

# Research on Sichuan Province's Economic Aggregate Forecast and Industrial Structure Based on the 2035 Long-term Goals

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**Abstract:** With the proposal of the 2035 long-term goal for Sichuan, China, its impact on social and economic development has become an important research topic. This article starts from the implementation of the national strategy in Sichuan, combines the history of Sichuan's economy and its structural evolution, and uses mathematical methods to predict the evolution of Sichuan's future economic aggregate and structure. The aim is to explore the trends and characteristics of the evolution of industrial structure in Sichuan Province.

**Keywords:** Economic structure evolution; Economic development; Economic aggregate; Sichuan

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## 1. Introduction

As the economic, cultural and educational center of Southwest China, Sichuan plays an important role and influence in the implementation of national major strategies such as “Made in China 2025”, “the Belt and Road” construction.

Based on the 2011-2021 yearbook data of Sichuan Province and China, this paper briefly analyzes the characteristics of Sichuan's economic growth and its structural evolution, and combines the “Outline of the 14th Five-Year Plan for National Economic and Social Development of Sichuan Province and Vision 2035 of the People's Republic of China” and the 2035 “Outline of Long-term Goals” (hereinafter referred to as Outline) with the possible impact of the implementation of major national strategies in Sichuan, explored the economic growth and structural evolution of Sichuan over the next decade.

## 2. Research Status

On the basis of measuring the rationalization and upgrading of industrial structure, Gan Chunhui et al. believe that when formulating industrial structure policies, the government should not only emphasize the rationalization of industrial structure, but also actively break through the limiting conditions that restrict the effect of industrial structure upgrading.

The “triple helix theory” that emerged since the 1990s has revealed a model of benign cooperation among local governments, regional industries, and vocational colleges.

The Outline was formulated by the Sichuan Provincial Government in accordance with the requirements of the national strategy and in combination with actual situations.

The third chapter of the Outline proposes to prioritize innovation leadership and build a technology innovation center with national influence. For the tertiary industry, the Outline aims to “promote the upgrading of pillar service industries”.

Gurley, Shaw, McKinnon and others have conducted in-depth research on the evolution of primary, secondary and tertiary industries and the relationship between financial development and economic growth. Raymond Goldsmith's “Financial Structure and Financial Development” also addresses these issues.

### 3. Research Methods

We assume that Sichuan will adjust its economic structure based on the Outline and predicts its future output value.

#### 3.1 Nominal Proportion and Actual Proportion of Industrial Output Value

Taking the output value of major industries and regional GDP in Sichuan as an example, using the nominal and actual value in the Sichuan Statistical Yearbook data Calculate the output value proportion of each major industry and get the following table:

Table 1 Proportion of output value of each industry calculated using actual values

year	Proportion of primary industry (calculated at current price)	Proportion of primary industry (calculated based on actual value and constant price)	Proportion of secondary industry (calculated at current price)	Proportion of secondary industry (calculated based on actual value and constant price)	Proportion of tertiary industry (calculated at current price)	Proportion of tertiary industry (calculated based on actual value and constant price)
1978	44.53%	44.53%	35.51%	35.51%	19.97%	19.97%
...						
2019	10.37%	5.02%	37.07%	64.09%	52.56%	30.89%
2020	11.43%	5.09%	36.16%	64.13%	52.41%	30.78%

As can be seen from the table above, the price changes of products in various industries are very different. Compared to agricultural products, the prices of industrial products are decreasing, while the prices of tertiary industry are rising faster.

If the actual value proportion of each major industry is used as the basis for judging the stage of economic development, Table 1 shows that Sichuan is still in the process of industrialization in 2020, because the tertiary industry accounts for 30.78%, which is far smaller than the secondary industry which accounts for 64.13%.

#### 3.2. Forecast of the Evolution of Agriculture, Related Industries and Their Proportions

The law of macroeconomic modernization reveals that the proportion of the three output values eventually forms a ranking of three, two, and one. Developed countries such as the United States and Japan, the tertiary industry often accounts for over 79%, while the primary industry accounts for less than 2%.

We chose the United States as a comparison, according to “Kuaiyi Wealth Management Network” ( <https://www.kylc.com> ) The annual growth rate data and inflation rate data of the added value of agriculture, we speculate that when a country or region develops to a certain extent, agriculture will reach saturation, that is, enter a state of stagnation.

Based on the average inflation rate of 2% in the past decade, we assume that the future inflation rate will also be controlled at 2%. The predicted future nominal growth rate is the predicted actual growth rate plus 2%. It is predicted that by 2035, Sichuan's agricultural output value will grow The rates are as follows:

Table 2 Growth rate and output value forecast of Sichuan agriculture (2019 is the real value, with an interval of 10 years )

year	Agricultural output value growth forecast (actual value)	Forecast of agricultural output value (constant price in 1978, 100 million yuan)	Forecast value of agricultural output value nominal growth rate of agricultural output value	Agricultural output value forecast (current price, 100 million yuan )
2019	2.80%	555.87	4.80%	4807.52
2029	1.80%	694.37	3.80%	7288.95
2035	1.20%	757	3.20%	8933.97

### 3.3. Forecast of Regional GDP

The total regional output value of Sichuan in 2020 was 4.859876 billion yuan (at the current price). The goal set by the Outline is to double the per capita regional gross output value in 2035, and to double the total regional output value under the current stable population base.

The economic growth rate of Sichuan in 2019 was 7.4%, but due to the impact of the epidemic, it was only 3.8% in 2020. Therefore, we exclude the 2020 data. The proportions of the three industries in 2019 are as follows:

Table 3 Proportions of tertiary industries in 2019

province	Proportion of primary industry	Proportion of secondary industry	The proportion of tertiary industry
Sichuan	5.02%	64.09%	30.89%

Guided by the three-two-one structure of the three industries in the economic modernization theory. It is assumed that Sichuan's industrial structure can be adjusted to a 321 structure by 2035, and this structure can be adjusted smoothly, combined with the aforementioned total growth forecast. Starting from 2019, the annual adjustments to the output value share of each major industry will be equal. Applying the interpolation method, the output value share of Sichuan's three major industries in each year can be calculated by 2035, as shown in the table below:

Table 4 Sichuan's three industrial output value forecasts from 2019 to 2035 (interval of 5 years)

year	Predicted share of primary industry	The predicted proportion of secondary industry	Predicted proportion of tertiary industry
2019	5.02%	64.09%	30.89%
2020	4.91%	62.71%	32.38%
2025	4.38%	55.83%	39.82%
2030	3.84%	48.94%	47.27%
2035	3.30%	42.10%	54.60%

As previously assumed, the price level increases by 2% annually, and the proportion of agricultural output value to GDP in 2035 will decrease to the average level of 3.3% in developed provinces in China, Sichuan's total output value can be predicted as follows based on the agricultural output value and share in Table 2:

Table 5 Sichuan's three industrial output value(100 million yuan) forecasts for each year until 2035

year	Primary production forecast value	Forecast of total output value	Forecast value of secondary industry	Predicted value of tertiary industry	total growth rate	Primary production growth rate	Secondary industry growth rate	Growth rate of tertiary industry
2019	4807.52	95767.33	61377.28	29582.53				
2020	5033.47	102462.49	64257.43	33176.07	6.99%	4.70%	4.69%	12.15%
2025	6242.64	142688.91	79661.44	56822.29	6.76%	4.20%	4.19%	10.91%
2030	7558.65	196968.08	96404.79	93099.42	6.61%	3.70%	3.69%	10.07%
2035	8933.97	270726.36	113975.80	147816.59	6.56%	3.20%	3.28%	9.32%

## 4. Conclusion

Combining the “Outline” and theoretical predictions of industrial structure evolution. By 2035 Sichuan's total output value is expected to reach 27 trillion, with the primary industry accounting for 3.3%, the secondary industry accounting for 42.1%, and the tertiary industry accounting for 55%. To achieve this goal, Sichuan Province must strengthen policy guidance and technological innovation, promote industrial upgrading and integrated development. At the same time, it is also necessary to enhance talent training and introduction to improve the quality and skill level of the labor force, providing a strong talent guarantee for economic development.

## 5. Limitations and Future Research Directions

The research in this article has certain limitations, such as the timeliness of data sources and the simplification of model assumptions, which may have an impact on accuracy of the prediction results. In future research, we can further explore the mechanisms and influencing factors of the evolution of Sichuan's industrial structure, such as the demand for financial talents, to provide more comprehensive and in-depth guidance and suggestions for the development of Sichuan's industrial structure.

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