

The Analysis on the Influence of the Development of Inclusive Finance on the Income Gap between Urban and Rural Residents in Shanxi Province

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Abstract

The financial industry is the leader and main force of the real economy, and the rapid development of inclusive finance has greater economic value and practical significance for completing the strategic tasks of poverty alleviation and building a well-off society in an all-round way. This paper takes 11 prefecture-level cities in Shanxi Province as the main research unit, selects the relevant data of inclusive finance in the 10 years from 2010 to 2019, respectively, from the three aspects of utility, availability and permeability of inclusive financial services, weights the measurement index system of inclusive finance in Shanxi Province through the coefficient of variation method, and comprehensively calculates the inclusive financial index (IFI) of each city in Shanxi Province. 15 Multiple regression analysis was carried out, and through systematic research, it was found that the effect of Shanxi Province in narrowing the income gap between urban and rural residents through the development of inclusive finance was not significant.

Keywords

IFI Index; The Income Gap between Urban and Rural Residents; Shanxi Province.

1. Introduction

On the basis of consulting a large number of literature, based on the theoretical guidance of inclusive finance, combined with the current situation of inclusive financial development in Shanxi Province, the study used three analytical methods to analyze inclusive finance in Shanxi Province: empirical analysis method, literature review method, qualitative and quantitative combination, analyzed Shanxi Province, followed the principle of reasonableness, truthfulness and effectiveness, constructed an index system for inclusive finance, and analyzed the development level of inclusive finance on the basis of the calculation method of inclusive financial index (IFI), based on the data from 2010 to 2019, the current situation and measurement analysis of the income gap between urban and rural residents in Shanxi Province and various cities were elaborated, and the impact of inclusive financial development in Shanxi Province on the income gap between urban and rural residents was studied by stata, and the corresponding analysis results were obtained, and at the same time, accurate differentiated suggestions were also given on how to narrow the income gap between urban and rural residents in Shanxi Province.

2. Analysis of the Current Situation of Inclusive Financial Development and the Income Gap between Urban and Rural Residents in Shanxi Province

2.1. Analysis of the Current Situation of Inclusive Financial Development in Shanxi Province

Combined with the actual situation of the development of inclusive finance in various cities in Shanxi Province and the characteristics of the province, the inclusive financial evaluation system of each city in Shanxi Province is constructed from the three perspectives of utility, availability and penetration of financial services.

Considering that the financial system of Shanxi Province is mainly banking, the measurement of the Inclusive Finance Index is mainly based on the data of banking financial institutions in Shanxi Province. Although there is currently an inclusive financial evaluation index system in China, it is lacking in the selection of specific indicators, such as the number of bank financial institution outlets per 100 square kilometers and the ratio of deposits and loans to GDP. These indicators are in line with the topographic characteristics of Shanxi Province's mountainous areas and relatively backward economic conditions. Therefore, combined with the characteristics of Shanxi Province and the availability of data, this paper selects the utility, availability and permeability of financial services as the measurement dimensions when constructing the inclusive financial evaluation system of Shanxi Province.

The utility of financial services: It refers to whether the financial resources of the financial institution's region can be maximized, which shows whether the region can avoid capital mismatches and the ability of social groups to access credit services. Wen Tao's (2016) [1] study shows that most of the funds are mainly controlled by high-income groups or groups of people, so that the equal access of low-income groups to formal financial services is constantly weakened, and the rights they should enjoy are not well used. Therefore, when measuring the utility of financial services, this paper selects the ratio of bank deposits and loans to GDP as a specific indicator.

Availability of financial services: The ability and level of a region's financial system to best meet the needs of different classes for deposits and loans. Although most studies consider local small and micro enterprises, urban low-income individuals, and farmers to use banking and financial institutions as the main targets for obtaining loans and deposits, credit exclusion is particularly pronounced because such groups in Shanxi Province generally suffer from undue financial exclusion due to the lack of collateral. Therefore, when measuring the availability of financial services, this paper selects the balance of bank deposits per capita and the balance of bank loans per capita as specific indicators.

Penetration of financial services: It refers to the extent to which the financial system of a region covers the financial services and products provided by people in that region. Generally speaking, the geographical penetration rate is inversely proportional to the cost consumed by residents to financial institutions, and the higher the geographical penetration, the lower the cost of resident consumption, and the more it can encourage residents to handle business at financial institution outlets, so as to increase the participation of people in financial services. For Shanxi Province, the permeability is mainly manifested in the supply and distribution of banking and financial institutions in various cities, thus reflecting the degree of financial exclusion of low-income groups in Shanxi Province. Therefore, when measuring the penetration of financial services, this paper selects the number of bank financial institutions per square kilometer and the number of bank institution outlets per 10,000 people as specific indicators.

According to the calculation method of the inclusive financial index, the data of 11 cities in Shanxi Province from the three aspects of the utility, availability and penetration of financial

services are calculated from three aspects, and the corresponding inclusive financial index is obtained.

Table 1. Inclusive Financial Index of Shanxi Province

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Taiyuan	0.11	0.12	0.12	0.13	0.13	0.13	0.13	0.19	0.19	0.19
Datong	0.05	0.05	0.05	0.07	0.07	0.06	0.07	0.05	0.05	0.06
Yangquan	0.24	0.21	0.29	0.34	0.31	0.3	0.27	0.34	0.33	0.37
Changzhi	0.29	0.3	0.3	0.32	0.33	0.3	0.31	0.38	0.37	0.39
Jincheng	0.56	0.54	0.58	0.65	0.62	0.56	0.55	0.62	0.6	0.61
Shuozhou	0.05	0.05	0.05	0.05	0.06	0.08	0.08	0.15	0.13	0.15
Yuncheng	0.19	0.22	0.23	0.24	0.22	0.21	0.21	0.27	0.27	0.27
Jinzhong	0.46	0.47	0.49	0.51	0.49	0.43	0.43	0.48	0.45	0.47
Linfen	0.28	0.28	0.29	0.29	0.3	0.23	0.23	0.3	0.3	0.29
Lvliang	0.53	0.54	0.53	0.55	0.57	0.56	0.56	0.55	0.55	0.56

From Table 1, it can be seen that the overall volatility of the inclusive financial index in various cities in Shanxi Province has increased. Among them: some have grown rapidly, such as the IFI value of Shuozhou City from 0.05 in 2010 to 0.15 in 2019, but it has risen slowly compared with most, such as jinzhong city from 0.46 in 2010 to 0.47 in 2019, and Datong city from 0.05 in 2010 to 0.06 in 2019. In addition, it can be learned that the regional differences in the development of inclusive finance in Shanxi Province are obvious and unbalanced, according to the classification of the inclusive financial index in the Sarma (2011) [2] study, $0.5 \leq IFI < 1$ is highly inclusive, $0.3 \leq IFI < 0.5$ is moderately inclusive, and $0 \leq IFI < 0.3$ is low inclusive. Among the 11 cities in Shanxi Province, Jincheng City and Lvliang City are highly inclusive finance, Yangquan City, Changzhi City, Jinzhong City and Xinzhou City are at a moderate level, and Taiyuan City, Datong City, Shuozhou City, Yuncheng City and Linfen City are at a low level.

2.2. Analysis of the Current Situation of Income Gap between Urban and Rural Residents in Shanxi Province

According to most research analyses [3], the Gini coefficient or the ratio of per capita disposable income of urban and rural residents is usually used to measure the income gap between urban and rural residents, and the effects of both methods are obvious, but each has advantages and disadvantages. Considering the simplicity of the calculation method [4], the latter was chosen. Therefore, the ratio of urban and rural per capita disposable income is measured to measure the urban-rural income gap. Therefore, this paper uses this method to calculate the income gap between urban and rural residents in Shanxi Province.

According to Table 2, the per capita disposable income ratio of urban and rural residents in 11 cities in Shanxi Province decreased to different degrees in the 10 years from 2010 to 2019. It can be clearly understood that Taiyuan City's decline from 2.27 times in 2010 to 1.98 times in 2019, a decrease of 12.78%. Datong City fell from 3.96 times in 2010 to 3.01 times in 2019, a decrease of 23.99%, Yangquan City fell from 2.60 times in 2010 to 2.18 times in 2019, a decrease of 16.15%, Changzhi City fell from 2.87 times in 2010 to 2.27 times, a decrease of 20.91%, and Jincheng City fell from 2.94 times in 2010 to 2.34 times in 2019, a decrease of 20.41%. Shuozhou City fell from 2.97 times in 2010 to 2.38 times in 2019, a decrease of 19.87%, Jinzhong City fell from 2.99 times in 2010 to 2.39 times in 2019, a decrease of 20.07%, Yuncheng city fell from 3.19 times in 2010 to 2.60 times in 2019, a decrease of 18.50%, and Xinzhou City fell from 4.34 times in 2010 to 3.31 times in 2019, a decrease of 23.73%. Linfen City fell from 3.05 times in 2010 to 2.57 times in 2019, a decrease of 15.74%, and Luliang City fell from 3.93

times in 2010 to 2.93 times in 2019, a decrease of 25.45%. It can be seen from this that the income gap between urban and rural residents in Luliang City has narrowed the most, while the effect of Taiyuan City is slightly insufficient.

Table 2. The ratio of per capita disposable income of urban and rural residents in Shanxi Province

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Taiyuan	2.27	2.27	2.24	2.13	2.04	2.03	2.03	2.02	2	1.98
Datong	3.96	3.83	3.83	3.37	3.23	3.21	3.2	3.16	3.08	3.01
Yangquan	2.6	2.64	2.5	2.39	2.31	2.3	2.28	2.28	2.24	2.18
Changzhi	2.87	2.84	2.78	2.5	2.38	2.38	2.37	2.37	2.32	2.27
Jincheng	2.94	2.86	2.8	2.58	2.47	2.44	2.43	2.41	2.37	2.34
Shuozhou	2.97	2.89	2.92	2.66	2.54	2.54	2.53	2.52	2.45	2.38
Yuncheng	2.99	2.92	2.88	2.64	2.54	2.53	2.53	2.51	2.46	2.39
Jinzhong	3.19	3.09	3.08	2.88	2.74	2.76	2.74	2.73	2.67	2.6
Linfen	4.34	4.15	4.08	3.75	3.56	3.58	3.56	3.5	3.41	3.31
Lvliang	3.05	3.59	3.11	2.82	2.7	2.72	2.71	2.69	2.64	2.57

3. An Empirical Analysis of the Impact of Inclusive Financial Development on the Income Gap between Urban and Rural Residents in Shanxi Province

3.1. Data Source, Variable Selection

The data in this article are mainly derived from the 2010-2019 Shanxi Statistical Yearbook and the Shanxi Financial Operation Report.

The urban-rural income gap (gap) is selected as the dependent variable, and the larger the variable value, the greater the income gap between urban and rural residents in the area. The Inclusive Finance Index (IFI) was selected as an independent variable, the larger the variable value, indicating that the higher the level of inclusive financial development in the place. The degree of government intervention, the rate of urbanization, and the level of economic development were selected as the control variables.

3.2. Empirical Results and Analysis

Table 3. Descriptive statistics for variable data

variable	sample	mean	standard	max	min
gap	110	2.86	0.52	4.34	1.98
ifi	110	0.32	0.18	0.65	0.05
ur	110	0.55	0.12	0.85	0.38
gov	110	0.20	0.06	0.37	0.11
pgdp	110	39159.08	23646.59	232155	6343

From the analysis results of Table 3, it can be seen that the average value of gap of the dependent variable is 2.86, the standard deviation is 0.52, the maximum value is 4.34, and the minimum value is 1.98, which fully shows that the income gap between urban and rural residents in 11 cities in Shanxi Province is too large, while the average value of ifi is 0.32, the standard deviation is 0.18, the maximum value is 0.65, and the minimum value is 0.05, which indicates that there is a large gap in the level of inclusive financial development between 11 cities in Shanxi Province. Regional differences are clear.

Table 4. Correlations between variables

	Gap	ifi	ur	gov	pgdp
gap	1.00				
ifi	0.14	1.00			
ur	-0.63	-0.36	1.00		
gov	0.54	0.26	-0.36	1.00	
pgdp	-0.45	-0.13	0.40	-0.22	1.00

From Table 4, it can be seen that the correlation coefficient between variables does not exceed 0.8, which can indicate that the variables remain independent of each other, and can better illustrate the influence of independent variables and control variables on the dependent variables. However, the correlation coefficients between the urbanization rate and the degree of government intervention and the income gap between urban and rural residents are high, -0.63 and 0.54, respectively, which may be due to the fact that there are too few variables considered, and further research is needed.

Table 5. Variable multiple regression results

gap	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval]	
ifi	-0.44	0.21	-2.14	0.03	-0.85	-0.04
ur	-2.07	0.34	-6.06	0.00	-2.74	-1.40
gov	3.12	0.59	5.28	0.00	1.97	4.28
pgdp	-0.00	0.00	-2.78	0.00	-0.00	-0.00
_cons	3.63	0.26	14.04	0.00	3.12	4.13

From Table 5, it can be seen that the coefficient of the Inclusive Finance Index is negative, -0.441, indicating that for every additional unit of the Inclusive Financial Development Index (IFI), the income gap between urban and rural residents can be reduced by 0.44, and the independent variable has 97% credibility. Among them, the coefficients of urbanization rate and economic development level are also negative, -2.07 and -0.00, respectively, indicating that each unit increase in the urbanization rate can reduce the income gap between urban and rural residents by 2.07 units, and the income gap between urban and rural residents that can be reduced by each increase in the level of economic development is ignored, and only the coefficient of government intervention is positive, 3.12, indicating that every unit increase in the degree of government intervention will widen the income gap between urban and rural residents of 3.12 units. Considering the impact of various variables, it is found that at present, the development of inclusive finance in Shanxi Province has not significantly affected the narrowing of the income gap between urban and rural residents.

4. Conclusion

First, traditional financial services in Shanxi province are still the main service model, and the number of financial institutions in rural areas is relatively small. Secondly, the development of inclusive finance in prefecture-level cities in Shanxi Province is at a medium and low level, but it has shown a steady upward trend. Then, the income gap between urban and rural residents in Shanxi Province showed a stable downward trend in the past 10 years, and the magnitude was different. Finally, the development of inclusive finance in Shanxi Province has not played a significant role in narrowing the income gap between urban and rural residents. From the perspective of dependent variables, every additional unit of the Inclusive Financial

Development Index (IFI) can reduce the income gap between urban and rural residents by 0.44, and the effect is not obvious. From the perspective of control variables, each unit increase in the urbanization rate can reduce the income gap between urban and rural residents by 2.07 units, and each unit increase in the degree of government intervention will widen the income gap between urban and rural residents by 3.124 units. And with the improvement of the level of economic development, it has little impact on narrowing the income gap between urban and rural populations. It can be analyzed from this that the development of urbanization has the most obvious effect on narrowing the income gap between urban and rural residents.

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