

The Developmental Pattern of Urban Agglomerations in China

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Abstract: Following the logic of development and evolution, this study identifies the developmental pattern of urban agglomeration based on metropolitan area as basic component and county-level administrative division as basic analysis unit in virtue of socio-economic indexes. The overall evolutionary series of urban agglomeration was formulated by 156 metropolitan areas, 25 joint metropolitan area, 3 quasi metropolitan interlocking regions and 3 metropolitan interlocking regions.

Keywords: Urban agglomeration; Growth area; Metropolitan area; Joint metropolitan area; Metropolitan interlocking region

1. Introduction

Nobel laureate in economics Joseph E. Stiglitz regards urbanization in China and high technology in USA as two important events mostly influenced the process of human for the 21st Century. Meanwhile, as an important spatial carrier bearing the national economic and social strategy, urban agglomeration contributes to increasing economic efficiency, promoting know-ledge centralization and improving energy efficiency[1]. The research on the identification of urban agglomeration is not only affected by the maturity of identification method, but also is driven by the demand of planning practice[2]. From dynamic perspective and evolution logic in metropolitan area, joint metropolitan area, quasi metropolitan interlocking region, metropolitan interlocking region, this study takes county-level administrative units as basic analyzing units and metropolitan area as basic component units of urban agglomeration[3].

2. Method

The essence of identifying metropolitan area lies in central cities and peripheral counties[4]. This study brings forward standards to define central cities and peripheral counties which are suitable for characteristics in China. For central city, this study determines the threshold population of central city at 200000 of prefecture-level city (municipal district) or at 300000 of county-level city. While the county (county-level city) is identified as peripheral county by: the urbanization rate (40%), per capita GDP (¥15000), non-agriculture proportion in GDP (80%), non-agriculture proportion in employment (60%) and the population density (200 people per km²) [5-6]. Two or more metropolitan areas adjacent to each other spatially

constitute a joint metropolitan area, then joint metropolitan area evolves into the phase of metropolitan interlocking region when developing to a relatively mature and large scale stage. Furthermore, this study selects metropolitan interlocking regions from joint metropolitan areas by: one extra-large city (2000000 people), population density (500 people per km²), total population (15000000) and economic density (¥25000000 per km²). For those with economic density more than ¥60000000 per km², this study identifies them as metropolitan interlocking regions while the rest as quasi metropolitan interlocking regions[7-8].

3. Result

As the result shows, there were 325 central cities including 239 big central cities and 86 small central cities as well as 228 compliant counties including 196 peripheral counties and 32 non adjacent compliant counties. Based on the division of metropolitan areas, this study recognizes 156 metropolitan areas (135 metropolitan areas without peripheral counties and 21 relatively mature metropolitan areas), 25 joint metropolitan areas, 3 quasi metropolitan interlocking regions and 3 metropolitan interlocking regions, collectively forming an overall evolution pattern of urban agglomerations. To sum up, there were 31 urban agglomerations, which carried 36.93% of the national population, 51.46% of the urban population and achieved 64.87% of the national GDP with only 6.23% of the national territorial area.

4. Analysis and Prospect

The strategic spatial pattern of economic development experienced the evolution trend form T-shaped structure,

π -shaped structure and finally to three-vertical axes and two-horizontal axes structure, which in turn played a guiding role in the evolution of urbanization structure. The evolution track has verified that the development axes are the important battle field and the most concentrated area for the growth and development of metropolitan areas. Based on the development and evolution situation of metropolitan area and the guiding role of China's "three vertical axes and two horizontal axes" economic spatial structure, China will form 1 giant metropolitan interlocking region, 2 large-scale metropolitan interlocking regions, 5 metropolitan interlocking regions, 7 quasi metropolitan interlocking regions, which together forming a developmental pattern of 15 key urban agglomerations.

5. Conclusion

- (1) Metropolitan area is a certain functional geographical space which reflects the relationship between urban and rural area, which show a spatial characteristic of distributing along main transportation corridor.
- (2) The overall evolutionary series of urban agglomeration was formulated by 156 metropolitan areas, 25 joint metropolitan area, 3 quasi metropolitan interlocking regions and 3 metropolitan interlocking regions.
- (3) On the basis of spatial strategic structure of three-horizontal axes and two-vertical axes confirmed by Major Function-Oriented Zone Planning, this study establishes a pattern for growth and evolution of urban agglomeration.

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