An analysis of environmental risks in Sichuan Province to relocate the textile industry from east China

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Abstract: The trend of transferring eastern textile industry to western regions in China is increasingly obvious. As for Sichuan Province, it is a chance to promote economic development and upgrade the textile industry through the incident compared with the other western regions. This paper analyzes the risk to environment in Sichuan Province when accepting the transfer and puts forwards relevant measures to this point.

Keywords: Textile industry; Industrial transfer; Environmental risk; Sichuan

1 Introduction

The coastal regions of east China take the leading role in textile industry development in China with very strong capabilities. Due to the intense competition in the global textile industry and under the constraints as labor, water, energy, land, environmental capacity and other factors, transferring the eastern textile industry to the western regions has become a growing trend, however, such transfer faces serious environmental risks. This paper intends to provide some references to the sustainable development of textile industry in Sichuan in the transfer tide of the eastern textile industry.

An industrial transfer is an enterprise-oriented transfer activity in different regions due to resource supply or changes of demand of industry conditions, an economic behavior and a process of production factors flow in different regions and an important way for a country or region to upgrade and adjust its industrial structures. However, in the process of transfer of industries, each country has experienced serious environmental pollution. Therefore, it is necessary to analyze the risk to the environment that it will be likely to face in the process of industries relocation.

As of the theoretical study on industrial transfer, Kaname Akamatsu, a Japanese economist, proposed “flying-geese theory” in 1930s after he studied the history of cotton textile industry in Japan; Kiyoshi Kojima put forward “marginal expansion of industry”; British economist Dunning proposed a theory on compromise on the international production in 1980s. As for the theory of environmental risks in industrial transfer, pollution levels rise along with the economic development trend in accordance with the inverted U Environmental Kuznets Curve (EKC) theory, and only when the per capita income reaches a certain level can it be reversed. According to foreign experience, the turning point of EKC will usually appear when the per capita GDP reaches 3,000 USD. At this point, the industrial structure adjustment begins; environmental costs borne by the society begin to be increasingly borne by the enterprises embodied more in the product cost, and the pollution levels begin to decline. Based on the total population of 88.6 million in Sichuan in 2009 and the province's GDP 1.41513 trillion yuan for calculation, Sichuan's regional GDP per capita is less than 2,400 USD, less than 50% of that in the eastern provinces. Therefore, the environmental cost born by enterprises is certainly lower than that in the eastern regions and developed countries, and is in the upward phase of EKC. The province will inevitably have to face the problems of pollution transfer and environmental degradation in the process of relocating the eastern industrial transfer.
2 The reasons for the transfer of eastern textile industry

Since the beginning of the 21st century, eastern textile enterprises have been faced with the pressure of industrial transfer and now they have gained a considerable scale and experience. The transfer of eastern textile industry is caused by both the environmental cost and non-environmental costs factors.

2.1 Environmental costs

The dyeing and finishing links in the chain of textile industry are the bottleneck of pollution control in textile industry of our country. Limited by technical factors, in particular, the non-breakthrough of technology of environmental pollution control keeps the environmental costs of printing and dying increasingly high in the developed eastern provinces. According to the China Textile Industry Association, information shows that discharge of China's textile industrial wastewater accounted for 10% of the total industrial emissions in 2009, of which 80% was from printing and dyeing, and the average recycling rate was only about 10%. However, printing and dyeing industry is an important link in the chain of textile industry. Environmental pressure from printing and dyeing industry has indirectly transferred to the entire textile industry. The textile industry in eastern regions is facing the pressure of the transfer of pollutive enterprises to the low-cost regions. After the elimination of high-pollutive chain of the textile industry, to maintain the integrity of the industrial chain, it becomes inevitable for the eastern textile enterprises to find relevant enterprises in the Midwest for cooperation to carry on the production of the high-pollutive links.

2.2 Non-environmental costs: labor cost, RMB appreciation, the competition pressure from competitors

As a labor-intensive industry, textile industry is limited by production technology and conditions, and cannot compete with other emerging industries in terms of the attractiveness to labors. The loss of labor is significant and the upgrading and development of textile industry is difficult. Rise of wages results in the increase of labor costs. With the implementation of real property law, the wage of textile industry workers in east China has increased year by year, while the increase of labor productivity is far less than the rise rate of wages. The labor shortage at the beginning of 2010 shows the labor shortage problem has emerged in the textile industry in east China.

RMB appreciation and the tariff reductions lead to less competitiveness to the foreign market. From 2005 to 2008, RMB exchange rate rose nearly 20%. From August 2010, it began to enter the rise channel again. Home currency appreciation leads to the rising of costs of Chinese textile exports and reduction of international market competitiveness.

As for the pressure from competitors, the rise of textile industry of the countries and regions just entered the stage of industrialization forms a great competitive pressure to the textile industry of east China. The development of natural fiber textile industry in west China, Thailand, Philippines, Indonesia, India, Pakistan and other Asian countries and regions owns the advantage of natural resources and human resources.

3 Environmental risks in Sichuan Province to relocate the textile industry from east China

3.1 Per capita income growth and employment pressure

Compared with those in the eastern provinces, there is more agricultural population, lower per capita income, and greater pressure of poverty alleviation in Sichuan. In the dilemma between economic development and environmental protection, it is difficult for local governments at all levels not to take economic development as a key task. Being a labor-intensive industry, bringing revenue to local government is only one aspect; more importantly, textile industry can release the employment
pressure, which is connected to the social stability. Moreover, in the choice of employment pressure or environmental protection, it is clear the former is more important. The level of per capita income in Sichuan is low and the propensity of green consumption is not high. From the consumers' point of view, food and cloth are clearly more important than environmental protection. The environment demand is at the back of consumption demand. Before its income reaches a certain level, the public has generally less concern about the environmental behavior of enterprises. Since the textile industry in Sichuan lacks its own brand, and faces less directly to consumers, the consumer cannot use the currency as a ballot like the eastern consumers do to evaluate whether the environmental pollution control of a company is eligible or not.

3.2 Enrichment and cheapness of resources

Sichuan is rich in natural resources; therefore, local businesses or individuals compared with those in eastern regions can get and use these resources at relatively less costs. The relatively cheap natural resource makes people not feel its scarceness and value, making it difficult to form the resource conservation and environmental protection awareness in social and economic running system, let alone the internal driving force of economical use of resources. Once the environmental protection is not powerful, resource damage costs will exceed the revenue of resource development; the speed of environmental pollution will exceed that of environmental governance. This case will not only adversely affect the sustainable development of Sichuan, but also greatly increase the external cost of economic development.

3.3 The system defects concerning environmental protection

Sichuan is a less developed area; therefore, encouraging the enterprise in developed areas to invest in Sichuan is beneficial to the economic development of Sichuan. Due to the heavy task of attracting investment, some local governments sometimes are unable to consider the environmental protection factors. Therefore, the environmental protection administration should have an early intervention, under the premise of environmental protection, providing services to the local economy. Some high-pollutive companies should be rejected. For the enterprises already resided here, supervision to them should be enhanced; environmental protection facilities should be in place and pollutant should be discharged only after the treatment reaches the standard.

According to China's environmental regulations, the local government is responsible for the environmental quality and environmental protection requires concerted efforts of various departments. In the recent years, China has introduced a series of fiscal and financial policies on support of environmental protection, energy saving and emission reduction. However, when a project can contribute significantly to economic growth, and is beneficial to each party, the impact of environmental protection on the decision-making is very limited. In the process of project establishment and approval, in order to stimulate economic growth, some local governments and relevant departments often intentionally or unintentionally weaken the construction impact on environment, and let some projects of which approval process has not been completed start as soon as possible. The joint management of environmental protection becomes the sole management of environmental protection department; successive check at each process becomes a sole check only. To bear such a great responsibility by only a department is flawed from the viewpoint of system design; and it is very dangerous from the point of view of its consequences. In a recent serious pollution case of Fujian Zijin Mining Co., Ltd., the environmental protection department stands at an awkward position. Early before the incident came to light, the Environmental Protection Ministry has warned Zijin Mining several times because it has not solved the serious environmental problem as scheduled. However, the local Environmental Protection Agency has no right to come forward to criticize the matter, let alone the right to make a decision to order the
The decision can only be made by the local Organization Department and even higher-level offices. The reason is such enterprises make great contributions to the local economy through taxes, and the relation between the local governments and such a big business is deep-rooted, therefore, the role of the environmental protection department is very limited.

Due to the limitations of technology, information, systems, management experience, limited cognitive, Sichuan, compared with the eastern and coastal provinces, is often lack of the scientific and effective management tools and measures to the public products such as environmental pollution (or environmental protection) that own the obvious features of externalities. It can neither punish acts of environmental destruction effectively, nor encourage pollution control sufficiently. Environmental pollution problems occurred in Fujian can very probably occur in Sichuan.

4 Measures to environmental risk for Sichuan textile industry to undertake the transfer

4.1 To speed up the urbanization rate to increase per capita income and reduce the employment pressure

Urbanization can expand urban population, which can make many industries acquire certain scale revenue in the process, and at the same time, it can spawn some new industries and sectors. The hard and soft environment improvement can attract a large number of funds investments in turn, appearing the “low-lying land effect” of cash flow, thereby expanding total employment. Sichuan is a traditional agricultural province with large population and low urbanization rate as the main situation in the province. The level of urbanization in Sichuan was 11% in 1978, lower than the national average by 6.9 percentage points; in 2002, the difference was expanded to 10.9%. After the year of 2003, the gap narrowed year by year; by 2009, Sichuan's urbanization level was 38.7%, the gap was 7.9%, ranking the 25th in the country. There is still much room for growth.

4.2 To speed up the resource legislation and institutional mechanism improvement for environmental protection

Sichuan is a province of resources. To strengthen the legislation for resources is an important measure for future sustainable development. First, the legislation of common responsibility should be strengthened and the responsibility should be made clear. Environmental protection offices need inter-sectoral collaboration, and strengthen the joint liability legislation. To make clear the specific environmental management's responsibilities, the working mechanism of co-management, and each department's responsibility is the basic system to carry out environmental protection. The second is to further regulate the technical standards and procedures for resource development. The government should carry out a compulsory elimination of backward production capacity, processes and technology to reduce their energy and resource consumption, and encourage the development and promotion of energy-saving equipment, research and technologies. Meanwhile, the comprehensive exploration and mining to mineral resources and improvement of the efficiency of resource use should be strengthened. The third is to adjust the resource tax. The regulatory role of taxes should be fully played and energy structure should be optimized. Through the collection of taxes and subsidies, the use of high-pollutive resource can be limited; the utilization of alternative and clean resources should be developed, encouraged and supported.

4.3 To set up the assorted textile industry system to respond the disadvantage of incomplete production chain

Currently, the process of forming a new textile industry structure is not the gathering of several plants, but an industrial network, in particular, the improvement of assorted supporting system. Therefore, the transfer and adjustment of the textile industry is not simply to attract a few manufacturing plants, but achieve an entire transfer of
the industry from the perspective of assorted system and service functions needed by the industry. The top task is to achieve intensive development. The industry should rely on the park to achieve a reasonable and intensive use of land, and form an industrial scale as soon as possible. Through the rapid development of the cluster, the industrial competitiveness can be improved.

4.4 To strengthen vocational training and enhance the quality of labor

The rising cost and labor shortage in the eastern regions of China is an irreversible historical process. Meanwhile, if Sichuan textile industry is contented with the current situation of low quality and labor cost, it is bound to be eliminated by the industry. Only when the government, business, community fully understand the important role of quality of labor force in the process of relocating the industry and make efforts to strengthen the local vocational training for migrant workers can the textile industry in Sichuan obtain large-scale development through industrial transfer.

4.5 To establish textile brand, fully capture the market, and avoid the exchange rate risk

Sichuan's huge textile market has not been fully developed and used. The first reason is people's consumption level is lower than that in East China. The second reason is the most high-end textile market in the province is occupied by foreign brands. The local textile plants mostly carry out OEM production for coastal ones and lack its own brand and profit margins. There is no prospect for low-end products and OEM products under the background of high inflation and exchange rate appreciation. Only by establishing a local textile brands and occupying a huge local textile market can an industry obtain sustainable power of development in the industrial development.

5 Conclusion

Sichuan should optimize and integrate the textile production, R&D personnel and other resources of the province and the western provinces, tightly grasp the opportunity of relocating textile industry from east China, speed up the pace of industrial technological innovation and form the complete division and supporting system of the textile industry and textile industry industrial agglomeration. Meanwhile, the province should establish comprehensive environmental protection legislation, law enforcement, civic awareness and other infrastructure platform and make Sichuan Province as the modern textile-manufacturing center in western China with the ability of sustainable development.

References