

# Analysis on the Contribution of Industrial Structure Optimization to Regional Economic Growth in Shanxi Province

Hongyong Zhang<sup>1,\*</sup> and Yi Yang<sup>2</sup>

<sup>1</sup> *Guangxi University of Science and Technology, 545006, Liuzhou, Guangxi, China*

<sup>2</sup> *Research Center of Industry and Urban Development in Western Region, Guangxi University of Science and Technology, 545006, Liuzhou, Guangxi, China*

\**Hongyong Zhang. Email: [2461048353@qq.com](mailto:2461048353@qq.com)*

## **ABSTRACT**

The change and development of industrial structure has always affected the economic growth and the change of industrial structure. The continuous growth of the economy requires the corresponding adjustment and optimization and upgrading of the industrial structure. This paper analyzes the contribution of industrial structure to economic growth in Shanxi Province in the past ten years by constructing multi-sector regression model and explaining the results of the model. And by deviating from the share method to analyze the contribution of Shanxi regional industrial structure to economic growth in the past ten years. Finally, it is concluded that the development of Shanxi is not balanced. In order to stabilize the development of primary industry, we should make use of the advantages of Shanxi as a large resource province to invest in the second place Industry, continue to increase the development of the tertiary industry. According to the different development of different regions, the corresponding industrial policy suggestions are put forward to achieve the overall economic development of the whole province by changing the adjustment of the industrial structure.

*Keywords: Industrial structure, Economic growth, Regression model, Deviation from Share method.*

## **1. STATUS QUO OF SHANXI' S INDUSTRIAL STRUCTURE AND ECONOMIC DEVELOPMENT**

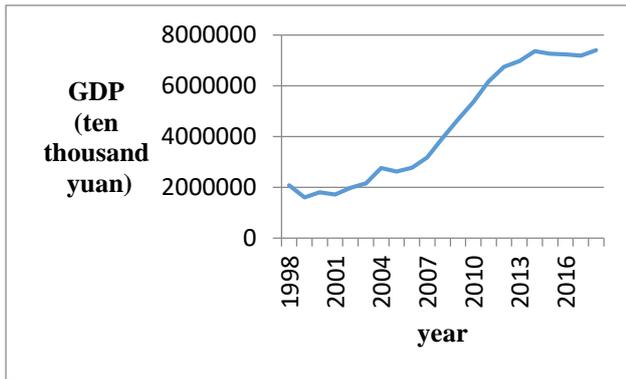
### ***1.1. Present Situation of Industrial Structure Development in Shanxi Province***

Since entering the 21st century, our country has made continuous efforts to improve the optimization and upgrading of the industrial structure, and the growth of the three industries has also shown different development rates. At present, our country is in the stage of high speed growth to high quality development, and the industrial structure of Shanxi is constantly adjusting and developing.

#### ***1.1.1. Status of Primary Industry Development in Shanxi Province***

In 2000, the output value of Shanxi's primary industry reached 17.986 billion yuan and increased to

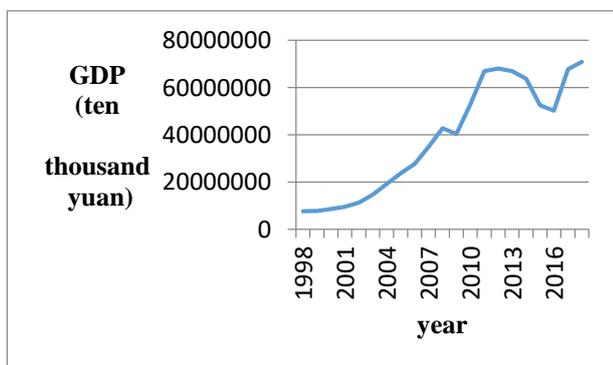
74.064 billion yuan in 2018. However, the growth rate of the primary industry from 2000 to 2009 was unstable, and the growth rate of the primary industry in 2009 was 18.5%. Since then, the primary industry as a whole has been growing, but the growth rate has been declining, falling to 9.4% in 2012, and rising to 2018. In addition, the output value of Shanxi's primary industry since 2009 The proportion is also declining year by year, Shanxi's primary industry development is not very ideal.



**Figure 1** Tendency of GDP change of primary industry in Shanxi Province

### 1.1.2. Status of Secondary Industry Development in Shanxi Province

Shanxi Province has outstanding advantages in energy, Shanxi's coal resource advantages have played a great role in promoting economic development, Shanxi's superior coal and mineral resources advantages and moderate geographical location. Make Shanxi's coal industry form own advantage. The development of Shanxi's secondary industry makes important contribution to Shanxi's economy. The output value of Shanxi's secondary industry reached 708.919 billion yuan in 2018, accounting for 42.15% of the total output value of the whole province. In 2011, the proportion of Shanxi's secondary industry reached 59.3%, then gradually declined, while the proportion of national secondary industry in 2018 was 40.7%, The proportion of Shanxi's secondary industry is higher than that of the national secondary industry, in which coal, coke, metallurgy and other secondary industries are still the leading industries in Shanxi. The secondary industry still has a very important impact on Shanxi's economy.

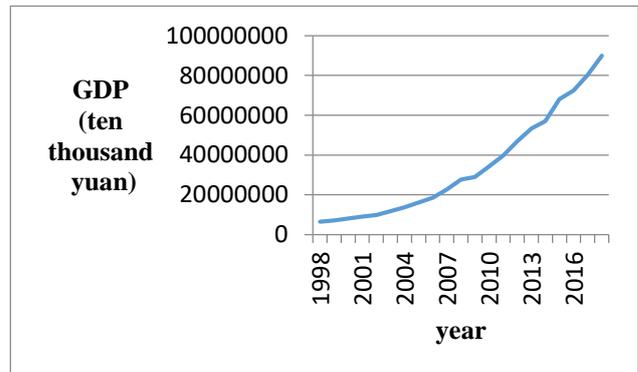


**Figure 2** Tendency of GDP change of secondary industry in Shanxi Province

### 1.1.3. Present Situation of Shanxi's Tertiary Industry Development

With the development of tertiary industry, The proportion of tertiary industry output value in the

province has increased. Shanxi's tertiary industry accounts for 35.2% of the province's total output value in 2011, And then slowly, By 2018, The output value of the tertiary industry in Shanxi Province reached 898.828 billion yuan, That's 53.4 percent, Up 2 percentage points from 2017, This is inseparable from the development and optimization of the tertiary industry, Various services in the tertiary industry, Finance and other industries have also been driven by rapid development.



**Figure 3** Tendency of GDP of tertiary industry in Shanxi Province

According to the development status of the last three industries, the development of the tertiary industry has been increasing with a relatively stable growth trend, and slowly surpassing the secondary industry. Shanxi's primary industry first grew to become stable in recent years. The primary industry only increased 3.5 times in 21 years from 1998 to 2018, while the tertiary industry increased about 14 times, the gap is obvious, and the tertiary industry will continue to grow at a higher rate. With the improvement of people's living standard, more and more people have a higher demand for the tertiary industry, followed by a large increase in the labor force of the tertiary industry and a gradual decrease in the labor force of the primary industry, which leads to three The development between secondary industries shows an unbalanced development trend. It is necessary to change the unbalanced development between these industries in order to improve the overall economic level of Shanxi Province.

### 1.2. The Development Status Quo of Each Area Economy in Shanxi Province

After entering the new century, Shanxi's economy grew rapidly in a period of time and achieved many results. In the state of rapid economic growth of Shanxi Province, people in the rapid development of the economy enjoy a richer life. Government revenue is also increasing, social public services and other projects are also increasing expenditure. But with the development of coal market is not as good as before, Shanxi's coal industry caused huge losses, into a depressed state. Economic transformation has become an important development road for Shanxi Province to get rid of the single coal state. In recent years, the coal industry

overcapacity, plus "Green Water Castle Peak is Jinshan Silver Mountain" ecological development requirements, enterprises As the production cost also increases, the profit of the enterprise is obviously reduced. Many coal industries begin to decline because of the difficulty of maintaining production, the GDP growth of Shanxi Province is also slowing down day by day, and the economic development of the whole province is in a trough. Then Shanxi introduced various policies to transform and develop the economy, with a slightly better trend, but still has a certain gap with the average level of national economic growth. Through the data and development, we can see that if Shanxi wants to realize the real economic transformation, it also needs to take the right road and formulate more reasonable policies.

The per capita GDP of each region in 2018 reflects the economic development of Shanxi Province. In 2018, the per capita GDP of Shanxi Province reached 45328 yuan, and that of Taiyuan reached 88272 yuan, which is far higher than the provincial level. It is the highest level in the whole province, and the lowest is 28229 yuan capita GDP of Yuncheng is only 28229 yuan. The difference quite different. Taiyuan, as the provincial capital of Shanxi, represents the overall development of Shanxi's political economy, and all economic indicators are among the highest. It is the region with the highest gross domestic product in all the cities of Shanxi Province, But in other regions, there is a big gap between GDP per capita and Taiyuan, which leads to 11 cities in Shanxi Province The development of the city is not coordinated. After being affected by the global financial crisis in 2008, Taiyuan's economic growth has been growing, but in the past two years Taiyuan has developed very rapidly. In 2018, GDP in Taiyuan increased by 14.8 percent ,0.4 percent from 2017 and 6.8 percent from 2016. Taiyuan, Yangquan, Changzhi, Jincheng, Shuozhou five areas per capita GDP higher than the province's water Ping, Datong, Xinzhou, Lv Liang, Linfen, Yuncheng per capita GDP less than 40000 yuan, it can be seen that the development between the region or there is a very serious imbalance.

According to the GDP value of primary and secondary industries and regional GDP in 2017, the proportion of primary industry in Datong and Yuncheng is higher than that in other regions, and the proportion of the highest primary industry in Datong is more than 50%, the proportion of secondary industry in each region is obviously higher than that of primary industry, and the proportion of secondary industry in Lv Liang, Changzhi and Jincheng is more than 50%,63%,54%,53%, respectively, while the proportion of secondary industry in other regions is lower than that in these three regions, but more than 30%, indicating that for most regions, The secondary sector is still economically developed The proportion of tertiary industry in Taiyuan, Yangquan, Datong and Shuozhou is more than 50. Taiyuan economy is in the leading position in Shanxi province, so the development of tertiary industry plays an important role in economic development. In order to effectively adjust

the structure of the three industries and formulate favorable economic policies, we need to study the three industries in more detail, from the existing problems, why there are such problems, and how to solve these problems.

## 2. DATA AND MODELS

### 2.1. Data Source and Description

All the data used in this paper are derived from the first selected data of Shanxi Province's gross domestic product (GDP) and the output value of the first, second and third industries from 1998 to 2017, as well as the total GDP and the output value of the third industry in 11 prefectural cities in the province.

Using regression model to analyze the contribution of industrial structure to economic growth, the explanatory variables and explained variables are the gross domestic product Y, primary industry output value X1, secondary industry output value X2, tertiary industry output value X3. from 1998 to 2017.

The deviation-share analysis method mainly obtains three values by calculation: the regional share component N; the industrial structure deviation component P; the competitive D. deviation component.

By analyzing the factors that affect economic growth and recession in each region by N/D/P value, this paper analyzes whether the development of each industry in each region is appropriate, and determines how to adjust in the future.

### 2.2. Model Setting and Construction

#### 2.2.1. Regression Model Construction

According to the correlation between three industries and economic growth, the model of total economic output is determined as follows:

$$Y = (X1, X2, X3, A)$$

By finding the logarithm  $LnY, LnX1, LnX2, LnX3$  representing the natural logarithm of four variables, the logarithmic contribution model of industrial structure to economic growth can be obtained:

$$LnY = \beta_0 + \beta_1 LnX1 + \beta_2 LnX2 + \beta_3 LnX3 + c$$

Among them,  $\beta_0$  is constant,  $\beta_1/\beta_2/\beta_3$  represents the elastic value of the first, second and third output value respectively.

#### 2.2.2. Offset Share Method

$$N_i = b_{io} \left( \frac{B_t}{B_0} - 1 \right) N_i$$

represents the regional growth component of the i industry in the study area during the calculation period, regional share component N is the change amount of

industrial sectors in each region based on the average growth rate development of the whole province.

$$P_i = b_{i0} \left[ \left( \frac{B_{it}}{B_{i0}} - 1 \right) - \left( \frac{B_t}{B_0} - 1 \right) \right] \quad P_i$$

represents each area industrial structure deviates component, the greater the  $P$ , it shows that the sector structure contributes more to the growth of economic aggregate.

$$D_i = b_{i0} \left[ \left( \frac{b_{it}}{b_{i0}} - 1 \right) - \left( \frac{B_{it}}{B_{i0}} - 1 \right) \right] \quad D_i$$

represents competitiveness of each region deviates component, the greater the  $D$ , it shows that the competitiveness of a certain sector in the region has a greater effect on economic growth.

$b$  is the output value of each industry in the study area,  $B$  is the total GDP of the whole province or the output value of each industry,  $i$  is the industry  $i(i=1,2,3)$ ,  $0$  represents base year data In this article, represents 2008 data,  $t$  is the 2017 data.

### 3. THE EMPIRICAL ANALYSIS

#### 3.1 The Results of Measurement

##### 3.1.1 Regression Results

According to the selected data, regression results are obtained in Eviews, and the results are shown in Table 1:

**Table 1.** Results of multiple regression analysis

	Coefficient	Std. Error	t-Statistic	Prob.
	nt	or	c	.
LnX1	0.07	0.01	5.49	0.00
LnX2	0.48	0.00	68.32	0.00
LnX3	0.44	0.00	49.34	0.00
C	0.82	0.06	13.43	0.00
<i>Adj - R<sup>2</sup></i>		0.9999		
F-statistic		87228.32		
Prob(F-statistic)		0.00		
c)				
D-W		1.3269		
N		132		

Regression equation:

$$\text{LnY} = 0.82 + 0.07\text{LnX1} + 0.48\text{LnX2} + 0.44\text{LnX3}$$

(13.43)      (5.49)      (68.32)      (49.34)

$$\text{Adj-R}^2 = 0.9999 \quad \text{DW} = 1.3269 \quad \text{F} = 87228.32$$

The results show that at the level of  $\alpha=0.01$  and freedom 17, the t values of the three variables are greater than the critical value, and the fitting degree of the model is very good. For every 1% increase in the primary industry, the GDP of Shanxi Province will increase

primary industry ,0.48% for every 1% increase in the secondary industry, and 0.44% for every 1% increase in the tertiary industry. The secondary industry contributes the most to the economy. Because the national economy has been greatly improved in recent years, the longer data can not reflect the current economic changes in Shanxi again with 2008-2017 data The regression analysis was carried out, and the results of the two regressions were compared, the results of the second regression are shown in Table 2:

**Table 2.** Multiple regression result (2008-2017)

	Coefficient	Std. Error	t-Statistic	Prob.
	nt	or	c	.
LnX1	0.04	0.03	1.30	0.23
LnX2	0.48	0.02	23.85	0.00
LnX3	0.45	0.01	31.16	0.00
C	1.05	0.26	4.10	0.00
<i>Adj - R<sup>2</sup></i>		0.9990		
F-statistic		3445.932		
Prob(F-statistic)		0.00		
c)				
D-W		1.7631		
N		132		

Regression equation:

$$\text{LnY} = 1.05 + 0.04\text{LnX1} + 0.48\text{LnX2} + 0.45\text{LnX3}$$

(4.10)      (1.30)      (23.85)      (31.16)

$$\text{Adj-R}^2 = 0.9990 \quad \text{DW} = 1.7631 \quad \text{F} = 3445.932$$

Compared with the results of the two regressions, the primary, secondary and tertiary industries increased their domestic production from 0.07%,0.48%,0.44% to 0.04%,0.48% and 0.45% respectively in the last ten years. The contribution rate of the primary industry in the last ten years is much lower than the long-term data, the secondary industry is basically unchanged, the data of the tertiary industry in the last ten years is higher than that of the long-term.

**Table 3.** Data results of deviation share analysis in various regions of Shanxi (100 million yuan)

	Taiyuan			Jinzhong			Yangquan		
	N	P	D	N	P	D	N	P	D
The first industry	25.01	-5.99	-1.98	46.45	-11.11	33.51	5.52	-1.32	1.00
The second industry	804.23	-371.37	100.30	358.11	-165.37	73.14	200.16	-92.43	28.84
The third industry	768.33	574.15	17.16	213.32	159.40	9.65	132.37	98.91	-11.70
Total	1597.57	196.79	115.48	617.88	-17.08	116.30	338.05	5.16	18.14
	Lvliang			Datong			Shuozhou		
	N	P	D	N	P	D	N	P	D
The first industry	28.89	-6.92	8.36	33.13	-7.93	663.52	30.21	-7.23	5.46
The second industry	485.18	-224.04	118.29	328.01	-151.46	-64.73	282.93	-130.64	-11.72
The third industry	171.11	127.87	-28.07	258.74	193.35	-43.82	144.35	107.87	138.61
Total	685.18	-103.09	98.58	619.88	33.96	554.97	457.49	-30.00	132.35
	Xinzhou			Changzhi			Linfen		
	N	P	D	N	P	D	N	P	D
The first industry	37.08	-8.88	3.14	35.33	-8.46	3.41	41.96	-10.05	22.45
The second industry	177.40	-81.92	171.78	471.11	-217.54	108.46	536.51	-247.74	-170.53
The third industry	129.15	96.51	34.46	235.86	176.25	-7.51	242.73	181.38	-33.00
Total	343.63	5.71	209.38	742.30	-49.75	104.36	821.20	-76.41	-181.08
	Jincheng			Yuncheng					
	N	P	D	N	P	D			
The first industry	24.48	-5.86	9.61	96.16	-23.03	51.87			
The second industry	364.58	-168.35	81.66	363.85	-181.87	-87.26			
The third industry	185.03	138.26	-5.42	262.41	196.09	-63.4			
Total	574.09	-35.95	85.85	722.42	-8.81	-98.79			

**3.1.2 The Results of Regional Deviation Share Data from 2008 to 2017 in Shanxi Province**

**Table 4.** GDP deviation share data results of all regions

Unit (100 million yuan)	N	P	D
The first industry	404.22	-96.78	800.35
The second industry	4372.16	-2032.73	348.23
The third industry	2743.4	2050.04	6.96
Total	7519.78	-79.47	1155.54

In terms of regional growth component, the total GDP real growth in Shanxi Province in the decade was 809.217 billion yuan ,57.239 billion yuan more than the assumed total growth of 751.978 billion yuan, of which 7.947 billion yuan was lost on the deviation of industrial

structure and -0.98% contributed to the economy. The growth of competitiveness factors was 115.554 billion yuan, which contributed 14.2% of the actual growth to the economic development of Shanxi Province. Then the specific study of industrial structure and competitiveness factors driving force.

In terms of the driving effect of the industrial structure, the output value of the primary and secondary industries in Shanxi Province in the past ten years has been reduced by -9.678 billion yuan and -203.273 billion yuan respectively. Only the tertiary industry has grown, with an increase of 20.0504 billion yuan. It shows that the tertiary industry of Shanxi Province has developed rapidly during the inspection period, and the primary and secondary industries are hindering the economy, and because the negative output of the primary and secondary industrial structure is larger than that of the tertiary industry, the deviation of the overall industrial structure of Shanxi Province is negative.

Judging from the driving effect of the factors of competitiveness, the primary, secondary and tertiary industries in Shanxi Province have brought positive growth of 80.035 billion yuan ,34.823 billion yuan and 696 million yuan respectively. However, the competitiveness of the tertiary industry is very small, we can see that the development of the third output in Shanxi mainly depends on the promotion of structural factors.

### ***3.2 The Contribution of Industrial Structure Optimization to Regional Economic Growth in Shanxi Province***

Through the analysis of data results, a certain index of each region will affect the economic development of the whole region. According to the effect of industrial structure factors, the primary industry development in all regions of the province is inferior. Taiyuan, due to different economic scales The contribution rate of industrial structure to economy is 196.79 and that of Yangquan is 5.16.

Under the influence of the promotion effect of industrial structure, the regions with positive contribution rate are the tertiary industry, which has the greatest impact on economic development. Shanxi vigorously develops tourism and has a greater impact on the development of the tertiary industry. The tertiary industry has advantages in development. However, because of the different scale of these areas, the contribution rate of industrial structure is also different, and some cities are quite different, for example, Taiyuan City and Yangquan City are more typical of different scale, so the contribution of industrial structure factors is quite different. Taiyuan is 19.679 billion yuan and Yangquan only 516 million yuan. Taiyuan as an example, in 2008-2017 The real growth rate of total GDP in Taiyuan was 191.409 billion yuan ,3.152 billion yuan higher than the assumed growth rate of 159.757 billion yuan, indicating that the GDP growth rate of Taiyuan was higher than that of Shanxi Province. Then the development of Taiyuan's industries is analyzed. The structural factors of the tertiary industry have the greatest influence on Taiyuan. The industrial structure of the primary industry and the secondary industry has a negative impact on the economy. The primary industry has lost 599 million yuan and the tertiary industry has lost 37.137 billion yuan. The promotion effect of the tertiary industry is positive, the contribution rate is 35.93%, and it has a negative impact on Taiyuan Economic development has the greatest impact; the competitiveness of the primary industry is at a disadvantage, the second and third industry competitiveness factors in the advantage, and the second industry competitive advantage is the largest.

In Jinzhong, Lv Liang, Shuozhou, Changzhi and Jincheng, which have negative effects on economic growth but positive effects on competitiveness, the characteristics of these regions are that the negative

effect of secondary industry is greater than that of tertiary industry. Therefore, the industrial structure effect of the whole region is negative and the negative effect of primary industry is small. Taking Jinzhong City as an example:

The total amount of GDP in Jinzhong City increased by 71.711 billion yuan in the period studied, while the assumed total amount of the region was 61.788 billion yuan, which deviated from 9.923 billion yuan, indicating that the GDP growth rate of Jinzhong City was also higher than that of Shanxi Province. The structural factors of the tertiary industry have the greatest influence on the economy of Jinzhong. Because of the vigorous development of tourism culture in Jinzhong in recent years, some scenic spots like Pingyao ancient city have developed better. Secondly, the economic contribution to Jinzhong is the competitive factor of secondary industry. However, only the promotion of the industrial structure of the tertiary industry is in the dominant position, and the primary and secondary industries are all inferior Potential. Therefore, the greatest economic contribution to Jinzhong is the tertiary industry. The influencing factors of the competitiveness of the three industries are in the dominant position, but the greatest contribution is the secondary industry.

The two cities of Linfen and Yuncheng have negative effects on the promotion effect of industrial structure and competitiveness factors, and their secondary industry competitiveness has a greater negative impact, and the economies of these two regions will be more difficult to develop. Taking Yuncheng as an example, Yuncheng is located in the southern region and is also the main development of tourism and cultural industry. However, the actual growth GDP Yuncheng in the past ten years is 64.485 billion yuan lower than the assumed total amount of 72.242 billion yuan. The GDP development of Yuncheng is lower than that of the whole province. Yuncheng's greatest contribution to economic growth is still the structural bias of the tertiary industry. First and second industries The structural deviation is negative. From the point of view of competitiveness promotion effect, only the competitiveness of the primary industry is superior, the second and third competitiveness is inferior, the negative effect of the second tertiary industry is greater than the positive effect of the primary industry competition, and the overall development of Yuncheng economy is slow.

## **4. POLICY RECOMMENDATIONS**

### ***4.1 Rational Arrangement of Three Industrial Layouts to Promote Economic Development***

The primary industry should pay attention to the rationalization adjustment of the agricultural industry. Shanxi has a dry climate and less precipitation, which leads to the backward development of agriculture in Shanxi, coupled with the backward production technology of agriculture, most of the original crops can

not be properly processed, so that the traditional crop products have no additional value of processing this step. Agriculture as a basic industry, can not reduce investment at any time, to ensure the investment of the primary industry, to ensure the economic benefits brought by the primary industry. In addition to agriculture, forestry and fisheries in Shanxi Province are less likely to develop, so these two types are slower than agriculture, which also leads to the primary industries. The development is unbalanced. In order to improve this imbalance, we should not only develop agriculture with its own characteristics, but also increase the level of agricultural industrialization, expand deep processing and technical input into traditional agricultural products, set up special agricultural production bases, increase scientific and technological investment in the processing and transportation of agricultural products, increase the use of technology in the agricultural sector, and develop in a comprehensive and high-quality manner.

The secondary industry should strengthen technological progress, give play to the advantages of energy raw materials and mining industry, and develop a new way of industrialization. From the above, we can see that the negative effect of the secondary industry is stronger, but from the result of the return of the whole province, the development of the secondary industry can bring more economic benefits. Shanxi is based on coal energy and has a large proportion of traditional industries, but in recent years the coal industry has begun to face the problem of overcapacity. At present, the requirements for the environment are getting higher and higher, the concept of green development is carried out, the industrialization structure is developing slowly, the high technology and the high level of products are few, which leads to the unbalanced development of the industrial structure and the slow progress of the industrialization development in each region. In this case, Shanxi should focus on technological progress and improving economic efficiency. Optimize product structure, emphasize energy saving and emission reduction, explore new energy, develop new materials, develop low-carbon industry and promote ecological civilization construction. Improve the level of comprehensive utilization of resources. To explore a high-quality and high-benefit industrialization development model, to increase the introduction and development of high-tech, to develop traditional industries with high-tech, to develop manufacturing industries, to increase industrial sophistication, and to increase the gold content of products. Improve the contribution of the secondary industry to economic growth.

The tertiary industry should increase the proportion, pay attention to the cultivation of talents, and enhance the internal structure of the tertiary industry. Construction and transportation industry has become an important industry in Shanxi in recent years and should continue to develop. At the same time, we should increase the knowledge-intensive service industries such as financial industry, logistics industry, real estate

industry and communication, continue to strengthen the development of tourism potential, make full use of tourism resources, tap all aspects of economic benefits in tourism areas, and promote the development of tertiary industry.

#### ***4.2 All Regions will Develop Their Primary, Secondary and Tertiary Industries in a Coordinated Manner***

In order to expand industrial development, improve efficiency, improve the utilization rate of resources, and introduce innovative ways to develop agriculture, industry and other economies. Of the 11 prefecture-level cities, only Taiyuan, Yangquan, Datong and Xinzhou have a positive share of industrial structure deviation, while the industrial structure factors in other regions are negative. According to the characteristics of different regions, Industrial adjustment should also be based on the contribution to the economy. For example, in order to lead the economic development of the whole province, Taiyuan, as the provincial capital city of Shanxi, must strengthen urbanization, increase investment in the secondary industry, increase the introduction of high and new technology, optimize the investment structure, and add Fast industrial manufacturing enterprises invest and develop finance, transportation, culture, education and other industries, thus affecting the development of the surrounding areas; Datong is located in the northern part of Shanxi. Datong is the second highest city of Shanxi industrial structure and typical resource-based city. In the future development, to ensure the enhancement of agricultural status, the industrial structure should be continuously optimized, the development of the service industry should be strengthened by relying on the advantages of resources, and the factors of industrial structure and competition in Yuncheng are negative, so for the development direction of Yuncheng, we should improve the agricultural industry. In order to guide the diversified development of the main body of the market, Yuncheng region and culture have their own advantages, we should combine their own advantages to increase the contribution of the second tertiary industry to the economy, enhance competitiveness to develop the economy.

#### ***4.3 Expand Coal Industry Chain and Develop New Coal Industry***

As a large province of coal resources, coal is still a pillar industry, but because coal resources are slowly becoming less and less, limited coal resources can be used to the fullest extent, and the utilization life of coal resources can be prolonged. To obtain the maximum benefit is a key consideration. This requires rational and scientific utilization of coal resources, vigorous development of a new type of coal industry, expansion of industrial chains, combined with ecological concepts, green output, development of circular economy according to national sustainable development strategy

standards, and co-construction of a new concept of green economy development.

#### ***4.4 Pay Attention to Personnel Training, Improve Innovation Ability***

Scientific and technological innovation is an important factor to maintain economic vitality. The innovation and development of each region directly affect the overall economic level of this region. At the same time, scientific and technological innovation can promote the adjustment of industrial structure. And the cultivation of talents will bring reserve strength for economic construction and development. Shanxi Province should increase investment in education, pay attention to the cultivation of innovative talents and technical talents, and encourage large, medium and small enterprises to invest in product scientific research and innovation. Encourage exchanges between enterprises and enterprises, enterprises and universities, conduct technical training, develop innovative ideas, develop cooperation mechanisms between industry, university and research, speed up the use of high and new technologies, improve the level of creativity of enterprises themselves, and speed up scientific research results To realize the new normal of rapid economic growth.

### **5. CONCLUSION**

The optimization of industrial structure plays a very important role in the economic transformation and development of a region, and a reasonable industrial structure plays a positive role in promoting economic growth. And unreasonable industrial structure will hinder the rapid and stable development of economy. If a country wants to maintain long-term and stable economic development, it is necessary to study the optimization method of industrial structure, analyze the contribution of industrial structure, and clarify the development

direction of industrial structure, develop the economy by adjusting the industrial structure.

### **REFERENCES**

- [1] Shiyi Chen, Gary H. Jefferson, Jun Zhang. Structural Change, Productivity Growth and Industrial Transformation in China [J]. *China Economic Review*, 2011, (22): 133-150.
- [2] Jin,J. G.,Li,Y. H. Government Management Innovations in Transformation of Resource-based Cities [J]. *Comparative Economic and Social Systems*, 2012 ,(5):134-137.
- [3] M. Porter, Location, Competition and Economic Development: Local Clusters in a Global Economy, *Economic Development Quarterly*, 2000, 104, pp.15-35.
- [4] Martin R. Geography and Public Policy: the Missing Agenda[J]. *Progress in Human Geography*. 2001, 25(2): 189-210.
- [5] Simon Kuznets. Problems in Comparing Recent Growth Rates for Developed and Less Developed Countries. 1972, 20(2):185-209.
- [6] Structure change, Engel's consumption cycles and Kaldor's facts of economic growth[J]. Reto Foellmi,Josef Zweimüller. *Journal of Monetary Economics*. 2008 (7).
- [7] Fotheringham A S. A new set of spatial interaction models: the theory of competing destinations[J]. *Environment and Planning A*.2011, 15(1): 15-36.
- [8] Eva Kippenberg, Sectoral Linkages of Foreign Direct Investment Finns to the Czech Economy, *Research in International Business and Finance*, 2005, 19, pp.251-265.