

Research on the Impact of Rural Logistics on Regional Economy under the Background of Rural Revitalization: A Case Study of Anhui Province.

Meixuan Qian, Junjie Tao, Hexin Liang

Anhui University of Finance and Economics, Bengbu, 233000, China

Abstract: In the report of the 19th National Congress, Comrade Xi Jinping pointed out that the issues concerning agriculture, rural areas, and farmers are fundamental to national welfare and people's livelihood, and solving these "three rural issues" must always be the top priority in the Party's work. Implementing the strategy for rural revitalization is an important foundation for building a modern economic system, and promoting the development of rural logistics to drive regional economic growth is one of the important ways to achieve the strategy of rural revitalization. Against the backdrop of rural revitalization, this paper assesses the current state of rural logistics and regional economic development in Anhui Province, analyzing the present situation of rural logistics and regional economy in Anhui Province. Firstly, taking Anhui Province as the case study area, this research constructs an index evaluation system and establishes a comprehensive evaluation model by surveying recent data on rural logistics and economic development from 16 cities within the province. Then, based on statistical data, the comprehensive evaluation index, correlation, and synergy of both are calculated, and an analysis is made accordingly. This paper examines the coupling relationship between the development of rural logistics and regional economic development in Anhui Province from both temporal and spatial dimensions, arriving at the following conclusions: From the temporal dimension, it is evident that since 2010, both the development index of rural logistics and regional economic development index in Anhui Province have been rising continuously, showing a good development trend. The development indexes of Anhui Province's rural logistics and regional economy have shown the same upward trend, indicating a coupling in their development. From the spatial dimension, the development of rural logistics is linked to the level of economic prosperity, and the regional economy has a spatial expansion effect on promoting rural logistics, which in turn facilitates urban economic development and is also influenced by the population base. By summarizing the conclusions on the relationship between rural logistics and regional economic development, this paper provides valuable suggestions for effectively promoting rural economic development, increasing farmers' income, and achieving the strategy of rural revitalization sooner.

Keywords: Rural Logistics; Regional Economy; Comprehensive Evaluation; Coordination Index.

1. Introduction

1.1. Research Background

General Secretary Xi Jinping proposed the rural revitalization strategy in the report of the 19th National Congress, with the primary task being the development of the rural economy. As a foundational industry in China, logistics plays a vital role in the development of the rural economy. Rural logistics refers to economic activities generated to meet the production and living needs of rural residents. The development of rural logistics has become one of the significant ways to promote the marketization transformation of agriculture, enhance the international competitiveness of agricultural products, and increase farmers' income. Against the backdrop of rural revitalization, rural logistics is an important factor in improving the level of the rural economy and accelerating rural development.

However, at this stage, China's rural economic foundation is still weak, and the development status of rural logistics is not optimistic. According to a survey by the China Consumer Association, 31.3% of farmers find it inconvenient to purchase living materials, and 37.2% find it inconvenient to buy production materials. Currently, China's rural logistics cannot fully meet the needs of farmers for production and life, indicating that there is not yet a sound and smooth logistics system in rural areas to adequately address the actual needs of rural residents, leaving many practical problems to be

resolved. Furthermore, the incompleteness of the rural logistics system also restricts the development of the rural economy, thereby affecting regional economic development.

Regional economy consists of many parts, and as the most crucial component of the regional economy, the development of rural logistics is closely related to changes in the regional economy. The relationship between rural logistics and the regional economy is a complex, dynamic, multi-factor system, with a complicated mechanism of interaction between them, affecting each other across multiple levels. Therefore, this project aims to study the impact of rural logistics on the regional economy in the context of rural revitalization, taking Anhui Province as a case study. It seeks to provide comprehensive suggestions for enhancing rural residents' income, promoting economic development in rural areas, and achieving the rural revitalization strategy sooner.

In countries with developed agricultural product logistics, there is often a high degree of organization among enterprises, farms, and farmers, forming a tight organizational structure. Farmers rarely participate directly in the transportation of agricultural products, mostly selling through professional organizations, leading to the formation of national farmers' associations, such as the "American Farm Bureau."

China's rural logistics started relatively late and, due to regional, production, and living patterns, exhibits characteristics of seasonality, dispersion, and complexity. Taking Anhui Province as an example, with significant

industrial advantages in light industry, agriculture, textile industry, and tourism, and developing towards e-commerce, these industries have received strong government support in recent years. Anhui, situated within the central rise development strategy, has considerable advantages in the logistics of related industries. In 2017, Anhui established a rural logistics system covering the county level, "one center, five systems," actively improving the rural logistics environment, yet facing challenges in logistics costs and effective operations.

Located in the Yangtze River Delta region, a region with a developed economic level, comprehensive industrial structure, and wide regional radiation, Anhui has inherent geographical advantages. When developing rural logistics, it can leverage the strength of neighboring provinces and cities, perfect transportation routes, product types, government policies, etc. Therefore, studying the impact of rural logistics on regional economic development in Anhui Province, against the backdrop of rural revitalization, holds significant practical significance. This project will utilize comprehensive evaluation and grey theory models for quantitative analysis, offering valuable suggestions for effectively promoting the development of rural logistics.

1.2. Research Content and Significance

From the definitions of rural logistics and regional economy, it is evident that rural logistics constitutes an integral part of regional economic development. The advancement of rural logistics can significantly enhance the circulation efficiency of agricultural products and other agriculture-related materials, thereby reducing the transaction costs of agricultural products and fostering the development of the rural economy. Rural logistics is a necessary condition and guarantee for the growth of both the rural and regional economies. On the other hand, the development of the regional economy robustly supports the evolution of rural logistics, providing the necessary financial and technical conditions for its growth. Therefore, the relationship between rural logistics and the regional economy is one of mutual dependence and mutual promotion. The two influence each other through the supply and demand levels of rural logistics. The development of rural logistics can improve the supply and demand situation of rural logistics, strongly supporting regional economic development. Simultaneously, the growth of the regional economy can stimulate an increase in the demand for rural logistics, thereby enhancing the capacity of rural logistics and promoting its development.

1.3. Research Framework

This paper is structured into progressive, ordered sections spanning theoretical foundations, index measurement, empirical analysis, and conclusions and recommendations.

Part One: Research Background and Literature Review. This section involves extensive literature research and reading, meticulously organizing domestic and international research findings. It discusses representative theories related to economics, logistics, and collaboration, closely linking to the actual characteristics of Anhui Province and qualitatively analyzing from multiple perspectives the current development status of the logistics industry and regional economy in Anhui Province. On this basis, appropriate research methods are selected: Analytic Hierarchy Process (AHP), coordination index model, among others.

Part Two: Construction of a Comprehensive Index

Evaluation System and Model Application for Specific Analysis. Based on the set indicators and previous research findings, this section establishes a comprehensive evaluation model for the development index of rural logistics and the regional economic development index in Anhui Province. By consulting the "Anhui Provincial Statistical Yearbook" and the National Bureau of Statistics website, original data for relevant indicators in recent years in Anhui Province are obtained. The entropy method and AHP are applied to calculate the weights of each indicator.

Part Three: Establishment of a Coordinated Development Model for Rural Logistics and Regional Economic Development in Anhui Province. Using the coordination index, this part calculates the degree of correlation between various indicators of rural logistics and regional economy in Anhui Province and determines the degree of synergy between the two systems. Based on empirical analysis, the research results are derived, and suggestions for promoting the coordinated development of the two systems are presented.

Part Four: Comprehensive Comparative Analysis and Feasibility Recommendations. Integrating the research from the previous three sections, this part addresses the synergy between rural logistics and regional economic development in Anhui Province. From temporal and spatial perspectives, it compares the impact of rural logistics on regional economic development across different dimensions: spatially, by analyzing the 16 cities of Anhui Province; temporally, by examining the situation over the past decade. Suggestions and specific feasible plans for promoting the coordinated development of the two are proposed.

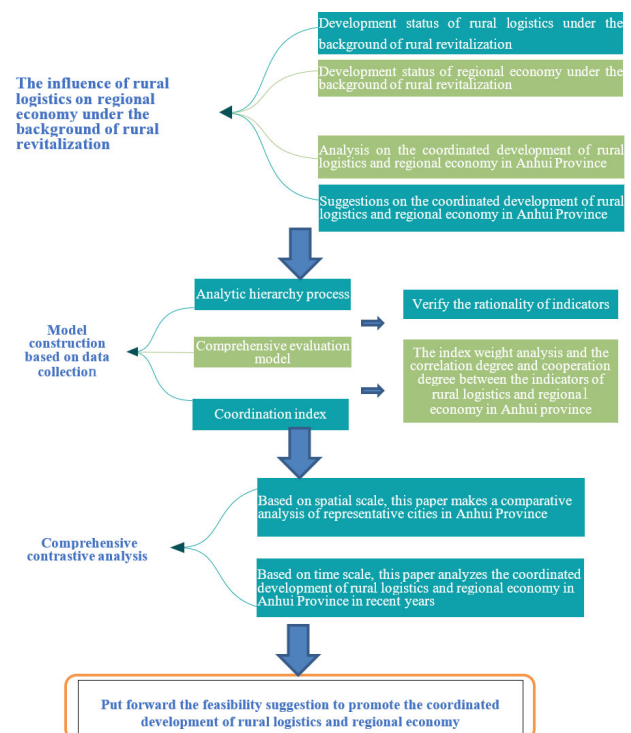


Figure 1. Technological Roadmap

2. Measuring Rural Logistics and Regional Economic Development

2.1. Construction of the Rural Logistics Development Index

This paper synthesizes existing scholarly research on the

development status of the logistics industry across different regions, combined with the distinctive characteristics of rural logistics development. Utilizing a hierarchical indicator approach, it constructs a comprehensive evaluation model for the development level of rural logistics in Anhui Province. It examines the current state of rural logistics in various urban areas within the province and, using relevant indicators, studies the level of economic development in Anhui Province to establish a comprehensive evaluation model and calculate the economic development index of each city. The primary indicators selected for studying the current status of rural logistics development in Anhui Province include the infrastructure of logistics, the existing technology in rural logistics, and the scale of personnel in the logistics industry.

The infrastructure of logistics is crucial for the development of rural logistics. The success of rural logistics, the most challenging and critical segment for achieving nationwide logistics coverage, depends on the infrastructure of the logistics industry. This infrastructure determines the operational capacity of the logistics sector, whether it can meet the demand for rural logistics while satisfying urban logistics capacities. This paper selects the scale of the logistics industry, the penetration rate of rural logistics, and the transfer capacity of logistics as secondary indicators for physical infrastructure. The scale of the logistics industry reflects the urban logistics capacity, where the number of service points dictates the division of urban logistics regions. An increase in service points boosts logistics capacity, facilitating the development of rural logistics. The improvement in the penetration rate of rural logistics increases demand in rural areas, thus driving the industry's development. Rural logistics relies not only on online shopping by residents but also on the needs of rural enterprises whose agricultural products require logistics for warehousing and transportation, thus making the transfer and storage capabilities also reflective of the urban rural logistics development status.

Rural logistics information technology is the foundation for the development of rural logistics, where information technology can accelerate the progress of rural logistics development. This study selects the construction of information systems, information sharing capabilities, and the utilization rate of information systems as secondary indicators for analysis. The construction of information systems provides platform support for the efficiency of rural logistics, encouraging rural residents' demand for logistics and, thus, fostering the industry's development. Information sharing capability refers to the timely publication and circulation of logistics information, reflecting the level of development in the urban logistics industry based on how quickly logistics firms can confirm transportation information for agricultural products. The utilization rate of information systems indicates the frequency of rural residents' use of logistics services, with underutilization highlighting a lack of demand for logistics, thereby reflecting rural logistics needs.

The development of any industry relies on human operation, where the logistics industry's growth necessitates a substantial number of technically skilled personnel. This paper selects the number of industry employees, the structure of professional specialization, and the number of township enterprises to depict the scale of personnel in logistics. The number of employees reflects the city's logistics capacity, with a significant number of clerks needed to solve the "last mile" problem in logistics, indicating the development status

of rural logistics. The logistics industry's development requires a large number of highly skilled professionals, with the structure of professional specialization illustrating the proportion of employees with high-level education, essential for driving development. The number of township enterprises primarily reflects the demand for logistics development. The specific classification of indicators is as follows:

Table 1. Selection of Logistics Development Indicators

Dimension	Indicator	Indicator Nature
Logistics Infrastructure	Logistics Industry Scale	+
	Rural Logistics Penetration Rate	+
	Logistics Transfer Capability	+
Rural Logistics Information Technology	Information System Construction	+
	Information Sharing Capability	+
	Information System Utilization Rate	+
Scale of Logistics Personnel	Number of Personnel Employed in the Logistics Industry	+
	Professional Structure of Personnel in the Logistics Industry	+
	Number of Township Enterprises	+

2.2. Construction of the Regional Economic Development Index

Research on regional economic development is abundant, with scholars often selecting different indicators when studying various topics. Most scholars typically consider environmental indicators of cities when establishing levels of regional economic development to reflect the scientific nature of a city's economic growth. The main research theme of this paper is rural logistics; therefore, when constructing a comprehensive evaluation model for regional economic development, this study, in line with previous research, selects urban development status, urban residents' living standards, and sustainability index as the three dimensions for this research, establishing a comprehensive evaluation model.

Urban development status serves as a direct indicator of a city's economic growth, with economic-related indicators having the most significant impact. Under this dimension, this paper selects the city's GDP and public budget income as secondary indicators. The city's GDP reflects the total economic output of the area, being one of the most important indicators of economic development, while public budget income reflects the city's fiscal revenue, indicating the scale of the city's economy. High public budget income suggests a larger economic scale and total volume of the city.

Urban residents' living standards reflect the city's economic development capacity from a micro perspective, showing the city's development through various indicators related to residents. Under this indicator, this paper selects residents' consumption level, consumer price index (CPI), and employment rate as secondary indicators for this study. The residents' consumption level indicates the city's economic development level; higher consumption levels suggest higher

incomes and wealthier regions. The consumer price index reflects the purchasing power of residents; a lower proportion of consumption in income indicates higher resident income, potentially enhancing rural logistics development. The employment rate reflects the city's economic development stability; high employment rates suggest a stable economic development trend and high job opportunities, thus indicating the city's economic development level.

The sustainability index reflects the city's capacity for sustained economic development. This paper selects the city's level of technology and innovation and green development status as secondary indicators for this dimension. Urban development is inseparable from technological innovation, so the city's investment in technological innovation reflects the economic status and soft power of the city. The status of green development reflects the city's industrial structure; lower levels of green development suggest an unsustainable economic development model, thereby necessitating a reduction in the city's economic development index. The specific classification of indicators is as follows:

Table 2. Selection of Regional Economic Development Indicators

Dimension	Indicator	Indicator Nature
Urban Development Status	GDP	+
	Public Budget Revenue	+
Urban Residents' Living Standards	Residents' Consumption Level	+
	Consumer Price Index (CPI)	+
	Employment Rate	+
Sustainability Capacity	Level of Technology and Innovation	+
	Green Development Status	+

2.3. Construction of the Analytic Hierarchy Process

In constructing the comprehensive evaluation models, this paper employs the Analytic Hierarchy Process (AHP) to calculate the weights of each indicator, necessitating the initial construction of judgment matrices to verify the rationality of the selected indicators. Based on the two comprehensive evaluation models, this paper establishes judgment matrices for each, starting with dimensions of logistics infrastructure, rural logistics information technology, and the scale of logistics personnel to form the judgment matrix for the rural logistics development comprehensive evaluation model, comparing their relative importance pairwise. Similarly, for the regional economic development

comprehensive evaluation model, dimensions of urban development status, urban residents' living standards, and sustainability capacity are used to create a judgment matrix, comparing the importance of each respective indicator.

This study employs a five-point scale principle for dividing importance levels: 1 signifies equal importance, 2 slightly more important, 3 relatively more important, 4 very important, and 5 extremely important. Conversely, reciprocal values such as 1/2 indicate slightly less importance, 1/3 significantly less important, 1/4 very much less important, and 1/5 extremely less important compared to another indicator.

Upon establishing the judgment matrices, it's essential to assess their consistency to ensure they meet the consistency criteria, with only matrices satisfying these criteria deemed valid. If the consistency level of a judgment matrix is less than 0.1, it passes the consistency test; otherwise, the matrix must be adjusted to form a new judgment matrix, and its consistency recalculated until all matrices satisfy consistency requirements.

The comparison matrices for the two comprehensive evaluation models are as follows. The values in the tables imply, for example, that logistics infrastructure is relatively more important than rural logistics information technology, and logistics infrastructure is significantly more important than the scale of logistics personnel. Urban development status is slightly more important than urban residents' living standards, and urban development status is very important compared to sustainability capacity, with the importance of other indicators similarly categorized.

The formula for calculating the Consistency Index $C.I.$ is as follows:

$$C.I. = \frac{\lambda_{max} - n}{n - 1}$$

In the formula, n represents the dimension of the judgment matrix, and λ_{max} represents the maximum eigenvalue of the matrix. To determine whether the judgment matrix meets the requirements for consistency, it is also necessary to calculate the Consistency Ratio (CR):

$$C.R. = \frac{C.I.}{R.I.}$$

When $C.R. < 0.1$, the judgment matrix meets the criteria for the consistency test, where $R.I.$ represents the Random Index of average random consistency. Based on the judgment matrices of the two models, the calculated Consistency Ratios are 0.0423 and 0.0751, respectively, both of which are less than 0.1, indicating that both models satisfy the consistency test requirements.

The relevant formulas for calculating the weights of each indicator are as follows:

$$w_i = \frac{\lambda_i}{\sum_{i=1}^n \lambda_i}$$

Table 3. Comparison Matrix for the Logistics Development Evaluation Model

	Logistics Infrastructure	Rural Logistics Information Technology	Scale of Logistics Personnel
Logistics Infrastructure	1	3	4
Rural Logistics Information Technology	0.3333	1	3
Scale of Logistics Personnel	0.2	0.3333	1

Table 4. Comparison Matrix for the Regional Economic Development Evaluation Model

	Urban Development Status	Urban Residents' Living Standards	Sustainability Capacity
Urban Development Status	1	2	4
Urban Residents' Living Standards	0.5	1	3
Sustainability Capacity	0.25	0.3333	1

3. Study on the Coupling Coordination Degree between Rural Logistics and Regional Economic Development

3.1. Establishment of the Coupling Coordination Model

To investigate the relationship between rural logistics development and regional economic development, this study drew on previous research and established a model for the coupling degree between rural logistics and urban development systems. Traditional coupling models fail to adequately capture the degree of coordinated development between systems. Therefore, to depict the interaction between systems, this study introduced a coupling coordination model. The relevant formulas are shown below:

$$C = \left[\frac{u_1 \times u_2}{\left(\frac{u_1 + u_2}{2}\right)^2} \right]^2$$

Where C represents the coupling degree between systems, u_1 and u_2 represent the indices of rural logistics development and regional economic development, respectively. The formula for the coupling coordination model is as follows:

$$D = T \times C$$

Where:

$$T = \alpha u_1 + \beta u_2$$

D represents the coupling coordination degree, which reflects the coordination between the two indices during the development process. T represents the comprehensive coordination index of the two indices. α and β respectively represent the contribution coefficients between rural logistics and regional economic development. For this study, rural logistics development will promote urban economic development. However, economic development is influenced by various factors. Therefore, by comprehensively considering other literature studies, this paper selects $\alpha = 0.3$ and $\beta = 0.7$.

According to different coordination indices, the coordination states are divided into five types, as shown in the table below. Further comparing the rural logistics development index u_1 and the regional economic development index u_2 , if $u_1 = u_2$, it indicates synchronous coupling; if $u_1 > u_2$, it indicates that the logistics industry is leading and the urban development lags behind; if $u_1 < u_2$, it indicates that urban development is leading and the logistics industry lags behind.

Table 5. Classification of Coordination States

Coordination Degree (D)	Coordination Status
0~0.2	Serious Imbalance
0.2~0.4	Mild Imbalance
0.4~0.6	Primary Coordination
0.6~0.8	Intermediate Coordination
0.8~1	Advanced Coordination

3.2. The Analysis of Model Results

This paper collected data from the "Anhui Statistical Yearbook" and various prefecture-level city statistical yearbooks from 2010 to 2020. The development relationship between rural logistics and regional economy in each city of Anhui Province was studied from both temporal and spatial dimensions. The overall development of rural logistics and regional economy in Anhui Province is presented in the table below:

Table 6. Coordinated Development Results Table

年份	农村物流发展指数	区域经济发展指数	协调度	协调状态
2010	0.11	0.19	0.15	严重失调
2011	0.16	0.21	0.21	轻度失调
2012	0.19	0.25	0.22	轻度失调
2013	0.24	0.30	0.26	轻度失调
2014	0.27	0.36	0.33	轻度失调
2015	0.31	0.39	0.36	轻度失调
2016	0.34	0.43	0.41	初级协调
2017	0.38	0.47	0.43	初级协调
2018	0.42	0.51	0.44	初级协调
2019	0.44	0.53	0.47	初级协调
2020	0.49	0.50	0.61	中级协调

Firstly, from the perspective of time dimension, the overall impact of rural logistics on regional economic development in Anhui Province is analyzed. The results in Table 6 reveal a continuous upward trend in both the rural logistics development index and the regional economic development index in Anhui Province since 2010, indicating a favorable development trajectory for both. The correlation between rural logistics and regional economic development is evident from the development indices. Regarding the changing coordination status between the rural logistics development index and the regional economic development index, around 2010, the development between rural logistics and regional economy in Anhui Province was unbalanced, with a severely disordered coupling state between the two systems. However, from around 2011 onwards, the relationship between the two systems gradually improved, with the coordination index rising each year. Between 2011 and 2015, the coordination index rose slowly, consistently maintaining a state of slight imbalance until around 2016, when the rate of increase in the coordination index accelerated. By 2020, the development status transitioned from a state of slight imbalance to primary coordination and, for the first time, entered a state of intermediate coordination. When the speed of rural logistics development is slower than that of regional economic development, the coordinated state between the two systems suggests that the development of regional economy will drive the development of rural logistics. Conversely, when the speed of rural logistics development exceeds that of regional economic development, the rapid development of rural logistics will also drive regional economic growth. The results also show that the regional economic development index consistently exceeds the rural logistics development

index, indicating that the continuous growth of rural logistics development will also promote regional economic growth.

Secondly, this study examines the impact of rural logistics development on regional economic development in Anhui Province from a spatial perspective. The results are presented in the figure below. It is observed that the synergistic index of rural logistics and regional economic development is significantly higher in economically developed areas. Hefei City consistently maintains a leading position in Anhui Province in terms of synergy development index, and the development of synergy index exhibits a spatial expansion effect, with economically developed areas driving the coordinated development index of surrounding cities. Additionally, while some cities may not be economically developed, they still possess relatively high synergy

development indices. For instance, in 2013, Bengbu City saw a significant increase in its synergy development index, possibly due to its important geographical location making it a crucial logistics hub, thereby having highly developed logistics capabilities and promoting economic development. Similarly, as one of the three major transportation centers in Anhui Province, Wuhu City also has highly developed logistics capabilities, leading to the corresponding development of rural logistics and economic development. Notably, in the northern part of Anhui Province, Fuyang City exhibits relatively high synergy development indices compared to adjacent cities, possibly owing to its large population base, which results in significant demand for the city's logistics industry and thereby promotes economic development.

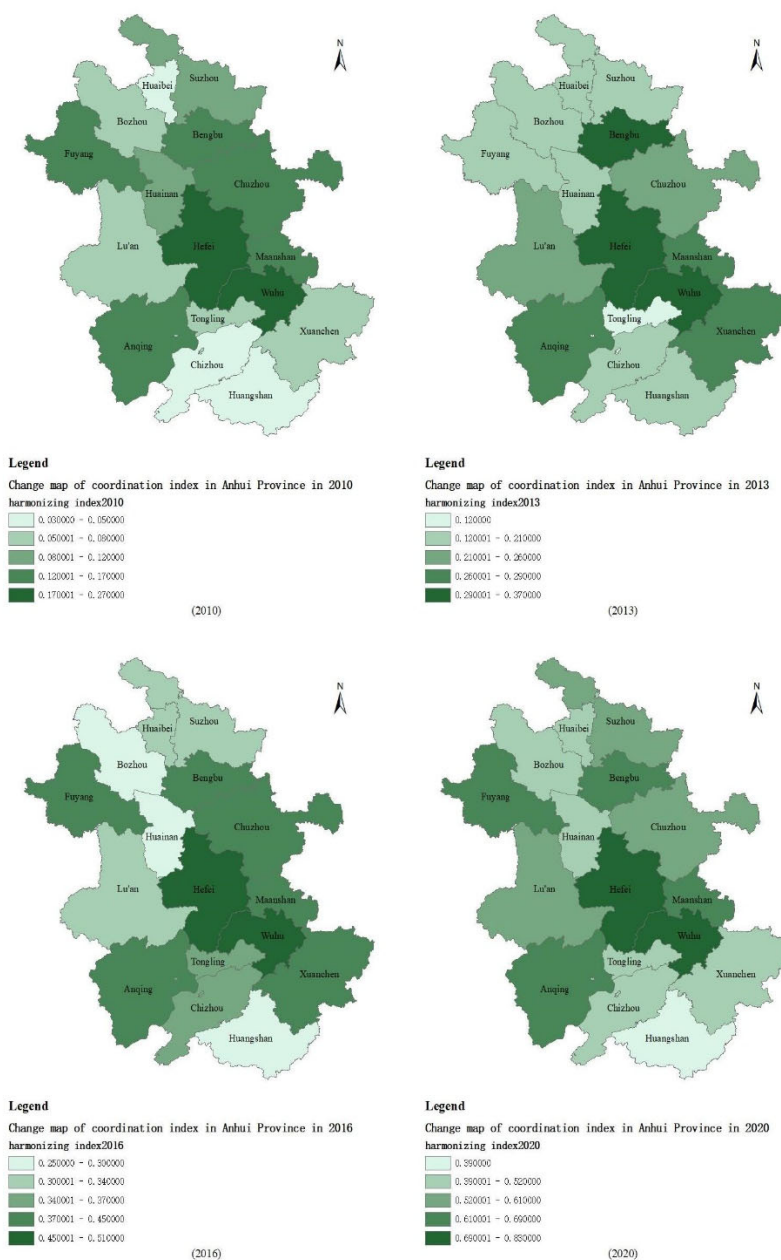


Figure 2. Spatial Variation of Coordination Index

4. Conclusion and Recommendations

4.1. Conclusion

This paper first evaluates the development of rural logistics

and economic level in Anhui Province by establishing a comprehensive evaluation model for rural logistics development and a regional economic development evaluation model. Subsequently, a development coordination

model is constructed to study the relationship between rural logistics and regional economic development in Anhui Province. Data from the "Anhui Statistical Yearbook" and the "China Logistics Yearbook" were collected to analyze the relationship between rural logistics development and regional economic development in Anhui Province.

From the results, it is evident that over time, both the rural logistics development index and the regional economic development index in Anhui Province have shown a continuous upward trend since 2010, indicating a positive development trend. The development indices of rural logistics and regional economy exhibit a similar upward trend, indicating their coupling relationship. Specifically, when the urban economy in Anhui Province experiences a downturn, the development of rural logistics will drive urban economic growth, promoting economic development through transportation costs and employment rates. Conversely, when the development level of rural logistics is low, regional economic development will also promote the development of urban rural logistics. As urban economy thrives, the demand for logistics industry increases, leading to the development of logistics and meeting the growing life demands of the people. Thus, the development of rural logistics and regional economy shows coupling characteristics over time.

From a spatial perspective, the development of rural logistics is related to the level of economic development. Regions with higher economic development levels also exhibit higher levels of rural logistics industry. For instance, as the most economically developed city in Anhui Province, Hefei City has the highest rural development index. Moreover, the promotion effect of regional economy on rural logistics also has a spatial expansion effect. The highly developed logistics industry in Hefei City also promotes the development of logistics in surrounding cities and regional development. Rural logistics also promotes urban economic development. After being identified as one of the three major logistics transfer centers in Anhui Province, cities like Bengbu and Wuhu have experienced rapid economic development. Additionally, the development of rural logistics is also influenced by the population base. When the population is large, there is a greater demand for the logistics industry, leading to higher levels of logistics development. Hence, with a large population base, cities like Fuyang have relatively high levels of logistics development.

Overall, the results highlight the coupling relationship between rural logistics development and regional economic development in Anhui Province, which is characterized by both temporal and spatial dimensions.

4.2. Recommendations

To establish a sound rural logistics service system, efforts should be made not only to construct infrastructure but also to cultivate a group of rural logistics service entities with modern logistics service capabilities. This can be achieved by introducing a batch of large specialized logistics enterprises that previously served urban areas to provide logistics services in rural areas through preferential policies. Additionally, it is crucial to vigorously develop rural-owned logistics service entities. This can be accomplished by establishing cooperative organizations, forming associations, and engaging in joint ventures, mergers, and strategic cooperation to expand the scale of rural-owned logistics entities on one hand, and enhance their modern logistics service capabilities on the other hand. This will enable them

to better meet the demands of rural logistics development in the context of urbanization.

Furthermore, it is essential to strengthen the standardization system of rural logistics. The service standards for rural logistics need to be regulated, and a unified and effective rural logistics service standard reference system should be established. For instance, standardized constraints on delivery time and error delivery rates for e-commerce express delivery services can be implemented to regulate and supervise logistics enterprises in rural areas to conduct logistics services in accordance with uniform standards and improve service levels. Standardization and regulation of storage services for agricultural products can significantly reduce the loss rate of agricultural products in warehouses.

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