The Research About the Regional Integrated Development of China Yangtze River Delta, the Pearl River Delta and the Beijing-Tianjin-Hebei Region and the Financial Problems and Solutions of China's Regional Economic Integration

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Abstract. The development status of the Beijing-Tianjin-Hebei Region, Yangtze River Delta Area and Pearl River Delta Region Regional election system will be analyzed respectively. The overall development situation of the Beijing-Tianjin-Hebei Region still faces some problems compared with the Yangtze River Delta Area and the Pearl River Delta Region. In the future, the Yangtze River Delta Area should actively accelerate the utilization and development of overseas resources and improve the R&D level of manufacturing products. China should implement the principle of combining market orientation and system orientation; Pay attention to the protection and cultivation of regional ecological environment; Setting up more policy guarantees; Construct reasonable city benefit distribution mechanism. This paper analyzes the financial obstacles faced by China's regional economic integration.

Keywords: The Beijing-Tianjin-Hebei region · The Yangtze River Delta · The Pearl River Delta · Regional election system · Fiscal drag

1 Introduction

The paper analyzes the specific reality of regional election system development in 3 regions. The main contents include the status quo of regional development, the current problems and the path of optimization, and puts forward some policy suggestions and specific measures to promote the development of these regions. The study has found that the 3 regions have all made some achievements, but there are still some issues that will have to be addressed. Moreover, according to the disposable income situation of urban and rural residents in the Yangtze River Delta Area integrated region from 2010 to 2018, the disposable income level of urban and rural residents in Shanghai is sharply compared to that of Anhui Province. Then we analyze the fiscal drag and the optimization scheme of China's regional economic integration.

2 Methodology

The purpose of this study is to analyze the development of regional election system in 3 regions, analyze the development model of regional election system abroad, and then derive the enlightenment of regional election system in China and put forward suggestions. Finally, the fiscal drag and the optimization scheme of Chinese regional economic integration is analyzed. The research is carried out through the desktop search method, statistical analysis method and literature survey method in the second-hand research. The data and data sources are books, journals, magazines, government documents and papers. The principle of my research method is that all these materials and sources are authentic and reliable.

3 Text Content

3.1 China Yangtze River Delta Area Pearl River Delta Region Beijing-Tianjin-Hebei Region Regional Election System Development

3.1.1 Development Status and Major Problems of Regional Integration in the Yangtze River Delta Area

The Yangtze River Delta Area boasts rich resources for science education. It boasts two comprehensive state science centers, about one quarter of the "double first-class" universities, the State key laboratories, and the State Yangtze River Research Center. Last year, R&D expenditure and the number of effective invention patents accounted for about one third of the national total.

Air, water and soil pollution have been effectively controlled, and notable progress has been achieved in cooperation along the Taihu and Huaihe river basins. The public service system is relatively perfect, with four cross-regional joint vocational education groups being established, and the members of the City Hospital Collaborative Development Alliance have covered 112 third-grade A hospitals in 30 cities. The degree of cross-regional social security facilitation has been significantly improved.

The urban system is complete, and the urbanization rate of permanent residents exceeds 60 percent. The development of large, medium and small cities is coordinated, with close economic and social ties. Urban and rural development is relatively coordinated, and the income gap between urban and rural residents is relatively small, forming a successful rural development model that can be replicated and promoted [1].

The integrated development of infrastructure, the cross-regional construction, ecological and environment and public services, the administrative barriers to high-quality economic and social development have not been completely broken, and the unified and open market system has not been formed; the system has not yet been established [2].

3.1.2 Development Status and Major Problems of Regional Integration in the Beijing-Tianjin-Hebei Region

The proportion of Beijing's GDP in regional GDP has increased continuously, rising from 33.18% in 2015 to 41.82% in 2019. Beijing and Tianjin's GDP in regional GDP rose from

57.02% in 2015 with 8.50% in 2019. A pattern of differentiated development has taken initial shape. The southern functional expansion area focuses on the supply of agricultural and sideline products, the industrialization of scientific and technological achievements and the development of high-tech industries. The functional positioning of multiple node cities has been further clarified, which promotes the reasonable layout of regional industries and population. From 2014 to 2017, Beijing's investment in Tianjin and Hebei enterprises increased by 215.41%, Tianjin's investment in Beijing and Hebei enterprises increased by 48.75%, and Hebei's investment in Beijing and Tianjin enterprises increased by 62.58%.

Cooperation in the field of science and technology innovation has made effective progress. From 2014 to 2019, the turnover of technology contracts reached by Beijing-Tianjin-Hebei Region has reached 106.3 billion yuan, and Zhongguancun enterprises have set up more than 8,000 branches in Tianjin and Hebei.

The effect of water environment management is obvious. The water quality of Beijing-Tianjin-Hebei Region has been improved significantly, and the water ecological improvement has been advanced steadily. Remarkable progress has been made in preventing and controlling air pollution. Ecosystem regional optimization. In 2017, the total forest area of Beijing-Tianjin-Hebei Region reached 5.093 million hectares.

From 2009 to 2020, the registered capital of the digital economy service industry in the Beijing-Tianjin-Hebei Region urban agglomeration showed an upward trend, the innovation achievements increased significantly, and the overall development trend of the industry was good.

The Beijing-Tianjin-Hebei basic public service infrastructure has low degree, narrow scope and simple mode; the system and treatment standard are not unified. There are great differences in the basic public service systems and treatment standards between regions, between urban and rural areas, and between different social groups, which leads to the low degree of inter-regional public service docking and sharing, and reduces the overall vitality and efficiency of regional economic development. The economic development of the Beijing-Tianjin-Hebei region is unbalanced, with big cities occupying the advantages in all aspects [3].

3.1.3 Major Achievements and Problems of Pearl River Delta Region Regional Integration Development

Infrastructure integration have been advanced rapidly. Guangzhou-Foshan Metro, 41 cross-city bus lines, Foshan and Zhaoqing, 36 border network docking projects in Shenzhen-Dongguan-Huizhou, 21 cross-city bus lines; inner and outer natural gas network in Pearl River Delta Region area, with the same price, 1800 km, main natural gas pipeline network covering Pearl River Delta Region major cities is basically completed [4].

Strong progress was made in ensuring integrated environmental protection. Has formulated Pearl River Delta Region measures for the prevention and control of air pollution, implement Pearl River Delta Region clean air action plan, establish regional air pollution control joint conference system, establish the comprehensive improvement of the pearl river joint conference system, formulate the Guangdong province across the
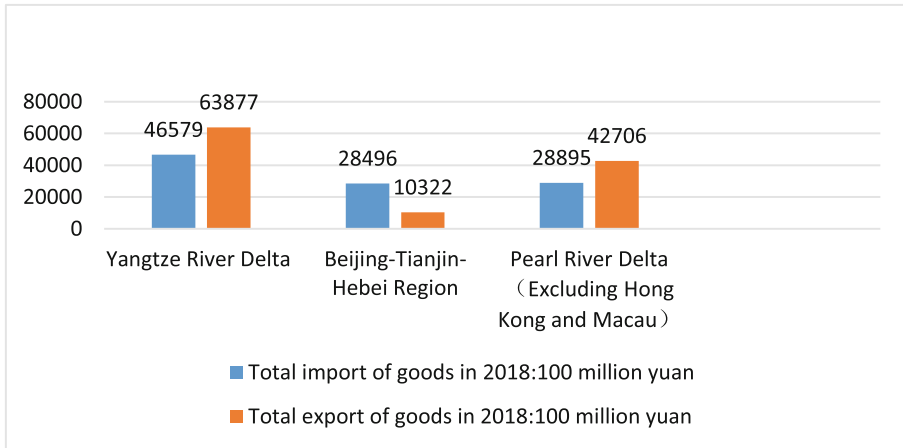
Fig. 1. Total imports and exports of commodities in the Yangtze River Delta, Pearl River Delta and Beijing-Tianjin-Hebei region in 2018. *Source: National Bureau of Statistics of China (The picture is original)*

administrative area river cross section water quality protection management regulations, establish environmental protection zone from cure work coordination mechanism.

Interregional traffic resource sharing and cooperation in Pearl River Delta Region is difficult, and the traffic management in the urban boundary area is chaotic; the effect of industrial layout integration is not obvious; and the progress of environmental protection integration is slow. In 2013, only 75.1% of Pearl River Delta Region regional air quality reached the standard rate, with ozone and PM2.5 pollution problems existing, and haze phenomenon occurred from time to time. At the same time, the water environment pollution is more prominent, there are still 12% of the cross-city river junction section water quality is not up to standard [5].

3.2 To Compare and Reflect on the Development of Beijing-Tianjin-Hebei Region, Yangtze River Delta Area and Pearl River Delta Region

3.2.1 Transportation Infrastructure and Export-Oriented Economy

In 2018, The total mileage of road and railway operating in Yangtze River Delta Area is 2.2 times that in Beijing-Tianjin-Hebei Region, The Yangtze River Delta Area ports and airport throughput are 1.8 times more than the Beijing-Tianjin-Hebei Region region, Pearl River Delta Region area is 1.2 times more throughput than Beijing-Tianjin-Hebei Region [6] (Fig. 1).

This chart shows that the imports and exports of goods in Beijing-Tianjin-Hebei Region region are lower than those in Yangtze River Delta Area and Pearl River Delta Region region, and that the total imports and exports are only 35% of Yangtze River Delta Area and 65% of Pearl River Delta Region. [7] The total amount of Beijing-Tianjin-Hebei Region and the number of FDI enterprises is the lowest. Beijing-Tianjin-Hebei Region is only 38% of Yangtze River Delta Area, and the number of foreign-invested enterprises is only 29% of Yangtze River Delta Area [8].
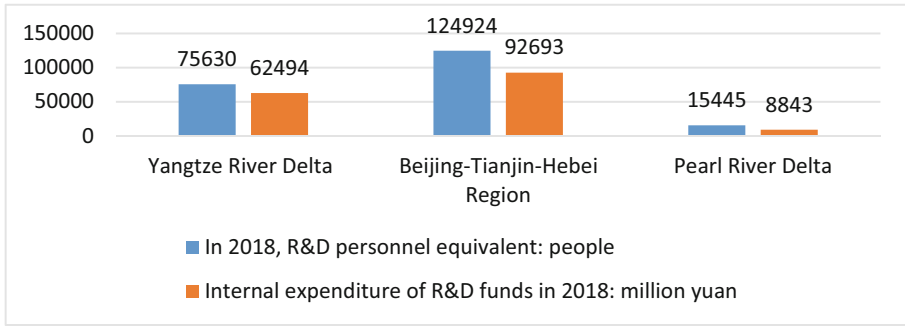
Fig. 2. Contrast the amount of innovation input. *Source: National Bureau of Statistics of China (The picture is original)*

3.2.2 Scientific and Technological Innovation

This shows both the Beijing-Tianjin-Hebei Region R & D staff full-time equivalent and R & D economy internal spending in the three regions, but the lowest number of innovations in the three regions. The number of valid patents and patent applications accounts for only 26% of the Yangtze River Delta Area region. [9] In conclusion, among the three regions, Beijing-Tianjin-Hebei Region innovation has high input, innovation output is low, and innovation efficiency is low [10] (Fig. 2).

3.2.3 Policy and Market Integration Among the Three Regions Based on Big Data

This paper adopts hierarchical analysis method to construct the regional economic integration system; the degree of economic integration. The time period studied in this paper is from 2003 to 2021, and the market integration indicators used are all from China Urban Statistical Yearbook and China Statistical Yearbook over the years. In data processing, regional GDP, per capita income level and wage level are converted on 2003 [11]; the education level of urban college education population, divided by the total urban population [12].

According to Table 1, the measurement results of the degree of integration of the three regional policies show that among the three regions, the Pearl River Delta has the highest degree of 0.789, and the lowest degree of regional integration of Beijing, Tianjin and Tangshan is 0.702. The regional economic integration of the Yangtze River Delta is at the middle level of 0.731. [13] After being empirically measured by hierarchical analysis method, the results can be seen in Table 2. To realize market integration is a systematic project. Marketization has a lot to do with the level of local economic development and infrastructure construction. According to the principle of marketization, the factors of production will inevitably be concentrated in the areas with high return rate [14].

According to the results of Table 2, the lowest level of regional policy integration is in the Beijing-Tianjin-Hebei region, while the Yangtze River Delta and the Pearl River Delta have the same regional policy integration level. [15] Specifically, in terms of government planning indicators, 0.105,0.098 and 0.103, 0.086, 0.100, 0.095, 0.103, 0.108, 0.112, and 0.103, 0.103, 0.097, 0.092 [16].

Table 1. Policy integration data of the three major regions. *Source: The authors' statistics based on big data (The form is original)*

Year	Beijing-Tianjin-Hebei Region	Yangtze River Delta	Pearl River Delta	Year	Beijing-Tianjin-Hebei Region	Yangtze River Delta	Pearl River Delta
2003	0.814	0.805	0.908	2013	0.827	0.798	0.904
2004	0.839	0.823	0.906	2014	0.768	0.818	0.885
2005	0.818	0.845	0.908	2015	0.813	0.858	0.876.
2006	0.845	0.842	0.912	2016	0.774	0.84	0.902
2007	0.784	0.857	0.915	2017	0.836	0.898	0.903
2008	0.797	0.883	0.899	2018	0.821	0.858	0.873
2009	0.792	0.786	0.925	2019	0.802	0.854	0.888
2010	0.809	0.833	0.907	2020	0.809	0.861	0.888
2011	0.836	0.847	0.903	2021	0.808	0.862	0.891
2012	0.856	0.825	0.901	average	0.702	0.731	0.789

Table 2. Market integration data of the three major regions. *Source: The authors' statistics based on big data (The form is original)*

	Policy integration	Government planning	Policy recognition	Integration efficiency	Degree of collaborative development
Beijing-Tianjin-Hebei Region	0.099	0.105	0.086	0.103	0.103
Yangtze River Delta	0.101	0.098	0.100	0.108	0.097
Pearl River Delta	0.101	0.103	0.095	0.112	0.092

4 Conclusion and Suggestions: Optimization Countermeasures for Digital Regional Integration

4.1 Build a Domestic Advanced Digital Infrastructure Highland

We will accelerate the digital transformation of traditional infrastructure, promote the construction of new urban infrastructure, build an urban information model (CIM) infrastructure platform, build a digital city infrastructure platform, and consolidate the foundation for the development of the digital economy [17].

4.2 Striving to Become a Leading Domestic Digital Innovation System

Around the national strategy, adhere to the self-reliance, in order to realize the key core technology independent controllable as the goal, further improve the technical

standards, promote the value chain to high-end, play good digital industry advanced, industrial chain modernization to be completed, build "hard" technology cluster, deepen the digital industry innovation source ability [18].

4.3 Domestic Leading Data Factor Marketization Demonstration Highland

Promote data sharing, establish and improve an authoritative and efficient data sharing, coordination and coordination mechanism, and realize directory synchronization, one-point application, cross-level review, convenient sharing, and whole-process traceability [19].

4.4 Build an Internationally Competitive Digital Industry Highland

We will promote the integrated development of the digital economy and the real economy, and vigorously promote digital industrialization and industrial digitalization [1].

4.5 Building Manufacturing Digital Transformation

We will promote digital transformation, information development, and intelligent production of enterprises, launch a number of intelligent and innovative products, build a number of smart factories and digital workshops, and foster a number of intelligent benchmark enterprises [20].

4.6 Build a Leading Domestic Digital Governance Highland

Adapt to the new trend of digital technology into social governance, accelerate the government digital transformation, comprehensively deepen digital collaborative innovation, strengthening government services, public services, social governance, promote the construction of national intelligent social governance experimental base, power city governance system and management ability modernization [21].

4.7 Building an Independent and Controllable Digital Security System

We will establish and improve a collaborative governance system for network security, strengthen the main responsibility for data security, and ensure the stable operation of key information infrastructure [22].

4.8 Building a World-Class Digital Innovation Ecosystem

We will further implement the strategy of innovative development of the digital economy, actively integrate into the integrated digital economy industrial ecology, and further consolidate the foundation for the development of the digital industry [23].

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