

Circulation Industry Agglomeration, Internet Development and Urban-rural Income Gap

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Abstract

After adopting the dual fixed effects model for analysis based on the provincial panel data from 2004-2019, the result shows circulation industry agglomeration on urban-rural income gap presents an inverted U-shaped trend. Besides, when Internet development index is used as the threshold variable, circulation industry agglomeration more quickly narrows the urban-rural income gap with the high level of Internet development.

Keywords

Circulation Industry Agglomeration; Internet Development; Urban-rural Income Gap.

1. Introduction

Unbalanced development between urban and rural areas has been the difficulties faced by China's social development. The fifth plenary session of the party's 19 file first highlighted "solid promote common prosperity". At the same time, since the party's 19, the country attach great importance to the development of circulation industry, repeatedly stressed the importance of building modern circulation system. A worth thinking about the question is: in the era of information network, the circulation industry agglomeration can accelerate the breakthrough development imbalance problem of inadequate, close the income gap between urban and rural areas?

Domestic and foreign scholars carry out the continuous research on the phenomenon of urban and rural residents income gap of our country. Represented by Fang Cai, Tao Yang (2000) scholars from the institutional factors analyzed the cause of China's urban and rural income gap has widened before and after the reform and opening up. Some foreign scholars research conclusion is also similar (Kanbur & Zhang, 2005). Then, some scholars on the basis of CAI fang, the further explore: existing research results show that the reason is the interaction of economic operation and social class (Guangbin Lin, 2004). For how to close the income gap between urban and rural areas, some scholars used labor market distortions as a starting point for the inquiry (Yi Du, 2009). Reviewing the existing literature, the author found out that the circulation industry agglomeration to consider for the factors influencing the residents' income gap between urban and rural areas of literature is relatively few. Therefore, on the basis of the existing literature, this paper may be of marginal contribution lies in: from the angle of the circulation industry cluster, combined with the level of Internet development, research the circulation industry agglomeration effects on the income gap between urban and rural areas, which is a good complement to existing research.

2. Research Hypothesis

In general, due to the characteristics of the circulation industry, circulation industry agglomeration level rising is conducive to the further development of circulation industry. And the role of circulation industry development not only can close the income gap between urban

and rural areas, but also enlarge the income gap between urban and rural areas(Lijuan Xie,2021). On the one hand, because of the traditional agricultural production with low profit, the improvement of circulation industry cluster may make limited resources to concentrate in urban areas, then enlarge urban and rural income gap. On the other hand, the circulation industry itself has a fundamental role in promoting social employment(Guoxiong Huang,2005;Xiaodong Wang,2010), the improvement of circulation industry agglomeration can strengthen circulation industry's employment absorption capacity, then close the income gap between urban and rural areas. The searching theory thinks there is information asymmetry in the market, the buyer and seller in the process of matching must pay for the search cost. In the Labour market, the high "search-match" cost will limit job searching behaviors, When the " search-match " cost is lower, job seekers can search to the fullest, which may enhance the level of income. Therefore, based on the above analysis, this paper puts forward the following hypothesis:

The research hypothesis 1: The circulation industry agglomeration on urban-rural income gap presents an inverted U-shaped trend.

The research hypothesis 2: Raising the level of development of the Internet can make "U" curve shift to the left.

3. Data Processing and Research Design

3.1. Model Building

To verify the circulation industry agglomeration and urban and rural income gap between the "inverted U" relationship, this paper builds the following dual fixed effects model:

$$Y_{it} = \beta_0 + \beta_1 r_{it}^2 + \beta_2 r_{it} + \beta_3 X_{it} + \mu_i + \delta_t + \varepsilon_{it} \quad (1)$$

The i of type (1) represents the province (city, area), t represents the year, Y are the income gap between urban and rural areas, r represents the circulation industry agglomeration level, X represents control variables.

Based on the above theory analysis, under the different level of Internet development, the circulation industry agglomeration effect of urban and rural income gap may change. Therefore, building panel threshold model as follows:

$$Y_{it} = \eta_0 + \eta_1 r_{it}^2 I(web_{it} \leq \theta) + \eta_2 r_{it}^2 I(web_{it} > \theta) + \eta_3 r_{it} I(web_{it} \leq \theta) + \eta_4 r_{it} I(web_{it} > \theta) + \eta_5 X_{it} + \mu_i + \delta_t + \varepsilon_{it} \quad (2)$$

Type (2) considers the single threshold. The web represents the Internet web development index, which is the threshold variable in the model. Other variables setting is the same as type (1).

3.2. Variable Measure and Instructions

Reference to existing literature(Shaoping Wang,2007), using the Theil index to measure the income gap between urban and rural areas. This paper refers to Luo Yong's article(2005) for calculating the circulation industry agglomeration level. Using the entropy method to get the Internet development index.

3.3. Data Sources and Descriptive Statistics

This article uses the panel data from the 2004-2019, 29 provinces (autonomous regions and municipalities). The data stem from the National Bureau of Statistics. The descriptive statistics of the variables are shown in table 1.

Table 1. Descriptive statistics (N=464)

Type	Character	Mean	Min	Max
Interpreted variable	<i>Theil</i>	0.144	0.000	0.652
	<i>incomec</i>	9.704	8.876	10.872
	<i>incomer</i>	8.689	7.451	10.035
Explanatory variable	<i>r</i>	0.342	0.171	0.476
Threshold variable	<i>web</i>	0.216	0.000	0.924
	<i>urban</i>	0.539	0.139	0.896
Control variable	<i>fdi</i>	10.830	7.278	14.480
	<i>agdp</i>	3.978	0.422	16.150
	<i>tech</i>	13.210	7.542	17.860
	<i>popud</i>	7.743	5.226	8.7490

4. The Benchmark Return

Table 2 shows the circulation industry agglomeration benchmark regression results of the income gap between urban and rural areas. The relationship between the circulation industry agglomeration and the rural residents income is "U". But no significant effect on the urban residents income, which support the research hypothesis 1.

Table 2. Benchmark regression results

variable	(1) <i>Theil</i>	(2) <i>incomec</i>	(3) <i>incomer</i>
r^2	-6.405* (3.194)	0.776 (2.686)	6.958** (2.973)
r	5.620* (3.132)	-0.558 (2.534)	-5.695** (2.470)
<i>urban</i>	-0.672*** (0.139)	0.172* (0.097)	0.358** (0.164)
<i>fdi</i>	0.047** (0.018)	-0.003 (0.008)	-0.027* (0.016)
<i>agdp</i>	0.034*** (0.006)	0.003 (0.004)	-0.018** (0.007)
<i>tech</i>	0.008 (0.006)	-0.002 (0.005)	-0.007 (0.009)
<i>popud</i>	-0.018 (0.011)	0.000 (0.006)	0.001 (0.010)
constant	-1.137 (0.791)	9.186*** (0.531)	9.399*** (0.541)
Provincial fixed effect	YES	YES	YES
Time fixed effect	YES	YES	YES
N	464	464	464
R ²	0.849	0.994	0.991

5. Mechanism of Inspection

Table 3 shows the "inverted U" curve of circulation industry agglomeration level and the income gap between urban and rural areas moves to the left with the rising of the Internet development level, which support the research hypothesis 2.

Table 3. Threshold regression results

variable	(1) <i>Theil</i>	(2) <i>incomec</i>	(3) <i>incomer</i>
$r_i^2 I(web_i \leq \theta)$	-6.092*** (1.768)	0.139 (1.413)	7.893*** (1.995)
$r_i I(web_i \leq \theta)$	5.159*** (1.680)	0.039 (1.343)	-5.923*** (1.892)
$r_i^2 I(web_i > \theta)$	-5.095*** (1.779)	0.007 (1.435)	6.511*** (1.995)
$r_i I(web_i > \theta)$	4.800*** (1.685)	0.040 (1.349)	-5.433*** (1.893)
threshold— θ	0.162	0.078	0.256
control variable	YES	YES	YES
N	464	464	464
R ²	0.866	0.995	0.993

6. Conclusion

The main conclusions from this article are as follows: The circulation industry agglomeration on urban-rural income gap presents an inverted U-shaped trend. Raising the level of development of the Internet can make "U" curve shift to the left. Based on the above research conclusion, this paper has the following policy implications: First, we should promote the application of a new generation of information and communication technology in the field of circulation. Second, we can strengthen the construction of the circulation industry infrastructure and the Internet infrastructure in order to the stage of the circulation industry agglomeration close the income gap between urban and rural areas.

Acknowledgments

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