

The Dilemma of Economic Transformation behind Shanxi's Coal Maximization

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Abstract—For a long time, the “coal maximization” economic development model has imposed a “resource curse” on Shanxi Province. Due to the influence of many factors, such as economic situation, politics, history and nature evolution, the overall economic development in Shanxi Province is very homogeneous and unbalanced. Uneven development and heavy reliance on coal has led to a single industrial structure. This paper analyzes and explains the concrete manifestations of the “resource curse” that hinder the comprehensive development of Shanxi economy from four aspects, which including the Dutch disease effect, weak system, price fluctuations, and crowding out effect. The key to achieving economic transformation in Shanxi Province is to improve the transformation and development environment for resource-based economy. We must adapt to the requirements of the international situation of comprehensive national strength competition and focus on the “supply-side reform” to continue to create a suitable environment for overcapacity and optimization of industrial structure.

Keywords—*Resource Curse, Economic Restructuring; Supply-side Reform; The Dutch Disease*

I. QUESTIONS AND BACKGROUND

As the province of the traditional resource-based economy, Shanxi's economic development has risen according to its resources. In the past 60 years, subordinated to the country's overall development plan, Shanxi Province has cumulatively extracted 11 billion tons of coal, of which more than 3/4 used to supply coal for the country. Due to the rich coal resources, Shanxi Province can turn resources into GDP only through the mining and transportation of coal. At the same time, coal using has been dominated our country's energy structure for a long time. The use of other forms of energy is Rapidly developing, however, that is still only a minority in China's huge energy volume, especially, the current average annual output of coal is 3.5 billion tons in China, which is far more than the United States, Russia, India and other major coal-producing countries in the world, which owns an average annual output of 500 million tons. The fact reflects the huge demand for coal on the one hand and the long process of energy structure optimization on the other. Under such a domestic and foreign background, the economic growth of Shanxi Province has formed a resource-based development model that is highly dependent on coal. “Coal maximization” has become the most accurate word for Shanxi Province. In addition to traditional industries such as machinery and iron and steel, the province's industries are mainly composed of coal mining and coal power industries. The heavy industries formed under the planned economic system are concentrated, while the strategic emerging industries start late and are underdeveloped, lagging behind

other central provinces' Area. In addition, the development of the service industry, including the tourism industry, is lagging behind. In general, under the influence of many factors such as economy, politics, history, and nature, the overall economic development in Shanxi Province is very uniform and unbalanced. The heavy reliance on coal has resulted in a single industrial structure and industrial restructuring. Under the background of upgrading across the country, the inherent contradictions and problems in economic operations are bound to be revealed one by one.

In 2014, due to the overall downturn in the domestic macroeconomic situation and oversupply in the coal market, prices continued to fall and the economy of Shanxi province fell. For the first time, the economic growth rate fell to the lowest in the country; in 2015, Shanxi's GDP growth rate was 3.1%. This is the lowest value since 1982, ranking second to last place in the country; in 2016, Shanxi's GDP growth rate was 4.5%, which is lower than the annual growth target of 6%. It is also ranked second to last place in the country. This three-year period is also a three-year continuous decline in China's economic growth. The downward pressure on the economy has gradually emerged. The entire country's economic development is also facing the important task of transformation and upgrading. As a typical model of resource-dependent economic growth, the limitations and predicament of economic development reflected by the decline in the GDP growth rate in Shanxi Province deserve our deep thought. This requires us to propose effective transformation and upgrading measures and create a healthy economic development environment for Shanxi.

II. THEORETICAL BACKGROUND

In 1993, Auty firstly proposed the concept of “resource curse” when he is studying the economic development of the producing countries. That is, abundant resources are not sufficient favorable conditions for economic growth of some countries. Instead, they are some kind of restriction. For example, countries rich in natural resources such as Venezuela and Indonesia have a much lower rate of economic growth than countries such as South Korea, Japan, and Singapore, where natural resources are scarce. After this, Jeffrey D.Sachs and Andrew M.Warner published three consecutive articles, and conducted a groundbreaking empirical test of the resource curse hypothesis. They measured the annual growth rate of GDP in these countries from 1970 to 1989 by using the selected 95 developing countries as samples. Using panel data, regression tests showed that there was a significant negative correlation between natural resource endowments and economic growth [1]. In view of the transmission mechanism

of resources that has a negative impact on the economic development of a country, the current mainstream view is mainly reflected in four aspects: the Dutch disease effect, the weakening of the system, the impact of price fluctuations, and the crowding-out effect.

The Dutch Disease refers to the phenomenon of the decline of other product sectors under the influence of the prosperity of a primary production sector in the economic development of a country. Among them, the resource transfer effect is the most important influencing factor. The prosperity of primary sectors such as the exploitation of resources has led to more labor and capital gathering in resource export sectors, leading to higher costs for the tradable manufacturing sector [2]. Under the influence of the resource transfer effect, manufacturing and service industries have declined at the same time, and the economic recession is inevitable. Weakening of the system can be explained by Yang Xiaokai's so-called "backward disadvantage". "Backward disadvantage" is compared to "advantage of backwardness," which refer to the economy that has developed rapidly through the initial changes in the system, cheap labor, and the use of natural resources in the process of accelerated economic development and economic restructuring. Gradually neglecting the deeper changes in the institutional factors that determine the economic operation, the resulting economic growth cannot be sustained. If there is insufficient understanding of the "second-in-first-out advantage", it is very likely to bring about a "late-inferior disadvantage" [3]. Since the reform and opening up, China has followed a gradual reform path. Such a road can coordinate the relationship between reform, stability, and development. It is the lowest-cost road for a large developing country with a population of 1.3 billion. But this type of reform has left for a relatively long period of time between the traditional system and the modern market system, as well as serious imbalances in economic and political system reforms, resulting in serious institutional weaknesses. The price fluctuation effect refers to the price volatility of natural resources, especially fossil fuels such as coal, oil, and natural gas, and thus the impact of the resource-dependent entity's economy on the market. Coal prices are formed through the combined effects of coal mining, transportation costs, market demand, and coal pricing mechanisms. In 2014, the downward pressure on the domestic economy has increased. Price pressures and sluggish sales have caused pressure on coal companies. Coal companies have had to stop production due to the continuous decline in coal prices. In addition, with the government's abolition of general intervention in coal prices, the market-oriented reforms in the coal industry have continued to advance, and coal prices have fluctuate frequently. This means that for the coal mining province of Shanxi Province, it means that the risks and uncertainties of its economic growth increases. As the country's major coal production sites, ports and consumer sites vary widely, it is difficult to reflect the changes in coal prices scientifically and comprehensively across the country. It is extremely important for major coal companies and power companies to form coal pricing mechanisms under market conditions. Finally, for the crowding-out effect, Shao Shuai and Qi Zhongying base on Romer's R&D growth model for 36 typical energy export cities in China (including 28 coal cities and 8 oil and gas cities, of which there are cities in Datong and

Yangquan in Shanxi Province), Changzhi, Jincheng, etc.) Conducted empirical tests and concluded that energy development has a crowding-out effect on R&D behavior and restrained economic growth.

III. CAUSE ANALYSIS

For a long time, the "coal maximization" economic development model imposed a "resource curse" on Shanxi Province, especially in the last three years, which dragged the province's economy to the bottom. In fact, "coal maximization" is the result and the true portrayal of the entire resource export-oriented economic model in Shanxi Province. It is undeniable that this model is also an important reason for the formation and strengthening of this model. This is the reason on the one hand, and the logic behind the unique phenomenon of the result is that due to the mining of coal and the rigid demand for coal, the economic and social development in Shanxi province gradually falls into a vicious circle: the development and utilization of coal form the economic growth, the focus of economic and social development is also centered on coal. Due to the effects of resource transfer, social division of labor, and industrial solidification, the province's economy has always been inseparable from the operation of coal, and its dependence on coal has gradually increased. Therefore, the simple first-time decline of the economy in several decades has been attributed to "coal maximization," which means that the root cause of the problem is unclear, it does not really help solve the problem, and it does not help to transform the economy. It is said that in good market people does not want to transition, when the market is weak and we're unable to transition", which needs us to find the reasons from the "resource curse" formation.

Among the many factors that formed the "resource curse", the resource transfer effect and the crowding-out effect analyzed the reasons for the consolidation of the "coal dominance" cycle from the point of view of suppression of manufacturing and service industries by the resource development department, but from the Essentially, these two effects are still endogenous to this pattern of economic growth. They are actually part of this vicious circle. The price fluctuation effect confirms the fragility of this highly dependent resource-based economic model from a technical perspective. It gives the market a good and bad performance. Although it can intrude and stimulate the economic transformation and upgrading, it is also this price fluctuation that leading to a large effect cannot be produced because of this kind of counterforce and stimuli. Let alone price is far from the determinant of the formation and transformation of this development model. Finally, the core of the problem is naturally implemented in the system. A change in the system may even take longer than the formation of such a system. This is clearly reflected in the practice of reform and opening up in China: the traditional planned economy system was formed within only 20 years, which is from 1958 to 1978, but reform and opening have been in place for nearly 40 years since 1978. They have not yet been completed. Even deeper reforms have encountered even greater difficulties and obstacles. In order to transform the economic mode of operation, institutional changes must be implemented firstly. It has a decisive role in both the incremental development of the

economy and the adjustment of stocks. The definition of a series of rights under the conditions of the system improves the system itself and the market economy.

After entering the new normal period, northern China has generally fallen into a recession. In the first half of 2015, the economic growth rates in the three provinces in the northeast, Shanxi, northern Shaanxi, Qinghai, Xinjiang, and Inner Mongolia were generally lower than 2% [4]. In the above areas, there are areas where “coal is dominating”, one with large manufacturing industries, and one with no coal. From this point of view, “coal maximization” is not a “sufficient and necessary condition for economic slowdown”. Through comparison, we can find that the commonalities of these lower economic growth areas are: the planned economy has a strong sense of thinking, the cultivation of market economy entities is backward, the market is highly monopolized, and there is a lack of effective competition. For a long time, the macro-economy in these areas mainly relied on state-owned enterprises. Due to low efficiency and insufficient ability to respond to market changes, the regional economy could easily stagnate in the overall environment of economic transformation and market competition.

For Shanxi Province, the decline of the economy appears to be due to a “resources-dependent economy,” but the underlying reason lies not in coal itself, but in the fact that the province lacks an environment of market element concentration and healthy competition, resulting in a lack of vitality in the economy. Among these reasons, there are reasons why the system is not standardized, unsound, and the economic thinking is solidified, and there are also reasons why the government fails to promote market development. In fact, during the period of economic transformation in China, the government has a key role in establishing and improving a system that is in line with the market economy and in driving the transformation of social economic thinking into innovation.

IV. CONCLUSION

For a resource-based economic region like Shanxi, resources are the main driving force for its development. Most of the social investment is focused on resources and resource-related industries. Fixed assets have special nature. With the knowledge economy developing, there has been a diversified trend in the direction of investment and investment. No matter which area the funds are put into, its essence is profit-driven. But in resource-based economic regions, because of the path dependence of their economic development, the direction of their investment is still focused on resources. Three aspects of advice or measures are put forward at the end of this paper.

At first, the provision of a relatively loose financial support environment is an important means for Shanxi to overcome the economic downturn for the transformation of a resource-based economy. Under the background of continuous economic downturn, Shanxi must try to continue to promote market-oriented reforms and strengthen the main body of diversified investment to increase financial support. On the one hand, we will enlarge and strengthen the high-end coal-fired industry, extend the coal industry chain, and increase the added value of the coal-iron industry; on the other hand, we will use

the funds more to support the consumption of market players and the recovery of private enterprises (small, medium and micro enterprises). The rise of local specialty industries and the development of service industries is a wise self-selection [5].

Secondly, continuing to create a good indirect macro-control environment. In the future economic development, we must continue to launch major projects that are conducive to the current stable economic growth and long-term structural balance, such as vigorously promoting the development and growth of new industries such as environmental protection, energy conservation, and information consumption, and giving priority to supporting the development of characteristic and advantageous industries. To carry out shantytowns transformation, urban infrastructure construction, etc., if necessary, part of the policy input, provide a good indirect macro-control environment for the transformation and development of resource-based economy.

Finally, suppressing rent-seeker activities and reducing rent-seeking behavior. On the one hand, establishing an effective and transparent supervision mechanism by improving the government's governance efficiency, eliminating corruption, strengthening the construction of cadres, and strengthening the credibility of the government [6]; on the other hand, gradually clarifying property rights, standardizing the property market, and reducing rent-seeking behavior. As a result of the waste of resources and predatory exploitation, reform of the province's transition span has enabled it to achieve an effective institutional foundation through the reform of official style and attitude.

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