Greater Xi'an: Transformation of Xi 'an Economy from Polarization Stage to Diffusion Stage

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Abstract: As socialism with Chinese characteristics has entered a new era, the basic feature is that China's economy has changed from a stage of high-speed growth to a stage of high-quality development. The polarization effect of Xi'an as the important pole core of Shaanxi's economy is obvious, which causes the overall sustainable growth ability of the regional economic spatial organization formed between the growth pole and its peripheral areas to be declining. The balanced growth of regional economy and the maximization of overall efficiency should be sought through the diffusion of growth poles. The planning and implementation of greater Xi'an should reflect the decentralization and equalization of Xi'an economy from polar nuclear stage to diffusion stage. It is not only necessary to cultivate and perfect the leading industries and market bodies that support the single growth pole, but also to establish the infiltration and connection among the multiple growth poles so as to achieve the high-level equilibrium of regional economy and realize the high-quality growth of economy.

1. Balanced development of regional economy is an important connotation of high-quality economic growth in China

Since the reform and opening-up, China's economy has maintained an annual high-speed growth rate of 9.87% in the 32 years from 1978 to 2011, and has achieved an economic miracle that attracts worldwide attention. GDP growth from 2012 to 2018 was 7.7%, 7.7%, 7.4%, 6.9%, 6.7%, 6.9% and 6.6% respectively, with a marked deceleration in economic growth. The slowdown and downtrend of China's economy have aroused wide concern and heated discussion at home and abroad. Wu Jinglian argues that the old normal of high growth driven by heavy investment is no longer sustainable, and that growth is entering a downward spiral. Lin Yifu, a former chief economist at the World Bank, is confident that China's GDP will grow by 6% over the next decade. Lu Dadao argues that medium speed growth is a sustainable path for China's economy. Economic Operation has the law of cyclical change. From the experience of Japan, South Korea and other developed countries, when a country or region experienced a high-speed growth stage, there will be speed shift phenomenon. Understanding the new normal, adapting to the new normal and leading the new normal are the great logics of China's economic development at present and in the future.

Political circles and academic circles have studied the issue of China's high-quality economic development from different angles. Yao Jingyuan believed that the change of social principal contradiction determines the direction and focus of economic work, which requires positive

transformation and upgrading. The key to grasp the changes of the social principal contradiction is to understand "unbalanced and inadequate development" comprehensively and accurately. Unbalanced and inadequate development is the expression of poor development quality. Liu Wei argues that: At the micro level, high quality development should be based on improvements in factors of production, productivity, and total factor efficiency, rather than on the expansion of factor inputs. In the medium view, we should pay attention to the upgrading of national economic structure, including industrial structure, market structure and regional structure, and allocate precious resources where they are most needed. At the macro level, it requires balanced economic development. Balance and coordination are the internal requirements of high-quality, sustained and healthy development of China's economy. At the same time, balanced development and economic growth are unity of opposite contradictions, there is "U" shape rule between them. In the initial stage of economic development, the non-equilibrium process: the enlargement of regional difference is the necessary condition to realize economic growth. After the economic development has reached a certain level, the equilibrium process: the reduction of regional differences, is also a necessary condition for economic growth.

2. The declining growth ability of Xi'an as the core of Shaanxi's economy

Balanced growth is not only the long-term goal of national regional strategy, but also the long-term goal of urban regional economic development. Xi'an is the capital city of Shaanxi Province with a total area of 10,752 square kilometers and a total population of 12 million. It is an important base for scientific and technological research, higher education, national defense science and technology industry and high-tech industry in central and western China. The comprehensive strength of science and education ranks the third in the country, with more than 1 / 3 of the country's aerospace, weapons, and nearly 1 / 4 of the country's aviation research units, professionals and productive forces. The main industries are advanced manufacturing, high-tech industries, modern services and cultural tourism. From 2007 to 2017, the gross domestic product of the major cities in Shaanxi Province (as shown in Table 1), Xi'an has been an important core of Shaanxi's economy. In 2017, for example, the total GDP of Shaanxi Province was 2,189.881 billion, of which the total GDP of Xi'an was 746.98 billion, accounting for 34.11 percent of the province's total GDP. However, from the 2007-2017 GDP growth rate of the major cities in Shaanxi Province (as shown in Table 2), Xi'an's GDP growth rate is basically consistent with the national macroeconomic situation, showing a deceleration. Compared with other cities in southern Shaanxi and Shanbei, Xi'an's GDP growth rate fell from the top five in the province before 2009 to the bottom five in the province after 2009. From the internal geographical space of Xi'an regional economy, GDP indicators of its 11 districts and 2 counties in 2017 and 2018 are shown in Table 3. Based on the data, the total GDP of the five urban districts in the six districts of Xi'an remained above 50 billion except Baqiao District, of which the total GDP of Yanta District was more than 150 billion, making it the only strong region with 100 billion. In the seven sub-districts of Xi'an, GDP of all the six districts except Chang'an District are below 50 billion, of which Zhouzhi and Lantian are below 20 billion for two consecutive years. In 2017, the total GDP of Xi'an's six urban districts was 503.309 billion, accounting for 71 percent of the city's GDP. The total GDP of the seven sub-districts was 210.451 billion, accounting for 29 percent of the city's GDP. In 2018, the total GDP of Xi'an's six urban districts was 564.022 billion, accounting for 71 percent of the city's GDP. The total GDP of the seven sub-districts was 229.038 billion, accounting for 29 percent of the city's GDP. From the two-year data, there is no significant change in the GDP contribution of Xi'an's districts and counties. The six urban districts still account for more than 70% of the city's GDP, while the seven sub-districts account for less than one-third of the city's GDP. The unbalanced and insufficient

development within the region has become the biggest bottleneck of Xi'an's sustained economic growth.

Table 1 2007-2017 gross output value of major cities in Shaanxi Province (100 million yuan)

Year \ City	Xi'an	Tongchuan	Baoji	Xianyang	Weinan	Yan'an	Hanzhong	Yulin	Ankong	Shangluo
2007	1856.63	102.81	578.78	588.48	456.95	647.46	299.71	795.98	191.37	160.40
2008	2318.14	129.87	714.07	764.55	563.09	760.84	366.19	1172.76	241.24	197.45
2009	2724.88	154.40	806.54	873.20	636.96	728.26	415.64	1302.31	274.95	224.47
2010	3242.86	187.73	976.09	1098.68	801.42	885.42	509.70	1756.67	327.06	285.90
2011	3869.84	232.63	1175.75	1361.32	1028.97	1113.35	647.48	2292.25	407.17	362.95
2012	4394.47	273.31	1374.33	1573.68	1157.32	1271.02	754.57	2669.88	496.91	423.31
2013	4924.97	323.27	1545.91	1860.39	1321.81	1354.14	890.31	2779.46	604.55	510.88
2014	5492.64	325.36	1642.90	2085.15	1423.75	1386.09	1002.83	2920.58	689.44	574.99
2015	5801.20	307.16	1787.63	2152.92	1430.41	1198.27	1059.61	2491.89	755.05	618.52
2016	6282.65	311.61	1932.14	2390.97	1488.62	1082.91	1156.49	2773.05	842.86	692.13
2017	7469.80	348.43	2191.61	2292.51	1650.63	1312.59	1333.30	3361.29	974.66	757.06

Source: Official Websites of Shaanxi Provincial Bureau of Statistics and Main City Bureau of Statistics

Table 2 2007-2017 GDP growth rate of major cities in Shaanxi Province (%)

Year \ City	Xi'an	Tongchuan	Baoji	Xianyang	Weinan	Yan'an	Hanzhong	Yulin	Ankong	Shangluo
2007	15.6	15.3	14.8	12.3	14.2	15.1	13.9	21.4	12.8	12.8
2008	16.3	17.1	15.5	16.0	16.3	16.3	13.8	25.3	15.4	15.8
2009	14.5	15.2	15.0	14.2	14.3	12.2	14.5	13.3	15.0	14.1
2010	14.5	15.6	14.4	14.5	15.0	13.6	15.1	18.3	15.0	14.9
2011	13.5	16.0	14.5	14.2	15.0	11.0	15.5	15.0	15.5	15.1
2012	12.2	15.8	15.1	14.5	14.5	10.5	15.2	12.0	15.2	14.8
2013	11.1	13.8	13.0	13.1	12.0	6.5	12.7	8.8	13.4	12.6
2014	9.9	10.5	10.8	10.9	10.5	6.2	11.6	9.0	11.7	11.0
2015	8.2	8.5	10.5	8.7	8.5	1.7	9.6	4.0	12.1	11.2
2016	8.6	7.0	9.3	7.7	7.5	1.3	9.0	6.5	11.3	10.0
2017	7.7	7.5	8.7	8.0	8.3	7.7	9.6	8.1	10.5	9.4

Source: Official Websites of Shaanxi Provincial Bureau of Statistics and Main City Bureau of Statistics

Table 3 gross domestic product (GDP) of Xi'an

District	Index	2017 GDP indicator				2018 GDP indicator			
		Total GDP (100 million yuan)	GDP growth rate (%)	Total GDP (100 million yuan)	GDP share (%)	Total GDP (100 million yuan)	GDP growth rate (%)	Total GDP (100 million yuan)	GDP share (%)
urban districts	Lianhu	749.47	9.1	5033.09	71	820.73	7.1	5640.22	71
	Xincheng	616.10	8.2			650.64	7.7		
	Beilin	873.49	8.4			965.26	8.0		
	Yanta	1521.15	8.5			1757.98	8.3		
	Weiyang	844.53	9.2			964.83	7.3		
	Baqiao	428.35	13.8			480.78	12.1		
suburban districts	Chang'an	791.03	11.7	2104.51	29	909.11	8.2	2290.38	29
	Yanliang	240.21	7.0			250.10	7.7		
	Lintong	221.01	9.6			237.52	8.2		
	Huyi	197.41	10.1			217.26	8.0		
	Zhouzhi	134.26	7.9			146.27	6.0		
	Gaoling	377.10	15.6			378.45	8.1		
	Lantian	143.49	8.5			151.67	8.0		

Source: Official Websites of Shaanxi Provincial Bureau of Statistics and Main City Bureau of

Statistics

3. Great Xi'an: The transformation of Xi'an economy from polar nuclear stage to diffusion stage

The growth pole is dependent on time and space, and the change of time and space will lead to the dynamic evolution of the growth pole. As an important economic growth pole of Shaanxi province, Xi'an's internal spatial organization structure includes several growth poles. The secondary growth Poles show different trends due to the different spatial and temporal dimensions observed. Therefore, the regional economic spatial organization is a hierarchical multi-level growth phenomenon. Different poles of growth are connected by axes, which interweave with latitude and longitude to form "force field economic space". Domestic and foreign scholars use "polarization effect" and "diffusion effect" to analyze the relationship between the growth pole and its periphery. As a growth pole, the developed areas will promote the development of the peripheral areas by increasing the demand for the products of the peripheral areas, and at the same time, they will attract the capital and labor force of the peripheral areas, thus creating a polarization effect to impede the development of the outer regions.

The market is profit-seeking. The Swedish economist Miurdal (1968) studied the effects of the growth poles on the surrounding hinterlands and concluded that market forces tended to widen rather than narrow regional differences. Therefore, diffusion, as the reverse process of polarization, needs more government intervention. As the core of regional economic growth, the process of functional diffusion of Xi'an is reflected in the promotion and implementation of greater Xi'an plan. In 2010, "the study of the spatial development strategy of the master plan of Great Xi'an" was first published, and the regional economic spatial pattern of Great Xi'an has been formed by the planning, demonstration and construction in the past 10 years. The planning area of Great Xi'an includes the entire administrative area of Xi'an and the Xixian New District. The main urban area is further extended to the junction of Jingyang County and Gaoling in the north, the river Jue in the south, the river Lao in the West and the junction of the river Wei and Qindu District and Xingping in the West, and the eastern boundary of Baqiao District in the east. In addition to the expansion of geographical space, the expansion of economic space should be the source power to maximize the overall efficiency of regional economy.

4. Major concerns on the construction and development of the multi-level growth system in Great Xi'an

Multi-pole growth of regional economy is an inevitable phenomenon of regional economy. The process of growth pole diffusion in Great Xi'an will produce a new multi-level system, which needs the support of leading industry and market main body. There are several situations in the formation of the leading industry of the regional economic growth pole in Great Xi'an: (1) The transfer of leading industries in the former regional economic space. This kind of transfer is the competition between different parts of regional economic space, and has no new economic significance to the whole. (2) The derivation of the leading industry of the former regional economic space. This derivation is based on the former dominant industry and further increases the degree of correlation between the growth poles. (3) New industries based on the factor endowment of new regional economic space. This new industry should become the main force of the new growth pole and stand the test of the market, which is of great significance to the regional economic space. (4) New industries with low correlation with factor endowment conditions. This new industry takes knowledge capital as its core and injects new vitality into the growth pole. The industrial characteristics of Great Xi'an planning are distinct, but the final need for market testing and

improvement.

The multi-level growth system of regional economy includes three stages: "unconnected multi-pole growth, low-level connected multi-pole growth, fully connected multi-pole growth". Most of the unconnected multi-level growth is the result of unintentional, the early human settlements are actually the rudiments of the unconnected growth pole. However, multi-level growth of low-level linkages is the norm in regional economic spatial organization. The most developed mode of regional economic spatial organization is multi-level growth with complete connection, and the mutual dependence and infiltration between the growth poles will achieve the effect of the whole greater than the sum of individuals. It is the ultimate goal of connecting multiple growth poles of regional economy. Therefore, the construction and development of the multi-level growth system in Great Xi'an should not only pay attention to the cultivation of single growth pole, but also make a good overall plan among the growth poles. In different regional development, orderly division of labor, through the leading city's diffusion effect and correlation effect to promote the common development of surrounding areas, enhance the coordination of regional development.

Acknowledgements

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