10.18686/frim.v2i4.4331

Study on the Impact of Education Level on Rural Residents' Income

Ziming Cao

Anhui University of Finance and Economics, Bengbu, Anhui, 233030

Abstract: Improving farmers' income is a top priority in the national work related to agriculture, rural areas, and farmers. The income of rural residents is still relatively low, and the issue of income inequality has gradually become a severe problem hindering the upward development of China's social economy. Education is a critical factor that affects residents' income levels. The issue of the educational level of rural residents' income requires significant attention. This study, through an analysis of the microdata from the 2020 CFPS (China Family Panel Studies) survey, first summarizes existing literature both domestically and internationally and determines the relationship between educational level and farmers' income based on relevant theoretical foundations. Secondly, it collects and organizes data on the impact of educational level on rural residents' income. Using the OLS (Ordinary Least Squares) method, it empirically tests the impact of educational level on residents' income and its mechanisms, gradually controlling for variables such as internet usage, gender, age, marital status, and health status. Finally, based on the regression results, the study proposes policy recommendations to promote further educational development to increase rural residents' income.

Keywords: Educational level; Rural residents' income; CFPS database

1. Analysis of the Current Situation of Rural Residents' Income

In recent years, the income gap between urban and rural residents in China has been continuously widening. By 2021, the per capita disposable income of urban residents was 28, 481 yuan more than that of rural residents. Compared with 2020, this absolute difference increased by 1, 778 yuan. However, from the perspective of relative differences, the relative gap in income between urban and rural residents in China has shown a trend of continuous narrowing. In 2021, the multiple difference in per capita disposable income between urban and rural areas narrowed by 0.06 compared to 2020. With the improvement of farmers' income levels, their income structure has also changed. With the government's strong support for the "agriculture, rural areas, and farmers" sector, the main sources of income that promote farmers' income have gradually shifted from agricultural income to transfer income and property income. In general, farmers' income has shown a trend of increasing year by year.

2. Data Selection

The data source for this study is the "China Family Panel Studies (CFPS 2020)" database, which aims to track the conditions of baseline household members and their children and is conducted by the Institute of Social Science Survey (ISSS) at Peking University.

2.1 Data Source and Variable Explanation

2.1.1 Explained Variable

The explained variable selected in this paper is rural residents' income, measured by the annual total personal income of rural residents. To reduce the impact of heteroscedasticity, a logarithmic transformation (ln income) is applied to the annual total personal income of rural residents. Liu Shenglong et al. (2021) also adopted the logarithm of annual total personal income as a measure of rural residents' income. According to the relevant definitions provided by CFPS, this item is primarily the logarithm of the annual personal income self-reported by the respondent.

2.1.2 Core Explanatory Variable

Education Level: This variable is assigned values based on the question "What is the highest level of education completed (graduated)?" in the questionnaire. Those who have never attended school or are illiterate/semi-literate are assigned a value of 0, primary school is assigned a value of 1, junior high school is assigned a value of 2, high school/secondary school/technical school/vocational high school is assigned a value of 3, college is assigned a value of 4, and bachelor's degree and above are assigned a value of 5. The values are assigned sequentially,

with higher education levels corresponding to larger values.

2.1.3 Control Variables

By referring to a large number of relevant literature, this study selected individual characteristics such as internet usage, gender, age, marital status, and health status as control variables.

2.2 Descriptive Statistical Analysis

The definitions and descriptive statistics of relevant variables required for this paper are shown in Table 1. Among them, the indicator for internet usage is 0.920, indicating that slightly more rural residents use the internet. The mean value for gender is 0.586, suggesting that males make up a larger portion of the sample, but the gender difference is not significant overall. The mean value of the educational level variable is 2.751, with a standard deviation of 1.276, indicating that the average education level of rural residents is junior high school, but there are relatively large differences among individuals. The mean value of the marital status indicator is 0.714, indicating that most of the surveyed rural residents are not unmarried. The mean value of the health status indicator is 3.456, suggesting that most farmers are in good health.

Descriptive Statistics in Table 1

Variables	Variable Symbols	Mean	Standard Deviation	Minimum	Maximum
Income Logarithm	In income	10.32267	0.9898065	5.010635	13.12236
Education Level	edu	2.751082	1.276307	0	5
Internet Usage	wang	0.9203562	0.2707754	0	1
Gender	gender	0.5862595	0.4925658	0	1
Age	age	31.33257	6.740402	16	64
Marital Status	marry	0.7139949	0.4519493	0	1
Health Status	health	3.456489	1.018917	1	5

2.3 Model Specification

To estimate the impact of educational level on labor participation among married women, the regression model constructed in this paper is:

Where LnYi represents the logarithm of annual total income of individual i; edu represents the educational level of individual i; Xij represents the control variables, including internet usage, age, gender, marital status, and health status; εi represents the random error term, measuring a series of unobservable factors; α is the intercept term; λ1 is the elasticity coefficient representing the impact of educational level on farmers' income; and β2 are the elasticity coefficients representing the impact of each control variable on farmers' income.

3. Empirical Analysis

3.1 Baseline Regression

Based on the setup of Equation (1), a regression analysis was conducted to examine the impact of education level on rural residents' income. Table 2 describes the estimated results of the impact of education level on farmers' income obtained by gradually adding variables. Columns (1) to (3) in Table 2 represent the regression results after gradually controlling for internet usage, gender, age, marital status, and health status. As indicated by the regression results, the coefficient of the impact of farmers' education level on income is significantly positive at the 1% level, suggesting that farmers' education level in rural areas in China significantly promotes the growth of farmers' income. Specifically, in Model (1), the elasticity coefficient of education level affecting farmers' personal income logarithm is 0.1483, indicating that farmers' income will increase by 14.83% for every 1% increase in education years without controlling other variables; in Model (2), the coefficient of education level is 0.2053, indicating that farmers' income will increase by 20.53% for every 1% increase in education years under the condition of controlling for internet usage, gender, and age; in Model (3), the coefficient of education level is 0.2137, indicating that farmers' income will increase by 21.37% for every 1% increase in education years when marital status and health status variables are added to Model (2).

In addition, among the control variables, the regression coefficient corresponding to gender is significantly positive at the 1% level, indicating that males are more likely to achieve income growth than females. The reason for this is that farmers working outside their hometown often engage in physical labor, where males have more advantages. The estimated coefficient of marital status is significantly positive, suggesting that compared to other marital situations, being unmarried has a relatively small impact on farmers' income. From the above regression results, it can be concluded that education level has a significant positive impact on rural residents' income, and the higher the education level of rural residents, the higher their income, demonstrating a significant income growth effect of education level.

Table 2: Benchmark Regression

	(1)	(2)	(3)
	Model 1	Model 2	Model 3
edu	0.1483***	0.2053***	0.2137***
	(0.0121)	(0.0125)	(0.0125)
wang		0.2079***	0.1950***
		(0.0568)	(0.0566)
gender		0.5063***	0.5320***
		(0.0300)	(0.0303)
age		0.0277***	0.0184***
		(0.0023)	(0.0028)
marry			0.2487***
			(0.0403)
health			0.0061
			(0.0146)
_cons	9.9146***	8.4021***	8.4665***
	(0.0368)	(0.1080)	(0.1263)
N	3929	3929	3929
r2_a	0.0363	0.1333	0.1412
F	148.9844	152.0191	108.6717

Standard errors in parentheses

$^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

4. Countermeasures and Suggestions

Based on the above research conclusions, this article proposes the following suggestions.

The empirical research results of this article indicate that education has a significant impact on farmers' personal income. In rural areas of China, education is one of the most important ways for farmers to achieve income growth. Therefore, the government should pay close attention to issues related to farmers' education, strengthen human capital investment in rural areas, continuously improve the level and structure of rural human capital, and enhance the income-increasing and distribution effects of rural human capital. Secondly, while ensuring the implementation of basic education, attention should also be paid to coordinating the financial investment levels of different educational levels in rural areas, reducing the barriers for farmers to access higher education, and increasing their opportunities to receive higher education.

Through the above analysis, it can be concluded that education plays a crucial role in increasing women's income levels. In response to this situation, the government should strengthen educational promotion, reduce traditional feudal ideologies such as favoring males over females, monitor educational fairness, eliminate gender discrimination in education, attach importance to the investment in women's educational human capital, establish special scholarships for women, and encourage rural women to actively pursue higher-level education to improve their educational levels.

References

[1] Zhao Zhong, He Hanru. Research on the Change Trend of Marketization Level and Urban Labor Education Return Rate in China [J]. Jianghuai Tribune, 2020, (01): 67-76.

[2] Zhang Yongli, Yang Hong. Analysis of Factors Causing Poverty Among Rural Households in Western Poor Areas - From the Perspective of Rural Family Structure Transformation [J]. Social Sciences, 2018, (12): 14-24.

[3] Zhang Yongli, Li Qingyuan. Analysis of the Differences and Reasons for the Educational Return Rate of Poor and Non-poor Families - Based on a Survey of 1749 Rural Households in 14 Poor Villages in Gansu Province [J]. Education and Economy, 2018, (03): 65-74.

About the author: Ziming Cao (2001-), Male, Han nationality, Anhui Hefei, Master degree candidate, Institution: Anhui University of Finance and Economics, Research direction: Employment Theory and Practice