Research on the Driving Effect of Automobile Industry in Jilin Province on Economic Growth

Ye-ye ZHANG\(^1\), Hai-long ZHANG\(^1\,*\) and Ya-li SONG\(^2\)

\(^1\)Changchun University of Technology, Jilin, China
\(^2\)Jilin Provincial Bureau of Statistics, Jilin, China

*Corresponding author

Keywords: Jilin Province, Automobile industry, Economic growth, Pulling action.

Abstract. Jilin Province is the cradle of the automobile industry, and the automobile industry has become the leading industry for the economic development of Jilin Province. FAW Group, which has one of the three major automobile groups in Jilin Province, has an important position in the national automobile industry. Its annual output and annual sales are ranked first in the country. The automobile industry is undoubtedly a pillar industry in Jilin Province. In recent years, the main reason for the rapid industrial growth in Jilin Province is the rapid development of the automobile industry. This indicates that the dependence of industrial development in Jilin Province on the automobile industry has increased year by year, and the automobile industry has a major pulling effect on the economy of the province. In a certain sense, the key to revitalizing Jilin industry is to bring into play the role of the automobile industry.

Current Status of the Automobile Industry in Jilin Province

Jilin Province is one of the most important automobile production bases in China and one of the regions with the highest concentration of automobile industry in the country. Jilin Province is the cradle of China's automobile industry and is called “Detroit of China”. On July 15, 1953, Changchun First Automobile Manufacturing Factory broke ground. On July 13, 1956, China’s first Jiefang truck was launched in Changchun FAW. China’s automobile industry has grown from scratch, and since then, New China has its own The automobile industry has changed the history of China's inability to produce cars. After years of continuous development and development, the automobile industry in Jilin Province has now developed into a leader in China's automobile industry. It has formed a relatively complete system of automobile industry. The industry is dominated by Changchun FAW Group, vehicle manufacturing, special vehicles and zero. Component development and production, automotive trading, and heavy trucks. A variety of medium and high-level automobile systems have formed a cluster of automobile industry clusters with a certain scale, which is a gathering place of Changchun City, Jilin City, and a considerable number of automobile enterprises linked by industrial chain. Nowadays, after years of development, the automobile industry in Jilin Province is the largest in China. It can be said that Jilin Province has become China's automobile manufacturing and service base. Mainly reflected in the following aspects: By the end of 2017, there were 556 automobile manufacturing enterprises above designated size in Jilin Province, including 4 vehicle manufacturers and 514 auto parts manufacturers. The employment of the automobile industry has reached 26.65 million people, the total assets of the automobile industry in Jilin Province also exceeded 577.88 billion yuan; the total output value of the automobile industry was 684.132 billion yuan, and the main business income of the automobile industry was 718.921 billion yuan, with a profit of 59.053 billion yuan. Undoubtedly, the automobile industry has become the first leading industry in Jilin Province. It is the main driving force for the economic development of Jilin Province. It affects the form of the province's economy and is a barometer of the economic development of Jilin Province. We should see that the development of the automobile industry in Jilin Province is inseparable from the driving role of
FAW. FAW Group has successively established joint ventures with Volkswagen of Germany, Toyota of Japan, and Tianjin Automobile Group Corporation. FAW Group now makes the largest automobile industry group in China's economy, and the output of FAW Group is also the first in China. FAW The group is now developing into a comprehensive automotive production group that includes heavy-duty, medium-sized, light-duty and sedan models. Jilin Province's parts manufacturing industry has also been rapidly developed under the leadership of the development of FAW Group. The parts manufacturing industry in Jilin Province has developed various forms of cooperation and joint ventures, such as Fuao manufacturing enterprises, Changchun Haila headlights. Manufacturing companies and other parts manufacturers with considerable strength and scale. By the end of the year, the province's parts and components enterprises have completed the production of 100 million yuan of special-purpose vehicles to achieve industrial output value of 100 million yuan. It can be said that the automobile industry in Jilin Province has formed considerable advantages in vehicle manufacturing, parts and components, and professional automobile manufacturing.

The Direct Driving Effect of the Automobile Industry in Jilin Province on Economic Growth

The direct driving effect of the automobile industry on the economic growth of Jilin Province can be analyzed from many aspects. This paper analyzes the three main aspects of increasing industrial output value, solving direct employment and paying profits and taxes. According to the statistics of the Jilin Provincial Bureau of Statistics, the annual output value of the automobile industry in Jilin Province is 100 million yuan, which is higher than last year and accounts for the proportion of the province's GDP. The annual output of automobiles is the highest in the country for the production of 10,000 cars. “The proportion of the added value of the automobile industry” is an important indicator to measure the contribution of the automobile industry to the economic growth of a certain region, and it can also reflect the performance of the automobile industry in the region to a large extent.

| Years | The automobile industry accounts for the proportion of the province's total industrial output value (%) | The automobile industry accounts for the proportion of industrial added value of the province (%) |
|-------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 2008  | 35.63                                                           |                                                                                                |
| 2009  | 53.50                                                           |                                                                                                |
| 2010  | 30.02                                                           |                                                                                                |
| 2011  | 27.24                                                           | 22.71                                                                                           |
| 2012  | 27.07                                                           | 23.48                                                                                           |
| 2013  | 27.46                                                           | 24.89                                                                                           |
| 2014  | 27.35                                                           | 24.05                                                                                           |
| 2015  | 23.76                                                           | 26.81                                                                                           |
| 2016  | 25.24                                                           | 26.81                                                                                           |
| 2017  | 28.35                                                           | 29.80                                                                                           |

Note: 1. The total output value of 2008, 2009, 2010 and 2017 is the calculated value of Jilin Province Statistical Express, and the other years are the calculated values of the annual report; 2. The added value in 2008, 2009, 2010 and 2011 is not grouped by the automobile industry.

From the data in Table 1, it can be seen that the automobile industry occupies a high proportion in the total value of the province's total output value, and the automobile industry's economic contribution to the industrial industry of Jilin Province is very large.

From the perspective of the contribution of profits and taxes, the rapid development of the automobile industry has created huge tax revenues for Jilin Province. The total investment of Jilin Automobile Industry in 2017 is only 74.738 billion yuan. The data of the express report shows that the main business tax and surcharges reached 491.21. 100 million yuan. In 2017, the local fiscal
revenue of Jilin Province was 121.091 billion yuan. The tax and surcharge of the main business of the automobile industry accounted for 40.57% of the province's fiscal revenue.

From the above analysis, it can be seen that the automobile industry plays an increasingly important role in the economic growth and employment of Jilin Province and the payment of profits and taxes. The direct driving effect of the automobile industry on the economic growth of Jilin Province is obvious.

**The Indirect Pulling Effect of the Automobile Industry in Jilin Province on Economic Growth**

The indirect pulling effect of the automobile industry in Jilin Province on economic growth is also multi-faceted, mainly reflected in the following four aspects:

First, the industry correlation effect. The automobile industry not only plays a direct role in its own output growth due to its high production efficiency, but also acts as a joint effect on the efficiency improvement of non-leading industrial enterprises, thereby indirectly promoting the development of the entire industry. The automobile industry has a strong pulling effect on enterprises in the machinery, metallurgy, electronics, rubber, petrochemical and other industries. According to estimates, the direct correlation between the output value of the automobile industry and the output value of related products is that the indirect correlation degree is reached. A car is a product with a high processing depth. Its production process is quite complicated. A car has a variety of completely different components. In the process of its production, it needs the support of many industries. From this we can see that automotive products have a large industrial linkage to drive utility. The automobile industry in Jilin Province was formed earlier. After decades of development, it has formed a considerable network system. The automobile industry has a strong radiation action effect on petrochemicals, transportation equipment manufacturing, optoelectronic information industry, and electrical machinery and equipment manufacturing enterprises in Jilin Province.

Second, the service correlation effect. The automobile industry system has a wide range of scope, wide extension of the industrial chain and long radiation radius. These characteristics determine the great role of the automobile industry in the development of the service industry. The automobile service industry is the high end of the industrial chain and the most valuable link in the industry chain. Car-related services include car rental, auto finance, auto insurance, auto repair, auto beauty, driver training, auto clubs, car expo and other automotive use departments. At present, China's automobile market service sector is not strong in overall competitiveness, and its value-added ability is poor. China's auto service industry is still in its infancy, and there is still a big gap from the world level. However, with the rapid development of the automobile industry in Jilin Province in recent years and the deepening of internationalization, the automobile service industry in Jilin Province has gradually formed a perfect distribution channel, standardized order, and improved automobile service quality in the process of gradually developing the automobile industry. Various upstream and downstream industries are increasingly improving and developing.

Third, the relevance effect of science and technology. The automobile industry has strong technological relevance and can drive and stimulate technological innovation and industrial development of related industries. With the continuous development of China's automobile industry, the role of automobile industry in product research and development and technology introduction and then innovation has greatly promoted the technological progress of automobile-related industries and supporting industries, and optimized the industrial structure and accelerated the automobile in China. The pace of industrial-to-technology-intensive transformation has made China a high-value-added, high-tech, high-scale automobile industry.

Fourth, employment-related effects. The importance of the close relationship between the automotive industry and employment is unquestionable. Especially the indirect employment created by the automobile industry. The large-scale and wide-ranging industry characteristics of the automobile industry have greatly promoted the employment of upstream industries and
automobile-related service industries. The direct employment of the automobile industry has
doubled the effect of indirect employment. According to relevant survey data, in the year, the
proportion of the automobile industry to promote direct and indirect employment is the United
States, Japan and Germany respectively. At present, the world's major automobile producing
countries, the automobile manufacturing industry and related industries provide employment
opportunities, which account for about one of the national employment opportunities. If the
automobile industry is employed by the relevant departments such as road construction and
automobile use, the ratio will be higher. According to the survey data of relevant German
departments, in the year, the number of employed people in the German automobile industry has
reached 10,000, and the direct and indirect employment generated by the automobile industry is
10,000 and 10,000 respectively. That is to say, the ratio of direct employment to indirect
employment generated by the automobile industry is. Jilin Province has a large labor force, a large
employment pressure, a large surplus of labor, and a relatively lagging development of the service
industry. The number of employed people is limited. As the center of China's automobile industry,
the automobile industry in Jilin Province absorbs the surplus labor force in Jilin Province.
Increasing indirect employment has created a great role to play

Acknowledgement
This achievement is the result of the phased research of the “Thirteenth Five-Year” Social Science
Research Project of the Jilin Provincial Department of Education, “Study on the Driving Role of the
Development of Automobile Industry in Jilin Province on Economic Growth” (Ji Ke Ke Wen He Zi
[2016] No. 329), meanwhile, this achievement is the result of the phased research of the “Phased
research results of the general project of the Science and Technology Guidance Program of the
Science and Technology Department of Jilin Province (Research on Economic Development of Jilin
Province) (Contract No.: 20170418064FG)”.

References
[1] Chao Yan, Jinquan Liu, Research on the Impact of the Development of Automobile Industry in
Jilin Province on Economic Growth, Modern management science, 6(2015)43-45.
[2] Enze Dong, Jiacheng Zhang, Research on the Influence of Automobile Industry Development,
Industry and Technology Forum, 15(2016)117-118.
[3] Beicen Zhu, An Empirical Study of the Relationship between China's Automobile Industry and
Economic Growth, Master's degree thesis of Shanghai Normal University, 2015.