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Research on Industry Overlapping in Yunnan Province

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***Abstract*—As an objective representation of overcapacity, industry overlap is the biggest obstacle of insufficient effective supply and insufficient effective demand. Therefore, to solve the problem of overcapacity, it is necessary to solve the problem of industry overlap. Based on field research, this paper studies the current situation, causes and measurement of industrial overlapping in Yunnan province, and finally puts forward policy suggestions from the perspectives of government consultation, enterprise collaboration and market collaboration, in the hope of promoting the healthy and sustainable development of Yunnan province.**

Keywords—Yunnan province; overcapacity; industry overlap

I. INTRODUCTION

In 2016, the central economic work conference put forward: actively yet prudently reduce overcapacity, strictly control the increment and prevent new overcapacity. The success or failure of structural reform is directly related to the ability to resolve overcapacity. It is a key link for China's economy to regain its upward momentum and reach a new stage. On the one hand, there is insufficient effective demand; on the other hand, there is insufficient effective supply. It seems that the market function has not been fully released due to insufficient demand and supply. In fact, it is the government that has replaced the market function in many places. As an objective representation of overcapacity, industry overlap is the biggest obstacle to the shortage of effective supply and effective demand. Industry overlap not only wastes a lot of resources, but also occupies a lot of resources and causes the magnetic effect of oversupply. Therefore, in order to continue to promote supply-side structural reform, the problem of overcapacity must be solved first. In order to solve the problem of overcapacity, the problem of industrial overlapping must be solved first.

II. THE OVERLAPPING INDUSTRIAL STRUCTURE IN YUNNAN PROVINCE

According to the analysis of the national bureau of statistics, China's gross domestic product (GDP) and total fixed assets formation, since 2003, the overall capacity of a downward trend, the overall industry overcapacity phenomenon more and more serious, in addition to Beijing, on overseas, other parts of the capacity utilization rate is less than 70%, and the capacity utilization rate is only about 60% of the Yunnan region, serious phenomenon of excess production capacity. Moreover, there are 147 industrial parks above the county level in Yunnan province, with an average of 9.2 in each city and prefecture. Based on this, the research group obtained the supporting industry types of each industrial park through the sampling survey of 21 industrial parks in Yunnan province, as shown in “Table I”.

TABLE I. MAIN TYPES OF SUPPORTING INDUSTRIES IN 21 INDUSTRIAL PARKS

Number	Name	IT	manufacturing	biological	chemical	agricultural
1	Kunming	√	√	√		√
2	Kunminggaoxin	√	√	√		
3	Yanglin		√			√
4	Anning		√		√	
5	Jinning		√	√	√	
6	Fumin		√	√	√	√
7	Qujing	√	√		√	√
8	Xuanwei				√	√
9	Luliang			√	√	
10	Chuxiong		√	√	√	√
11	Lufeng		√		√	
12	Hongta		√	√		√
13	Mengzi			√	√	
14	Mile		√	√	√	
15	Luxi			√	√	√
16	Wenshan			√		
17	Yanshan		√	√	√	√

Number	Name	IT	manufacturing	biological	chemical	agricultural
18	Dali		√	√		√
19	Xiangyun				√	
20	Baoshan		√	√		√
21	Ruili	√	√	√	√	√

The characteristics of the 21 parks surveyed in this sampling survey are that the industrial types developed in each park are more and more comprehensive, with a high repetition rate of industrial types. The industries with the highest repetition rate are machinery manufacturing and biological resource development. 15 of the 21 industrial parks sampled and investigated take them as key industries, with a repetition rate as high as 71%. 14 parks focusing on metallurgical and chemical industries, with a repetition rate of 67%; there are 12 parks focusing on the development of agricultural and food industries, with a repetition rate of 57%. Even the only five state-level development zones have listed automobile manufacturing, information technology, food processing, equipment manufacturing and logistics as key investment objects, in which industrial convergence is very serious. It also finds that more than 70% of the parks have the same or similar industries, and some districts and counties are almost even as a whole. However, they have their own parks, which are separated from each other all the way. In order to compete for projects, costs and advantages, vicious competition occurs among counties, parks and parks, leading to overlapping industries, identical products, overcapacity, waste of resources, environmental damage and other problems are very prominent.

III. THE REASON OF INDUSTRIAL STRUCTURE OVERLAP IN YUNNAN PROVINCE

As an objective representation of overcapacity, the essence of industrial overlap lies in overcapacity. As first put forward by Chamberlin (1993) in theory of monopolistic competition, when the marginal cost of a product is lower than the average cost in a monopolistic market, overcapacity can be seen as a result. The causes of overcapacity in Yunnan province can be roughly divided into the following:

The first is from the government's perspective. Wang (2010) et al. believed that the imperfection of the market economic system and the lag of the institutional reform in the development process of fiscal decentralization policy resulted in the unreasonable and effective utilization of social resources. The assessment system with GDP growth as the main indicator and the corresponding official promotion mechanism during the reform from the reform and opening up to the tax sharing system encourage the government and government cooperative enterprises to continuously invest in mature industries with good economic benefits. This has contributed to overcapacity, which in turn has led to overlapping industries. The second is from the enterprises' perspective. According to Michael porter's five forces model, it can be seen that the five forces represented by new entrants, peer competitors, suppliers, customers and substitutes (barriers to entry, threat of substitutes, bargaining power of buyers and sellers, competition in incumbents) determine the scale and degree of competition. Therefore, Zhang (2010) took the steel manufacturing industry as an example to demonstrate the problem of overcapacity caused by enterprises in power to prevent potential enterprises from entering the market and enterprises in power to expand market share by raising production capacity and setting industrial barriers. Moreover, Lin (2007), Sheng (2007) and others proposed that the whole society could easily have a correct consensus on new and promising industries, and there would be a "surge phenomenon" in investment, leading to overcapacity. In addition, the contradiction between the intensified demand of the people in the region and the insufficient innovation ability of enterprises in the region intensifies the competition of enterprises in the region, making enterprises overinvest and duplicate construction in the absence of technological innovation, thus leading to industrial overlapping. Third, is from the perspective of the public. Whether it is the government, the enterprise or the market, the public is the basic unit. It is the consumer and the main body of the market. It is also a part of endowment factors that are competitive with land and other resources. If talents and land and other endowment factors are not properly allocated and utilized, industrial structure will be overlapped. The relationship among the three can be explained in “Fig. 1” below.

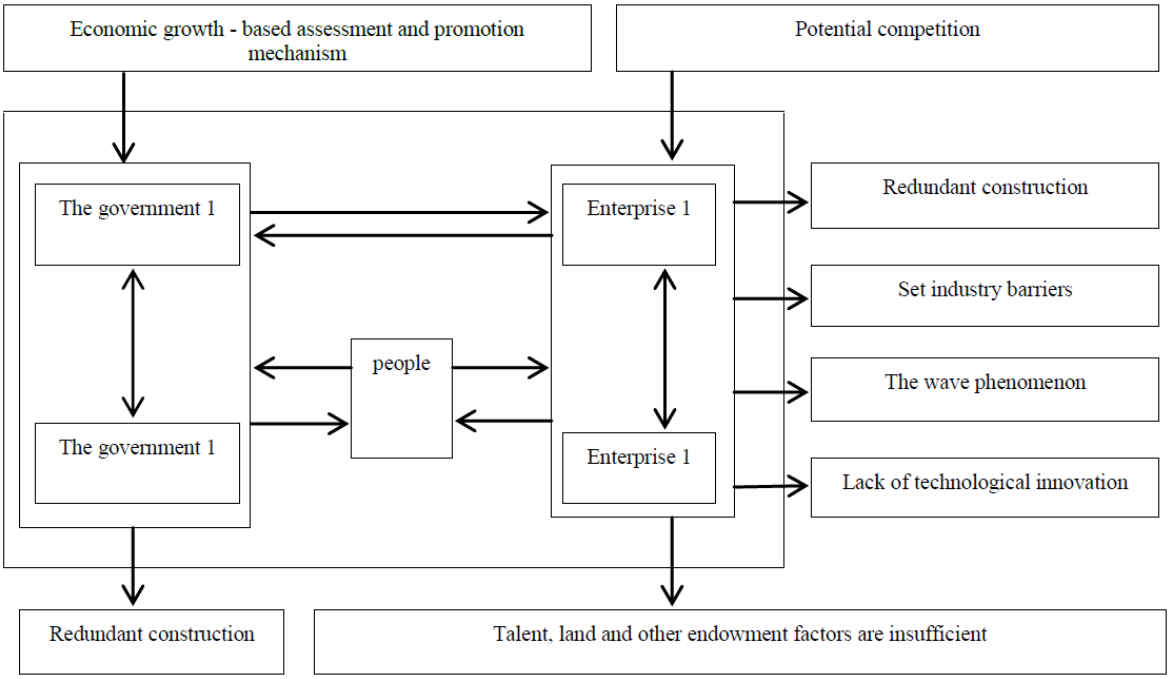

Fig. 1. The relationship among government, enterprises and people in Yunnan province with overlapping industrial structures.

IV. Measurement of Industrial Structure Overlap in Yunnan Province

A. Data Source and Processing

According to the statistical bulletin of Yunnan province's national economic and social development in 2017, the data are summarized in "Table II".

TABLE II. Three-industry Composition of 16 Cities and Prefectures in Yunnan Province in 2016 (unit %)

Region	The first industry	The second industry	The third industry
Kunming	4.7	38.6	56.7
Qujing	18.9	38.4	42.7
Yuxi	10.3	52.2	37.5
Baoshan	24.7	34.9	40.4
Zhaotong	19.5	42.3	38.2
Lijing	15.3	39.1	45.6
Puer	27.8	34.8	37.4
Lincang	28	33.9	38.1
Dehong	24.3	24.6	51.1
Nvjiang	15.8	30	54.2
Diqing	6.3	35.5	58.2
Dali	21.1	38.3	40.6
Chuxiong	19.2	38.1	42.7
Honghe	16.0	45.2	38.8
Wenshan	21.1	35.7	43.2
Banna	25.2	26.9	47.9

B. Data Analysis

The similarity coefficient method used by UNIDO in the 1980s to measure the similarity of industrial structure between different regions is as follows:

$$S_{ij} = \sum_{k=1}^{n} x_{ik} x_{jk} \Big/ \sqrt{\sum_{k=1}^{n} x_{ik}^{2} \sum_{k=1}^{n} x_{jk}^{2}}$$

Where: industrial structure similarity coefficient of SiJ — I and j. (0≤SiJ≤1)

Xik — the proportion of the total industrial output value (industrial added value) of k industry in region I in the total industrial output value (industrial added value) of n industries in region I; (0≤SiJ≤1)

X Jk — the proportion of the total industrial output value (industrial added value) of k industry in region j in the total industrial output value (industrial added value) of n industries in region j; (0≤SiJ≤1)

The value of SiJ is explained as follows:

- When SiJ = 0, that is, the similarity coefficient of region I and j is 0, which means the industrial structure of region I and j is completely different.
- When SiJ = 1, that is, the similarity coefficient of region I and region j is 1, which means the industrial structure of region I and region j is identical.
- When 0 < SiJ < 1, it means that the industrial structure of region I and region j is similar, and the degree of similarity is determined by the value of SiJ, and the value of SiJ is approximately close to 1, the more similar the industrial structure is, and vice versa

As shown in the "Table III", among the 120 results calculated, 117 are above 0.9, accounting for 97.5%, and 88 are above 0.95, accounting for 73.3%. Among them, Kunming and Diqing, Qujing and Dali, Chuxiong and Wenshan, Yuxi and Honghe, Baoshan and Dali, Zhaotong and Dali, Honghe, Lijiang and Dali, Chuxiong, Pu'er and Lincang, Dehong and Jinghong all have an overlapping degree of over 0.99 (the calculation results show that 29 of them exceed 0.99, accounting for 24.2%). Thus it can be seen that the overlap of the three industrial structures in Yunnan province is extremely serious at present, and the serious industrial overlap undoubtedly causes great waste to the use of resources.

TABLE III. TABLE OF THE THREE INDUSTRY OVERLAPPING DEGREES OF 16 CITIES AND PREFECTURES IN YUNNAN PROVINCE

Region	Kunming	Qujing	Yuxi	Baoshan	Zhaoton	Lijiang	Pu'er	Lincang	Dehong	Nujiang	Diqing	Dali	Chuxiong	Honghe	Wenshan	Banna
Kunming	1.000	0.960	0.936	0.928	0.939	0.978	0.899	0.900	0.934	0.980	0.998	0.946	0.960	0.948	0.954	0.932
Qujing		1.000	0.966	0.993	0.995	0.997	0.984	0.983	0.961	0.974	0.959	0.999	0.999	0.991	0.998	0.973
Yuxi			1.000	0.938	0.980	0.969	0.926	0.921	0.859	0.904	0.920	0.965	0.964	0.991	0.949	0.879
Baoshan				1.000	0.988	0.983	0.997	0.998	0.971	0.964	0.930	0.997	0.994	0.976	0.997	0.970
Zhaotong					1.000	0.989	0.983	0.980	0.933	0.947	0.933	0.997	0.995	0.997	0.990	0.950
Lijiang						1.000	0.968	0.968	0.958	0.981	0.975	0.993	0.997	0.989	0.994	0.967
Puer							1.000	0.999	0.959	0.944	0.901	0.991	0.985	0.967	0.989	0.975
Lincang								1.000	0.964	0.948	0.903	0.990	0.984	0.964	0.989	0.979
Dehong									1.000	0.987	0.947	0.959	0.963	0.915	0.974	0.998
Nujiang										1.000	0.987	0.965	0.975	0.941	0.978	0.984
Diqing											1.000	0.944	0.958	0.939	0.955	0.943
Dali												1.000	0.999	0.990	0.998	0.972
Chuxiong													1.000	0.990	0.999	0.974
Honghe														1.000	0.982	0.933
Wenshan															1.000	0.984
Banna																1.000

V. CONCLUSION

Through field investigation and theoretical analysis, the paper studied the current situation, causes and measurement of industrial structure overlap in Yunnan province, and found that Yunnan province has a large degree of industrial structure overlap, a lot of resource waste, and serious environmental pollution (land, forest, rivers, air, etc.). Yunnan province GDP growth in the first three, and the total amount is in the middle and lower levels, in addition to its industrial base is weak, the late start, starts from the economic development, a large part of the reason is that not the resource reasonable configuration, there is no industry to scientific layout, miss between government and enterprises in the process of urbanization, market economic cooperation sharing mechanism of "trinity", and therefore lead to overcapacity in Yunnan province. Therefore, to promote supply-side structural reform, efforts must be paid to first cut capacity. To reduce the production capacity, it's necessary to first adjust the industrial structure of Yunnan province, and first deal with the relationship between the government, enterprises and the market. Accordingly, the following policy Suggestions are put forward:

At the government level, in the process of urbanization, efforts should be made to adjust the industrial layout and optimize the industrial structure, reduce the waste of resources and environmental damage, and let the limited resources form the resultant force of economic growth. Actively integrating into "the Belt and Road", Yunnan province, as the "link" of economic and technological complementarity between China and Southeast Asian and south Asian countries, complements the advantages of industries with excess capacity with those with insufficient capacity in other countries. It is necessary to properly handle the relationship between the government, enterprises and the people, and make use of the visible hand of the government

and the invisible hand of the market to jointly assist regional economic development. At the enterprise level, it is needed to focus on upgrading the speed of technology and product update to meet market demand; coordinate the relationship between market demand and enterprise production supply; Efforts should be made to create a reasonable and fair competition environment and entrepreneurial opportunities, so that resources are dominated by the market, rather than by capital; focus on environmental protection to achieve sustainable development of enterprises. At the public level, it is necessary to increase the frequency of talent flow; at the same time, the relationship between individual interest and public interest should be coordinated.

REFERENCES

[1] Liu ersi, Zhang jingjing. A study on the financing difficulties of industrial parks in underdeveloped areas in western China — a case study of Yunnan province [J]. Journal of economic research, 2015(7): 93-98.

[2] Chamberlin. The Theory of monopolistic Competition(eight edition)[M].Cambridge.

[3] Wang liguo, Zhang rixu. Research on overcapacity in the context of fiscal decentralization — empirical analysis based on steel industry [J]. Research on financial and economic issues, 2010(12): 30-35.

[4] Lin yifu. Tide phenomenon and the reconstruction of macroeconomic theory in developing countries [J]. Economic research, 2007(1): 126-131.

[5] Zhou yeliang, sheng wenjun. Analysis of causes and policy choices of overcapacity in China during the transition period [J]. Financial research, 2007(2a): 183-190.

[6] Guan aiping. Method of industrial isomorphism measurement [J]. Statistics and decision-making, 2007(19): 32-34.