A Study on Rural Labour Mobility, Population Urbanisation and the Urban-rural Income Gap

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Abstract: This paper takes Guangdong Province, China as the research object, and selects the time series data of three periods, 1978-2019, 1978-2004 and 2005-2019 to construct VAR model, Johansen test and impulse response function and other empirical analysis, to examine the causal relationship between the three and study the impact of rural labor mobility, population urbanization on the urban-rural income gap. The study finds that: firstly, rural labour mobility significantly widens the urban-rural income gap, while the accelerated urbanisation of the population effectively reduces the urban-rural income gap; secondly, the impact of rural labour mobility and population urbanisation on the urban-rural income gap has time differences.

Keywords: rural labour mobility, population urbanisation, urban-rural income gap, Guangdong Province

1. Introduction

Since the Reform and Opening Up of China, the liberation of labour as a factor from the land has generated a large surplus of rural labour. With the massive movement of rural labour to areas with higher income levels, the urban-rural income gap has not been effectively eased. Such an economic phenomenon is not in line with the theories of traditional development economics, so is the hypothesis that rural labour mobility affects the urban-rural income gap correct? And if so, how strong is the impact? These are the questions that need to be explored and answered in this paper.

2. Literature review

First, most scholars have shown through their research that rural labour mobility has a positive impact on reducing the urban-rural income gap. (B H Lin, 2004[1]; Johnson D G, 2002[2]; Whalley and Zhang, 2004[3]) There is also some support in the literature for the fact that labour mobility has, to some extent, widened the urban-rural income gap. (Sala-I-Martin X, 1995[4]; Taylor and Martin 2001[5])

Secondly, most scholars believe that urbanisation reduces the income gap between urban and rural areas. (Vernon and Wang, 2005[6]; Verner, 2005[7]; Song H, 2011[8]; Wang Sen, 2018[9]) Some scholars also argue that urbanisation widens the income gap between urban and rural areas. (Albrecht, 2009[10]; Douglas Gollin and et al, 2016[11]; Braunstein and et al, 2019[12])

3. Empirical analysis

3.1 Data and model

The data were obtained from the Compilation of Statistics for the Six Decades of New China, Guangdong Statistical Yearbook, Guangdong Rural Statistical Yearbook and the government work reports for each year.

The basic model for the empirical analysis developed in this paper is:

$$LnTL_t = \beta_0 + \beta_1 LnRLM_t + \beta_2 LnCI_t + \varepsilon_t$$

The urban-rural income gap, denoted by the symbol TL. Rural labour mobility status, denoted by RLM; and the level of population urbanisation, denoted by CI. Further, LnTL, LnRLM and LnCI are used to denote the natural logarithm series of the urban-rural income gap, rural labour mobility and the level of population urbanisation.

3.2 Analysis of empirical results

The results of the unit root test and Johansen co-integration test are reported first. The four variables selected for this paper are all first order single integer series and there is cointegration.

3.2.1 VAR model construction

The results of the VAR regression are shown in the table below.

Table 1. VAR model regression results

Time		1978-2019	1978-2004	2005-2019
Explanatory variables	Explained variables	$LnTL_t$	$LnTL_t$	$LnTL_t$
$LnTL_t(L1.)$		0.842 (0.062) [13.50]	0.599 (0.088) [6.79]	0.643 (0.240) [2.68]
$LnTM_t(L1.)$		0.243 (0.067) [3.61]	0.372 (0.078) [4.80]	-0.078 (0.204) [-0.38]
$LnCI_t(L1.)$		-0.299 (0.089) [-3.37]	-0.122 (0.112) [-1.09]	-1.231 (0.874) [-1.41]
c		-0.404 (0.140) [-2.88]	-0.595 (0.166) [-3.59]	-1.452 (0.908) [-1.60]
R-squared		0.9297	0.9525	0.9659
Log likelihood		-1.8508	75.28341	99.73917

Note: (L1.) denotes variables with a lag of 1 period; values in ( ) denote statistical errors; values in [ ] denote t-statistics.

The VAR regression results show that: firstly, the urban-rural income gap with a lag of 1 period has a reinforcing effect that will further widen the urban-rural income gap, and the reinforcing effect is the largest in the 1978-2019 time period at 0.842%. Secondly, the effect of rural labour mobility on the urban-rural income gap has a temporal difference, with the contribution of rural labour mobility to the urban-rural income gap reaching 0.372% in the 1978-2004 time period, while the rural labour mobility narrowed the urban-rural income gap in the 2005-2019 time period. Thirdly, the accelerated urbanisation of the population can effectively reduce the urban-rural income gap, especially during the period 2005-2019, when its inhibiting effect reached 1.452%.

3.2.2 Granger causality test

The results of the Granger causality test showed that, during 1978-2019, rural labour mobility and population urbanisation in Guangdong Province are Granger causes of the narrowing of the rural-urban income gap. Second, urban-rural income gap and population urbanisation are not Granger causes of rural labour mobility. Third, the urban-rural income gap and rural labour mobility are also not Granger causes of population urbanisation.

The results of the Granger test for the period 1978-2019 and the results of the Granger test for the period 1978-2004 are not repeated here and will be set out in the conclusion.

3.2.3 Impulse response function

The impulse response function portrays the extent to which a variable is shocked and affected by other variables, and further interpretation involves analysing and predicting the shock and impact of a change in one variable or one standard deviation on other variables by looking at the height of the post-impulse curve, and when the impact is greatest.[13] The impulse response results are also presented in the conclusion.

4. Conclusion

First, by constructing a VAR model, a reinforcing effect of the urban-rural income gap on itself is found. The effect of rural labour mobility on the urban-rural income gap has time differences, with rural labour mobility widening the urban-rural income gap between 1978 and 2004, while rural labour mobility narrowing the urban-rural income gap between 2005 and 2019. The accelerated urbanisation of the population can effectively reduce the rural-urban income gap.

Second, the Granger causality test concludes that the effects of rural labour mobility and population urbanisation on the urban-rural income gap are time-varying, with both being Granger causes of the widening urban-rural income gap in the period 1978-2019 versus 1978-2004, but not in the period 2005-2019 causes. In addition, the urban-rural income gap and the level of urbanisation were Granger causes of the increase in rural labour mobility during 2005-2019. However, the causes of the urban-rural income gap and rural labour mobility on the level of urbanisation could not be determined.

Thirdly, the impact effect of the urban-rural income gap on own information is first positive and then negative, and its positive effect generally shows a decreasing trend over time first. Rural labour mobility presents a largely positive shock effect on the urban-rural income gap, while population urbanisation presents a negative shock effect on the urban-rural income gap.

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