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Research on the High-quality Economic Development of Old Industrial Cities

-- A Case Study of Zigong City

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Abstract

High-quality economic development is the inevitable transformation of the economy after quantitative changes. However, due to the problems of resource dependence, structural stress and lack of innovation, the economic quality of the old industrial cities has obviously shown the lack of momentum, and the development direction of high-quality economy is not clear. Zigong city, one of the traditional old industrial cities, is taken as an example to solve this problem. Firstly, an evaluation system of high-quality economic development is constructed, which is mainly composed of 4 second-level evaluation indexes and 14 third-level evaluation indexes. Then, a quality evaluation model of Zigong's economic growth is established based on the entropy method. Finally, the quality evaluation analysis of Zigong's economic growth is obtained through the statistical data of Zigong from 2009 to 2018. According to the calculation results, the economic development quality of Zigong city increased in the fluctuation and increased after 2015. In terms of specific indicators, Zigong pays more attention to economic sustainability and the efficiency of economic structure, but ignores the stability and innovation of economic growth.

Keywords

Old industrial city; Regional economy; High-quality development; High quality development evaluation.

1. Introduction

Since the report to the 19th national congress of the communist party of China (CPC) pointed out that China's economy has shifted from a stage of rapid growth to a stage of high-quality development, the CPC central committee has introduced a series of measures, including market access, debt financing and employment, to further advance the economy toward a stage of high-quality development [1]. While steadily promoting high-quality economic development throughout the country, various parts of the country are also actively responding to the central government's call to step up economic transformation in light of the characteristics of the local economy and promote the transformation of the economy to an intensive one. For example, in 2018, Hebei province proposed to carry out the "transformation of ten thousand enterprises" action, aiming to achieve the goal of transforming from Hebei manufacturing to Hebei creation, Hebei speed to Hebei quality, and Hebei products to Hebei brand through the transformation and reform of industrial enterprises above a certain scale in the province. In January 2019, Jiangsu province issued more than 30 measures to ensure the high-quality development of the private economy in terms of market access, financing channels and market competition. In May 2019, Zhejiang province concentrated its efforts to promote high-quality development of Zhejiang's industries by strengthening planning and design guidance, technology development, and the

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support of major carriers and platforms. Many of China's old industrial cities made significant contributions to China's economy in the early years of reform and opening up. However, with the continuous reform of the market, the economic growth of these old industrial cities is slowing down gradually, and more and more problems are encountered in the process of development. Zigong is one of the traditional old industrial cities. In recent years, "steady growth, structural adjustment, transformation and sustainability" has gradually become its main line of work, aiming at accelerating the cultivation and development of high-end and emerging industries and promoting the steady development of economic growth. Vertically, Zigong's economy keeps growing, but horizontally, there is still a gap between Zigong's economy and that of surrounding cities.

Therefore, in order to seek a new development path, Zigong city must break the dependence on resource-based enterprises, adjust the industrial structure, pay attention to the development of the tertiary industry, rebuild the industrial structure, and realize the direction of high-quality economic development. In this paper, in order to realize the high-quality economic development of Zigong city, we should first clarify the connotation of high-quality development, understand the current situation of Zigong city's economic development, and then put forward the corresponding guiding direction for Zigong city's economic development based on the experience of domestic and foreign cities in high-quality economic development, which is also the focus of this paper.

2. Research Reviewed

2.1. Review of the Connotation of High-quality Economic Development

In recent years, many experts and scholars have discussed the connotation of high-quality economic development. In 2017, Yan Shuangbo et al. proposed that the improvement of the quality of economic growth requires the continuous expansion of the input-output ratio, the improvement of the utilization rate of resources, the improvement of the ecological level, the improvement of people's quality of life, and the guarantee of fair distribution [2]. In 2018, Xia Jinwen et al. proposed that development mode, economic structure and growth momentum are three important areas of economic development, covering multiple levels such as supply-demand relationship, resource allocation, input-output, income distribution and economic cycle [3].By comparing the difference between high-quality economic development and high-speed growth, Ren Baoping et al. concluded that high-quality economic development should be reflected in the improvement or improvement of the economic aggregate, economic structure and economic development [4]. In 2019, Li Jinchang et al. summarized the common direction of the connotation of high-quality economic development through the investigation of existing literatures: in order to meet the people's ever-growing needs for a better life, we should adhere to the "sustainable" fundamental path based on the "five development concepts" and the fundamental requirements of "high quality" [5]. The core connotation of high-quality development by the research group of the economic research institute of the national development and reform commission is the supply system with high quality, high efficiency and high stability, and the fundamental way to promote high-quality economic development is the common reform of quality, efficiency and power [6].

To sum up, high-quality economic development is the inevitable transformation of the economy after quantitative changes. After the initial stability of economic growth, the economy will develop towards efficient, innovative, green, harmonious and sustainable development. It can be summarized as follows: the efficiency of economic structure, the innovation of economic development, the stability of economic growth, and the sustainable development of economy.

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2.2. Review of the Evaluation Research on High Quality Development of Economy

To understand the economic quality of a place must adopt a certain method to investigate and evaluate the local economic quality. In 2014, Li Juanwei et al. constructed a quality evaluation index system for economic growth including six indicators, including the stability of economic growth and economic structure, and used principal component analysis to measure the economic quality of Chong Qing from 2000 to 2011 [7]. In 2015, Song Mingshun et al. adopted the evaluation index system including the quality of competition, quality of people's livelihood and ecological quality, and measured and compared the macro quality index between China and five other countries [8].In 2017, Wang Jun et al. constructed a set of systematic economic quality evaluation system based on the perspective of game between superior and subordinate governments [9]. In 2018, Wei min et al. made an empirical measurement of the quality of economic development in 30 provinces in China by establishing a measurement system for the development of high-quality economy in the new era using the entropy right TOPSIS law [10]. In 2019, Fan Xinyi et al. made a visual analysis of relevant literature in recent years by using knowledge graphs, and summarized the quality evaluation index system of economic development [11]. Ren Zhian et al. evaluated the quality of economic development in northern An Hui province based on the method of "CHIES - entropy - coupling coordination" [12]. Wang Hongping evaluated the economic development of some cities in Guang Dong province by constructing an evaluation index system and applying super-efficiency DEA (data envelopment analysis) [13].

At present, the domestic research on high-quality economic development mainly focuses on the evaluation of the economic quality of China or a province or municipality directly under the central government, while the research on the economic quality of prefecture-level cities is less. Therefore, this paper intends to start from the actual economic situation of Zigong, a prefecture-level city, and build a targeted evaluation index system in line with Zigong's economic characteristics. Then, the entropy method is used to evaluate Zigong's economic quality, and Suggestions are put forward to promote Zigong's high-quality economic development.

3. Construction of an Evaluation System for High-quality Economic Development

According to the connotation of high-quality economic development summarized in this paper and the method of relevant literature, the evaluation index system of high-quality economic development suitable for Zigong city is constructed. The secondary indicators are stability of economic growth, sustainability, efficiency of economic structure and innovation of economic development. The higher the quality of economic development is, the larger the total index value is. Among them, the detailed definition of the secondary evaluation index is as follows:

(1) Stability of economic growth refers to the steady growth of the economy over a period of time, indicating that the economic aggregate has been steadily rising and in a healthy state during this period. This index is subdivided into economic growth volatility, consumer price index, producer price index and urban registered unemployment rate. Among them,

$$\text{Economic growth volatility} = \frac{|\text{Current economic growth rate} - \text{Last year's economic growth rate}|}{\text{Last year's economic growth rate}}$$

This index reflects the change degree of the overall economy of Zigong city. The smaller the fluctuation rate is, the smaller the economic fluctuation range is and the more stable the

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economy is. The consumer price index (CPI) and producer price index (PPI) are the indexes that measure the change of the overall price level in the market. The larger the value is, the faster the price rises or falls, which will have a negative impact on the quality of economic growth.

(2) Sustainability of economic development reflects that the economic system we want to build should be a high-quality economic system that is in harmony with nature and society and has long-term and active development capacity. We need to rely on scientific and technological progress, and constantly improve the quality of our workers and the quality of our development. In this paper, the sustainability of economic development is subdivided into four three-level indicators: energy consumption per unit GDP, green coverage of built-up areas, comprehensive utilization rate of industrial solid waste, and harmless disposal of household waste.

(3) Economic structure refers to the layout of regional productive forces. Economic structure is a complex composition, which simply includes industrial structure, supply and demand structure, income structure, urban and rural structure, regional structure and so on. Considering the current development situation of Zigong city, the tertiary industry should be developed in terms of industrial structure. Therefore, the proportion of tertiary industry is selected as the index to evaluate the economic quality of industrial structure in this paper. Secondly, a total of 4 indicators, including per capita GDP, total labor productivity and per capita disposable income of urban residents, are selected as the three-level indicators to evaluate the efficiency of economic structure. Among them, Labor productivity= Current GDP/ Employment.

(4) At the present stage, Zigong city still has insufficient development of innovative industries, so the development of innovation will have a great impact on the improvement of economic quality. In this paper, the number of R&D personnel and the expenditure of R&D internal expenditure are used to evaluate the innovation of economic development. Among them, The proportion of the number of scientific researchers = The number of scientific researchers/The total number of employees.

According to the introduction of the four secondary indicators, each secondary indicator is subdivided into 14 tertiary indicators, as shown in Table 1.

4. Economic Quality Evaluation

Economic growth problems can generally be obtained by quantitative numerical analysis of a number of impact indicators. The analysis of numerical value is hierarchical and complex, so it is necessary to unify the dimensions of different indexes, and to distinguish and sort forward indexes and reverse indexes. Through literature research, it is found that the methods used to evaluate economic quality at present mainly include analytic hierarchy process (AHP), principal component analysis (PCA), relative index method, entropy method and other methods. Among them, the most commonly used principal component analysis method needs to determine the important indicators of the main body of the impact assessment. If these important indicators do not conform to the actual situation, the whole result will be affected. The AHP and the relative index method both need to be based on intuitive judgment and are greatly influenced by subjectivity. Therefore, this paper chooses the relatively objective entropy method to evaluate the quality of Zigong's economic growth.

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Table 1: Evaluation system of Zigong's high-quality economic development

Primary evaluation index	Secondary evaluation index	Tertiary evaluation index	Units	Index properties
Overall evaluation of the quality of economic development	Stability of economic growth	Economic growth volatility	%	-
		CPI	-	*(-)
		PPI	-	*(-)
		Registered urban unemployment rate	%	-
	Economic sustainability	Energy consumption per unit of GDP	Tons of standard coal/ RMB Ten thousand	-
		Green coverage in built-up areas	%	+
		Comprehensive utilization rate of industrial solid waste	%	+
		Harmless disposal rate of household garbage	%	+
	High efficiency of economic structure	The proportion of tertiary industry	%	*(+)
		GDP per capita	RMB Ten thousand / person	*(+)
		Total labor productivity	RMB Ten thousand / person	+
		The per capita disposable income of urban residents	RMB	+
	Innovation in economic development	The proportion of researchers	%	+
		R&D internal expenditure	RMB Ten thousand	+

Note: the index nature "+" represents the positive index; "-" represents the reverse indicator; "*" is an appropriate indicator. Since its maximum valuation is not easy to determine, it is currently treated as a positive (negative) indicator.

Firstly, collect and sort out the data, and obtain the specific values of the three-level indicators by inquiring Zigong city statistical yearbook, Zigong city yearbook and Sichuan province statistical yearbook. The dimensionality and nature of these values are different, that is, some data are of the larger, the better type, while some data are of the smaller, the better type. Therefore, it is necessary to conduct dimensionless processing on the collected data. Secondly, the entropy weight method is used to calculate the weight of the index, and the weights of the secondary index and the tertiary index are obtained respectively. The larger the data difference of the same index is, the greater the influence it will have on the whole system, so it will take a higher proportion. Thirdly, according to the dimensionless processed data and the three-level index weights, the index value of the second-level index can be calculated, which can be used to judge the changes of the second-level index in each year. Finally, the second level index value and the second level index weight are used to calculate the overall evaluation value, which is used to judge the changes of Zigong city's economic development quality in each year. The evaluation model is shown in Figure 1.

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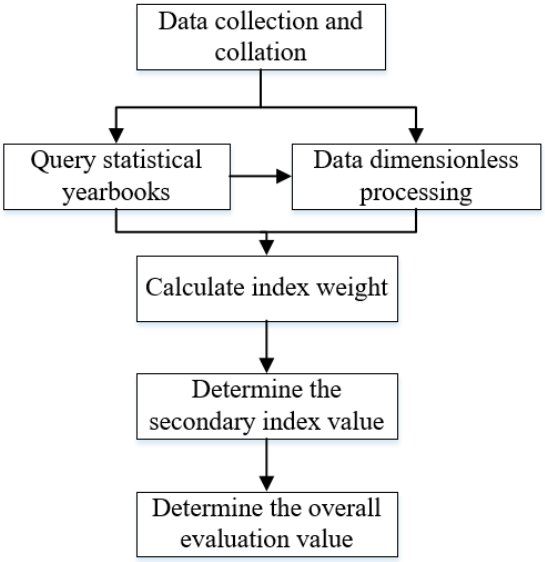

Figure 1. Zigong city economic development quality evaluation model

4.1. Data Collection and Sorting

(1) Query the statistical yearbook of Zigong city from 2010 to 2019 (statistics from 2009 to 2018), and collect 10 years' statistical data of Zigong city from 14 three-level indicators. Build the initial data matrix $X = \{x_{ij}\}$, among this, x_{ij} represents the original data of the jth (1≤j≤14) index in the ith year (1≤i≤10).

(2) Dimensionless treatment. Different indexes have different dimensions. In order to avoid the influence of dimensions on the data, dimensionless processing is needed for the data. As there are larger and smaller indexes in the evaluation, the data in step (1) are processed dimensionless using range method:

$$\begin{cases} x'_{ij} = (x_{ij} - x_{min}) / (x_{max} - x_{min}) & \text{Bigger is better} \\ x'_{ij} = (x_{max} - x_{ij}) / (x_{max} - x_{min}) & \text{Smaller is better} \end{cases} \quad (1)$$

The matrix can be obtained as follows: $X' = \{x'_{ij}\}$

Among them, the x'_{ij} represents the dimensionless data; the x_{min}, x_{max} represents the minimum and maximum data of an indicator respectively.

4.2. Calculation of Index Weight

(1) Normalization, which unifies all data within the range of 0 to 1. The calculation formula is:

$$P_{ij} = \frac{x'_{ij}}{\sum_{i=1}^{10} x'_{ij}} \quad (2)$$

Among them, the P_{ij} represents the proportion of the value in year i of the jth evaluation index.

(2) Calculate the information entropy of each indicator. The calculation formula is:

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$$e_j = \frac{-1}{\ln 10} \sum_{i=1}^{10} p_{ij} . lnp_{ij} \quad (3)$$

Among them, the e_j represents the information entropy of the jth index.

(3) Calculate the difference coefficient of each index. The calculation formula is:

$$\mu_j = 1 - e_j \quad (4)$$

Among them, the μ_j is the difference coefficient of the JTH index.

(4) Determine the entropy weight of each indicator. The calculation formula is:

$$w_j = \frac{\mu_j}{\sum_{j=1}^{14} \mu_j} \quad (5)$$

Among them, the w_j represents the jth indicators weight.

According to the above formula, the weight of each index in all observed variables and the weight of each secondary index in the overall evaluation are calculated, as shown in table 2. In terms of the weight of the three-level evaluation index, the factors that have a greater impact on the second-level indexes are producer price index, green coverage rate of built-up areas, proportion of tertiary industry, and internal expenditure on R&D. It shows that the annual difference of these indexes has a great influence on the economic quality of Zigong city. From the weight of the secondary evaluation index, the economic structure efficiency and economic sustainability account for a high proportion, followed by the stability of economic growth and innovation of economic development. This shows that the high efficiency of economic structure and economic sustainability have a greater impact on the high-quality development of Zigong's economy, while the stability of economic growth and the innovation of economic development have a smaller impact.

4.3. Determination of Secondary Index Value

After the weight of each index is determined, the secondary index value can be calculated by combining the existing data with formula (6) :

$$U_i = \sum_{j=1}^{m} (w_j \times x'_{ij}) \quad (6)$$

Among them, the U_i is secondary index of each year; the m (m=1,2,3,4) is the number of tertiary indicators included in this secondary indicator.

4.4. Determination of Overall Evaluation Value

According to the secondary index weight and secondary index value, the evaluation value of Zigong city's economic development quality can be calculated each year. The calculation formula is as follows:

$$Q_i = \sum_{v=1}^{4} (w_v \times u'_{iv}) \quad (7)$$

Among them, the Q_i is overall index value for each year, the w_v is the weight of each secondary index, u'_{iv} is the secondary index value.

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Table 2: Weight summary of indicators at all levels

Secondary evaluation index	Weight	Tertiary evaluation index	Weight
Stability of economic growth	0.197	Economic growth volatility	0.179
		CPI	0.195
		PPI	0.349
		Registered urban unemployment rate	0.278
Economic sustainability	0.305	Energy consumption per unit of GDP	0.211
		Green coverage in built-up areas	0.383
		Comprehensive utilization rate of industrial solid waste	0.184
		Harmless disposal rate of household garbage	0.223
High efficiency of economic structure	0.345	The proportion of tertiary industry	0.469
		GDP per capita	0.162
		Total labor productivity	0.151
		The per capita disposable income of urban residents	0.217
Innovation in economic development	0.153	The proportion of researchers	0.472
		R&D internal expenditure	0.528

5. Calculation Results Analysis

5.1. Evaluation Value Analysis of Secondary Indicators

According to the steps in section 3.3, the index values of economic growth stability, economic sustainability, economic structure efficiency and economic development innovation in Zigong city from 2009 to 2018 are calculated, and the change trend of each index value is drawn, as shown in Figure 2.

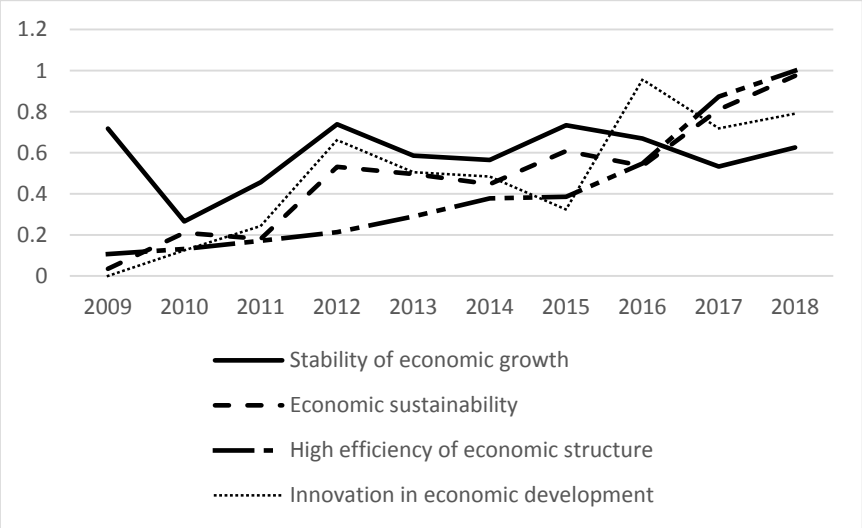

Figure 2. Trend chart of secondary indicators of economic quality in Zigong city from 2009 to 2018

As can be seen from figure 2, Zigong's economic growth was not stable from 2009 to 2018, among which the stability was the lowest in 2010. The index value of economic sustainability showed an upward trend of fluctuation, with a strong upward trend after 2016. The efficiency of the economic structure increased steadily before 2016, and showed a strong upward trend after 2016. From the point of view of economic development innovation, the index value

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fluctuated greatly and decreased slightly after 2016. It can be seen that Zigong's economy has paid more attention to the road of efficient and sustainable development after the relevant expression of high-quality economic development was put forward at the 19th national congress of the CPC. The specific analysis is as follows:

(1) Economic stability evaluation and analysis

Economic stability is an important index to measure the sustainability and coordination of economic development. Too much economic fluctuation will affect the stability of economic operation and cause the disorder of economic environment. From 2009 to 2010, Zigong city's economic development stability evaluation index value declined sharply, mainly because the price level rose rapidly. The prices of industrial products have risen by 6.5%, and the prices of raw materials have risen rapidly, which has affected the production efficiency of enterprises and squeezed their profit margins. From 2011 to 2012, the improvement in economic stability was related to the gradual stabilization of the price level and a substantial reduction in the unemployment rate, which was reduced by about 2% on average. After 2013, the economic stability showed a trend of volatility, which was mainly related to the high volatility of economic growth. Before 2014, the average annual economic growth rate was about 14.25%, while after 2014, the average annual economic growth rate was about 8.14%, indicating that the economic growth was decreasing with each passing trend. Generally speaking, Zigong city economic development stability is insufficient, still need to improve.

(2) Evaluation and analysis of economic sustainability

Sustainable economic development reflects the carrying capacity of regional resources and environment in the process of economic development, reflects the ability of economic development to continue in the future, and is also one of the indicators of the harmonious coexistence between man and nature. From the data, the fluctuation state of the secondary index value of economic sustainability before 2016 is related to the changes in the comprehensive utilization rate of industrial solid waste and the harmless disposal rate of household waste. In 2012, the harmless disposal rate of household garbage increased by about 30.79% compared with 2011. The comprehensive utilization rate of industrial solid waste fluctuated greatly in the past 10 years, reaching a peak of 100% in 2012. The major reason for the significant increase in the index value after 2016 is that the green coverage rate of built-up areas has increased, among which, in 2017, it increased by about 4.7% compared with that in 2016.

(3) Evaluation and analysis of economic structure efficiency

The efficiency of economic structure is an important index to measure the balanced and coordinated development of economic structure. The value of the index shows a more stable trend to rise each year, which is the same as the growth trend to the four level-3 indicators. It shows that Zigong city's economic structure has been continuously improved from 2009 to 2018, which is related to the city's continuous optimization of economic structure and related policies of reform and transformation.

(4) Evaluation and analysis of economic development innovative

In order to maintain sustainable economic growth, it is necessary to maintain the driving force of technological innovation. Therefore, economic innovation is the inexhaustible source of high-quality economic development. However, from the perspective of the innovation index from 2009 to 2018, there is a state of increasing volatility, and the volatility is large, indicating that Zigong city has a lack of innovation motivation in this aspect. Zigong is an old industrial city. Its industries are mainly based on traditional industries such as salt making, chemical industry and machinery. It is difficult for these industries to innovate.

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5.2. Overall Evaluation Value Analysis

According to the evaluation formula in section 3.4, the overall evaluation value of economic growth quality of Zigong city from 2009 to 2018 can be obtained, as shown in Table 3.

Table 3: Overall evaluation value of economic growth quality of Zigong city from 2009 to 2018

Years	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
score	0.189	0.181	0.241	0.482	0.444	0.452	0.513	0.630	0.763	0.886

According to the comprehensive evaluation value of Zigong's economic growth quality in table 3, draw the trend chart of economic quality growth (as shown in Figure 3), which can more directly reflect the change of Zigong's economic quality.

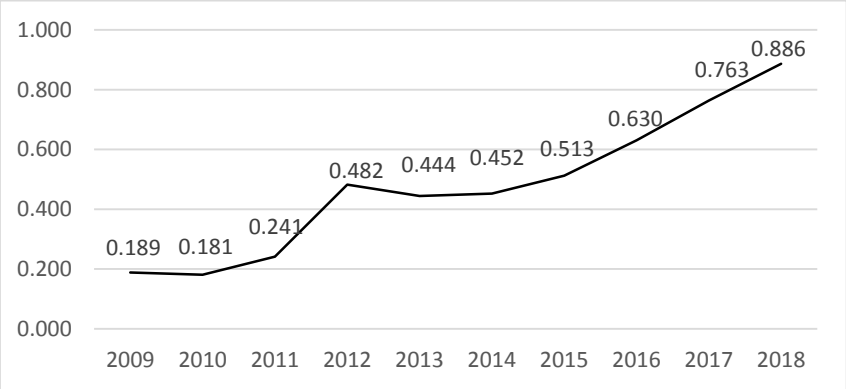

Figure 3. Comprehensive evaluation trend chart of economic growth quality of Zigong city from 2009 to 2018

As can be seen from figure 3, the overall economic quality evaluation value of Zigong city showed an overall growth trend from 2009 to 2018. Among them, there was a significant increase in 2012, a slight decrease in 2013-2014, and an increase year by year after 2015.Zigong city's economic quality improved greatly in 2012, which is related to Zigong city's construction of "ecological Zigong" into the top-level design. Since the construction of "ecological Zigong" was carried out in Zigong, air quality, water environment, sound environment, urban greening and other aspects have been greatly improved in 2012.Among them, the harmless disposal rate of household garbage increased by 30.79% compared with that of the previous year, making a big breakthrough.

Secondly, in terms of scientific and technological innovation, Zigong city increased the investment in scientific research funds in 2012, and the investment in internal scientific research funds increased by 125.97% compared with the previous year. However, the quality of economic development declined slightly in 2013-2014, which was related to the slowdown in GDP growth and the rise in producer price index. The GDP growth rate in 2013 was 3.7% lower than that in 2012, while the producer price index rose 3.6%.

6. Conclusions and Recommendations

Based on the understanding of Zigong city's high-quality economic development, this paper constructs an evaluation system of high-quality economic development. This system includes three levels of indicators, among which the first level is the overall evaluation value of high-

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quality economic development, indicating the overall situation of Zigong city's economic quality.

The secondary indicators include four indicators of economic growth stability, economic sustainability, economic structure, efficiency, economic development and innovation, which are used to evaluate the primary indicators and subdivided into 14 tertiary indicators for detailed measurement of economic indicators.

Research shows that: 2009-2018 of Zigong city economy overall quality evaluation has certain volatility, but overall there is a growing trend of development, especially after 2015 growth trend suggesting Zigong city economy is rapidly developed to the direction of high quality from four secondary indexes, economic sustainability and economic structure efficiency of Zigong city before 2016 showed a trend of fluctuations in growth, and growth trend obviously enhanced after 2016, in terms of sustainability and economic structure, explain Zigong high importance

However, in terms of economic stability and innovation, the volatility is high, and it has been slightly reduced since 2016, which indicates that Zigong city needs to pay attention to these two aspects. Based on this, this paper proposes the following Suggestions for promoting the high-quality development of Zigong economy:

(1) Maintaining steady economic development

At present, the overall economic situation of Zigong is good, but the social environment for economic development is constantly changing. Economic and social stability is the prerequisite for high-quality economic development and the basis for ensuring people's happiness. Economic stability usually means the full realization of employment, price stability and balance of payments, and the sustained and coordinated development of the economy. To maintain economic stability, we need to do the following: Firstly, we should make full use of modern tools such as Big data and Blockchain to establish a sound market economy operation mechanism and risk warning mechanism, and conduct real-time monitoring, analysis and response to Zigong's economic market. Secondly, salt industry and chemical industry, as the traditional industries of zigong city, should not be abandoned. We should transform and upgrade these traditional industries, extend their industrial chains, and develop new industries through innovation. Thirdly, it is the transformation of many traditional old industrial cities to use tourism to drive the economy. Zigong city have "salt city" in one thousand, "dinosaur of the township", "city" in the south three eg business card, so rich and colorful cultural history, should make full use of to build zigong own characteristic culture, makes the tourist city of cultural characteristics, to attract investors, builders and consumers together to improve the economy in zigong city quality.

(2) Technological innovation drives economic innovation

The report to the 19th CPC national congress pointed out that "innovation is the primary driving force for development and the strategic support for building a modern economic system". Innovation is a unique human ability, so the first step in scientific and technological innovation should be to improve the quantity and quality of researchers. The mechanism of school-enterprise cooperation should be established timely to solve the problem of lack of scientific researchers and the problem of separation between theory and practice. Secondly, we should strengthen the allocation of innovation resources, provide a good environment and material resources for scientific and technological innovation, and build a platform for the transformation of intellectual property rights and scientific and technological achievements, so as to raise the level of productivity. We can also advocate national innovation, establish a special interactive platform on the Internet, collect people's innovative Suggestions on Zigong's economic development, and provide research directions for researchers.

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(3).Take advantage of geographical advantages to strengthen regional multi-party cooperation

With the issuance of Sichuan province's "implementation opinions on accelerating the integrated development of south Sichuan economic zone" in 2019, Zigong, Luzhou, Neijiang and Yibin, four southern Sichuan cities, have taken a key step in the development of the same city. Zigong city, as the central city of south Sichuan economy, will play an important role. Therefore, on the road to promoting high-quality economic development, Zigong city should break away from the division of administrative regions, improve the regional coordination mechanism, and increase the cooperation with neighboring southern Sichuan cities. At the same time, Zigong city is located in the middle of Chengdu and Chongqing. With the development of traffic in Zigong city in recent years, the communication and cooperation with these two cities will be more convenient.

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