A Summary of the Influence of Environmental Regulation on the Industrial Structure of China’s Manufacturing Industry

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Abstract. This paper summarizes the relevant literatures on the influence of environmental regulation on the industrial structure change of manufacturing industry at home and abroad, and comments on it in detail. It is found that the research on the influence of environmental regulation on industrial structure has been deeply from the international and national level to the regional and industrial level, but the research focus at home and abroad is still focused on the impact of environmental regulation on technological innovation and economic benefits. This paper holds that the study of improving environmental regulation on industrial upgrading and industrial transfer is an important direction, which is of great significance to the realization of environmental protection and industrial structure transformation.

Introduction

Blindly pursuing the speed of economic development and ignoring environmental problems has cost us humanity dearly. With the importance of people’s attention to environmental quality and the increase of requirements, environmental regulation has become an important means of environmental protection everywhere, China has also proposed to speed up the construction of “beautiful China” pace. And the industrial structure is not only the converter of natural resources input but also the control body of the quantity and type of pollutants, in the economic development of our country it is necessary to combine industrial structure adjustment and ecological protection to study. Taking the structural change of manufacturing industry and environmental regulation as the research topic, this paper combs and reviews the relevant literatures on the influence of environmental regulation on the upgrading and transformation of manufacturing industry, and provides reference for us to deeply understand the environmental regulation and the transformation or transfer of manufacturing industry.

Organization of the Text

The Connotation and Quantitative Index of Environmental Regulation

Connotation of Environmental Regulation. The problem of environmental regulation attracted the attention of foreign scholars in the 1970s, and the study of regulation by Chinese scholars began in the field of government regulation, and only in the 1990s began to study environmental regulation, which reached its peak in 2015. The concept of environmental regulation was first proposed by Dasgupta (1980), Conzalez (2009) Further improved, that environmental regulation is only the push-pull effect of government policy, that is, the Government in order to ensure that the economic development at the same time take into account the ecological environment, the formulation of corresponding policies and measures to regulate the economic activities of enterprises, To reduce the external economy caused by pollutant emissions.

Quantitative Index of Environmental Regulation. The quantification of environmental regulation intensity mainly takes two ways. For one, it is represented by a single indicator: the ratio of investment in pollution control to industrial wastewater emissions (Gui Yujun, 2016), Environmental complaints data (Ma Yong, Dong, 2018), media exposure to pollution incidents (kathuria,2000). Second, the use of comprehensive indicators: mainly from the industrial three wastes management costs and emissions ratio of environmental regulation strength (Qin Nan, 2018),
There are also comprehensive indicator systems (Peng Cong, Yuan Peng (2018) built from the economic, administrative, emission, health and efficiency five aspects. Education levels, income levels, and population density are also often used to denote environmental regulation (Yuri, Shei Ronghui, 2014).

A Summary of the Mechanism of Environmental Regulation Affecting the Change of Industrial Structure in Manufacturing Industry

The mechanism of environmental regulation influencing the transformation and upgrading of manufacturing industry. (1) The influence of supply and demand: environmental regulation will affect consumers' consumption demand and producer's investment demand, and then have indirect influence on the upgrading of industrial structure. People's consumption demand for environmental protection products will make enterprises change the scale of production adjustment mode (Shoxing, 2013). (2) The impact of scientific and technological innovation: environmental regulation through technological innovation to influence the transformation and upgrading of manufacturing industry there are two views, first of all, “follow the cost hypothesis”, that environmental regulation will crowd out science and technology innovation funds to affect the transformation and upgrading, followed by the “Innovation compensation hypothesis”, It is believed that environmental regulation will stimulate scientific and technological innovation, with the improvement of environmental regulation, enterprises will increase their own scientific and technological innovation ability to achieve high standards (Xu Kaijun, Shi Yijun, 2014), so that industrial structure to advanced development.

The mechanism of environmental regulation influencing the transfer of manufacturing industry. (1) Factor reason: Environmental regulation will guide the flow of factors across regions, and ultimately affect industrial transfer. (2) Policy impact: The deterrent effect of environmental regulation will directly affect the location choice of enterprises, and will also affect the industrial transfer indirectly through the profit of enterprises. (3) Soft restraint effect: People will influence corporate activities by expressing their interest claims through group activities such as public petitions, and will also force companies to renew equipment or move out of existing places through social opinion, and will negotiate the simultaneous transfer of polluting enterprises and pollutants within the region (Zheng yun hong, 2018).

A Summary of the Empirical Research on Environmental Regulation Influencing the Transformation and Upgrading of Manufacturing Industry

Traditional economics holds that strengthening environmental regulation will inevitably lead to the increase of enterprise cost and hinder the transformation and upgrading of enterprises. However, in the 1990s, Porter challenged this theory, arguing that reasonable environmental regulation could stimulate technological innovation of enterprises through technical compensation effect and learning effect, improve production efficiency and promote industrial transformation and upgrading.

Scholars have made an in-depth study of the impact between environmental regulation and industrial upgrading, there are mainly the following points: (1) Environmental regulation has a positive role in promoting the transformation and upgrading of manufacturing industry, and there are regional differences. They are believed that environmental regulation can promote the development of industrial structure to ecology or diversification. (Lu Mingyuan, An Yuanyuan, 2014). The influence effect of environmental regulation in each region is different (Hu Jianhui , 2016). In the eastern region, the promotion of environmental regulation is stronger than that in the middle and western regions. (Dong Weiwei, Zhang Jianmin, 2012). (2) Environmental regulation has the effect of threshold effect on industrial structure upgrading. Li Ping, mu embroidery such as (2013) using 2000–2010’s panel data in 29 regions of China, the optimal environmental regulation intensity is studied by the method of surface sill regression, and it is pointed out that the influence of environmental regulation on industrial upgrading has hysteresis, and there is a triple threshold effect, that is, when the regulation intensity is too low, the influence shows latent power. Under the
optimal regulation level, it is a positive promotion effect, and the promotion effect decreases when the intensity is too high. Some scholars also believe that the impact of environmental regulation on industrial upgrading is a double threshold effect (Gui Yujun, Liu Jin Dream, 2016). (3) Environmental regulation has no effect on the transformation and upgrading of manufacturing industry. Li Qiang, Ding Chunlin (2018) based on the data of 108 urban panels in the Yangtze River Economic Belt in 2003-2015, this paper studies the influence of environmental regulation on the industrial upgrading of the Yangtze River Economic Belt, and holds that whether it is under the static panel model or the spatial model, The improvement of environmental regulation in this area and adjacent areas will inhibit the industrial upgrading of the Yangtze River Economic Belt to a certain extent.

A Summary of the Empirical Research on Environmental Regulation Affecting the Transfer of Manufacturing Industry

Watt and Ogru put forward the “pollution shelter Hypothesis” in 1979, arguing that pollution-intensive companies in developed regions tend to move to areas with weak environmental regulations.

There are two main viewpoints of scholars in analyzing the influence of environmental regulation on the transfer of manufacturing industry. (1) Environmental regulation has a positive role in promoting industrial transfer. The promotion of environmental regulation to international industrial transfer: American scholar Becker, Henderson (2000) proposed that environmental regulation plays an active role in stopping the migration of polluting industries. This view is also held by Kheder and Zugravu, who analyzed the impact of environmental regulation on the location selection of enterprises, and the results indicated that some countries affected the local enterprise location selection when accepting French investment. The promotion of environmental regulation to regional industrial transfer in China: Places with low regional environmental regulation in China are more likely to attract polluting enterprises to transfer (Zhou Hao, Zheng, 2015), there are asymmetric response strategies that mimic competition between different provinces, and in order to compete for liquidity elements and solidify local resources, the government In the aspect of environmental policy, there is competition of mutual comparison, so the environmental regulation strategy between regions is interactive, and when the competitive areas reduce the intensity of regulation, the region will be reduced accordingly, and the phenomenon of “regulation to the bottom” appears (Yang Haiseng, Chen Shaoling, Zhou Yongzhang, 2008). This positive promotion influence between regions in China has the characteristics of regional difference and industry heterogeneity, and environmental regulation only promotes the transfer of heavy pollution industry and has little influence on moderate and mild pollution industry, and the transfer trend of high pollution industry shows the transfer from developed areas in eastern China to underdeveloped areas in the Midwest. (Qin Bingtao, Griming, 2018). (2) Environmental regulation cannot promote industrial transfer. Some scholars argue that environmental regulation has a certain negative impact on the inflow of foreign direct investment in China, and even some scholars believe that there is no causal relationship between environmental regulation and FDI (Li Xiaoping, 2010). Zeng Xiangang (2010) based on the 1998-2008 China's provincial panel data on the impact of environmental regulation on industrial transfer made an empirical study, that “pollution refuge hypothesis” in China is not established, that is, environmental regulation cannot lead to China's industrial transfer.

Conclusions

More and more scholars begin to pay attention to the research on the impact of environmental regulation on the development of manufacturing industry. At present, the research on the influence of environmental regulation on the industrial structure of manufacturing industry has gone from the international and national scope to the regional and industrial level. From the research status quo, more research still focuses on the environmental regulation of manufacturing science and technology innovation, foreign investment and economic benefits, the impact of the industrial
structure of manufacturing industry less research and research conclusions are still large differences. Looking at the existing research results and viewpoints, we can grasp the research direction of environmental regulation and manufacturing structure in the future. In the future, we still need to explore the relationship between different types of environmental regulation and manufacturing transformation and upgrading, manufacturing industry transfer. The influence of environmental regulation on the industrial structure of manufacturing industry also needs systematic demonstration and analysis. The solution of these problems plays an important role in the construction of ecological civilization and the vigorous development of economy.

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References


