



Analysis and Countermeasures of Rural Financial Development under the Background of Rural Revitalization

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Abstract

The rural revitalization strategy is an essential strategic thought of the Party Central Committee. Rural finance, like a sword, has become an essential weapon in the battle against poverty, which is of great significance for the comprehensive implementation of rural revitalization strategy and the promotion of rural economic development. Based on the background of rural revitalization, this paper analyzes the rural financial problems from the rural grassroots level perspective. This paper puts forward the mediation effect step by step method through mathematical modelling to study whether non-interest income and interest payment cost play the mediation role. The following describes the mediation effect testing process. Summarizes the rural financial service consciousness is weak, the construction function is not vital. The risk prevention function is insufficient, the long-term development ability is insufficient, and it puts forward specific measures. We will help solve current rural financial problems and promote rural revitalization.

Keywords—*mathematical modeling; mediating effects; rural revitalization; rural finance*

1. INTRODUCTION

In 2017, in a report to the 19th CPC National Congress, General Secretary Xi Jinping pointed out for the first time a vital thought on comprehensively promoting agricultural and rural modernization -- the rural revitalization strategy. In 2018, the CENTRAL Committee of the CPC issued the National Strategic Plan for Rural Revitalization (2018-2022) and Opinions on Realizing the Rural Revitalization Strategy, specifying clear and feasible goals and plans for rural industries, rural culture, rural governance, and urban-rural integration with rural revitalization as the strategy. The rural revitalization strategy proposed by General Secretary Xi Jinping has been supplemented and improved. Under the comprehensive guidance of the rural revitalization strategy, as of the end of 2019, the rural collective economy had achieved overall development and progress. Among them, 42.3% of the village's collective income was 50,000 yuan higher than that of the previous year, and the share of capital from shares exceeded 57.12 billion yuan. By 2020, China's rural poverty alleviation work ushered in a temporary

victory. A total of 98.99 million rural poor people have been lifted out of poverty.

As we all know, the strong support of all levels in human, material and financial resources has laid a favourable foundation for the initial results of the rural revitalization strategy. However, it is undeniable that in the process of rural development, there are still many problems and deficiencies, among which rural finance is the biggest problem. Compared with the prosperous cities, the rural economy started late with a poor foundation, and the development level of the two has a significant difference. Therefore, there is no doubt that the development of rural finance based on economy lags behind that of urban finance. Moreover, the general lack of recognition of financial services [1] among rural residents further hinders the progress of rural finance and even directly restricts the development of the rural economy. With the continuous promotion of various national institutions, rural finance is also constantly improving and making progress [2]. However, due to the inherent risks of finance and the particularity of the rural environment, rural finance still has many practical difficulties. Therefore, it will play a valuable role to analyze and discussing rural financial problems under the

background of rural revitalization strategy from the perspective of the rural grass-roots level [3].

2. ANALYSIS OF PROBLEMS EXISTING IN RURAL FINANCIAL DEVELOPMENT

2.1 Rural Financial Service Consciousness is Weak; Construction Function is not Strong

At present, China's rural finance service consciousness is vague and weak. Rural residents in China generally have a low knowledge reserve of financial services, resulting in conflict and rejection when using electronic financial products. For most farmers, paying with real cash is more secure and reliable than using virtual mobile payment methods [4] and unfamiliar electronic financial products. Farmers' unfamiliarity with and distrust of mobile payment methods and electronic financial products, as well as their sense of resistance and rejection, directly lead to the difficulty in widely popularizing bank securities, financial management, insurance products and financial derivatives in rural areas, which further seriously restrict the progress and development of the rural economy [5]. When farmers go to financial institutions to apply for loans, they are often required to show a mortgage consistent with the loan amount as a guarantee. However, it is widespread that the mortgage fails to pass the examination because it does not meet the requirements, leading to the failure to obtain bank loan funds. Under such circumstances, farmers often prefer to borrow fast and convenient private loans with high-interest rates to achieve their loan goals. To sum up, farmers' resistance to financial loans and strict loan approval have hindered the financial service function of rural areas in China, leading to the difficulty in giving full play to the role of financial services in rural areas [6].

Although the rural financial construction in the background of rural revitalization has been slightly smaller, there are still many related institutions that do not pay attention to rural financial construction. Relevant departments did not correctly combine the development needs of rural revitalization strategy and relevant policies to carry out rural finance construction, which hindered the smooth development of local rural finance. Secondly, rural finance in the development process also lacks strong support from relevant institutions, resulting in rural financial development problems full of loopholes. The actual situation of local economic development and rural revitalization development strategy is contrary to the academic goal. At the same time, the shortage of funds also severely inhibited rural financial construction. At the root of this problem, the financial construction in rural areas is not taken seriously by the relevant departments, which has caused the overall development level of rural financial service construction and related

industries to stagnate under the background of rural revitalization.

2.2 Rural Financial Institutions Lack Risk Prevention Function

At present, the rural financial service has not been effectively promoted. At the same time, and risk prevention mechanism is still not perfect enough, lacks risk function, which is mainly caused by the following reasons: first, the internal control management of rural financial institutions lacks power and executive power, administrative control just for formalism, the internal control supervision and prevent significance was incredibly amblyopia and desalination, The implementation of risk prevention and control regulations, professional moral responsibility and strict business procedures is empty talk on paper, which inevitably increases the risk of rural financial development. Because rural financial institutions of a unique geographical position, they often make the rural financial institutions outside the regulatory role thoroughly play hard to get. The rural financial institution's staff self-discipline consciousness is relatively weak; once its self-discipline of shouldering the responsibility of the internal supervision function is not entirely, it will directly lead to financial institutions the risk significantly increased. Second, because the present rural financial benefit sharing and risk insurance and compensation of long-acting mechanism are still not perfect and applied, and the differences of rural financial institutions are not by the risk to build the prevention mechanism, matching the mainly when business by mail transfer risks inherent in the traditional, often can only be conducted by the Banks themselves bear. As a result, financial institutions lack sufficient motivation before the profit-seeking motive of trade to match the new changes, new characteristics and new requirements of agricultural loan service demand in implementing a rural revitalization strategy. As a result, banks are susceptible to rural financial risks and avoid rural financial services. Third, because of the unpredictability and vulnerability of agriculture, its vulnerability to natural factors, high human cost, poor risk resistance ability, and relatively low investment returns, there is resistance or neglect of investment in this field. Therefore, it is often challenging to attract investment in rural areas and even easy to cause local capital outflow, leading to the weak financial essential services in rural financial areas. We take agricultural insurance as an example. The current rural insurance structure gradually presents the characteristics of single, and the subjective initiative of farmers to participate in the insurance is low, which further aggravates the economic risks of farmers.

2.3 Rural Financial Institutions Lack Long-term Development Ability

No matter how China's financial level develops and progresses, financial institutions' operating direction, primarily commercial, is still to pursue profits and long-term development. However, the long-term development ability of China's rural financial institutions is significantly lacking, and its rural financial service function is challenging to show fully. Rural financial institutions show a noticeable trend of "abandoning farmers" and "leaving farmers" and even gradually becoming financing tools of local governments.

As early as 2018, Its non-performing loan ratio accounted for 10% and 13.3%, respectively. Under the current situation, the non-performing loan ratio of China's commercial banks accounts for 1.86%, and the non-performing loan balance reaches 241 million yuan. Compared with the statistical data of 2018, the non-performing loan ratio increased by 0.3%, and the non-performing loan balance increased by 0.3 million yuan. By the end of 2019, the total number of branches of China's financial institutions increased to 228,000, among which the outstanding balance of agriculture-related loans reached 3.3 billion yuan, an increase of 7.7% compared with 2018, while the non-performing loan ratio of enterprises and farmers accounted for 8.35% and 7.2% respectively. Due to the lack of a full grasp of the rural market, the long-term business development of many non-bank financial institutions also bears enormous risks and challenges, resulting in some companies having to withdraw from the market in advance.

3. ESTABLISHMENT OF MEDIATION MODEL

To better explore the influence channels of rural commercial banks' risk-taking, this paper studies whether non-interest income and interest payment cost play a mediating role by referring to the stepwise mediation effect method proposed by Zhonglin Wen et al. The following is an introduction to the mediation effect testing process. Before testing the multiple mediating effect model, this paper first explains the simple mediating effect model to clarify the relationship between variables in the model and the meaning of the regression coefficient. The equation is as follows:

$$Y = aX + u_1 \quad (1)$$

$$M = bX + u_2 \quad (2)$$

$$Y = a'X + cM + u_3 \quad (3)$$

Equation (1) represents the effect of the explanatory variable on the explained variable, Equation (2)

represents the effect of the explanatory variable on the intermediary variable, and Equation (3) represents the combined effect of explanatory variable and intermediary variable on the explained variable. Among them, coefficient b represents the effect of the explanatory variable acting on the mediating variable, coefficient a' and coefficient c represent the explanatory variable's direct effect on the explained variable and the effect of the mediating variable on the explained variable, and u_1 , u_2 and u_3 are residual items. In this Equation, the mediating or indirect effect is equal to the product of the coefficients bc , the direct effect is equal to a' , the total effect is equal to $bc + a'$, and the relative contribution of the mediating effect is equal to $bc / (bc + a')$. This paper constructed the following multiple mediating effect model consisting of four progressive equations with non-interest income and interest payment cost as mediating variables:

$$RWA = \partial_0 + \partial_1 FINTECH + \delta \sum Control + u_i + v_i + \varepsilon \lambda_3 \quad (5)$$

$$NII = \beta_0 + \beta_1 FINTECH + \theta \sum Control + u_i + v_i + \varepsilon \quad (6)$$

$$AIE = \gamma_0 + \gamma_1 FINTECH + \omega \sum Control + u_i + v_i + \varepsilon \quad (7)$$

$$RWA = \eta_0 + \eta_1 FINTECH + \eta_2 NII + \eta_3 AIE + \varphi \sum Control + u_i + v_i + \varepsilon \quad (8)$$

Among them, NII represents the non-interest income of rural banks, and AIE represents the interest payment cost of rural banks. According to the testing steps of the multiple mediating effect model, the first step is the regression model (5). If its estimation results meet the requirement that α_1 is significantly negative, the next step can be carried out; otherwise, the testing is stopped. In the second step, regression models (6) and models (7) are used simultaneously. If β_1 is significantly positive and γ_1 is significantly negative, this effect can improve the non-interest income of commercial banks and reduce the interest payment cost. Third step regression model (4 to 8), if the coefficient of η_2 and η_3 significantly but the η_1 was not significant, then non-interest income, interest cost impact on rural commercial bank risk bearing in the partial mediating role, if the coefficient of η_1 , η_2 , and η_3 were

significantly, compared η_1 and α_1 numerical fell, then two intermediary variable has a partial mediation effect.

Table 1. Mediating and moderating variable definitions

Variable Name	Symbol	Definitions (/%)
<i>Weighted risk-asset ratio</i>	RWA	Weighted risk Assets/Total Assets
<i>Non-interest income</i>	NII	Non-interest income/operating income
<i>Cost of servicing</i>	AIE	Interest expense/average interest-paying liabilities

4. CONSTRUCTION OF A MODEL OF MODERATING EFFECTS

According to the theoretical mechanism and research hypothesis mentioned above, to further investigate whether there is a moderating effect of banking competition on the relationship between fintech and risk-taking of commercial banks, this paper constructs a research model that fintech and banking competition jointly act on risk-taking of commercial banks. Benchmark in the regression model based on introducing adjusting variable banking competition (CHII), finance, science and technology (FINTECH) interaction with the banking competition (CHII) both empirical regression and through the interaction coefficient of significance and the positive and negative direction to judge whether the banking competition regulation effect and direction. To avoid multicollinearity, the interaction terms of FINTECH and CHII in the model were decentralized before the moderating effect test, and the moderating effect expansion model was finally constructed:

$$\begin{aligned}
 RWA = & \lambda_0 + \lambda_1 FINTECH + \lambda_2 CHII \\
 & + \lambda_3 FINTECH \times CHII \quad (9) \\
 & + \pi \sum Control + u_i + v_i + \varepsilon
 \end{aligned}$$

Among them, RWA represents the risk bearing level of commercial banks, FINTECH represents the level of financial technology, CHII represents the competition degree of banking industry, and Control is the Control variable. λ_3 is the interaction coefficient between FINTECH (FINTECH) and banking competition (CHII) after decentralization. If λ_3 is less than 0, it means that banking competition can further promote the inhibiting effect of FINTECH on the risk taking of commercial banks. If λ_3 is greater than 0, it means that banking competition will weaken the restraining effect of fintech on commercial banks' risk taking; If it is equal to 0 or insignificant, it indicates that the moderating effect does not exist.

In the context of the rural revitalization strategy, rural grassroots departments should also strengthen the

awareness of rural financial construction. First of all, according to the trend of economic development, rural revitalization strategy and relevant policies and regulations, the development mode of rural finance can be formulated to strengthen the construction awareness of all staff, enhance the professional quality of all staff, and require them to perform their duties and fulfil their responsibilities, and build rural finance and strengthen rural revitalization with a high sense of responsibility. Promote rural financial construction and rural revitalization strategy between a high degree of agreement complete and precise display.

5. CONCLUSION

In order to promote the innovative development of rural finance in the context of rural revitalization strategy, first of all, rural financial institutions should carry out extensive, differentiated and multi-level construction combined with their advantages in spatial position. The exact implementation of Pratt & Whitney, for example, financial development, promote the "three rural" business to flourish and increases the income of farmers out of the poverty of rural financial institutions; according to the registered capital standards, the reserve requirement ratio, capital adequacy and geographical scope of implementation and other factors, such as the supervision and management of the commercial bank's differentiation method, solid for the rural financial institutions "out of sorrow", Promote rural financial institutions to serve rural revitalization unwaveringly and effectively help rural financial institutions to shoulder social responsibilities sustainably. Secondly, at the present stage, vigorously integrating and improving China's existing financial structure has gradually evolved into the general trend of current financial development. However, China still exposed a series of loopholes, such as the imperfect structure of rural financial institutions and severe loss of funds. Therefore, rural financial institutions should take individual and comprehensive supervision to guide the return of funds to rural financial institutions. In order to further develop the local economy, the government should actively guide the capital return of rural financial institutions. At the same time, when integrating and improving existing financial institutions, relevant regulators should also attach great importance to and emphasize active supervision and internal supervision, clarify the effective division of labour among regulators, and reduce supervision costs to some extent. Finally, the rural financial risk warning and monitoring mechanism need to be improved.

Under the grand blueprint of the rural revitalization strategy, rural financial development faces excellent opportunities and challenges. At present, through the process of a rural financial boost, the rural revitalization strategy is still a long way. In order to fully play to the rural financial support, we must improve the rural

financial service consciousness, strengthen the construction of rural finance, and improve the rural financial risk prevention function.

REFERENCES

- [1] J. Huijing et al., "Practical Exploration of Rural E-commerce Boosting Rural Revitalization Based on 4C Model," 2021 2nd International Conference on E-Commerce and Internet Technology (ECIT), Hangzhou, China, 2021, pp. 74-78.
- [2] Z. Xiong and W. Liu, "Exploration of rural e-commerce boosting rural revitalization based on big data," 2021 International Conference on E-Commerce and E-Management (ICECEM), Dalian, China, 2021, pp. 166-169.
- [3] Y. Wang and Y. Yang, "Research on Rural Development Innovation and Development Based on Big Data," 2020 International Conference on Big Data, Artificial Intelligence and Internet of Things Engineering (ICBAIE), Fuzhou, China, 2020, pp. 83-86.
- [4] C. Lv, "Study on the Dynamic Impact of Digital Inclusive Finance on Rural Revitalization — based on systematic GMM and threshold effect test," 2021 2nd International Conference on Big Data Economy and Information Management (BDEIM), 2021, pp. 264-267.
- [5] T. Okamoto, "B to C for Revitalizing Rural Economy," 2008 International Symposium on Applications and the Internet, 2008, pp. 425-428, doi: 10.1109/SAINT.2008.78.
- [6] P. Liu and X. Chuai, "Research on China's Digital Village Construction and Development Path under the Big Data Environment," 2021 2nd International Conference on Big Data Economy and Information Management (BDEIM), Sanya, China, 2021, pp. 286-289.

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