



The Development and the Comprehensive Assessment of Regional Economy in China

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ABSTRACT

In order to explore the related factors which impacts on city development, the level of economic development of each province in China is studied in this paper. We use qualitative analysis and quantitative analysis to discuss: selecting the factors which may have influenced city development and classified it into five groups with qualitative analysis; searching the information according to the result of the former analysis with quantitative analysis, and then using clustering analysis and factor analysis to handle and analyze various standards, and then building the model. At last, we provide some policy related advises for the government.

Keywords: clustering analysis; factor analysis; regional economic; comprehensive assessment

1. Introduction

With the high-speed development of economy, industrial structures are facing adjustments, and strategies in many regions have entered its adjusting stage. As a consequence, we analyze the comprehensive development that has effects on the local economy, and use quantitative analysis to analyze the different factors in it, as to sort based on the different aspects of each place in China, which play a vital

role in achieving fast economy development in our country and help construct a better city.

2. Analysis of the current regional economic situation

By category of selecting the per capital regional added value and the per capita consumption, we use clustering analysis through SPSS gathering 31 provinces which have similar features to realize the goal of comprehensive analysis[1].

According to chart 1, these provinces can be classified into three groups. The first group is best developing provinces: Beijing, Shanghai, Tianjin; the second is better developing provinces which include Fujian, Guangdong, Shandong, inner Mongolia autonomous region, Liaoning, Jiangsu, Zhejiang, apart from these two groups the last one contains Hebei, Shanxi, Jilin, Heilongjiang, Anhui,

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Jiangxi, Henan, Hubei, Hunan, Guangxi Zhuang autonomous region, Hainan, Chongqing, Sichuan, Guizhou, Yunnan, Xizang autonomous region, Shanxi, Gansu, Qinghai, Ningxia hui autonomous region, Xinjiang Uighur autonomous region.

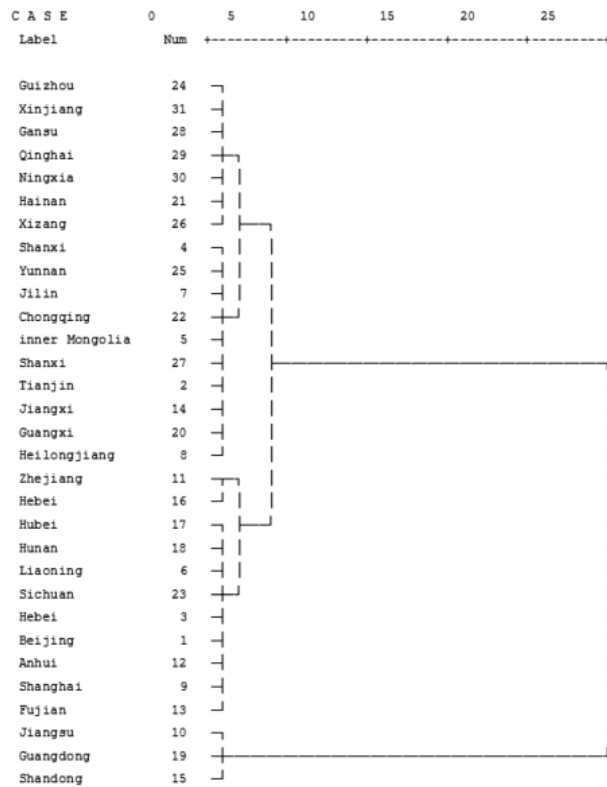


Chart 1 cluster dendrogram

3. The comment on local economy development

we sort the social input, the energy consumption, the agriculture mechanic, the technology and the traffic system according to the factor scores which be got by using factor analysis through SPSS.

3.1 Analysis based on social inputs

According to factor scores in Table 1, we can easily figure out that low marks show polarization trend. For example, some more developed provinces such as Beijing, Shanghai, Tianjin present positive results and underdeveloped places like Hainan, Qinghai, Jilin, etcetera get a low mark while Shandong, Jiangsu and Guangdong are quiet opposite. On the one hand, we can regard little investments in developed areas as these three places are too small and all of them are province-level municipalities which totals are relatively small but per capita values are high. On the other hand, as the most commonly known first tier cities, many investments have already reached their saturation points and in this circumstance, they obsolete to inputs. Besides, development of the second kind province is now on upturn, which needs a great deal of money to promote the development of different industries, so they get more investments and achieve high marks.

Table 1 Factor scores and the order for social inputs

1	Shandong	1.33	12	Shanxi	0.15	23	Chongqing	-0.28
2	Jiangsu	0.81	13	Fujian	0.07	24	Guizhou	-0.32
3	Guangdong	0.59	14	Anhui	0.04	25	Jiangxi	-0.36
4	inner Mongolia	0.58	15	Hubei	0.02	26	Beijing	-0.47
5	Sichuan	0.49	16	Xinjiang	0.01	27	Shanghai	-0.64
6	Hebei	0.39	17	Gansu	0.01	28	Qinghai	-0.69
7	Henan	0.33	18	Yunan	-0.10	29	Ningxia	-0.72
8	Shanxi	0.32	19	Guangxi	-0.11	30	Hainan	-0.74
9	Liaoning	0.30	20	Heilongjiang	-0.15	31	Xizang	-0.79
10	Hunan	0.24	21	Jilin	-0.23			
11	Zhejiang	0.17	22	Tianjin	-0.27			

3.2 Analysis based on energy consumption

Based on factor scores we can see that cities like Shandong, Jiangsu and Guangdong, etcetera show great reliance on the energy consumption. For one thing these places have large population and hold great quantity of motor vehicles, meanwhile people's daily energy consumption shows cumulative effect. For the other thing, the production also needs energy. Apart from such circumstances above, Ningxia, Qinghai, and Jiangxi these third kind cities energy consumptions are small which rank at the bottom. By contrast, large energy consumption cities are mostly off shore while inland areas often present lower. This condition of obtaining energy may have strong relationship with imports. China is the largest coal imports and the second importer of oil country across the globe. In 2013, the dependence on foreign crude oil have already up to 59%. As a platform for opening up the outside, coastal regions can have convenient access to the international trade. However, the inner lands need to consider costs, energy losses, security issues and so forth when they transport energy. Although provinces like Xinjiang Uighur autonomous region, Shanxi and others are also inland areas, they have rich natural resources so they can integrate production and sales and send it outside at the same time.

3.3 Analysis based on agricultural mechanization

Through factor scores we can perceive that the highest rated provinces such as Henan, Shandong that trail the third one more than 0.8 points. Combining data we conclude that these places are used to produce large mechanics and the mechanization degree is currently in domestic leading position. Meanwhile, Shandong, Henan and Anhui are not only the main grain-producing area but also population exporting provinces, what prove agricultural mechanization can liberate the workforce and then helping increase more values. By consulting the correlative information, cites like Ningxia, Chongqing and Guizhou get a lowest mark because of complex terrain and hypsographic feature result in low agricultural modernization and cannot complete large-scale mechanical work.

3.4 Analysis based on science and technology

Scores are based on sciences and technologies we can see that the second kind province like Jiangsu, Guangdong, Zhejiang get high marks as Beijing, shanghai these first kind city. Ningxia, Qinghai, Xinjiang Uighur autonomous region all achieve low marks. By contrast, we can find that coastal areas are normally with advanced technology and science rather than inner regions which are still in poor science and technology condition. This situation may have

Table 2 Factor scores and the order for energy consumption

1	Shandong	1.83	12	Shanxi	0.07	23	Tianjin	-0.51
2	Guangdong	1.42	13	Fujian	-0.15	24	Gansu	-0.51
3	Jiangsu	1.41	14	Shanghai	-0.20	25	Guangxi	-0.55
4	Liaoning	0.78	15	Hubei	-0.25	26	Jilin	-0.59
5	Xinjiang	0.62	16	Anhui	-0.27	27	Yunan	-0.65
6	Hebei	0.55	17	Chongqing	-0.28	28	Ningxia	-0.68
7	Zhejiang	0.51	18	Heilongjiang	-0.28	29	Jiangxi	-0.68
8	Shanxi	0.46	19	Beijing	-0.33	30	Hainan	-0.78
9	Henan	0.38	20	Xizang	-0.36	31	Qinghai	-0.79
10	inner Mongolia	0.35	21	Guizhou	-0.37			
11	Sichuan	0.28	22	Hunan	-0.44			

direct connection with policy of reform and opening and foreign exchange. The first and second kind city possess more advanced science and technology, which demonstrates that the degree of technology and science have clear relationship with economy development.

3.5 Analysis based on convenience of transportation

According to the transportation convenient scores we can see that Guangdong has a wider gap with the latter, the main reason is the large incomes of the express delivery business have also indirectly reflected the transportation convenient in Guangdong. Among the table 5, Anhui, Jiangsu and Shanghai belong to different kind of provinces but have little differences in transportation convenient between each other, and this shows that limited influences in transportation.

The transportation convenient is just a medium which cannot promote the development of economy but has amplification effect on other factors linked with economy.

4. Policy related advices

As to accelerate the development of local economy, and improve our comprehensive national strength, we give the following advices based on analysis results.

4.1 Increasing the social input

At the same time as promoting the government investment, we need to encourage private investment and increase the related industries investment[2], because each industry does not exist in isolation, they all have connection with each other, and we cannot only pay attention to development of a certain area.

4.2 Promoting the upgrade of industries

Table 3 Factor scores and the order for agricultural mechanization

1	Henan	1.92	12	Zhejiang	0.00	23	Tianjin	-0.50
2	Shandong	1.90	13	Liaoning	-0.01	24	Shanxi	-0.52
3	Anhui	1.07	14	Xinjiang	-0.02	25	Shanghai	-0.55
4	Hebei	0.88	15	Hainan	-0.06	26	Gansu	-0.58
5	Jiangsu	0.86	16	Jilin	-0.16	27	Qinghai	-0.73
6	Heilongjiang	0.66	17	inner Mongolia	-0.19	28	Xizang	-0.75
7	Beijing	0.42	18	Sichuan	-0.28	29	Chongqing	-0.83
8	Hubei	0.35	19	Guangxi	-0.30	30	Guizhou	-0.83
9	Hunan	0.15	20	Jiangxi	-0.30	31	Ningxia	-0.86
10	Fujian	0.12	21	Shanxi	-0.37			
11	Guangdong	0.02	22	Yunan	-0.50			

Table 4 Factor scores and the order for science and technology

1	Jiangsu	2.36	12	Sichuan	-0.11	23	Shanxi	-0.49
2	Guangdong	2.02	13	Liaoning	-0.14	24	Gansu	-0.52
3	Zhejiang	1.41	14	Fujian	-0.15	25	Yunan	-0.53
4	Beijing	1.08	15	Shanxi	-0.18	26	Guizhou	-0.54
5	Shandong	0.99	16	Chongqing	-0.22	27	inner Mongolia	-0.55
6	Shanghai	0.45	17	Hebei	-0.27	28	Xinjiang	-0.57
7	Hubei	0.10	18	Xizang	-0.36	29	Ningxia	-0.61
8	Anhui	0.06	19	Jiangxi	-0.41	30	Hainan	-0.61
9	Tianjin	-0.02	20	Heilongjiang	-0.45	31	Qinghai	-0.61
10	Hunan	-0.06	21	Jilin	-0.48			
11	Henan	-0.10	22	Guangxi	-0.48			

Table 5 Factor scores and the order for convenience of transportation

1	Guangdong	1.58	12	Liaoning	0.06	23	Gansu	-0.43
2	Anhui	1.09	13	Shanxi	0.00	24	Jilin	-0.50
3	Hunan	0.88	14	Jiangxi	-0.02	25	Shanghai	-0.72
4	Henan	0.86	15	Yunan	-0.03	26	Beijing	-0.75
5	Sichuan	0.84	16	Shanxi	-0.05	27	Qinghai	-0.97
6	Shandong	0.76	17	Guangxi	-0.06	28	Tianjin	-1.04
7	Jiangsu	0.63	18	Guizhou	-0.06	29	Ningxia	-1.05
8	Hubei	0.45	19	Heilongjiang	-0.07	30	Xizang	-1.10
9	Zhejiang	0.40	20	Xinjiang	-0.10	31	Hainan	-1.13
10	Hebei	0.40	21	Fujian	-0.17			
11	inner Mongolia	0.39	22	Chongqing	-0.19			

To some extent, the local economy development in China has relied on high energy consumption and stimulated by high daily consumption rather than improving the productivity to achieve the goal. As the decline of resources and prices of energy go up, intensive industrial pattern has already become the main power of China economy growth. As a result, we are better to take great efforts into upgrading the industrial structure in order to form the government administrative regulations as a guide, financial and policy supportive as motivation to reform manufactory, upgrade the low value to high value-add and transform high pollution into low energy consumption, while combine the industrial transformation and upgrading and staff training.

4.3 Popularizing agricultural mechanization

We are now speeding up changes in the mode of agricultural development, promoting agricultural mechanization, enhancing the modernization level of agriculture and realizing labor liberation. But beyond that, the local government should impose the corresponding purchase subsidies policy and open courses related to agricultural modernization.

4.4 Promoting scientific and technological innovation

The cutting-edge technology can reform the global economy structure, so we need to quicken technical progress and build our own technical system by absorbing the knowledge based on the introduction of

advanced techniques, then studying and innovating. Strengthen development of talents who are likely to do research and development about mainstream technology in the future[3].

4.5 Develop local characteristics

Firstly, we should analyze the basic situation of local places, using economic methods to analyze local economy environment, taking local characteristics into consideration, summing up industries which suit the local industry, and giving top priority to key industries. All of these are aimed to escalate the development from every aspect.

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