

Local Environmental Regulation and Technological Innovation Under Fiscal Decentralization

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Abstract

This article aims to explore the impact of fiscal decentralization on local environmental regulation and corporate innovation behavior. Based on my country's provincial fiscal data and China's industrial enterprise data, this paper finds that local fiscal decentralization can help promote corporate R&D innovation and local environmental regulation. On the one hand, under fiscal decentralization, local governments directly encourage corporate R&D and innovation through cost benefits such as corporate subsidies, tax concessions, and industrial land price subsidies; on the other hand, there is competition in environmental regulations among local governments, which manifests itself in areas with similar levels of economic development. Most obviously, fiscal decentralization can also provide a better innovation environment for corporate R&D by improving local environmental regulations and improving local infrastructure. Based on the research conclusions, we should build a fiscal system and a long-term administrative accountability mechanism that match financial resources and expenditure responsibilities, broaden public supervision channels, increase industrial structure upgrades, and promote environmental regulatory competition among local governments to truly play a regulatory role. The operation of the Chinese-style decentralized incentive system provides certain policy significance, thereby achieving the goal of "Beautiful China".

Keywords

Fiscal Decentralization, Local Government, Environmental Regulation.

1. Introduction

The quality of regional ecological environment, as a major livelihood issue related to the people's life and well-being, is extremely important in the context of my country's economy shifting from high-speed development to high-quality development. The current ecological environment and sustainable economic development are inseparable and have become an inevitable issue as China's economy enters the new normal. Environmental issues have attracted more and more attention from the country, society and people. With the in-depth reform of my country's ecological environment system, the leading role of local governments in the field of ecological environment has become increasingly stronger. The effective level of local government environmental regulations is directly related to the quality of the ecological environment within their jurisdiction. Under China's fiscal decentralization system, local governments assume more powers. At the same time, compared with the central government, they have a better understanding of the actual ecological environment within their jurisdictions to carry out work. Therefore, they have more advantages in environmental governance issues. Therefore, local governments are the local governments. The first person in environmental

management plays an irreplaceable role in improving the quality of the ecological environment and controlling environmental pollution. The local government's investment in environmental governance funds in the formulation and implementation of environmental policies is important to improve the level of the ecological environment. However, under China's current fiscal decentralization system, on the one hand, local governments will promote local economic development at the expense of the environment for the sake of performance evaluation; on the other hand, due to the shortage of fiscal funds, local governments have limited financial resources to control environmental pollution. Investment is facing insufficient situation. Since China began to implement the tax-sharing reform in 1994, local governments have been faced with the situation of handing over financial power and devolving administrative powers. The implementation of this policy has caused a significant decrease in local government fiscal revenue, and the corresponding local administrative powers do not match: In 2002, our country has implemented income tax reform. Corporate income tax and personal income tax revenue have been shared from 50% by the central and local governments to 60% by the central government and 40% by local governments. This income tax policy reform has a direct impact on the reduction of fiscal revenue within local government budgets. Judging from the history of my country's tax system reform, local fiscal revenue has been significantly reduced, both in terms of tax sources and tax sharing. However, there has been no corresponding change in the responsibilities between local governments at all levels. This has resulted in increased fiscal pressure on local governments. When local governments are under financial pressure, government decisions will inevitably affect the implementation of regional environmental regulations.

The impact of fiscal decentralization on enterprise innovation can be summarized from two aspects: ability and motivation. First, local governments have the ability to influence corporate business activities through administrative intervention or resource allocation. After the reform of the tax-sharing system, local governments gradually have greater economic autonomy. Secondly, in the context of Chinese-style decentralization, the economic growth-oriented promotion mechanism objectively stimulates local governments to have the motivation to directly participate in enterprise management, or has an indirect impact on enterprise operations by changing the institutional environment in which enterprises operate. The motivations of local governments to support innovation activities can be summarized into two aspects: on the one hand, local governments hope to use technological innovation to promote leap-forward development of the provincial economy. On the other hand, local governments are encouraged to independently establish science and technology plans (special projects, funds, etc.) and strive for special transfer payments from higher-level governments.

2. Analysis of the current situation of local financial pressure, environmental regulation and technological innovation

2.1. Local financial pressure

Based on previous research, we have a preliminary understanding of the financial pressure of 102 cities across the country from 2004 to 2018. According to the urban administrative hierarchy system, they are divided into 4 municipalities directly under the Central Government, 31 provincial capitals and cities under separate state planning and 67 other prefecture-level cities. As shown in Figure 1.

From the analysis of urban administrative levels, the higher the administrative level of a city, the smaller the financial pressure it faces. Among them, the financial pressure faced by municipalities directly under the Central Government, provincial capital cities and cities with independent state planning is generally at the same level, and is lower than the national level, about 10%. Within the 0.27-0.55 level, they face less financial pressure. The main reason is that

these cities have a high degree of economic development and considerable and stable tax revenue. At the same time, as provincial capital cities, they not only enjoy most of the local financial and material support, but also have a high degree of economic development. It basically ranks first in the province and enjoys the most central subsidies, so it faces a low level of financial pressure: while other prefecture-level finances are at a high level, which is higher than the national financial pressure and is between 0.85-1.55 . During this period, due to the low level of economic development, single economic structure, and limited fiscal revenue in these cities, they faced many local fiscal expenditure responsibilities, and there was a serious mismatch between expenditure responsibilities and revenue, resulting in greater financial pressure.

From a time perspective, the largest fluctuations in fiscal pressure from 2004 to 2018 were in other prefecture-level cities. As can be seen from the figure, the fiscal pressure index from 2004 to 2018 fluctuated in a horizontal range of 1 , indicating that the general level of prefecture-level cities Budget expenditure is twice that of general budget revenue, and the issue of fiscal pressure cannot be underestimated. Fiscal pressure showed an upward trend from 2004 to 2009 , with the largest increase in fiscal pressure from 2007 to 2009. The reason may be due to the impact of the global financial crisis. In order to stabilize economic development, stabilize employment, and stabilize people's livelihood, local governments have to expand government expenditures on a large scale. However, with the rapid development of China's economy in 2010 , the rise in price levels, and good corporate performance, government fiscal revenue has increased. With the increase, the national fiscal pressure has shown a slow downward trend. However, after 2014 , as the country began to pursue economic transformation, economic growth slowed down, and corporate transformation caused a significant decline in fiscal revenue growth, and fiscal pressure began to show an upward trend again. At present, Comprehensive and large-scale tax cuts and fee reductions, as well as the deterioration of the global economy due to the impact of the epidemic, have not only led to a decrease in fiscal revenue, but also increased government fiscal expenditures on public health. Currently, financial pressure is rising rapidly, both in terms of expenditure and revenue. It can be seen that other prefecture-level municipal governments must face up to the problem of financial pressure and prepare response policies.

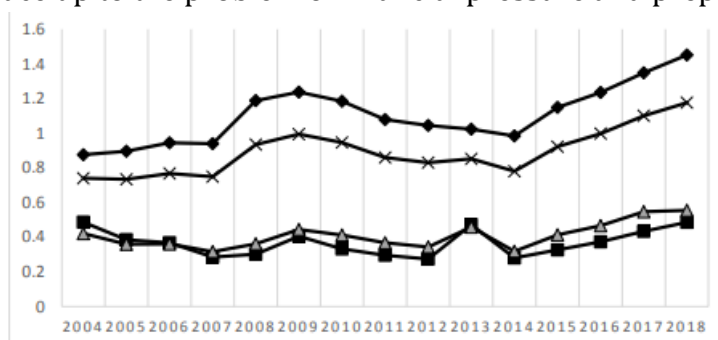


Figure 1: Financial stress index of cities at all levels from 2004 to 2018

2.2. Current status of environmental regulation

2.2.1. Economically developed cities have a higher level of governance, and the eastern region has a stronger level of environmental regulation intensity

Whether it is the overall intensity of environmental regulation, the intensity of water environment regulation, or the intensity of atmospheric environment regulation. The cities mainly covered in the eastern region are mostly economically developed provincial capitals and municipalities with strong economic capabilities, such as Beijing, Shanghai, Nanjing, Guangzhou, Jinan, Qingdao and other regions. Due to the dense population and numerous industries in municipalities and provincial capital cities , the pillar industries in most areas are heavy industries with heavy pollution, resulting in more serious pollution. At the same time,

provincial capital cities serve as the face of a province. Compared with other prefecture-level cities, A good ecological environment is an important goal of provincial capital cities, so the amount of investment in environmental governance in these areas is relatively larger. Areas with weak environmental regulation in light blue are mainly distributed in the central and western regions and the northeastern regions, such as Guiyang, Kunming, Changde, and Yueyang; Shenyang, Anshan, Jilin and other regions in the northeastern region. The western region has a relatively low population due to its late development. Sparse, both industrial and service industries are relatively backward, resulting in less ecological environmental pollution. At the same time, the level of economic development is low, the local government's financial capacity is limited, and the government's investment in environmental governance is low. Although the Northeast region has heavy industry as its pillar industry, causing serious environmental pollution, due to the economic recession in the Northeast region in recent years, local governments have been unable to strengthen environmental governance.

2.2.2. The spatial distribution characteristics of environmental regulation intensity show “ high-high ” and “ low-low ” clustering

Since the regional atmosphere and rivers have spatial geographical spillover and adjacency , environmental governance and pollution between regions will have mutual impacts on adjacent areas and areas with similar distances. Therefore, the overall intensity of environmental regulation, the intensity of water environment regulation and the relationship between atmospheric The spatial distribution characteristics of environmental regulation intensity show “ high-high ” aggregation and “ low-low ” aggregation. Judging from the overall intensity of environmental regulation, high-high clusters are mainly distributed in more developed areas in the east, such as Shanghai, Nanjing, Tianjin and other regions. " Low-low " clusters are mainly distributed in the western and northeastern regions, such as Guiyang, Yunnan, Jilin, Shenyang and other cities. Judging from the distribution of environmental regulations, areas with lower levels of environmental pollution are mostly adjacent areas, which further verifies the phenomenon of competition among regions in the intensity of environmental regulations due to competition among local governments, and also shows to a certain extent that regions There is a certain spatial correlation between environmental governance levels, and this correlation may be positive.

2.3. Current status of technological innovation

Net local tax revenue can reflect the economic endowment of a province to a certain extent. Provinces with good endowments have more financial resources at their disposal than provinces with poor endowments, so the additional funds brought by increased fiscal decentralization have higher marginal utility for provinces with poor endowments. In addition, the use of self-owned funds brought by local endowments is more flexible, and the central government has a stricter supervision and assessment mechanism for local transfer payment funds, which can avoid possible misappropriation and expropriation of self-owned funds to a greater extent. Problem Therefore, accepting central transfer payments can increase the positive effect of fiscal decentralization on corporate innovation. Since enterprise R&D innovation has the typical characteristics of long cycle, heavy investment, and slow results, local government officials are likely to allocate more resources to productive expenditures with short cycles and quick results. The supervision mechanism of the resource allocation chain is missing or malfunctioning. Under such circumstances, fiscal decentralization may also breed rent-seeking or corruption, which is not conducive to corporate innovation. Provinces with stronger government-enterprise connections may have distorted resource allocation, reducing the role of fiscal decentralization in promoting corporate innovation. In addition, under fiscal decentralization, local government intervention in the allocation of financial resources worsens the financing situation of non-state-owned enterprises that are more dependent on external

financing. Therefore, the positive effect of fiscal decentralization on corporate innovation may be stronger among enterprises with higher financing constraints. weak.

3. Policy recommendations

3.1. Reasonably divide administrative powers and expenditure responsibilities to alleviate pressure on local fiscal revenue and expenditures

According to the previous analysis, although the 1994 tax-sharing system clearly divided the financial powers of the central and local governments, it did not clearly divide administrative powers and expenditure responsibilities, resulting in a mismatch between financial resources and expenditure responsibilities at the local government level and weakening the local government's environmental governance capabilities. The central government and local governments must clarify their powers and establish a system that matches their powers and expenditure responsibilities. According to the requirements of the "Decision", on the one hand, we should speed up the cleanup of unreasonable guiding documents linked to local expenditure indicators from a macro level, and give local governments the legitimacy of reasonable powers and expenditure responsibilities from the levels of laws, regulations, rules and other levels; on the other hand, we should increase local revenue and improve the local tax system. With the completion of the "business tax to value-added" reform, business tax, a local main tax, has withdrawn from the stage of history, which has further intensified the tightening of local fiscal revenue. To this end, international experience should be referred to, real estate tax legislation should be accelerated, and inheritance tax and local sales tax should be levied in a timely manner.

3.2. Build a long-term accountability mechanism around the green CDP assessment system

The central government's performance appraisal system plays a "wind vane" and "baton" role in local government behavior. Since the 18th National Congress of the Communist Party of China, the central government has increased its emphasis on environmental governance and revised the accountability appraisal mechanism for local officials. , which has curbed the "race to the bottom" of environmental regulation to a certain extent. In order to achieve the goals of green development and Beautiful China, it is also necessary to build a green CDP assessment system. The first is to introduce laws and regulations specifically targeting performance management in the field of environmental assessment, establish the status of environmental assessment in legal form, and give legal status to the standards, weights and application of assessment results of environmental assessment; the second is to normalize the current assessment accountability mechanism The third is to strictly implement the audit supervision of the government's green assessment, conduct a comprehensive audit and evaluation of the implementation of indicators in ecological benefits, environmental quality improvement, and environmental risk prevention, and conduct a comprehensive audit and evaluation of the relevant leaders' ecological environment Conduct in-service and out-of-office audits on the status of reinstatement, and integrate the green assessment system into Normalization.

3.3. Broaden public supervision channels and improve public opinion expression and feedback

As the true representatives of environmental interests, the public has an inherent motivation to protect the environment. Therefore, it is particularly necessary to increase the intensity of "bottom-up" local government performance evaluation indicators based on public satisfaction in official promotion evaluations, thereby building a "top-down linkage" local government performance evaluation mechanism. First, strengthen the The supervisory role of the people's congresses at all levels strengthens the personnel appointment and removal power of the local

people's congresses at all levels, so that the local people's congresses can restrain the behavior of local officials through the personnel appointment and removal power; the second is to give play to the collective role of citizen organizations. Residents within the jurisdiction establish a forum to express their interests. Informal organizations, major decisions in the field of environmental protection within the jurisdiction should adopt procedurally fair hearings, so that the public can supervise and constrain the behavior of local governments; third, continue to increase support for non-governmental environmental protection agencies and organizations, and further enhance the public's environmental awareness, encourage public participation in environmental governance.

3.4. Accelerate the upgrading of industrial structure and promote regional green development

It is to use preferential policies and other methods to play the guiding role of the government in adjusting the industrial structure, encourage the development of the tertiary industry, and transfer or eliminate traditional industries and backward production capacity in a planned and step-by-step manner; the second is to vigorously develop the modern service industry and energy conservation. Establish a career in environmental protection and new energy, increase the promotion of energy-saving and environmentally friendly products, promote the green transformation of traditional manufacturing industries, and guide the industry to develop in a cleaner and energy-saving direction; third, carry out technological innovation, accelerate technological transformation of enterprises, and increase investment in corporate funds and talents investment, vigorously develop energy-saving, environmentally friendly and green low-carbon technologies, accelerate the promotion of domestic and foreign advanced processes, encourage enterprises to enhance independent innovation capabilities, continue to carry out management innovation, service innovation, product innovation, strive to promote lean manufacturing, improve process flows, and improve energy usage efficiency.

4. Conclusion

Fiscal pressure is a common phenomenon faced by local governments. In recent years, with the transformation of the country's economic development model, the reform of the fiscal and taxation systems, and the impact of the external environment, it cannot be ignored. At the same time, good development of the ecological environment is one of the country's strategic goals. First, more reliance is placed on local governments. Therefore, in the current critical period of economic transformation, it is necessary to explore whether financial pressure will have an inhibitory effect on the level of local environmental regulation and whether it will hinder the sustainable development of the ecological environment. At the same time, the increase in the degree of fiscal decentralization has a positive incentive effect on technological innovation, but the transmission of this incentive effect to the micro-enterprise level may be accompanied by a certain degree of resource allocation distortion due to excessive intervention by local governments.

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