An Analysis of Regional Differences between Financial Development and Rural-Urban Income Gap in China

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ABSTRACT: This paper mainly discusses the relationship between financial development and rural-urban income gap in eastern, middle and western regions in China during the period of 1980-2015, and analyzes the difference between the two relations in the three regions. The research results show that the scale and efficiency of the financial development in the whole country have enlarged the income gap between urban and rural areas. The impact of financial development scale on the rural-urban income gap in the eastern and western regions is significantly greater than that in the middle regions and the whole country, while the impact of financial development efficiency on the rural-urban income gap in the East and the whole country is significantly greater than in the Middle and Western regions.

1 INTRODUCTION

Since the implementation of reform and opening up in China in 1978, the economy has been growing rapidly and the income of residents has been increasing, but the income gap between urban and rural residents has become more and more serious. How to narrow the gap between urban and rural areas and to promote the coordinated development of urban and rural areas is a major challenge for China. Different scholars have different views on the impact of financial development on income distribution. Some scholars believe that financial development promotes economic growth and reduces inequality, which is conducive to narrowing the income gap between urban and rural areas; while some scholars believe that the financial development makes the income distribution more unequal and it is more conducive to the rich because they have a smaller risk of default who can provide collateral, and then funds flow to the rich under the market mechanism. However, the reality is that China's economy has maintained high-speed growth, but the income gap has gradually increased. This shows that the relationship between China's financial development and economic growth is not only in the volume, but also in structure, the overall development does not necessarily make the balanced development of the structure. So it is of great significance to explore whether it can provide a reasonable explanation for the expansion of the rural-urban income gap from the perspective of financial development.

2 THEORY ILLUSTRATION

2.1 The reasons and ways of financial development to the income gap

On the impact of financial development on income distribution, different scholars have different views: some people think that financial development promotes the economic growth and reduces inequality, which is conducive to narrowing the income gap between urban and rural areas, while there are also some people thinking that financial development makes the income distribution more unequal and it is more conducive to the rich because they have a smaller risk of default who can provide collateral, and then funds flow to the rich under the market mechanism. However, the reality is that China's economy has maintained high-speed growth, but the income gap has gradually increased. Thus, the relationship between financial development and economic growth in China is not only in quantity, but also has an important relationship with the structure, the overall development does not necessarily make the structure of balanced development, so it is of great significance to research the rural-urban income gap from the perspective of financial development.

The causes of the financial development to the income gap are mainly in the following aspects:

1. The influence of financial development on family education decision. Liu Yuguang (2013) pointed out that because of the unequal educational policy between urban and rural areas, the investment in human capital between urban and rural areas is obviously different. Urban educational facilities and
the level is relatively superior to that of rural and rural education cost is relatively higher than that in urban areas, and rural income is lower which lead to differences of education influence on the income gap between urban and rural areas have accelerated. Because poor families do not have enough collateral for the guarantee of goods, there may be no way to educate their children for financing, which is detrimental to the accumulation of human capital, thereby reducing income and expand the income gap between urban and rural areas.

2) The impact of financial development on investment opportunities. Adverse selection and moral hazard in financial markets hindered the balanced development of financial. Because better financial services such as loans will turn to the high-income class due to financial market imperfections or a borrower's income, this inequality is such that even low-income people have better investment opportunities may not be able to obtain funding, thus reducing their income. Therefore, financial development is more likely to further widen the income gap through the impact on investment opportunities.

3) The impact of financial development on the labor market. Financial development, if not increase the chance of direct access to financial services for the poor, can also provide more employment opportunities for them to narrow the income gap between urban and rural areas. Whether the indirect impact on income inequality is to expand or reduce the effect, the key is that financial development is an increase in demand for unskilled workers or skilled workers.

2.2 The effect of financial development on income gap

Generally speaking, financial development is mainly through the provision of financial services and its application in society to affect the income gap between urban and rural areas. Zhang Lijun (2006) pointed out that the effects of financial development on the urban-rural income gap are mainly in three aspects:

1) Threshold Effect

Threshold effect of financial development means that in the early stages of financial development, the financial system is imperfect, and there is a threshold when residents participate and enjoy the financial services, such as the need to pay a certain cost, which makes the poor cannot enjoy the financial services well, but the rich have enough money to cover the costs, so the rich can invest their funds in a higher yield department, to increase revenue, which makes the income gap between the poor and the rich to expand. Only when the financial system is perfect enough, it may make their income gap gradually narrowed.

2) Reduce Poverty

Poverty reduction effect is to make low income people enjoy the financial services through the development of micro finance, to share the benefits of economic development, increase revenue, thereby reducing poverty. This effect is mainly reflected in two aspects: First, financial development may promote economic growth, so that the poor can enjoy the benefits of financial development, and increase their income, which is the indirect channels of financial development to reduce poverty. The other is that through the development of specialized micro finance for rural or low-income groups, it can provide them with micro finance or financial support for their production and life, to help them get rid of poverty. This is a direct channel for financial development to reduce poverty.

3) Non-equilibrium Effect

Non-equilibrium effect is a developing country with limited financial resources, so there may be the distribution of financial resources between regions, urban and rural areas is not balanced phenomenon, which will affect the income gap between urban and rural areas. The non-equilibrium effects of financial development include non-equilibrium between regions and unbalanced urban and rural areas. In contrast, the non-equilibrium between urban and rural areas is more affected by the rural-urban income gap.

3 THE CURRENT SITUATION OF FINANCIAL DEVELOPMENT AND THE RURAL-URBAN INCOME GAP

3.1 Current situation of financial development

As can be seen from Figure 1, either national or eastern, central and western financial development scale (balance of deposits and loans of financial institutions/GDP) are rising, from a national perspective the scale of development finance from 1980 to 2015 tripled, which can get a glimpse of the development of China's financial industry since the reform and opening up, however, regional differences in the development of China's financial scale is also evident, for example, the three basic areas of financial development at the same pace in 2000, after 2000 due to the eastern region economic development implementation of the western development strategy which lead to the development of the financial industry, while the size of the central region at a time when financial development is relatively slow.

Figure 2 reflects the difference of financial development efficiency (balance of deposits and loan of financial institutions) of the country and the three regions. From a national perspective, the development of China's financial efficiency
continues to improve, in 2015 the development of the financial efficiency is almost three times of it in 1980, and the development of the eastern and central part of the country with the basic synchronization, showed a rising trend, and the efficiency of financial development in the western region has shown a greater volatility in 1982, reaching a peak of about 1.5 first, then start decline in 1990 dropped to the lowest point of 0.8, and then began to rise to a second peak in 2008 and then began to decline, the efficiency of financial development in western regions exhibit volatility indicates that some of the problems existing in the development of the western regions need to be addressed. This paper analyzes the relationship between financial development and rural-urban income gap, so keeping the western region of stable financial development efficiency may be more conducive to narrowing the income gap between urban and rural areas.

3.2 Current situation of urban and rural income gap

Figure 3 shows that the absolute income gap between urban and rural areas (that is, the per capita disposable income of urban residents minus the per capita net income of rural residents) before 1985 is smaller, and regional differences are not significant. After 1985, the income gap between urban and rural areas gradually increased, especially in the eastern region, the largest income gap in 2015 reached 21424.12 Yuan, exceeding the national average. At this time, the central and western regions of the income gap between urban and rural areas were 15793.78 Yuan and 16967.48 Yuan. After 2000, the

gap between the eastern region and the central and western regions has gradually expanded, and has continued to expand. Overall, the regional differences in urban and rural income gap between the central and western regions are small, far behind the income gap between the country and the eastern region.

Figure 4 shows the relative income gap in the western region (i.e., the per capita disposable income of urban residents per capita net income of rural residents) is much higher than the national and the Middle East region. In 2015, for example, the western region of urban and rural income gap is 2.98 times, at this time the eastern region of urban and rural income gap is 2.41 times, the country is 2.73 times.

It can be concluded that the absolute income gap is the largest in the eastern region, and the central area is the smallest. The relative income gap between the eastern region and the western region is the smallest. Therefore, due to the regional differences in China's economic development, the income gap between urban and rural areas also has a certain regional gap. Moreover, the central and western regions not only to speed up economic development, but also to strive to narrow the income gap between urban and rural areas, which has a great challenge to the government work. Based on this, this article, from the perspective of financial development, explore the relationship between financial development and rural-urban income gap, analysis the regional differences, and put forward suggestions for local government.
4 DATA AND EMPIRICAL STRATEGY

In this paper, we first examine the relationship between the financial development and the urban-rural income gap in the East, middle and west regions of China and the country. Then compare the relationship between the two, in order to test whether the regional differences in the relationship between financial development and urban rural income gap exist and exist in the form of.

4.1 Index selection and model setting

4.1.1 Urban and rural income gap index (GAP)

At present, the selection of this index is mainly: Zhang Lijun, Zhan Yong (2006). Zhai Lihong, Zhi Gao Xu (2009) use the ratio of disposable income of urban residents and per capita net income of rural residents to measure the rural-urban income gap. There are also some scholars directly with the Gini coefficient to measure, and scholars such as Wang Zheng, Lu Zhaoyang (2011), use Theil index to measure. In this paper, we will use the first method to measure the income gap between urban and rural areas.

4.1.2 Financial development indicators, including the size of the financial development and financial development efficiency

Based on the data available, this paper use the regional financial institutions deposit loans accounted for the balance of the GDP proportion to measure the size of the financial development (FD), and financial development efficiency (FE) index is measured with the ratio of total loans of financial institutions total savings deposits with financial institutions.

4.1.3 Control variables

In order to study the relationship between financial development and the rural-urban income gap, some control variables are added in the model: Economic development level (ED) using per capita GDP to show the impact of economic growth on the income gap; Urbanization level (URB) with the proportion of the total population of the urban population to represent the level of Urbanization; Industrial structure (INF) with the added value of third industries accounted for the proportion of GDP to indicate the concentration of industrial structure.

The actual research model of this paper is as follows:

\[
\text{GAP}_{it} = \alpha_4 \text{FD}_{it} + \alpha_2 \text{FE}_{it} + \alpha_3 \text{ED}_{it} + \alpha_4 \text{URB}_{it} + \alpha_5 \text{INF}_{it} + \xi_i
\]

(1)

Where \(i\) represents the area, \(t\) represent the year, \(\xi\) said random disturbance term.

In this paper, the empirical analysis period is 1980-2013 years, and the data are collected from China Statistical Yearbook and China Financial Statistical Yearbook, from 29 provinces and cities in China (except Hainan and Qinghai).

4.2 Stability test

In order to eliminate the possible different variance in the original sequence, the data are processed by logarithm, which are denoted as lngap, Lnfd, Infe, Lned, Inurb and Lninf with the help of EViews7.0 data processing. What’s more, the ADF method is used to test the stability of each sequence.

From the test results, we can see that the original sequence of the six variables in the whole country and the East Central and western regions is a non stationary sequence. But at least 10% of the significant level, the first difference sequence of these variables is a smooth sequence. So these variables in the East and west of China are all single and whole, and there may be co integration relationship between them.

4.3 Co integration test

Co integration is the relationship between variables, in this paper, we use the Johansen test method to test the co integration relationship. Before the test, the VAR model is established, and the lag order of the model is determined according to the AIC criterion and the SC criterion. The lag order of the VAR model in the eastern region is 2, the lag order of the VAR model in the central region is 3, the lag order of the VAR model is 2, and the lag order of the national VAR model is 3. After co integration test, the specific co integration relationship is as follows:

The east:

\[
\text{Lnegap} = 1.18 \text{lnfe} + 3.00 \text{lnfd} - 0.46 \text{lned}
\]

+0.46 \text{lnurb} - 2.00 \text{lninf} + 0.92

(2)

The middle:

\[
\text{Lnmgap} = 0.23 \text{lnmfe} + 0.42 \text{lnmfd} - 0.12 \text{lnmed}
\]

+1.03 \text{lnmurb} - 0.49 \text{lnminf} + 2.1

(3)

The west:

\[
\text{Lnwgap} = 0.56 \text{lnwfe} + 2.27 \text{lnwfd} - 0.51 \text{lnwed}
\]

+0.50 \text{lnwurb} - 0.17 \text{lnwinf} + 4.06

(4)

The whole nation:

\[
\text{Lnagap} = 1.08 \text{lnfe} + 0.07 \text{lnfd} + 0.02 \text{lned}
\]

-0.45 \text{lnurb} - 0.35 \text{lninf} - 0.22

(5)

By equation (2) (3) (4) (5), the rural-urban income gap in China is positively correlated with the financial development scale and the financial development efficiency. Financial development scale, and efficiency changes every 1%, respectively, will make the rural-urban income gap in the eastern region positively changes 1.18% and 3%, in the middle positively changes 0.23% and 0.42%, the
western positively changes 0.56% and 2.27%, and the whole nation positively changes 1.08% and 0.07%.

In addition, the rural-urban income gap and the industrial structure are negative correlation; the rural-urban income gap is positively correlated with the level of economic development in the whole country; while in the three regions, the income gap is negatively correlated. The relationship between the level of urbanization and the rural-urban income gap is negatively related to the performance of the whole country, while in the three regions of the country it is positive correlation. Visibly, due to the factors of regional differences, the national and East Central and western regions in the urban-rural income gap and the relationship between the variables is not very consistent.

4.4 Granger causality tests

The co-integration relation only represents the correlation between variables, in order to test the causal relationship between them, this paper uses the Granger causality test. From the result, we can see that in the eastern region and the whole country, the efficiency of financial development and the income gap between urban and rural areas has a two-way Granger causality. In the central and western regions, the efficiency of financial development is not the Granger reason of the income gap between urban and rural areas, but the income gap between urban and rural areas is the Granger reason for the efficiency of financial development. In the whole country and the eastern and western regions, the scale of financial development is the Granger reason of the income gap between urban and rural areas, but the income gap between urban and rural areas is not the scale of the financial development of Granger reasons.

5 RESULTS

To sum up, for the whole country and the three regions, there is a long-term stable relationship between the financial development scale and the efficiency of financial development and the rural-urban income gap. The income gap between urban and rural areas in China and the three regions is positively correlated with the scale and efficiency of financial development. Even so, there are regional differences between three regions and the whole country. The effect of financial development efficiency on the rural-urban income gap in the East and the whole country is significantly greater than that in the central and western regions. Therefore, from the perspective of financial development, in order to narrow the income gap between urban and rural areas and regional differences, and promote the stable development of China's economic balance, there are a lot of things to do for our government.

REFERENCES