

A Study on the Foreign Direct Investment Distribution Differences and Influencing Factors in the Three Major Areas of Shaanxi Province

Yang Liu^{1,*}

¹School of Tourism & Research Institute of Human Geography, Xi'an International Studies University, Xi'an, Shaanxi, China

*Corresponding author. Email: lliuyyang2324@163.com

ABSTRACT

Analyzing the differences in the location of foreign direct investment in Shaanxi Province and the influencing factors is of positive significance for reducing regional foreign direct investment differences and coordinating economic development. This paper uses standard deviation, coefficient of variation, and ArcGIS technology to analyze the changes in regional, intra-regional, and inter-regional differences in the actual use of foreign direct investment in the three regions of Shaanxi Province from 2007 to 2017. Regional differences in the actual use of foreign direct investment in Shaanxi Province gradually narrowed after 2013, northern Shaanxi has become a rising star, but Guanzhong area has always been a hot spot for foreign direct investment within and outside Shaanxi Province. Then it analyzes the main factors that affect the regional differences of foreign direct investment in Shaanxi Province and their changes, and finally puts forward basic conclusions and inspirations.

Keywords: foreign direct investment (FDI), Shaanxi Province, location differences, influencing factors

I. INTRODUCTION

FDI (Foreign direct investment) is an investment behavior in which the investing country uses capital for the production and operation of the host country and holds certain operating control rights. It is one of the main forms of modern capital internationalization[1]. Foreign investment in China has achieved leapfrog development, and regional differences in FDI have become increasingly prominent since the reform and opening up. China's FDI is characterized by more in the east than west. With the continuous increase in the large amount of land, labor, and environmental protection costs in the eastern coastal areas, and the implementation of The Western Development Strategy Shaanxi Province, as an important province in the western region, has gained new opportunities. The economy has achieved 40 years of reform and opening up. At the same time, as the starting point of the ancient Silk Road, Shaanxi Province is also an important hub of the New Eurasia Continental Bridge. Because of the "One Belt, One Road" strategy, it is at the forefront of important nodes in the Silk Road Economic Belt. And FDI will further help Shaanxi's economic development.

FDI regional investment differences have aroused the common concern of scholars at home and abroad. They tried to analyze the reasons and influencing factors of FDI investment location changes from

different perspectives. Foreign scholars mainly study FDI from economic development, enterprise development and geographical distribution. Amelia Budiharto researched the relationship between Indonesia's FDI, trade, labor, capital formation and economic growth, pointing out that FDI is the main contributor to capital formation injection, and technology spillovers from FDI can be absorbed and adopted by local labor[2]. Leandro examined the relationship between FDI and economic growth and financial development in Cabo Verde from 1987~2014. They believed that FDI had a positive effect on national economic growth, and that there was a two-way causal relationship between FDI and economic growth[3]. Paula Nistor analyzed Romania's relationship with regional development and FDI from the perspective of sustainable development by analyzing the changes in Romania's FDI stock and GDP per capita from 2003~2011[4]. Paula analyzed the location distribution of FDI in Spain from 1997 ~2013, and pointed out that the location distribution of FDI in Spain mainly depends on the market size, the degree of interaction between human capital and wages, and the characteristics of Madrid [5].

Domestic scholars' research on FDI mainly focuses on the differences between the three major regions and provinces in China. Chen Xiangsen studied the facts and influencing factors of China's FDI regional

differences, and believed that the regional differences of FDI in China were mainly caused by the differences between the three major regions. The analysis showed that the level of regional economic development and infrastructure construction had a significant impact on the distribution of FDI locations [6]. From a comparative analysis of the quantity and quality of FDI among prefecture-level cities in China, Zhong Xin pointed out that since the 1990s, the quantity and quality of FDI in China have improved significantly, but the FDI between cities is significantly different, and the difference in quantity is much greater than Quality difference[7]. Wang Liping based on the empirical study of the EBA model and analyzed the regional differences in the factors that affect the location of FDI in China. He believes that FDI in the eastern region is more concerned about labor wages and quality; in the central region, more attention is paid to infrastructure and industrial structure. Pay more attention to industrial structure, concentration degree and market size[8]. Jiang Haining carried out a hierarchical optimization analysis on the regional differences of FDI in Jiangsu Province, and concluded that the two-level differentiation of FDI distribution in southern and northern Jiangsu was obvious [9]. Zhong Yexi and others analyzed the evolution of the spatial pattern of FDI in Zhejiang Province from 1997 to 2007, and concluded that the spatial pattern of FDI investment in Zhejiang Province showed a widening of North-South differences [10]. Guo Fangqiang and other 11 prefecture-level cities in Zhejiang Province have actually used FDI on time scales to show differences between zones, within zones, and across cities, confirming that the total difference in actual utilization of foreign capital in Zhejiang province shows a U-shaped trend [1]. Leng Junfeng studied the use of foreign capital in Hunan Province since the reform and opening up, and analyzed the convergence of regional differences in the use of FDI in Hunan Province [11]. Lin Jing et al. Studied the direct and indirect effects of FDI invested in the three industries on the development of the three major industries in Shaanxi Province[12]. In 2009, Lu Lihong and others conducted an empirical analysis on the impact of FDI on Shaanxi's economic growth. They believed that Shaanxi's economic growth at this stage was largely driven by domestic capital and cheap labor[13]. Yuan Xiaoling and others analyzed the performance of using foreign investment in Shaanxi Province, and the results showed that FDI significantly promoted the growth of Shaanxi's GDP and the upgrading of the industrial structure, After the implementation of the Western Development Strategy, its role is obviously greater than that before development. FDI is an important factor in Shaanxi's economic growth[14].

The above literature mainly studies the FDI from the national and provincial levels and analyzes the

regional distribution of FDI in China, but it does not clearly indicate whether the regional differences are caused by differences between zones or within zones. Some scholars' research on FDI in Shaanxi Province mainly focuses on the impact of FDI on the economic and industrial structure development, and the spillover technology effects of industrial agglomeration. It does not analyze the regional distribution differences and influencing factors of FDI in the province. Now it has been 19 years since the implementation of the Western Development Strategy and 6 years from the implementation of "the Belt and Road" strategy. The province 's GDP has also increased from 685.132 billion yuan in 2008 to 24.43832 billion yuan in 2018. It has been 19 years since the implementation of the Western Development Strategy and 6 years from the implementation of the "Belt and Road" strategy. The province's GDP this year also increased from 685.132 billion yuan in 2008 to 24.43832 billion yuan in 2018[15]- [16], But the academic circles have not studied the current FDI distribution differences in Shaanxi Province. Based on this, this paper uses ArcGIS technology method and Theil index analysis method to study the spatial-temporal difference of FDI regional distribution in Shaanxi Province from 2007 to 2017, and analyzes its causes, so as to provide scientific basis for the optimization of FDI spatial distribution pattern and coordinated regional economic development in Shaanxi.

II. DATA SOURCES AND METHODS

A. Research units and data sources

This paper selects 10 prefecture-level cities and 1 demonstration area in the three major regions of Shaanxi Province as the basic unit of the study. According to the traditional geographical division method, Shaanxi Province is divided into Guanzhong (Xi'an, Tongchuan, Baoji, Xianyang, Weinan, Yangling Demonstration Zones), Northern Shaanxi (Yan'an, Yulin) and Southern Shaanxi (Hanzhong, Ankang, Shangluo) Great area, analyze the spatial differences and evolution trends of foreign direct investment. Select a continuous time series of 10 years from 2006 to 2016 on the time series. All data are from the "Shaanxi Regional Statistical Yearbook" and the Communiqué of National Economic and Social Development of each city.

B. Methods

This article studies and analyzes the evolution and layout characteristics of foreign direct investment in the three major regions of Shaanxi Province. The standard deviation will be used to reflect the absolute differences of foreign direct investment in the three major regions, and the coefficient of variation will be used to express relative differences. Larger standard deviation indicates

that the vast difference between the larger area, the smaller the coefficient of variation, the smaller the relative differences indicate Region. The evolution of FDI in the region is measured by the amount of foreign direct investment in the three major regions in the past 10 years, and the changes measured by the average FDI scale and performance index reflect the evolution of quality differences within the zone. Line chart and histogram are drawn by Excel. ArcGIS software generates three-zone FDI spatial distribution heat maps to reflect spatial differences.

III. MEASUREMENT OF FDI DISTRIBUTION DIFFERENCES IN THE THREE REGIONS OF SHAANXI PROVINCE

A. Overview of the differences of foreign direct investment in Shaanxi Province

The overall overview of the differences in foreign direct investment in Shaanxi Province is presented

through the calculation of standard deviations and coefficients of variation, as shown in "Fig. 1" and "Fig. 2". It can be seen from "Fig. 1" that the actual utilization of foreign direct investment in Shaanxi Province in 2007-2017 showed an overall increasing trend, From US \$ 119.498 million in 2007, it continued to grow to US \$ 567.59 million in 2017. However, as shown in "Fig. 2" through the presentation of the standard deviation and coefficient of variation, the absolute and relative differences between the cities are significant. Judging from the absolute differences in the cities, the absolute difference in foreign direct investment in the prefecture-level cities in Shaanxi Province as a whole showed an upward trend before 2016, and it declined from 2016 to 2017. The standard deviation rose from 29890 in 2007 to 151533 in 2017, with an average annual growth rate of 19.77%, indicating that the absolute difference in the distribution of foreign direct investment in Shaanxi Province is constantly expanding.

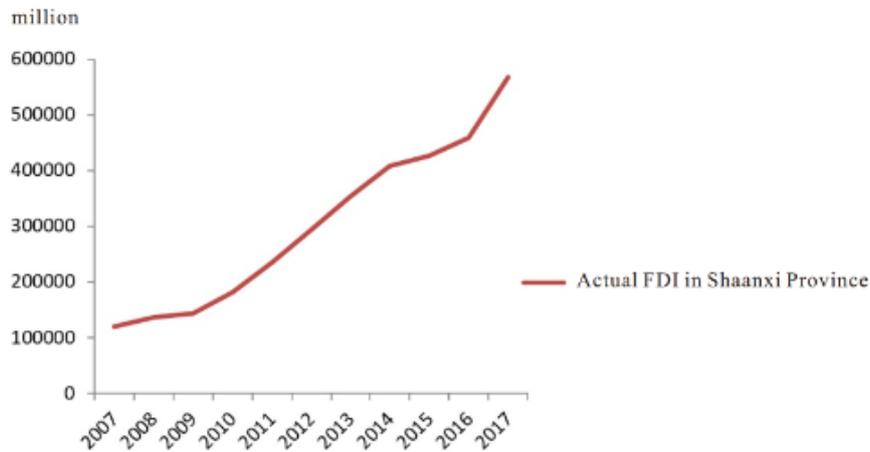


Fig. 1. 2007-2017 foreign direct investment in Shaanxi Province.

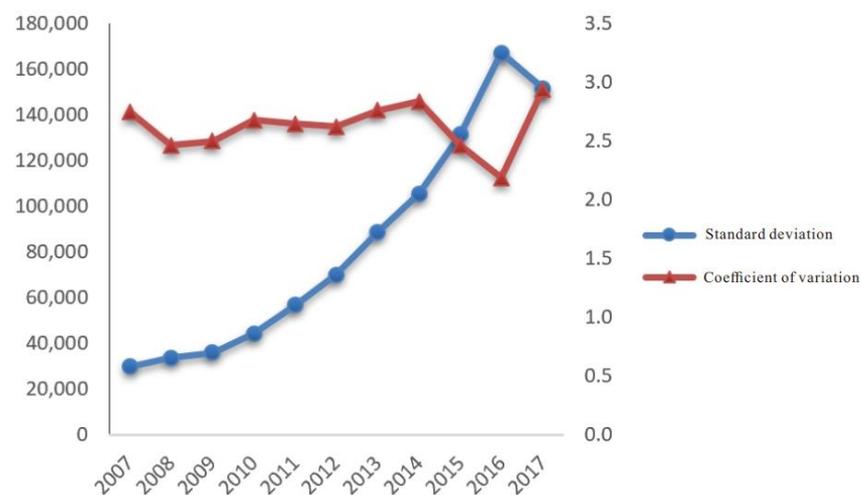


Fig. 2. Standard deviation and coefficient of variation of FDI in Shaanxi Province.

B. Differences in the time evolution of FDI in the three major regions of Shaanxi Province

1) *Quantity difference*: Quantitative differences are the most intuitive manifestation of the differences

between regions of foreign direct investment. The descriptive statistics of FDI quantity differences in the three major regions of Shaanxi Province from 2007 to 2017 are shown in "Table I".

TABLE I. STATISTICS OF FDI IN THREE REGIONS OF SHAANXI PROVINCE FROM 2007 TO 2017

Time	2007	2008	2009	2010	2011	2012	2013	2014	2015	2017	
Guanzhong area	Xian	105317	114738	121873	156665	200522	247856	312994	370318	400833	530680
	Tongchuan	750	536	500	520	2098	3000	3003	2100	3020	2798
	Baoji	1339	3379	3610	2127	5020	6015	7006	8008	268	7227
	Xianyang	3476	3777	4059	5188	6269	7080	7561	10356	13443	7678
	Weinan	3448	5499	4470	3051	5019	6183	5008	1216	289	3152
	Yanglin	1696	2242		3416	3024	4000	1279	611	151	538
Northern shannxi	Yanan	20	272	174	1027	1566	2000	802	1063	2003	1553
	Yulin	414		660	1950	2090	3000	3051	7266	10653	7003
Southern shannxi	Hanzhong	674	826	3597	1595	2428	3014	3100	4005	1054	3323
	Ankang	2054	3025	575	564	847	3000	3002	3000	3005	1563
	Shangluo	310	2633	4014	5867	6600	8461	7010	473	152	1544

From the statistical data, from 2007 to 2017, the amount of foreign direct investment in Shaanxi Province has shown an overall increasing trend, but there are obvious differences between and within the three major regions. The evolution differences between the three major regions are obvious, mainly reflected in the differences between Guanzhong and northern and southern Shaanxi. The foreign direct investment in Guanzhong is significantly higher than that in northern and southern Shaanxi. In 2007, the Guanzhong area was 267 times that of northern Shaanxi and 38 times that of southern Shaanxi; In 2010, the Guanzhong area was 57 times that of northern Shaanxi and 21 times that of southern Shaanxi; In 2014, Guanzhong area was 47 times that of northern Shaanxi and 52 times that of southern Shaanxi; In 2017, Guanzhong area was 64 times that of northern Shaanxi and 85 times that of southern Shaanxi. It can be seen that the difference in the amount of foreign direct investment between northern Shaanxi and Guanzhong was greater than that in southern Shaanxi before 2014. After 2014, the difference in the amount of foreign direct investment between northern Shaanxi and Guanzhong was smaller than that in southern Shaanxi. The difference is the watershed in 2014. Since 2014, the number of foreign investment attracted by northern Shaanxi has gradually surpassed that of southern Shaanxi.

The evolutionary differences among the three major regions are particularly prominent in the Guanzhong region. From 2007 to 2017, they have been in a leading position in the actual utilization of foreign capital, which basically dominated the overall use of foreign direct investment in the Guanzhong region. The differences in the area of actual use of foreign direct investment in northern Shaanxi have been increasing. Especially after 2012, the differences in the amount of

foreign investment attracted by Yulin City and Yan'an City have become larger. The most obvious evolutionary difference in southern Shaanxi is Shangluo City. Ankang City and Hanzhong City showed a slow growth trend from 2007 to 2017. Shangluo City's foreign direct investment volume increased rapidly from 2007 to 2011, and then from 2012 to 2014 Rapid decline during the year. The above evolution characteristics indicate that the amount of foreign direct investment in the three major regions of Shaanxi Province has changed to varying degrees. The amount of foreign direct investment in the Guanzhong region has increased the most, followed by that in northern Shaanxi.

2) *Quality difference*: This paper analyzes the performance of foreign direct investment in various regions of Shaanxi Province based on the performance index indicators proposed by UNCTAD at the beginning of the 21st century. The results of using the formula to calculate the difference in FDI quality among the cities are as shown in "Table I" and "Table II".

TABLE II. FDI PERFORMANCE INDEX OF SHAANXI PROVINCES FROM 2007 TO 2017

Time		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Guanzhong area	Average value	0.862	0.847	0.414	0.867	0.869	1.127	0.842	0.812	0.698	0.710	0.956
	Standard deviation	0.930	0.944	0.595	1.074	0.894	1.170	1.075	1.258	1.372	1.566	1.567
Northern shannxi	Average value	0.010	0.006	0.014	0.044	0.049	0.065	0.043	0.087	0.116	0.060	0.102
	Standard deviation	0.009	0.006	0.005	0.001	0.010	0.011	0.013	0.046	0.116	0.015	0.028
Southern shannxi	Average value	0.180	0.324	0.369	0.330	0.337	0.482	0.373	0.164	0.022	0.034	0.128
	Standard deviation	0.147	0.174	0.251	0.333	0.304	0.343	0.228	0.085	0.023	0.048	0.023

As can be seen from "Table II", the FDI performance index of Xi'an City and Yangling Demonstration Area only for the central region is greater than "Table I". Xi'an's FDI performance index was greater than "Table I" from 2007 to 2017, and showed a rapid growth trend; The FDI performance index of Yangling Demonstration Zone was greater than 1 from 2007 to 2012, showing a volatile growth trend, but it has declined rapidly since 2013 and continues to decline; The northern and southern Shaanxi regions' FDI performance indices from 2007 to 2017 were both less than "Table I". This shows that the overall effect of foreign direct investment in Shaanxi Province is poor. Only Xi'an in the Guanzhong region has a good utilization effect, and it has been increasing continuously from 2007 to 2017. Comparing the northern and southern Shaanxi regions, the effect of

foreign direct investment in southern Shaanxi was better than that in northern Shaanxi before 2013, and after 2013 the utilization effect was gradually lower than in northern Shaanxi. The statistical characteristics in "Table 3 indicate that the quality gap measured by the FDI performance index of prefecture-level cities in Shaanxi Province has obvious stage characteristics. The difference in FDI quality among the cities in the Guanzhong region continued to decline before 2009, and it showed a rising trend after 2010; The effect of FDI utilization in prefecture-level cities in northern Shaanxi was poor before 2013, so the regional quality difference was not obvious. After 2013, the FDI quality difference increased slightly, but it was still not obvious; The difference in the quality of FDI between different cities in southern Shaanxi was more obvious before 2012, and it began to decline after 2012.

TABLE III. DESCRIPTIVE STATISTICS OF FDI PERFORMANCE INDEXES IN SHAANXI PROVINCE FROM 2007 TO 2017

Time		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Guanzhong area	Xian	2.05	1.71	1.73	1.88	2.18	2.72	3.20	3.62	3.75	4.21	4.45
	Tongchuan	0.26	0.14	0.13	0.11	0.38	0.53	0.47	0.35	0.00	0.00	0.50
	Baoji	0.08	0.16	0.17	0.08	0.18	0.21	0.23	0.26	0.01	0.00	0.21
	Xianyang	0.21	0.17	0.18	0.18	0.19	0.22	0.20	0.27	0.34	0.05	0.21
	Weinan	0.27	0.34	0.27	0.15	0.21	0.26	0.19	0.05	0.01	0.00	0.12
	Yanglin	2.29	2.55	0.00	2.80	2.08	2.83	0.75	0.34	0.08	0.00	0.25
Northern shannxi	Yanan	0.00	0.01	0.01	0.05	0.06	0.08	0.03	0.04	0.00	0.05	0.07
	Yulin	0.02	0.00	0.02	0.04	0.04	0.05	0.06	0.13	0.23	0.08	0.13
Southern shannxi	Hanzhong	0.08	0.08	0.34	0.12	0.16	0.19	0.18	0.21	0.05	0.10	0.16
	Ankang	0.39	0.43	0.08	0.07	0.09	0.29	0.25	0.23	0.00	0.00	0.10
	Shangluo	0.07	0.46	0.69	0.80	0.76	0.96	0.69	0.04	0.01	0.00	0.13

C. Spatial distribution of FDI in the three regions of Shaanxi Province

According to the three stages of the change in the overall relative differences of foreign direct investment in Shaanxi Province, four different nodes were selected in 2007, 2010, 2014, and 2017. Based on the Jenks best

natural fault method, the statistics of the actual use of foreign direct investment in the cities in the four periods are divided into four categories from high to low, and finally the spatial distribution hot map of each period is generated, as shown in "Fig. 3". It can be seen from "Fig. 3" that the hottest area in which FDI is actually used in Shaanxi Province is always in the

Guanzhong area. Xi'an has the most investment and has a strong driving force in the surrounding areas.

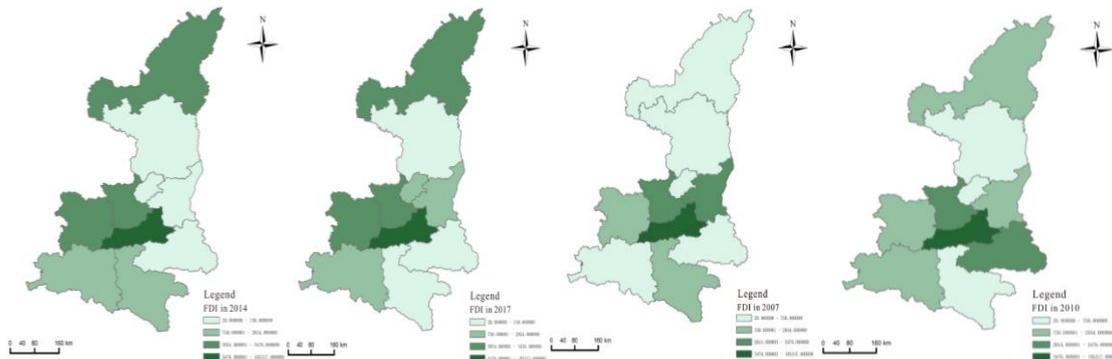


Fig. 3. Spatial distribution of actual use of FDI in Shaanxi provinces in 2007, 2010, 2014, and 2017.

In 2007, the hot spot for the actual use of foreign direct investment was the Guanzhong area, which was mainly distributed in Xi'an, Weinan, Xianyang, and Baoji; The second hotspot area is southern Shaanxi, the main distribution point is in Ankang City; the northern Shaanxi area as a whole is a cold spot area, indicating that the three regions of Shaanxi Province have a large regional difference in actual utilization of foreign direct investment. In 2010, the actual use of foreign direct investment hotspots and sub-hotspots was still in the Guanzhong and Southern Shaanxi regions, but the actual use of foreign direct investment in the three major regions during this period increased. The distribution of major hotspots in the hotspot area (Guanzhong area) has not changed significantly. The main hotspots in the secondary hotspot area (Southern Shaanxi area) are distributed in Shangluo City and Hanzhong City. In 2007, the cold spot area in northern Shaanxi started to approach the secondary hot spot area, and the main hot spots were distributed in Yulin City; These changes indicate that the gap between the actual use of foreign direct investment in the Guanzhong region and southern and northern Shaanxi is narrowing. In 2014, the actual use of foreign direct investment was still in the Guanzhong region, but the main hotspots were only Xi'an and Baoji, and Weinan approached from the previous hotspot to the cold spot; At this stage, the secondary hotspot is northern Shaanxi, with the main hotspots distributed in Yulin City; the southern Shaanxi area has been reduced to a cold spot, and the change is due to the decrease in the actual use of foreign direct investment in Ankang and Hanzhong. The actual use of foreign direct investment in 2017 is still in the Guanzhong region, and the main hot spots are in Xi'an, Baoji and Xianyang. The actual use of foreign direct investment in all cities in the district has increased compared to the previous stage; The secondary hotspot area is northern Shaanxi, the main hotspots are located in Yulin City; The northern Shaanxi area is still a cold spot area, mainly because Ankang City approaches from the previous secondary hotspot to the cold spot.

The changes indicate that the spatial difference in the actual use of foreign direct investment in Shaanxi Province is gradually narrowing, but the Guanzhong area has always been a hot spot for foreign direct investment in Shaanxi Province, Xi'an has always been a hot spot for foreign direct investment in the Guanzhong region, and the amount of foreign direct investment attracted has always been at the top of the list.

IV. ANALYSIS OF INFLUENCING FACTORS OF FDI REGIONAL DIFFERENCES IN THE THREE MAJOR REGIONS OF SHAANXI PROVINCE

A. Economic level

Generally speaking, there is a clear positive correlation between the level of regional economic development and foreign direct investment, and previous studies have pointed out that the higher the level of economic development in a region, the greater the potential market capacity and the greater the attraction of the region to foreign-invested companies in the market [17]. With the rapid development of the world economy, more and more foreign-funded enterprises have shifted from pursuing efficiency to pursuing market conditions and want to acquire a wider market. As the capital city of Shaanxi Province, Xi'an has a rapid economic development and has a large market capacity in Shaanxi Province. It also absorbs foreign capital and has a significant role in driving the surrounding Xianyang and Weinan cities.

B. Agglomeration effect

The current scale of FDI has obvious agglomeration effects on subsequent FDI investments. The agglomeration effects have further strengthened the uneven distribution of FDI regions. The agglomeration effects of FDI are mainly reflected in economies of scale and externalities. The development of any industry will form a complete industry chain. If a region can successfully attract investment from large

multinational companies in certain industries, a large number of related industries will be attracted to this industry chain in the later stage. As the polarization center of Shaanxi's economic development, the Guanzhong area attracts about 50% of the province's foreign direct investment each year, and the role of foreign direct investment in agglomeration is significant. The scale of existing foreign direct investment in northern and southern Shaanxi is relatively small, and it is difficult to form agglomeration effects.

C. Infrastructure

The development of infrastructure plays a role in attracting foreign investment, and foreign investment is more inclined to areas with better infrastructure. As a production activity, foreign direct investment is dominated by profits and the market. It requires the support of social indirect capital such as transportation, communication technology, and financial services. Today, scientific research and technology have become increasingly important supporting conditions. Shaanxi Province is located in the western region, and its infrastructure is incomplete. The Guanzhong region is in the center of Shaanxi and has the radiation effect of the provincial capital Xi'an. The infrastructure is undoubtedly the most complete of the three major regions, laying a solid foundation for the Guanzhong region to attract foreign investment. In contrast, northern Shaanxi is located on the Loess Plateau and southern Shaanxi is south of the Qinling Mountains. The economic level is low, and information and technology are relatively closed. This has led to backward infrastructure and has largely restricted the introduction of foreign investment.

D. Regional policies

Preferential policies for enterprises reflect the supportive attitude of local governments to foreign-funded enterprises and industries. Preferential policies can not only help foreign investors increase profit margins, but also promote transparency in local government policies. Generally speaking, the implementation of a more favorable foreign investment policy is an important factor affecting the investment environment and plays a significant role in attracting foreign investment. However, relatively speaking, large multinational companies pay more attention to market occupation and long-term development of the company. Therefore, they are less sensitive to preferential policies than small and medium investors.

V. CONCLUSION

This paper uses the FDI data of 11 prefecture-level cities in the three major regions of Shaanxi Province from 2007 to 2017 to divide the regional differences of

FDI into quantitative differences and quality differences for comparative investigation. Draw the following conclusions:

- From 2007 to 2017, the amount and quality of FDI utilization in the prefecture-level cities in Shaanxi Province have improved to a certain extent, but the difference in quantity and quality between cities has also shown a trend of continuous expansion, indicating that the fact that FDI is uneven between cities and No significant improvement; and
- Analyzing the spatial differences of the three major regions of Shaanxi Province through four time nodes shows that the spatial differences of the actual utilization of foreign direct investment in Shaanxi Province gradually narrowed after 2013. However, the Guanzhong area has always been a hot spot for foreign direct investment in Shaanxi Province, and Xi'an has always been a hot spot for foreign direct investment in the Guanzhong area, and the amount of foreign direct investment attracted has always been at the top of the list; and
- Taking the FDI quantity difference, quality difference and spatial difference as the dependent variables, a comparative study of the factors affecting the attractiveness of foreign investment in the three major regions of Shaanxi Province found that: The economic level has a significant positive impact on the quantitative and spatial differences of FDI, and the impact on quality differences is not obvious; Agglomeration effects and infrastructure have obvious positive impacts on FDI quantity, quality and spatial differences; Regional policies have a significant positive impact on FDI spatial differences, but not on quantitative and qualitative differences.

At present, the use of foreign capital in Shaanxi Province is at a critical period of transition from quantity to quality and gradually reducing regional disparities. How to expand the scale of investment attraction in various regions while taking into account the quality of foreign investment has become our focus. Based on the research conclusions of this paper, some enlightenments are drawn: First, in terms of reducing regional disparities, promoting coordinated urban economic development is a key factor. Second, the continuous promotion of the development of the tertiary industry, especially the development of high-tech service industries with intensive technical knowledge, has strong potential to attract foreign investment. Finally, it must be mentioned that the research in this paper has the following deficiencies:

- In the selection of indicators, the original plan was to analyze the FDI utilization of various industries in various provinces and cities within the province. Due to the difficulty of data acquisition, it was abandoned midway, resulting in incomplete research indicators and insufficient research depth; and
- Due to the limitation of the data, the study neglected the investigation of the environmental and social dimensions, and the analysis of the influencing factors was not comprehensive. This problem should be further improved and paid more attention in the future.

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