of realizing agricultural, rural and farmers' modernization, and building harmonious society.

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