An Empirical Study on Relationship between Rural Financial Development and Economic Growth

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Abstract: Since the reform and opening up, China's economy has achieved sustained and rapid development. But under the long-term pattern of dual economy system, the income gap between rural and urban areas shows a trend of expansion. How to coordinate the development of rural and urban becomes an important subject. Focusing on rural economic growth, the role of rural finance is considered to be one of the core issues. Based on the data of rural loans, rural deposits and agricultural GDP in Zhejiang province from 1990 to 2015, this paper established the VAR model. Empirical research shows that there is a long-term equilibrium relationship between rural financial development and rural economic growth. The expansion of the scale of rural financial development can promote the growth of rural economy, enhancing the efficiency of rural financial intermediation will also contribute to the growth of rural economy. At some time, it gave some policy suggestions.

Keywords: financial development; rural economic growth; financial development scale; efficiency of financial intermediation

1. Introduction

Since 2004, the first policy document from the central government here in China has been focusing on the issues of agriculture, farmer and rural area for twelve years. Three rural issues have become one of the fundamental problems that affect the economic development of our country. For a long time, the research of the rural financial development and rural economic growth is a hotspot of theory and practice to explore, the foreign and domestic research on the issue has been for half a century.

As a complicated systematic project, the rural economic growth needs many factors, among which financial development is one of the important support factors. In recent years, the state pays great attention to the development of rural finance, emphasis on financial services for the three rural, promoting financial deepening reform, promoting the rural economic growth and realizing the coordinated development between urban and rural areas. However, many data show that China's rural economic growth rate is far below the national average, and there is a certain degree of financial repression.

Zhejiang Province, as one of the most active provinces in China, has a special rural economic development since the reform and opening up. As a typical traditional agriculture big province, studying in depth the relationship between rural financial development and economic growth, building a good rural financial system, it will play an important supporting role for the development of rural economy and the adjustment of agricultural industrial structure. Taking Zhejiang Province as an example, this paper aims to further explore the relationship between rural financial development and economic growth, and reveals the main problems in the development of rural finance. Explore the characteristics of agricultural production, and promote the development of agricultural financial model.

2. The status of rural financial development and economic growth in Zhejiang Province.

2.1 Current situation of rural economy in Zhejiang Province

The rural economy is a complex of economic activities, which is directly and indirectly engaged in material production and non-material production. On the basis of a large amount of literature, this paper chooses the agricultural output value of Zhejiang province (figure 1) and the per capita income of rural residents (figure 2) to illustrate the current situation of rural economy in Zhejiang province.

![Total output value of agriculture in Zhejiang province (100 million yuan)](image1)

Figure 1 the total output value of agriculture in Zhejiang Province

According to figure 1 we can find that the agricultural production in Zhejiang province showed an upward trend since 1990. From the annual growth rate, because the factors impacting rural economy in Zhejiang Province are more complex, the growth rate is relatively stable. From 1993-1995 and 2007-2011 years, in this two stages the growth of agricultural GDP is rapid. Access to relevant information we can find that there were major steps of China's rural financial reform.

2.2 Income level of rural residents
Similarly, according to figure 2, we can intuitively find that the income level of rural residents in Zhejiang province and the total output value of agriculture showed the same upward trend. It also shows that the level of rural economy is constantly improving. However, compared with the per capita disposable income of urban residents, it is not difficult to find that the gap between urban and rural areas is constantly widening. Uneven distribution of financial resources and inadequate supply of rural finance, which will increase the gap between urban and rural areas.

2.3 Current situation of rural financial development in Zhejiang Province

Since the reform and opening up, with the changes of the rural economy and the financial situation, China's rural financial system has been largely carried out three major reforms. In the course of rural financial reform, Zhejiang province also positively responded to the policy. At present, the traditional rural financial system has been basically formed, with the policy oriented financial institution based on the Agricultural Development Bank of China, commercial financial institutions based on Agricultural Bank of China, cooperative financial institutions based on rural credit cooperatives. In addition, the establishment of a new type of rural financial institutions in Zhejiang province eased the shortage of financial supply and promoted the development of rural economy in Zhejiang province to a certain extent.

Through the analysis for the rural financial reform in Lishui and Wenzhou, we found it has the following mainly problems in the rural financial development in Zhejiang province:

1) Problems which financial supply shortage and financing difficulties and financing expensive still exist in rural areas.
2) There are higher operating costs and higher risk in rural financial institutions because the financial demand in rural areas is small and scattered and the degree of customer differentiation is higher. 3) Local financial legal system is not perfect, supporting policies In support of the development of financial innovation are not perfect.

3. Empirical analysis

3.1 Index selection

Index of rural economic growth: we choose to use the total output value of agriculture (Y) (that is agriculture forestry fisheries animal husbandry output value) to reflect the situation of rural economic growth. We choose the rural financial development scale (X1) and the rural financial intermediation efficiency (X2) as indicators to express the level of rural financial development. Here are the following equations:

\[ \text{Rural financial development scale (X1)} = \frac{\text{Rural loans + Rural deposits}}{Y} \]

\[ \text{Rural financial intermediation efficiency (X2)} = \frac{\text{Rural loans}}{\text{Rural deposits}} \]

We selected the data from 1990 to 2015 in Zhejiang Province. All data is from the statistical yearbook of Zhejiang. Then we have the following model:

\[ \ln Y = \alpha_0 + \alpha_1 \ln X_1 + \alpha_2 \ln X_2 + \epsilon \]

3.2 Stability test

Using ADF test to analyze the stability about three variables of ln Y, lnX1 and lnX2, by the Unit root test, three variables in the level of the Horizontal level and the 5% level of significance is not stable, but after the first order difference, it becomes a stationary sequence. So, all the variables are single integer sequence, which satisfies the condition of co-integration test. Based on VAR model, Johansen co-integration test is carried out, and the results are shown in table 1:

<table>
<thead>
<tr>
<th>Null hypothesis</th>
<th>Characteristic value</th>
<th>Trace statistic</th>
<th>0.05 critical value</th>
<th>The alue of P</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.535104</td>
<td>28.09697</td>
<td>29.79707</td>
<td>0.0775</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.369716</td>
<td>11.24625</td>
<td>15.49471</td>
<td>0.1968</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.048398</td>
<td>1.09138</td>
<td>3.841466</td>
<td>0.2962</td>
</tr>
</tbody>
</table>

The co-integration equation is: \( \ln Y = 1.362194 \ln X_1 + 8.654756 \ln X_2 \)

3.3 Grainger causality test
In order to clarify the causal relationship between variables, need to carry out the Granger causality test. The test results are shown in the following table 2:

From the table 2 it can be got: LN X1 and LNY are Granger cause each other; LNX2 is the Granger cause for LNY, and LNY is not the Granger cause for LNX2. That is to say, the scale of rural financial development and the growth of rural economy are mutually promoted. The efficiency of rural financial intermediation can promote the rural economic growth, and the rural economic growth can not improve the efficiency of rural financial intermediation.

<table>
<thead>
<tr>
<th>Null hypothesis</th>
<th>F-Statistic</th>
<th>Prob.</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LNX1 does not Granger Cause LNY</td>
<td>4.97415</td>
<td>0.0148</td>
<td>refuse</td>
</tr>
<tr>
<td>LNY does not Granger Cause LNX1</td>
<td>3.65928</td>
<td>0.0389</td>
<td>refuse</td>
</tr>
<tr>
<td>LNX2 does not Granger Cause LNY</td>
<td>0.75939</td>
<td>0.5353</td>
<td>refuse</td>
</tr>
<tr>
<td>LNY does not Granger Cause LNX2</td>
<td>2.03306</td>
<td>0.1555</td>
<td>accept</td>
</tr>
<tr>
<td>LNX2 does not Granger Cause LNX1</td>
<td>0.80464</td>
<td>0.5119</td>
<td>refuse</td>
</tr>
<tr>
<td>LNX1 does not Granger Cause LNX2</td>
<td>1.98725</td>
<td>0.1623</td>
<td>accept</td>
</tr>
</tbody>
</table>

4. Conclusions and recommendations

Based on the above analysis, we give some corresponding suggestions as follows:

1) From the national level, it is necessary to further improve the rural financial laws and regulations, strengthen financial supervision and management, speed up formulate the strategic policy and guidance to adapt the development of rural finance. it is also necessary to draw lessons from the experience of developed countries, to play the power of science and technology, to strengthen the research and development of rural areas with Chinese characteristics.

2) For the township government, it should actively respond to national policy, increase policy support efforts, and effectively implement the financial services. The development of the rural financial market needs government intervention, local government can provide special funds for the development of local agricultural projects to provide subsidies to alleviate the problem of rural financial supply.

3) For rural financial institutions, should accelerate the improvement of local financial system, power supply the structural reform of supply-side. It is necessary to promote rural credit cooperatives into rural commercial banks, expand the scale of operations, strengthen the protection of financial factors. In addition, how to improve the deposit ratio and the efficiency of fixed assets investment is particularly important. The whole rural financial service system should strengthen information transparency and improve the efficiency of financial intermediation.

4) For rural itself, should integrate natural resources, play their own advantages, enhance the comprehensive competitiveness, rational use of national policy concessions, and go for the road of economic development in rural areas.

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References