An Approach to Realization Scheme of Late-Advantages in Late-Developing Regions

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Abstract: Later-developing advantages realization is a significant issue for economics in underdeveloped region. The study forwards the conception of the later-developing advantages summarily, based on theoretical analysis and normative analysis, after reviewing the researches of later-developing advantages. And the study tries to form a new frame of later-developing advantages analysis. In view of the ontology, regional innovation provides a theory analytical basis for realizing the later-developing advantages. Then, from the points of methodology, the object-procedure-subject model shows the important mechanism to realize the later-developing advantages. Finally, from the perspective of value theory, this paper studies the strategy to enhance regional innovation ability, and evaluates the realization of regional innovation capability.

1 Introduction

The idea of later advantage originated from the "international division", "comparative production cost" theory and "dynamic comparison cost" theory [1]. The concept of late-advantages came mainly from investigation of the economic development problems of different countries [1-4]. It was Gerschenkron and Levy who formally used latecomer advantage as an economic term and theorized this idea [2, 3]. Geschenkron [2] did not make a clear and complete definition of the advantages of later-developing advantages, but it should be summarized as follows: There will be a tension status in a relatively backward country, which will stimulate institutional innovation; Backward countries are selective and creative in designing industrialization models; Introducing the technology, equipment and capital of advanced countries; The resource advantages of the backward countries; The greater the degree of relative backwardness, the greater the substitution role of the state. From the perspective of modernization, Levy [3] concretized Gerschenkron's late-developing advantage theory into the advantages in understanding modernization, imitation and psychological. In addition, the late-developing countries can receive funds and technology support and help.

Domestic theoretical research on late-developing advantage think that late-developing advantage are mainly manifested in the following four aspects: the advantages of choice, the advantages of approach, the advantages of spirit and the advantages of learning, some considered that late-developing advantage include technological introduction advantages, institutional innovation advantages, structural change advantages, scale expansion advantages and human resources advantages [4, 5]. Guo [1] summarized it into five aspects, namely, the advantage of technology, the advantage of capital, the advantage of manpower, the advantage of the system, and the advantage of structure.

The innovation system is first discussed at the national level, namely the national innovation system. Freeman [6] clearly proposed the concept of a national innovation system. Its related

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research formed the macro school and the micro school [4, 5]. Subsequently, some scholars began to carry out innovative system research at the regional level, namely the regional innovation system. Cooke [7] elaborated the concept of regional innovation system, and classified the regional innovation system based on governance structure, regional integration level, social rooting, technology transfer model, and regional innovation barriers. OECD research has made significant contributions to learning-type regional research. At present, regional innovation theory has formed different research perspectives such as innovation environment, industrial zone, regional innovation system, new industrial space, local production system, and learning area [8].

Based on the predecessor's research on late-developing advantage theory, the generalized late-developing advantage should be a comprehensive concept [4-7], which refers to four main aspects: First, the advantages of learning. Second is the advantage of innovation, mainly referring to imitation innovation and secondary innovation. The third is the mental and psychological advantages. It refers to the incentive mechanism of benchmarking effect, which is mainly used by the first mover to establish a vivid example for the second mover to realize the late-developing advantage catch up and catch up, so that the second mover can see the bright prospect of his own modernization, which is conducive to mobilizing and inspiring the whole society to invest in the modernization. The fourth is the general sense of late-developing advantage, that is, the content of the comparative advantage. The four aspects mentioned above constitute a broad concept of late-developing advantage, and the first two aspects constitute a narrow conceptual of the late-developing advantage. The essence of regional late-developing advantage is regional learning and regional innovation, which is particularly prominent in the context of knowledge economy. The study of late-developing advantage should be based on a narrow understanding of the late-developing advantage

2 Methodology

The study constructs a theoretical model for the realization of late-developing advantage from the three dimensions: ontology, methodology and value theory. As shown in Figure 1, from the perspective of ontology, the regional innovation theory with the aim of improving regional competitiveness provides a theoretical basis for the study on late-developing advantage; secondly, from the perspective of methodology, the object-process-subject model constitutes an important expansion model of the late-developing advantage theory; finally, from the dimension of value theory, the strategic research based on regional innovation ability becomes an important evaluation method to measure the dominant advantage of late-developing advantage.

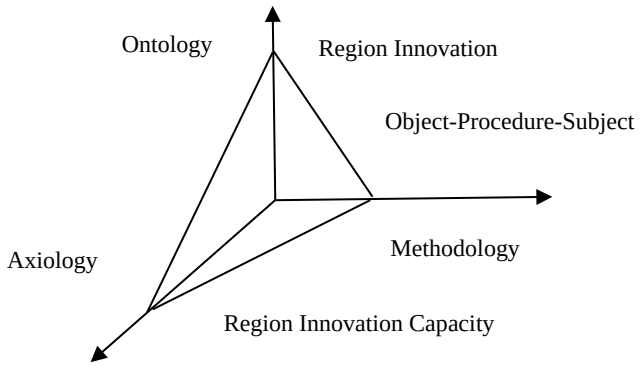

Fig 1. Scheme of late-developing advantages: theory, method and evaluation

Unlike previous theoretical studies of late-developing advantages, this theoretical research model

is a new revolution. On the basis of theory, it is not based on the traditional neoclassical economic growth theory of manpower, capital, technology, institutions, structure, etc., but mainly based on regional innovation theories about regional innovation systems. In the research model, on the basic theory of the “government's first impetus”, "material wealth growth", "jumping growth", etc., the object-process-subject late-development advantage model is proposed. In terms of research methods, the analysis method is no longer focus on GDP growth, but basing on regional innovation capabilities.

3 Results

Under the background of knowledge economy, the late-developing advantages theory based on the concept of traditional regional economic development cannot fundamentally solve the development problems of underdeveloped regions. To realize late-developing advantages fundamentally, it must rely on regional innovation. The theory of late-developing advantages should be based on the regional system of human-land relations, and explore the laws of economic regional development. Innovation is an interactive system of innovation processes. Therefore, regional innovation is increasingly attracting people's attention. The paradigm of system network innovation based on localized innovation elements and innovation environment, which is closely related to geospatial space, has gradually become the mainstream of innovation theory research. Regional innovation is a regional and social interaction process that relies not only on local innovation networks and innovation environments, but also on local knowledge structures and knowledge stocks, especially local implicit knowledge. It also based on the interactions with other regions, including resource flows, knowledge diffusion, institutional learning [10-12]. At present, the regionalization of the economy is increasingly prominent. The regional innovation capability is directly related to the improvement of international competitive advantage in national regions, attracting the attention around the world. The late-developing regions is difficult to achieve the catch-up goal based on the late-developing process in the fields of manpower, capital, technology, system, structure, etc. Therefore, the new regional innovation development strategy must be used to guide the development of the late-developing regions.

The theory of regional development and late-developing advantage emphasize that the realization of late-comer advantage largely rely on the process of industrialization. As a developing country, China is generally in the middle stage of industrialization, and the traditional development mode is unlikely to promote the industrialization process effectively in the context of knowledge economy, and its path and content must change with the trend. This mainly refers to the two aspects of enterprise innovation development strategy and regional innovation network development strategy. The realization of late-developing advantage is a continuous process of introduction, learning and innovation. For a long time, under the linear innovation mode, the late-developing regions only pays attention to the technology transfer mechanism, technology selection and negotiation ability, neglecting the cultivation of the late-developing micro-behavior of enterprise, ignoring the enterprises’ function on the technology use, learning and income distribution, causing the realization of the late-developing advantage lacks the micro-foundation [13]. The realization of regional late-developing advantages should be based on the accumulation of enterprise knowledge, and the development of regional innovation networks should be based on the enterprises development.

Another major content is the innovative social construction strategy, which is mainly for the construction of a regional innovation environment, particularly emphasize the accumulation of knowledge in the society and the construction of regional innovation culture. The regional

innovation environment depends on the efforts of the entire public community. The improvement of regional innovation capability is a social process. In the final analysis, it is necessary to stimulate the creativity of the regional public.

The spatial structure of regional innovation is also an important indicator of regional innovation capability and level. As to the fact that the past economic development has focused on time and ignored the space, it is necessary to strengthen the research on the spatial organization strategy of regional innovation and development, and emphasize the orderly development of space. Regional innovation is always originate and concentrate on the developed countries and regions with superior natural, economic, technical conditions and social foundations. When the agglomeration reaches a certain level, then regional innovation will spread along a certain technological gradient. Due to the shortage of innovation resources in the late-developing regions, there is no realistic basis for innovation. We should first allocate innovative resources to central cities with better innovation conditions and form the innovative growth pole with different scales and function, promotes the whole region's innovation through diffusion and demonstration.

The process of urban innovation diffusing from high gradient zone to low gradient zone is not blind. Except for objective gradient, the key point is that there must be a knowledge docking between regions, otherwise even artificially forced implementation, it is difficult to absorb the knowledge for late-developing regions. Under the effect of natural, socio-economic and other innovation-related factors, the diffusion of innovation should also follow the point-axis model proposed by the literature [8-10]. With the further development of regional innovation, the innovation axis will be further extended, so the entire region is filled with points and axes, and the innovation network structure is formed and the level of regional innovation reaches a high level.

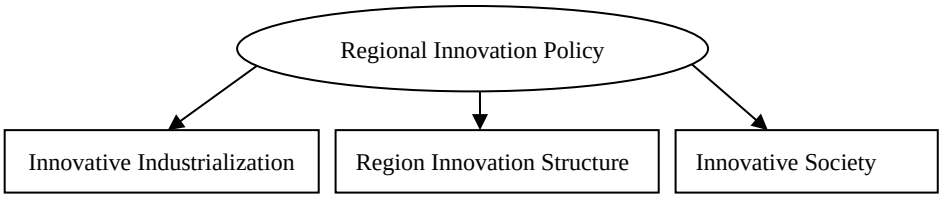

Fig 2. Policies for late-developing advantage based on regional innovation

4 Conclusions

Since the reform and opening up, while the economic developments in the coastal areas and the overall national strength have rapidly increased, the gap between different regions has been expanding. Moreover, the poverty regions in the west mostly concentrate in areas or border areas gathering ethnic minorities. The problem of regional development imbalance is closely linked to the social stability. To curb the widening regional economic gaps will inevitably become an important orientation of regional policies at all levels of government. On the other hand, the gap in regional development has shifted from the gap between the volume (mainly the difference in GDP growth rate) to qualitative (mainly inter-regional developmental vitality and development potential) gap. In addition to the traditional factors, such as natural conditions, location factors, economic base and investment capacity, that lead to the widening of the regional development gap, new factors, such as information, regional innovation capabilities, and regional culture, institutions, also affect regional development. Under the joint action of old and new factors, if we cannot the past development model, narrowing the gap in regional economic development level is very difficult and not realistic for a short period of time.

The development of modern regions need highlight the regional innovation development model

[14]. The traditional late-developing strategy theory based on the manpower, capital, technology, system, structure, etc. will not guide the economic development effectively under the knowledge economy background. At present, the theory and practice of late-developing strategy are still imperfect. We need to construct an upgraded research framework on the late-developing strategy to meet the requirements of the underdeveloped regions.

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References

[1] Guo X B. Modern Economics: Development Economics. Economic Science Press. 2017.
[2] Alexander Gerschenkron. Economic Backwardness in Historical Perspective. Harvard University Press, 1962.
[3] M.Ievy. Modernization and the Structure of Societles: A Seting for Intemational Relations.Pdrinceton University Press, 1966.
[4] Wang B D. Late- Advantages and Regional Development. Fudan University Press. 2004
[5] Yao Y. Development Economics. Beijing University Press. 2018.
[6] Freeman C.Technology Policy and Economic Permance-Lessons from Japan. Frances Pinter，London，1987
[7] Cooke P, Uranga M G,Etxebarria G.Regional systems of innovation:a evolutionary perspective. Environment and planning ,1998,(30):1563-1584
[8] Moulaer F, Sekia F. Territorial innovation models：a critical survey. Regional Studies. 2016, 37(3): 12-23.
[9] Elkan V R. Catching Up and Slowing Down: Learning and Growth Patterns in an open Economy.Journal of International Economics, 1996, 41: 1-25.
[10]Krugman P. What is new about the new economic geography? Oxford Review of Economic Policy, 2016, 14: 7-17
[11]Su P. Research on China's catch-up strategy based on late-comer advantage. Doctoral Dissertation. 2015.
[12]Fan G. China's development of 70 years and development economics theory. Economic Research Journal. 2019, 10, 17-21.
[13]Wang Y F, Fan J. Spatial analysis of national-provincial pole-axis structure based on major function zoning in China. Geographical Research, 2019, 38(7): 1651-1663.
[14]Fan J. Territorial System of Human-environment Interaction: A theoretical cornerstone for comprehensive research on formation and evolution of the geographical pattern. Acta Geographica Sinica, 2018, 73(4): 597-607.