

Development and Influencing Factors of Rural Inclusive Finance

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Abstract: This paper studies the existing achievements at home and abroad from many aspects. Through the data provided by the inclusive financial report of Peking University, this paper analyzes the current situation of inclusive finance in five counties in Wenzhou mountainous area, and analyzes the development trend of inclusive finance in five counties in Wenzhou mountainous area in the past 8 years from three aspects: coverage, depth of use and degree of digitization. In terms of the analysis of the influencing factors of inclusive finance, five dimensions of residents' economic level, communication level, traffic level, financial support level and urbanization level are selected as the main influencing factors, and a panel regression model is established to further analyze the influence effect of each factor. Finally, put forward reasonable suggestions for the problems found.

Keywords: Inclusive finance, Traffic level, Urbanization level panel, Regression.

1. Introduction

In 2021, the state issued the Opinions on Effectively Linking the Achievements of Consolidation and Expansion of Poverty Alleviation with Rural Revitalization, which proposes to link up financial service policies. It is not difficult to find that promoting the development of inclusive finance can play a major role in promoting rural development. It can not only accelerate the progress of rural construction by innovating rural financial products, but also match the new financial needs in the rural revitalization work, and guide the rural revitalization strategy to advance in a balanced and orderly manner. According to the 2021 statistical yearbook data, the land area of the five counties in the mountainous area of Wenzhou City accounts for about 66 % of the city, and the population is close to 43 % of the city, while GDP accounts for only 21 % of the city. The level of economic and social development is still lower than the average level of the city and even the province. Whether from the high-quality development and construction of common prosperity demonstration area city model, or strive for socialist modernization first city, the key and difficult point is this. Therefore, this article focuses on the five counties in the mountainous area of Wenzhou, and deeply understands the degree of inclusive finance in the region and the influencing factors to provide financial support for the economic construction of the mountainous area of Wenzhou. It is one of the best ways to solve the current urban-rural gap, cultivate new economic growth points, and promote rural revitalization.

2. Literature Review

2.1. Establishment of Inclusive Financial System

Sarma (2008) expanded the scope of indicator variables on the basis of Beck's proposal and proposed the concept of inclusive financial index (IFI) for the first time. Chakravaty and Rupayan (2013) believed that the axiom measurement method can effectively measure financial inclusion, and suggested that the financial inclusion index should be allowed to calculate the contribution percentage of different

dimensions to the overall achievement. Rahman (2013) selected evaluation indicators from the four dimensions of penetration convenience, absorption rate, use efficiency and satisfaction, and used weighted average values to measure the level of inclusive finance. Jiao Jinpu et al. (2015) used the analytic hierarchy process to compare the development level of inclusive finance in various provinces by establishing an inclusive financial index system of 19 indicators in the three dimensions of 'availability, usage and service quality' of financial services. Zhou Beibei (2019) applied the combination of extreme value processing method and coefficient of variation method to construct the index evaluation system of inclusive financial development level, and put forward the direction of further development of inclusive finance in each region according to the index score

2.2. Influencing Factors of Inclusive Finance

In analyzing the development of inclusive finance in India, Priyadarshie et al. (2010) believe that the smooth realization of inclusive financial strategies depends on the support of government public policies, social security projects, etc. The research of Allen et al. (2012) shows that the choice of financial service channels is affected by education background, and people with low education level and lack of financial knowledge are less likely to choose formal channels to obtain financial services. Bhari (2010) found that with the development of the Internet, mobile banking has played a huge role in people's access to financial services, and mobile financial services have the characteristics of low cost, which has played a greater role in the popularization of financial services. Gimet and Lagoarde-Segot (2012) focused on the constraints of inclusive finance and believed that financial infrastructure, technical support and the penetration rate of financial knowledge can affect the level of inclusive finance.

3. Development Status of Inclusive Finance in Five Counties of Wenzhou Mountainous Area

3.1. Growth of Inclusive Finance in Five Counties of Wenzhou Mountainous Area

Taking district-level data as an example, the degree of inclusive finance in five counties in Wenzhou mountainous area has developed by leaps and bounds in 2014. The average for 2014 was 78.9, and by 2021 it will increase to 129.3, which is 1.64 times that of 2014. From the perspective of growth rate, the growth rate of digital inclusive financial index has slowed down in recent years, which indicates to some extent that with the development of digital financial market becoming more and more mature, the industry has begun to transition from high-speed growth to normal growth. In the 2020 epidemic phase, when GDP growth is negative, the inclusive financial index still maintains growth, reflecting the resilience of digital inclusive financial development. Even in cities with higher inclusive financial index, urban GDP is less affected by the epidemic.

3.2. Regional Differences of Inclusive Finance in Five Counties of Wenzhou Mountainous Area

In recent years, Wenzhou has repeatedly issued policies to support the development of five counties in Wenzhou mountainous areas, especially how to make good use of inclusive financial policy tools to support the high-quality development of five counties in mountainous areas. Develop and implement a county policy program to encourage banking institutions to give priority to meet the needs of the five counties in the mountainous areas of the scale of credit funds and loan term, reasonable decentralization of approval. This series of measures effectively promoted the development of inclusive finance in five counties of Wenzhou mountainous area. In 2014, there was still an imbalance in the development of Wenzhou 's inclusive finance. The level of inclusive finance in Wenchang County and Pingyang County was different from that in other counties. With the development of Wenzhou 's inclusive finance, by 2021, the level of inclusive finance in each county is close to the average level of Wenzhou, and the differences between counties are gradually narrowing. The standard deviation coefficient for inclusive finance data fell from 0.03 in 2014 to 0.02 in 2021. From the data, Taishun County has developed rapidly from the weakest level of inclusive finance to the middle level in 2021, while Wencheng County has developed more slowly than other counties.

4. Empirical Analysis

Use sentence case for the words in a paper title. Through the analysis of the inclusive financial index of five counties in Wenzhou mountainous area from 2014 to 2020 in the third chapter, it can be seen that the development level of inclusive finance in five counties in Wenzhou mountainous area is fluctuating and rising. In order to analyze the main reasons affecting the fluctuation and development of rural inclusive finance, this paper will next study the influencing factors of rural inclusive financial development in Qingshui County through the fixed effect model, so as to provide some basis for the formulation of rural inclusive financial development

policies and strategies.

4.1. Index selection

By referring to the relevant research results at home and abroad, combined with the actual situation of Wenzhou City, select the following factors to explore the relationship between the variables and the development of inclusive finance.

(1) Economic development level (X_1): Economic growth is the core factor to promote financial development and plays a key role in optimizing financial quality. Therefore, this paper will study the level of inclusive financial development through the level of economic development, and select the ratio of GDP to total population of Wenzhou counties to measure.

(2) Communication level (X_2): Inclusive financial development mainly uses electronic as a new trend, especially low-income people and people in remote areas mostly use smart phones as a channel to access financial services. In rural areas due to conditions, computer user coverage is low. This paper analyzes the number of mobile phones per 100 households.

(3) Traffic convenience (X_3): Traffic convenience reflects the cost of consumers ' access to financial services. The more convenient the infrastructure of a city is, the more it can control the cost of financial institutions and the more easily the financial needs of customers are met, so the region is easier to gather financial resources and more inclusive. Therefore, the influence of Wenzhou county highway level on the development level of inclusive finance is investigated.

(4) Government financial strength (X_4): Compared with tax reduction and exemption policies, inclusive groups can significantly feel the support of government financial expenditure, that is, the positive support given by the government to inclusive finance can promote the development efficiency of inclusive finance. This paper analyzes the ratio of local fiscal expenditure to GDP.

(5) The level of urbanization (X_5): New urbanization helps to stimulate economic growth and social development, especially for financial services in rural areas can achieve maximum utility, both from the supply side or demand side, are conducive to the region 's inclusive financial system. This paper uses the proportion of urban population in five mountainous counties to examine the development of inclusive finance.

Table 1. Influencing factors of inclusive finance

	Variable name	Variable definition
X_1	economic development level	GDP / total population
X_2	communication level	Number of mobile phones per 100 households
X_3	traffic level	total mileage of highway
X_4	financial strength	Government expenditure / GDP
X_5	urbanization level	Urban population / total population

4.2. Model Analysis and Validation

Taking each index in the previous section as the explanatory variable and the inclusive financial index calculated in this paper as the explanatory variable, a panel model of the influencing factors of inclusive financial level in

five counties in Wenzhou mountainous area is constructed :

$$y_{it}=\beta_0+\beta_1X_{1it}+\beta_2X_{2it}+\beta_3X_{3it}+\beta_4X_{4it}+\beta_5X_{5it}+\varepsilon \quad (1)$$

Among them, c is a constant term, $i = (1, 2, \dots, 5)$ represents the number of explanatory variables, $t = (2014, 2015, \dots, 2021)$ represents the year, β_i is the coefficient of the explained variable, ε is the random error term of the model, and obeys the independent identical distribution. The main reason why this paper chooses the panel data of five counties in Wenzhou mountainous area from 2014 to 2021 is that the time span of the sample data is short and the sample size is limited. If the time series data or cross-sectional data are taken, the estimation results may lead to large errors and insufficient accuracy. The panel data is analyzed from two dimensions at the same time, which makes the regression results more credible.

4.3. Regression result

According to the panel fixed effect model test results, the explanatory power of the model adjusted R is 0.695, that is, the independent variables in the model can explain 69.5 % of the dependent variable variation. Visible equation fitting effect is very good. F test on the explanatory variables to a certain extent, can affect the development of inclusive finance in five counties of Wenzhou mountainous area.

Table 2. Regression result

	Variable name	Inclusive financial index
X ₁	economic development level	7.094** (2.475)
X ₂	communication level	0.541** (2.076)
X ₃	traffic level	0.007 (1.681)
X ₄	financial strength	51.681 (1.243)
X ₅	urbanization level	39.271* (2.892)
C		-71.298 (-1.099)

According to the significance test results of variable regression coefficients, according to the significance test of regression parameters in table 4, the P value of economic development level (X₁) is equal to 0.01, indicating that economic development has a significant impact on inclusive finance. The X₁ coefficient is positive, which indicates that the economic strength of a region will have a positive effect on the degree of local inclusive finance. The regression coefficient of X₁ is 7.094, indicating that for every unit of increase in per capita GDP in a region, the local inclusive financial level index will rise by 7.094. With the improvement of the level of economic development in a region, a good economic foundation drives the level of per capita income to rise, and people 's demand for finance is stronger, thus reversely promoting the improvement of the market and promoting the better development of inclusive finance.

The regression coefficient of communication level (X₂) is positive, and the significance test shows that the mobile phone penetration rate has a strong positive impact on the development of inclusive finance. The regression coefficient of X₂ represents that for every 1 % increase in mobile phone penetration in each region, the inclusive financial

development index will rise by 0.541. With the rapid development of science and technology, China 's Internet finance has achieved rapid development, and the wide application of mobile banking has enabled the public to timely understand the latest financial service information through smart phones, ensuring the service scope of financial services, breaking through the spatial restrictions of traditional finance, even in remote areas. Customers can use mobile phones to obtain financial services, effectively improving the user experience, avoiding the problem of reducing financial availability due to the lack of nearby institutional outlets, filling the gap of long-term financial institutions, and enhancing the permeability of financial institutions.

The coefficient of urbanization level (X₅) is positive. Through the significance test, it shows that the increase of urbanization and urban population ratio helps residents to better contact inclusive finance. On the one hand, the higher the level of urbanization, the more people can accept the existing financial resources of the town. On the other hand, the level of urbanization represents the degree of aggregation of residents. The higher the concentration of residents, the easier it is to form a scale effect to attract financial enterprises and help improve the level of inclusive finance.

Traffic level (X₃) and government financial support (X₄) did not pass the significance test, indicating that the development of highway level in five counties in Wenzhou mountainous area and the government 's financial support did not have a significant impact on the related use of residents ' inclusive finance.

5. Conclusion

First of all, the government should focus on raising the income level of mountainous areas and stimulating the financial needs of vulnerable groups. Secondly, the empirical analysis results show that increasing the number of mobile phones owned by residents can effectively increase the index of inclusive finance. At present, it is an inevitable trend to develop inclusive finance based on Internet finance. Because it guarantees the service scope of financial services and breaks through the spatial restrictions of traditional finance, customers can use computers or smart phones to obtain financial services brought by the Internet. In the realization of strengthening remote areas of the Internet penetration, so that traditional financial institutions through the Internet into rural areas. Government departments need to give some preferential policies to help these areas improve the construction of Internet infrastructure, and the government can provide some funds to subsidize rural Internet users and encourage them to actively apply resources. Finally, promote the construction of new urbanization, promote the coordinated development of urban and rural areas, and give new impetus to inclusive finance.

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References

- [1] Jiang Yuansheng, Wang Tong, Jin Xiongou, Liu Yan. A comparative analysis of the practice and effect of rural financial reform in Chengdu and Lishui [J]. Southwest Finance, 2020, (09) : 86-96.

- [2] Measurement and Comparative Study on the Development Level of Inclusive Finance [J]. Zhou Beibei. *Regional Finance Research*. 2019 (10).
- [3] Research on the Measurement and Influencing Factors of the Development Level of Inclusive Finance in Western Underdeveloped Areas - Taking Gansu Province as an Example [J]. He Wei, Liu Xiaoqing, Yang Linjuan. *Farm Economic Management*. 2019 (05).
- [4] Yang Hong, Zhang Ke. Research on the spatial effect and influencing factors of financial exclusion-Empirical analysis based on Yunnan Province [J]. *Financial theory and practice*, 2020 (06) : 47-56.
- [5] Huang Qian, Li Zheng. County Inclusive Financial Development and Economic Inclusive Growth - An Empirical Analysis Based on 120 County Data in Yunnan Province [J]. *Journal of Yunnan University of Finance and Economics*, 2019,35 (01) : 52-66.
- [6] Yang Mingwan, Zhang Lezhu, Yan Liangzhu. Measurement System and Influencing Factors of Inclusive Financial Development - A Case Study of Guangdong Province [J]. *Financial Regulatory Research*, 2019 (01) : 6980.
- [7] Zhang Chaochao, Wang Chuandong. Research on the measurement of the development level of inclusive finance in Shandong Province [J]. *Foreign trade*, 2017 (09) : 114-116.
- G. O. Young, "Synthetic structure of industrial plastics (Book style with paper title and editor)," in *Plastics*, 2nd ed. vol. 3, J. Peters, Ed. New York: McGraw-Hill, 1964, pp. 15-64.
- [8] Institutional frames for financial inclusion of poor households in Sub-Saharan Africa[J].George Okello Candiya Bongomin,Joseph Mpeera Ntayi,John Munene. *International Journal of Social Economics* . 2016 (11).
- [9] Financial inclusion in India: An axiomatic approach[J] . Satya R. Chakravarty,Rupayan Pal. *Journal of Policy Modeling* . 2013.
- [10] Bongomin, Ntayi, Munene J. Institutional frames for financial inclusion of poor households in Sub-Saharan Africa evidence from rural Uganda[J]. *International Journal of Social Economics*,2016,43(11):1096-1114.W.-K. Chen, *Linear Networks and Systems* (Book style). Belmont, CA: Wadsworth, 1993, pp. 123-135.