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Research on the Impact of Fiscal Decentralization on the Integrated Development of Urban and Rural Areas

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Abstract

Since the reform and opening up, China's economic and social development has made tremendous achievements, but behind the huge economic volume, there are still structural imbalances that cannot be ignored, including the unbalanced and insufficient development of urban and rural areas. When unbalanced and insufficient urban and rural development has become a prominent contradiction that restricts the realization of common prosperity for all people, fiscal decentralization is a key institutional arrangement. Whether local governments can fully utilize the autonomous authority delegated by the central government and give play to their own advantages is of great significance for promoting the integration and development of urban and rural areas and achieving the goal of common prosperity. Based on the above background, this paper uses entropy method to measure the level of urban-rural integration development in 30 provinces in China from 2011 to 2020, and empirically tests the impact of fiscal decentralization on urban-rural integration development.

Keywords

Fiscal Decentralization; Urban-rural Integration; Entropy Method.

1. Introduction and Literature Review

Since the reform and opening up, China's economic and social development has made tremendous progress, and the people's material living standards have also achieved a qualitative leap. In terms of economic development level, China's GDP has increased from 367.87 billion yuan in 1978 to over 121 trillion yuan in 2022, and its share in the global economy has also increased from less than 2.5% to nearly 18%, continuing to be the second largest in the world. Divided by the permanent residence of residents, the per capita disposable income of urban residents in 2022 was 49283 yuan, while the disposable income of rural residents was only 20133 yuan. Although compared to 2021, the income ratio of urban and rural residents decreased from 2.5 to 2.45, urban-rural integration has achieved some results, but there is still a significant gap. Obviously, behind the huge economic volume, there are still structural imbalances that cannot be ignored, including the unbalanced and inadequate development of urban and rural areas.

The reform of fiscal decentralization has enabled the superior government to grant greater economic autonomy to local governments, and the economic development model led by the government is an important product of the characteristic system of combining political centralization and economic decentralization in China. Therefore, many scholars first explored the impact of fiscal decentralization from the perspective of government behavior bias under fiscal decentralization. When the allocation rights and sources of local government financial funds are limited, Governments at all levels usually give priority to ensuring the construction of infrastructure such as "railway public infrastructure", ignoring financial support in public service areas such as scientific and technological innovation. At the same time, through

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research, it has been found that there is an inverted U-shaped change between fiscal decentralization and scientific and technological innovation (Xie Chal, 2022). Liu Minghui et al. (2021) Taking tax reduction as an endogenous variable, through studying relevant domestic tax reduction policies, local government financial pressure, and the impact of tax reduction on fiscal decentralization, it is pointed out that reducing taxes and fees is an important influencing factor in ensuring and improving the financial allocation ability of local governments. Liu Fei (2020) et al. divided the behavioral bias of local governments into investment bias, income bias, and institutional bias. Research has shown that there is an obvious optimal boundary for fiscal decentralization. When fiscal decentralization is within the optimal boundary, fiscal decentralization can stimulate the development potential of local governments and improve the efficiency of public services through accurate supply, but excessive fiscal decentralization can weaken the effective supervision and jurisdiction of the central government, Distort local government issuance as a bias, thereby reducing the efficiency of public service supply.

The integration between urban and rural areas mainly refers to the integration and development of space, resources, and systems. Among them, spatial integration refers to the construction of a scientific interactive space between urban and rural ecological environment, regional transportation, and reasonable planning, forming a shared utilization of spatial resources, optimizing the structure of urban and rural spatial resources, and improving the efficiency of spatial utilization (Shi Guifen, 2021). Resource integration refers to the sharing mechanism for the acquisition and mutual restriction of existing educational resources, medical resources, data information, capital circulation channels, public service resources and human resources in cities, as well as existing land resources in towns and townships, natural resources available for exploitation and utilization, and agricultural product resources. Institutional integration refers to the coordinated governance of urban and rural population mobility, land division, and environmental governance, while providing prerequisite guarantees for the integration of space and resources.

2. Measurement of China's Urban-Rural Integration Development Level

2.1. Construction Principles of Comprehensive Evaluation Index System for Urban-Rural Integration Development

Urban-rural integration is a process of comprehensive integration and deep integration of two relatively independent geographical economic units, urban and rural, in terms of factors, industries, public services, daily life, and external environment (Huang Xisheng, Wang Zhongzheng, 2021). As a comprehensive concept, how to scientifically and accurately measure the development level of urban-rural integration is of great significance for subsequent empirical research. Therefore, this article uses the entropy method to comprehensively and systematically measure the level of urban-rural integration development in 30 provinces, cities, and autonomous regions in China from 2011 to 2020.

(1) The principle of comprehensiveness. Urban-rural integration involves all aspects of both urban and rural economic and social units. Therefore, in the construction of the indicator system, it is necessary to scientifically select and compare the different aspects involved, and strive to maximize the overall and basic characteristics of urban-rural integration from a comprehensive perspective.

(2) The principle of comprehensiveness. According to the basic characteristics of urban-rural integration, and based on its connotation and extension, the measurement indicators of urban-rural integration are gradually expanded and summarized in a hierarchical manner, striving to comprehensively display the different dimensional characteristics of urban-rural integration.

(3) The principle of availability. Taking quantitative measures of the development of urban-rural integration requires data support, so the selected indicators must be able to obtain

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relevant statistical information through authoritative channels, and must be operable in the application process.

(4) The principle of representativeness. When there are multiple indicators for reference in the measurement of urban-rural integration, the measurement method that best represents the characteristics should be selected as the final indicator selection basis. Especially when there is some overlap in the meaning of the indicators, it is necessary to combine the comprehensive principle, not only to accurately measure the urban-rural integration characteristics, but also to have other indicators to bridge their measurement gaps, so that the final result can fully and accurately display the development level of urban-rural integration.

Therefore, this article selects a total of 17 indicators to characterize and measure urban and rural factors, industries, public services, life, and the environment.

2.2. Measurement Results of China's Urban Rural Integration Level

Figure 1 shows the timing chart of the changes in China's urban-rural integration level from 2011 to 2020. Among them, there was a significant increase from 2016 to 2017, which may be due to the fact that 2016 was the opening year of China's 13th Five Year Plan. Previously, in November 2015, the Political Bureau of the Central Committee of China reviewed and approved the "Decision on Winning the Poverty Alleviation Battle", which began the poverty alleviation battle. In order to achieve a good start to the 13th Five Year Plan and complete the victory of the poverty alleviation campaign, in 2016, governments at all levels increased their support for remote and poor rural areas, promoting a large number of scarce elements such as talent, capital, and technology to flow from cities to rural areas through industrial poverty alleviation, technological poverty alleviation, and education poverty alleviation, promoting industrial upgrading, human capital improvement, infrastructure and public service improvement, and income growth in rural areas, As a result, the level of urban-rural integration development showed a significant upward trend in 2016. With the continuous release of resource investment, the level of urban-rural integration development showed a steady upward trend after 2017.

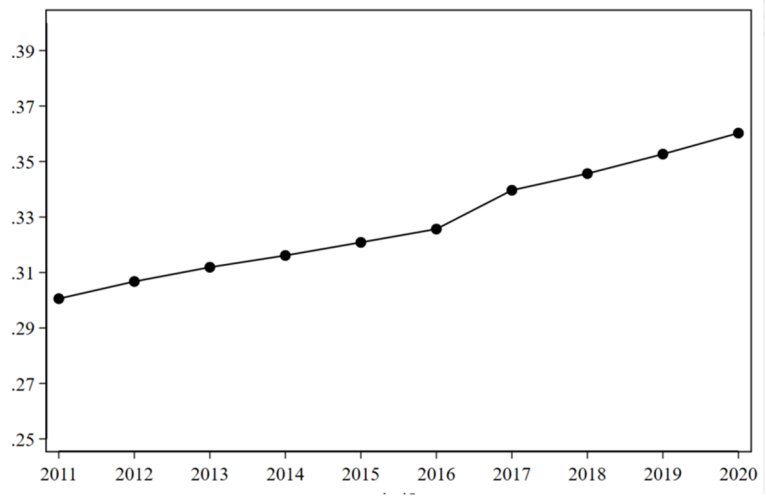

Figure 1. Timing Chart of China's Urban-Rural Integration Development Level

3. Empirical Analysis of Fiscal Decentralization on Urban-Rural Integration Development

3.1. Model Settings and Variable Descriptions

In order to explore the impact of fiscal decentralization on the level of urban-rural integration development from an empirical perspective, this article first constructs a fixed effect model as shown below:

$$urid_{it} = \beta_0 + \beta_1 aexp_{it} + \beta_i control_{it} + \mu_i + \upsilon_t + \varepsilon_{it}$$

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Where $aexp_{it}$ indicates the degree of fiscal decentralization in province i in year t, $urid_{it}$ represents the level of urban-rural integration development in province i in year t, $control_{it}$ represents the control variable, and the digital economy development level, financial development level, openness to the outside world, and fixed assets investment are respectively selected as the control variables_ "I represents an individual fixed effect, upsilon"_ "T represents a time fixed effect that controls the impact of individual characteristics differences or economic cycles and macroeconomic policies on the estimated results, varepsilon" ε_{it} represents a random perturbation term

In this paper, the selection of control variables, using the digital inclusive financial index to measure the level of regional digital economic development,; Using the balance of deposits and loans from commercial banks to measure the level of financial development in the region; The proportion of total import and export trade to GDP measures the degree of openness of a region; Select the proportion of fixed assets investment in GDP to measure the investment level of local governments.

3.2. Benchmark Regression Results

Table 1 shows the benchmark regression results of fiscal decentralization and urban-rural integration, with columns (1) and (2) showing the regression results after adding control variables to fixed provinces and time effects, respectively. The regression results show that the regression coefficient of the core explanatory variable fiscal decentralization is positive at the significance level of 1%, regardless of whether the control variables are added, This indicates that the improvement of fiscal decentralization is indeed conducive to promoting the level of urban-rural integration and development. Because the results will be more accurate after adding control variables, using the regression results of column (2) as the benchmark result, the regression coefficient of fiscal decentralization is 0.0105, indicating that each percentage point increase in fiscal decentralization will increase the development level of urban-rural integration by about 0.01%, and fiscal decentralization will help promote the development of urban-rural integration.

Table 1. Benchmark regression results

	(1)	(2)	(3)
VARIABLES	urid	urid	urid
aexp	0.0115***	0.0105***	0.0045
	(8.1804)	(7.3394)	(0.0987)
aexp2			0.0000
			(0.1297)
difi		-0.0002	-0.0002
		(-1.1622)	(-1.1477)
fin		-0.0101**	-0.0100**
		(-2.4699)	(-2.4161)
open		0.0723***	0.0729***
		(4.6260)	(4.4873)
inv		0.0113	0.0112
		(1.4747)	(1.4605)
Constant	-0.6353***	-0.5504***	-0.2963
	(-5.2803)	(-4.5073)	(-0.1509)
Observations	300	300	300
Number of id	30	30	30
Adjusted R-squared	0.4018	0.4856	0.4836
province FE	YES	YES	YES
year FE	YES	YES	YES

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This article mainly conducts robustness testing by replacing variables and samples. One is to use the level of fiscal revenue decentralization as an alternative indicator of fiscal decentralization. Column (1) shows the regression results of fiscal revenue decentralization as the core explanatory variable. The results show that the regression coefficient of fiscal decentralization is also significantly positive at the level of 1%, consistent with the benchmark regression results, which also demonstrates the positive promotion effect of fiscal decentralization on urban-rural integration. Second, considering that Beijing, Tianjin, Shanghai, and Chongqing, as municipalities directly under the central government, have significant differences from other provincial administrative units in terms of political rank and resources, resulting in deviations in the final estimated results. Therefore, by eliminating the four municipalities directly under the central government and regressing, the results are shown in column (2), and the regression coefficient for fiscal decentralization is also significantly positive at the level of 1%, which again demonstrates the robustness of the results; Third, considering the huge impact of the COVID-19 on the economy and society at the end of 2019, the data for 2020 will be excluded to exclude the impact of adverse shocks on the regression results. Column (3) shows the regression results. The regression coefficient of fiscal decentralization is still positive at the level of 1%, indicating that fiscal decentralization still has a positive role in promoting urban and rural integration after excluding the impact of adverse exogenous shocks such as the epidemic.

Table 2. Robust regression results

	(1)	(2)	(3)
VARIABLES	urid	urid	urid
aexp		0.0114***	0.0115***
		(7.5881)	(7.4486)
ainc	0.0031***		
	(6.1062)		
difi	-0.0003	0.0000	-0.0001
	(-1.6217)	(0.2193)	(-0.6750)
fin	-0.0070	-0.0094**	-0.0045
	(-1.6485)	(-2.0648)	(-0.9813)
open	0.0662***	0.0713***	0.0787***
	(4.1318)	(2.9325)	(4.8959)
inv	0.0182**	0.0091	0.0090
	(2.3836)	(1.2076)	(1.1697)
Constant	0.1913***	-0.6463***	-0.6509***
	(6.3987)	(-5.1014)	(-4.9084)
province FE	YES	YES	YES
year FE	YES	YES	YES
Observations	300	260	270
Number of id	30	26	30
Adjusted R-squared	0.4565	0.4529	0.4944

4. Research Conclusion and Policy Recommendations

4.1. Research Conclusion

The research results indicate that fiscal decentralization has a positive promoting effect on urban-rural integration, and the nonlinear relationship between fiscal decentralization and urban-rural integration is not established. The basic logic is that from the current stage of

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development in China, fiscal vertical imbalance and fiscal revenue and expenditure difficulties are the major bottlenecks in promoting urban-rural integration in regions, Giving local governments greater financial autonomy through fiscal decentralization can effectively mobilize the endogenous development momentum of local governments, with a positive effect significantly greater than the negative effect caused by excessive competition among local governments. Moreover, the intermediary mechanism test also indicates that fiscal decentralization can help promote local infrastructure construction, promote regional industrial upgrading, and further drive the flow of factors between urban and rural areas, and strengthen urban-rural relations, Increase the ranks of low-income rural groups, drive regional economic development, give full play to the "trickle down effect" of economic growth, and promote urban-rural integration.

4.2. Policy Recommendations

First, reform and improve the fiscal decentralization system, and refine the fiscal decentralization system. The further deepening reform of the fiscal decentralization system should first focus on the division of powers and responsibilities between the central and local governments. After the division of administrative and financial powers between the central and local governments, the central government should also bear a reasonable portion of expenditure responsibilities.

Second, strengthen rural infrastructure construction and improve the rural public service system. Infrastructure construction is the fundamental condition for all economic development. Only by improving the laying of infrastructure can we better store energy for subsequent economic development.

Third, optimize the upgrading of industrial structure and formulate scientific urban-rural integration policies. Based on the guiding principle of adjusting measures to local conditions and adapting to the circumstances, arranging the layout of urban and rural industrialization is a necessary standard for the government to promote the upgrading of industrial structure.

Fourth, focus on regional heterogeneity and the development of personality in the east, west, and central regions. According to the research results of the empirical heterogeneity analysis module in this article, it is not difficult to see that the economic development level of the eastern and central regions is much superior to that of the western regions. Therefore, when formulating economic development plans for the central and eastern regions, it is necessary to pay more attention to quality and speed, and give full play to the role of fiscal decentralization in promoting urban-rural integration.

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