

# The Impact of Demographic Characteristics on the Income of Migrant Workers Post-COVID-19 Pandemic

Pham Xuan Phu<sup>1\*</sup>, Doan Vinh Thang<sup>2</sup>, Mai Thi Van<sup>3</sup> and Ngo Thuy Bao Tran<sup>1</sup>

<sup>1</sup>Faculty of Agriculture and Natural Resources, An Giang University- Vietnam National University HoChiMinh City, An Giang, Vietnam.

<sup>2</sup>Faculty of Economics and Business Administration, An Giang University- Vietnam National University HoChiMinh City, An Giang, Vietnam.

<sup>3</sup>Faculty of Education, An Giang University- Vietnam National University HoChiMinh City, An Giang, Vietnam.

## \*Correspondence:

Pham Xuan Phu, Department of Rural Development and Natural Resources Management, Faculty of Agriculture and Natural Resources, An Giang University, Viet Nam National University Ho Chi Minh City, Vietnam.

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## ABSTRACT

The COVID-19 pandemic triggered a reverse migration wave from urban to rural areas. However, in the post-pandemic period, as economic activities return to the "new normal," workers are migrating from rural to urban areas again, as labor migration is one of the livelihood strategies for many rural households. This study was conducted to assess the income status of migrant workers in the post-COVID-19 period. Additionally, the Tobit regression model was applied to analyze the impact of the demographic characteristics of migrant workers on their income during this period. Statistical results show that the average income of migrant workers is approximately 8.2 million VND per person per month. However, there is an income disparity among different groups of workers, with the most common income level for migrant workers being 5 million VND per person per month. Furthermore, Tobit regression analysis results indicate that educational attainment and years of migration are positively correlated with income. Meanwhile, the results suggest that there is no income difference between male and female workers. Additionally, the estimation results provide evidence of an inverted U-shaped nonlinear relationship between age and income of workers. These findings serve as a scientific basis for relevant agencies to develop appropriate support policies for different groups of migrant workers.

## Keywords

Demographic characteristics, Income, Migrant workers, Post-COVID-19.

## Introduction

The widespread outbreak of the COVID-19 pandemic in early 2020 had a negative impact on human life worldwide. By the end of March 2020, nearly 1 million cases of infection and 40,000 deaths had been reported globally. In Vietnam, during this period, only about 200 cases of infection had been recorded [1]. However, to prevent the potential spread of the disease within the community, the Vietnamese government issued a series of directives on COVID-19 prevention and control, with the peak

being Directive No. 15/CT-TTg and Directive No. 16/CT-TTg at the end of March 2020. Some of the measures introduced included nationwide lockdowns, school closures, and the implementation of social distancing.

After the COVID-19 pandemic subsided due to the widespread availability of vaccines in the community, these measures were gradually relaxed. A large wave of reverse migration from urban to rural areas emerged due to the scarcity of jobs in migration destinations caused by disruptions in supply chains during the peak phases of COVID-19. For example, An Giang Province recorded tens of thousands of migrant workers returning to their hometowns in mid-October 2021. This trend of reverse migration (from urban

to rural areas, and from abroad back to the home country) was also observed in many countries around the world, such as China [2] and Nepal [3]. However, as labor migration is considered one of the livelihood strategies for many rural households [4], the wave of migration from rural to urban areas resumed when the labor market demand in industrial provinces/cities (Ho Chi Minh City, Binh Duong, Dong Nai) gradually recovered in 2022.

Many studies have been conducted to assess the impact of the COVID-19 pandemic on the labor market and workers' income in general. For instance, Aldan, Çıraklı, and Torun [5] reported a decline in labor force participation and employment rates in Turkey. However, women, young people, and those with lower education levels were more negatively affected by the COVID-19 pandemic compared to other groups. In the United States, studies by Alon, Doepke, Olmstead-Rumsey, and Tertilt [1] and Albanesi and Kim [6] showed that the employment rate of women decreased more than that of men during the COVID-19 pandemic, particularly among women with young children. Singh, Shirazi, and Turetken [7] pointed out that COVID-19 exacerbated gender inequality in terms of employment rates and income. Fiaschi and Tealdi [8] also observed a trend of women with young children leaving the labor market in Italy in 2020. Meanwhile, the study by Putra, Ovsiannikov, and Kotani [9] indicated that job loss and income reduction were more common among men than women in Indonesia. Overall, previous studies show that the COVID-19 pandemic had uneven impacts on the employment and income of workers with different demographic characteristics.

Some other studies have focused specifically on the employment status and income of migrant workers during the COVID-19 pandemic. For example, the study by Abella and Sasikumar [10] found that the income of low-skilled workers migrating from India to Saudi Arabia could decrease by up to 36% compared to expectations. Ghimire et al. [3] noted that migrant workers are among the most vulnerable groups affected by disasters, including the COVID-19 pandemic. The authors also pointed out that female migrant workers from Nepal, aged 30 and above, engaged in manual labor, tend to perceive the risks of COVID-19 more acutely. However, very few studies in Vietnam have evaluated the income status and the impact of demographic characteristics on the income of rural-to-urban migrant workers in the post-COVID-19 period. Therefore, this study was conducted to assess the income status of rural-to-urban migrant workers in the post-COVID-19 period when the Vietnamese government had lifted most of the strict COVID-19 prevention regulations and economic activities returned to the "new normal." Additionally, this study analyzes the impact of the demographic characteristics of migrant workers on their income. The research findings serve as a basis for relevant agencies to develop appropriate support policies for different groups of migrant workers.

## Methodology

This study utilizes a portion of the data from the project "Research on the Adaptability of Migrant Youth Workers in Various Occupations from Rural to Urban Areas: The Case of An Giang

Province." This project surveyed 500 migrant workers from An Giang Province, one of the 13 provinces in the Mekong Delta (ĐBSCL), who migrated to the Southeast region (Binh Duong, Dong Nai, Ho Chi Minh City). The survey was conducted from August 2023 to October 2023.

This study employs descriptive statistics to evaluate the income status of migrant workers in the post-COVID-19 period. Additionally, to assess the impact of demographic characteristics on the income of migrant workers, this study applies the Tobit regression model [11], also known as the censored regression model. This model is appropriate when the dependent variable is continuous but is constrained within a certain range of values. In this study, the dependent variable is the income of the workers. This variable is left-censored at a value of 0 (meaning the workers have no income, or the lowest possible income is 0 VND). Thus, the Tobit regression model is suitable for this study. The Tobit model is formulated as follows:

$$Y_i = a_0 + a_1 * tuoi_i + a_2 * tuoi_i^2 + a_3 * nu_i + a_4 * hocvan_i + a_5 * sonamdicu_i + \epsilon_i \quad (1)$$

In the equation,  $Y_i$  represents the income of worker  $i$ ,  $a_0$  is the constant,  $a_k$  (with  $k=1...5$ ) are the estimated coefficients of the explanatory variables, and  $\epsilon_i$  is the error term or the unobserved part. The explanatory variables (denoted as  $tuoi$ ,  $tuoi^2$ ,  $nu$ ,  $hocvan$ ,  $sonamdicu$ ) in model (1) are detailed in Table 1, where the variable  $tuoi^2$  is added to model (1) with the expectation of capturing the nonlinear relationship between age and the income of migrant workers.

**Table 1:** Description of variables in the Tobit model.

Variable symbol	Variable name	Measurement/coding
$Y_i$	Income of workers $i$	VND/month
$tuoi_i$	Age of worker $i$	Age of worker until October 2023
$tuoi_i^2$	Age squared	Age squared
$nu_i$	Gender of worker $i$	1 = female; 0 = male
$hocvan_i$	Education level of worker $i$	0 = cannot read or write 1 = has not completed primary school 2 = graduated from elementary school 3 = graduated from middle school 4 = graduated from high school 5 = graduated from college/ university or higher
$sonamdicu_i$	Number of years of migration of workers $i$	Number of years of migration up to October 2023

## Results

The average age of the migrant workers surveyed in this study is 30.5 years. Women make up 45.4% of the sample. In terms of educational attainment, the survey results indicate that the majority of migrant workers in the sample have only completed primary school (35.7%) or lower secondary school (34.0%),

followed by those who have graduated from high school (14.7%). Approximately 5% of the respondents in the sample are illiterate.

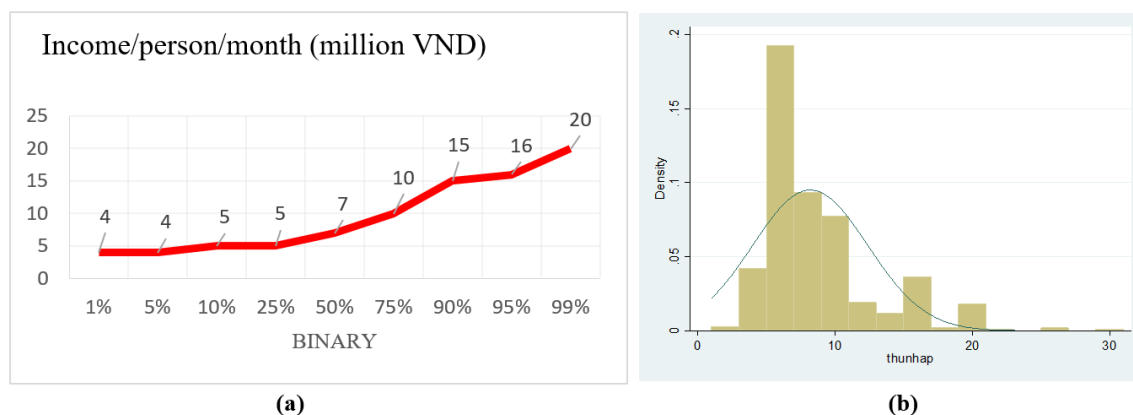
Table 2 presents the income status of migrant workers in the post-COVID-19 period. The statistical results show that the lowest income among the surveyed workers is 1 million VND per person per month, while the highest income is 30 million VND per person per month. The average income of migrant workers is approximately 8.2 million VND per person per month. This income level is slightly lower than the average income (8.8 million VND per person per month) of workers in the Southeast region [12], which is the most common destination for migrant workers from An Giang. However, this income level is significantly higher than the average income (6.5 million VND per person per month) of workers in the Mekong Delta region [12]. These results indicate that the average income of migrant workers is slightly lower than the average income at their destination but significantly higher than the average income of workers in their hometown.

**Table 2:** Income/person/month of migrant workers after the COVID-19 pandemic.

Target workers	Average	Mode	Standard Deviation	Minimum	Maximum
Migrate from An Giang*	8,2	5,0	4,2	1,0	30,0
In the Southeast region**	8,8	-	-	-	-
In the Mekong Delta**	6,5	-	-	-	-

(Source: \*Survey data of 500 migrant workers from An Giang Province, September 2023; \*\*Data on the labor market situation in Q3 2023 from the General Statistics Office [12]).

Regarding the income distribution of workers, the results in Figure 2 show a significant disparity in the income of migrant workers. For example, the 25th percentile in Figure 2a indicates that 25% of workers have an income below 5 million VND per person per month, while 75% of workers have an income of 5 million VND per person per month or higher. Additionally, Figure 2b shows that the most common income level earned by migrant workers is 5 million VND per person per month, which is significantly lower than the average income in this survey.



**Figure 1:** Income Distribution of Migrant Workers.

Table 3 presents the results of the Tobit regression model on the impact of demographic characteristics on the income of migrant workers. The LR chi-square (5) = 55.75 at the 1% significance level indicates that the Tobit model is well-suited to the data.

The estimation results indicate that education level and the number of years of migration have a positive relationship with the income of workers in the post-COVID-19 period. Specifically, holding other factors constant, when the education level of a migrant worker increases by one grade (level), their income increases by an average of approximately 820,000 VND per month. This highlights the important role of education in the income of migrant workers.

**Table 3:** Tobit regression results on the influence of demographic characteristics on income.

Variable name	Regression coefficient	Standard error	t	Significance level
Age of the worker	0,438	0,162	2,700	0,007
Age squared	-0,005	0,003	-2,040	0,042
Female	0,268	0,357	0,750	0,453
Education level of workers	0,820	0,167	4,900	0,000
Number of years of migration of workers	0,171	0,044	3,860	0,000
Constant	-3,611	2,520	-1,430	0,153

Note: LR chi2(5) = 55,75; Prob>chi2 = 0,000

(Source: Estimates from the survey data of 500 migrant workers from An Giang Province, September 2023)

A notable result is that the relationship between age and income for migrant workers is nonlinear, with an inverted U-shape. This means that as a worker's age increases, their income also increases, but for those aged 44 and above, income begins to decline as age continues to rise. In reality, many migrant workers from rural An Giang who move to the Southeast region have relatively low educational levels. As a result, they often engage in manual labor or simple tasks, earning income based on productivity. As they age, their productivity may decrease, which negatively impacts their income. Additionally, the estimation model shows no statistically significant difference in income between men and women. This suggests that gender inequality in terms of income among migrant workers is relatively low.

## Conclusion

This article has analyzed the income status and the impact of demographic characteristics on the income of migrant workers moving from rural to urban areas in the post-COVID-19 period. The study sample consists of workers from rural areas of An Giang Province who migrated to the Southeast region. The research findings show that the average income of migrant workers differs slightly from the average income in the destination areas and is significantly higher than the average income of workers in the Mekong Delta region. However, there is considerable income disparity among migrant workers. The results from the Tobit regression model indicate that differences in income among migrants may be due to differences in educational levels, years of migration, and the age of the workers. Specifically, education level and years of migration have a positive relationship with migrant worker income, while age has a nonlinear, inverted U-shaped relationship with income. Additionally, the results show no statistically significant difference in income between male and female workers.

These findings provide several implications. First, education plays a crucial role in the income of migrants. Therefore, policies that encourage or support young people to improve their education levels before migrating should be emphasized. At the same time, families, especially parents, should not encourage or allow their children to leave school and enter the labor force too early. Second, as migrant workers age, the likelihood of income reduction increases. Therefore, minimum wage policies should be adjusted promptly. In parallel, workers themselves should have a contingency livelihood strategy (such as savings) as they grow older. Third, this research also provides evidence that gender inequality in terms of income among migrant workers is relatively low. In summary, these findings serve as a scientific basis for relevant authorities to develop appropriate support policies for different groups of migrant workers, thereby helping them stabilize their income and improve their quality of life.

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## References

1. Alon T, Doepke M, Olmstead-Rumsey J, et al. The impact of COVID-19 on gender equality. Retrieved from Ministry of Health. (2020, March 28, 2020). Update on the Covid-19 epidemic situation (March 28, 2020). Department of Preventive Medicine Retrieved from <https://vncdc.gov.vn/ban-tin-cap-nhat-tinh-hinh-dich-benh-covid-19-ngay-2832020-nd15461.html>
2. Zhao H, Chang J, Wang J. What pulls Chinese migrant workers back to the countryside? An analysis from a family concerns perspective. *International Review of Economics & Finance*. 2023; 84: 801-812.
3. Ghimire J, Nepal RM, Crowley J, et al. Vulnerabilities and risk perceptions of contracting COVID-19 among Nepali migrant workers. *Social Sciences & Humanities Open*. 2023; 7: 100486.
4. Le Dang Bao Chau, Le Duy Mai Phuong, Nguyen Huu An. Labor migration - a livelihood strategy of rural households in the coastal area of Quang Tri and Thua Thien Hue provinces (in Vietnamese). *Review of Regional Sustainable Development*. 2019; 9: 99-109.
5. Aldan A, Çıraklı ME, Torun H. Covid 19 and the Turkish labor market: Heterogeneous effects across demographic groups. *Central Bank Review*. 2021; 21: 155-163.
6. Albanesi S, Kim J. The gendered impact of the COVID-19 recession on the US labor market. Retrieved from. 2021.
7. Singh V, Shirazi H, Turetken J. COVID-19 and gender disparities: Labour market outcomes. *Research in Economics*. 2022; 76: 206-217.
8. Fiaschi D, Tealdi C. The attachment of adult women to the Italian labour market in the shadow of COVID-19. *Labour Economics*. 2023; 83: 102402.
9. Putra RAA, Ovsiannikov K, Kotani K. COVID-19-associated income loss and job loss: Evidence from Indonesia. *Journal of Asian Economics*. 2023; 87: 101631.
10. Abella MI, Sasikumar S. Estimating earnings losses of migrant workers due to COVID-19. *The Indian Journal of Labour Economics*. 2020; 63: 921-939.
11. Tobin J. Estimation of relationships for limited dependent variables. *Econometrica: journal of the Econometric Society*. 1958: 24-36.
12. General Statistics Office. Press release on labor and employment situation in the third quarter and nine months of 2023. Retrieved from General Statistics Office website: Retrieved from Trang thông tin điện tử Tổng cục thống kê: 2023.
13. <https://www.gso.gov.vn/du-lieu-va-so-lieu-thong-ke/2023/09/thong-cao-bao-chi-tinh-hinh-lao-dong-viec-lam-quy-iii-va-9-thang-nam-2023/>