



COVID-19 and its effect on income of different social groups in Vietnam: A comparative analysis

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ABSTRACT

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This study examines the impact of COVID-19 on income distribution among different social groups in Vietnam, analyzing nominal and real income changes before, during, and after the pandemic. This study evaluates income growth across demographic and economic segments based on data from the General Statistics Office of Vietnam using comparative analysis and scatterplot diagrams. The findings show that COVID-19 disproportionately affected wealthier individuals, particularly those in urban areas leading to a decline in income inequality as measured by the GINI index. High-income regions experienced greater losses due to higher population densities and prolonged lockdowns. While lower-income groups maintained stable growth, overall income levels declined slowing economic recovery. Although income inequality narrowed, this resulted from economic contraction rather than improved wealth distribution. The study highlights the need for targeted policy measures to support economic resilience in high-density regions and mitigate income shocks during future crises.

Contribution/Originality: This study found that COVID-19 reduced income inequality in Vietnam during 2020-2023 by hurting the “wealthy” more than the “poor” using comparative methods.

1. INTRODUCTION

The COVID-19 pandemic and associated social distancing measures disrupted supply chains, profoundly affecting economies worldwide, including Vietnam. Recently, numerous studies have explored the socio-economic impacts of COVID-19 in Vietnam during the pandemic.

For example, at the macro level, [Le and Lam \(2021\)](#) analyzed the effects of COVID-19 on GDP growth, foreign trade, tourism, and unemployment. [Nguyen, Le, Thalassinou, and Trieu \(2022\)](#) examined the impact of the COVID-19 pandemic on economic growth and monetary policy in Vietnam. The effects of COVID-19 on economic sectors in Vietnam, for example, tourism and the banking system have been analyzed in studies by [Huynh et al. \(2021\)](#); [Vu, Nguyen, Nguyen, and Tran \(2022\)](#) and [Nguyen et al. \(2022\)](#). At the micro level, [Bui, Dräger, Hayo, and Nghiem \(2022\)](#); [Kien, Hung, Quan, and Hien \(2023\)](#) and [Nguyen Kim \(2023\)](#) investigated the effect of COVID-19 on Vietnamese firms.

There are also works investigating the impacts of COVID-19 on workers, households, and their income in Vietnam. [Bui et al. \(2022\)](#) found the positive effects of fiscal policy on consumer sentiment and durable spending of

households during the COVID-19 pandemic. Dao, Le, and Pham (2022) examined changes in income distribution during the pandemic based on a survey of 479 workers in the Vietnamese service sector. Tran and Vu (2022) assessed the impact of COVID-19 on the lives and jobs of workers in Vietnamese industrial zones. Based on survey data, these works investigate the effects of COVID-19 on the income of small groups. Unicef (2022) analyzed the socio-economic impacts of the pandemic on children and households in Vietnam focusing on Hanoi, Da Nang, Bac Giang, and Ho Chi Minh City, i. e., at the province level.

At the country level, Dang, Nguyen, and Carletto (2023) highlighted that COVID-19 increased post-pandemic unemployment, reduced labor quality, and exacerbated wage inequality. The General Statistics Office of Vietnam (2021) and the General Statistics Office of Vietnam (2022) analyzed the effects of the pandemic on the nominal income of workers in different economic sectors (industrial – construction, service, agricultural, forestry, and fisheries), urban and rural areas, and regions. However, the works by GSO only focus on the pandemic period (to the first quarter of 2022). The General Statistics Office of Vietnam (2021) and the General Statistics Office of Vietnam (2022) also did not explain why income growth differed from economic sectors, areas, and regions during the pandemic.

This study analyzes the changes in nominal and real income growth of different social/population groups, categorized by urban and rural areas, economic regions, and gender of household heads, income sources, and income levels. The study compares the income growth of different social/population groups before (2016-2019), during (2020-2021), and after (2022-2023) the pandemic using the latest statistics (updated to 2023) published by GSO. In this study, we also relate the income growth of different social/population groups during the pandemic to their income levels, living places, population density, and COVID-19 deaths¹.

The comparisons show that COVID-19 adversely affected the income of the wealthy more significantly. One possible explanation is that high-income individuals usually live in densely populated areas, making them more vulnerable to the spread of the pandemic. Typically, Ho Chi Minh City, the place with the highest income level and population density has the highest number of COVID-19 deaths and also suffers the sharpest decline in income growth.

The income of the wealthy grew slowly during the pandemic. Income inequality has decreased in recent years in Vietnam. However, this outcome is not desirable as the overall welfare decreases. The results of this study imply that controlling the spread of epidemics in provinces and cities with high population density is very important to ensure people's welfare.

2. METHODOLOGY

In this study, we apply a comparative method to investigate the effects of COVID-19 on the income of different social/population groups. This method is simple, intuitive, and helpful during the short period when fluctuations of economic variables are large.

The spread of the epidemic mainly took place between 2020 and 2021. Therefore, in understanding the effects of COVID-19 on income growth, we compare the data from 2020 to 2021 with the data from 2016 to 2019 because the latter is normal. We also consider the recovery period 2022-2023.

Following Deaton (2021) this study also applies scatterplot diagrams with trend lines to depict the relationships between income level, population density, number of COVID-19 deaths, and income growth besides the comparative method. These trend lines in nature are simple regressions.

¹ Deaton (2021) observed that "rich countries have experienced more deaths per head than poor countries" and "countries with more deaths saw larger declines in GDP per capita." Goldberg and Reed (2020a) and Goldberg and Reed (2020b) link "the low number of deaths in poor countries to obesity, the fraction of the population over 70, and the population density in the largest urban center. Evaluating confirmed cases of COVID-19 in Barcelona (Spain) between 26 February 2020 and 19 April 2020 Baena-Díez, Barroso, Cordeiro-Coelho, Díaz, and Grau (2020) found that the lower the mean income, the higher the COVID-19 incidence.

3. IMPACT OF COVID-19 ON INCOME OF VARIOUS SOCIAL/POPULATION GROUPS

The impacts of COVID-19 on output in Vietnam are presented in Figures 1 and 2. Vietnam's real gross domestic product (GDP) growth rate fell significantly during 2020–2023 as shown in Figure 1. While real GDP grew at an average annual rate of 7.0 percent from 2014 to 2019, it fell to 4.7 percent during 2020–2023. Specifically, the growth rate was only 2.8 percent during the COVID-19 pandemic (2020–2021) and 6.6 percent during the recovery phase (2022–2023).

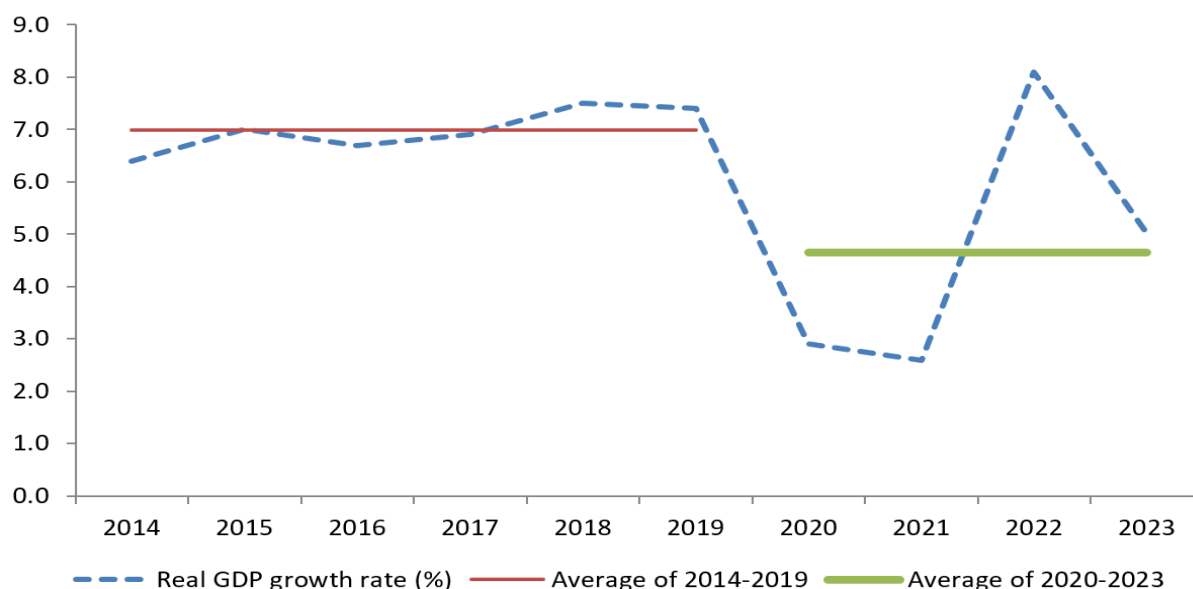


Figure 1. Real GDP growth rate of Vietnam (2014–2023).

Source: General statistics office of Vietnam.

Although COVID-19 negatively affects output, its effects differ among various economic sectors. According to the data presented in Figure 2, COVID-19 heavily hurt the industrial - construction, and service sectors while leaving the output growth rate of agriculture, forestry, and fisheries stable. The sharp decline in economic growth since 2020 implies that COVID-19 negatively impacted people's income and living standards. However, its effects among economic sectors mean that the magnitudes of the impacts are also different. In the following sub-sections, we analyze the effects of COVID-19 on the income of various social/population groups.

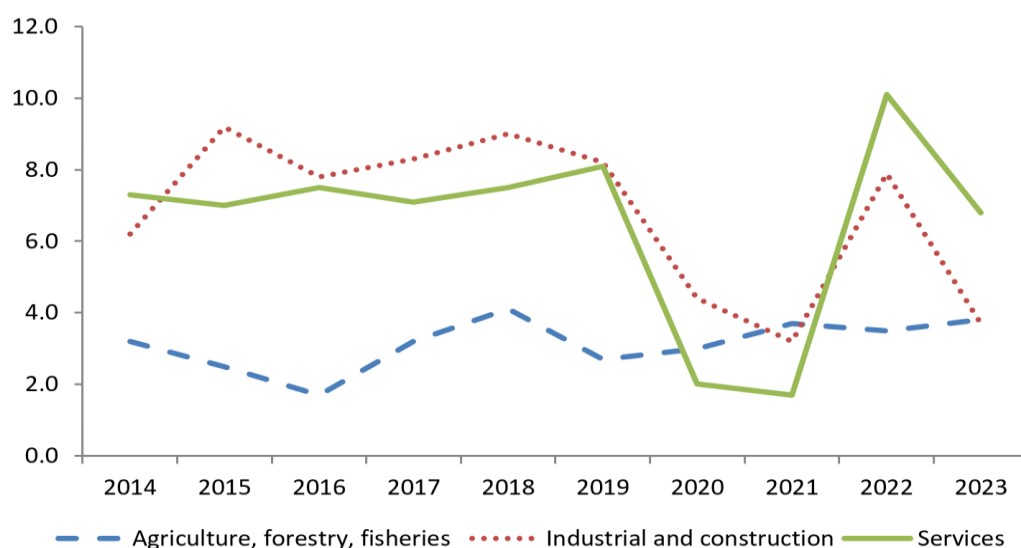


Figure 2. Real growth rate of economic sectors in Vietnam (2014–2023).

Source: General statistics office of Vietnam.

3.1. Impact on Income in the Whole Country

The data presented in Table 1 shows that nominal and real average monthly income per capita decreased in 2020 and 2021 (negative growth). Although income began to recover during 2022–2023, growth rates remained lower than those during 2016–2019. On average, real monthly per capita income grew by only 0.9 percent annually during 2020–2023 far below the 8.2 percent annual growth rate observed before the pandemic (2016–2019).

Table 1. Growth in average monthly per capita income in Vietnam (2016–2023).

Period	2016–2019	2020	2021	2022	2023	2020–2021	2022–2023	2020–2023
Nominal income growth (%)	11.5	-1.1	-1.0	11.1	6.2	-1.1	8.7	3.8
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	8.2	-4.3	-2.9	8.0	2.9	-3.6	5.5	0.9
Loss of nominal income (%)	0.0	-12.6	-12.5	-0.4	-5.3	-12.6	-2.8	-7.7
Loss of real income (%)	0.0	-12.5	-11.1	-0.2	-5.3	-11.8	-2.8	-7.3

Source: General statistics office of Vietnam.

Assuming that the income growth rate of 2016–2019 is “potential,” the loss of income during the pandemic is high, beyond 10 percent/year on average. In particular, since the growth rate of real average monthly per capita income in 2020–2021 was -3.6 percent and the average growth rate of 2016–2019 was 8.2 percent, then the approximate average loss of income due to COVID-19 is -11.8 [= -3.6 - 8.2] percent/year. Analogously, the average loss of income during 2022–2023 is -2.8 percent/year for both nominal and real income. Overall, the average loss during 2020–2023 is more than - 7 percent/year.

3.2. Impact on Urban and Rural Income

If we divide the population into urban and rural areas, the data in Table 2 shows that during the COVID-19 pandemic (2020–2021), the income reduction was primarily in urban areas with higher absolute income (see Table 3). Residents in urban areas experienced a decline in nominal and real income due to social distancing measures. In contrast, rural residents only saw a fall in real income while nominal income grew slightly. However, both urban and rural areas suffered substantial income losses during the pandemic.

Table 2. Growth in average monthly per capita income in urban and rural areas (2016–2023).

Period	2016–2019	2020	2021	2022	2023	2020–2021	2022–2023	2020–2023
Urban								
Nominal income growth (%)	9.8	-7.2	-3.6	10.3	5.3	-5.4	7.8	1.2
Inflation (%)	3.3	2.9	2.1	3.2	3.5	2.5	3.3	2.9
Real income growth (%)	6.4	-10.1	-5.7	7.1	1.8	-7.9	4.5	-1.7
Loss of nominal income (%)	0.0	-17.0	-13.4	0.6	-4.5	-15.2	-2.0	-8.6
Loss of real income (%)	0.0	-16.5	-12.1	0.7	-4.6	-14.3	-2.0	-8.1
Rural								
Nominal income growth (%)	11.9	2.4	0.2	10.8	7.9	1.3	9.4	5.3
Inflation (%)	3.2	3.5	1.6	3.0	2.9	2.5	2.9	2.7
Real income growth (%)	8.8	-1.1	-1.4	7.9	5.0	-1.3	6.4	2.6
Loss of nominal income (%)	0.0	-9.6	-11.8	-1.1	-4.1	-10.7	-2.6	-6.6
Loss of real income (%)	0.0	-9.9	-10.2	-0.9	-3.8	-10.0	-2.4	-6.2

Source: General statistics office of Vietnam.

The result was a difference in income growth between urban and rural areas during 2020–2021 with the former having 6.7 percentage points lower nominal income growth and 6.6 percentage points lower real income growth. During the post-COVID-19 period (2022–2023), income recovery rates were higher in rural areas but the

difference was only 1.6 percentage points for nominal income and 1.9 percentage points for real income. The recent absolute income in urban areas is only 1.5 times relative to rural areas decreasing substantially from 1.8 times in 2019 because of slowed growth (see Table 3). Income growth in rural areas was higher than in urban areas before COVID-19. Specifically, during 2016–2019, nominal and real income growth rates in rural areas were 11.9% and 8.8 percent, respectively, compared to 9.8 percent and 6.4 percent in urban areas, a difference of over two percentage points. Thus, the increased disparity in income growth between urban and rural primarily occurred during 2020–2021, a period marked by multiple rounds of social distancing.

Table 3. Average monthly per capita income in Vietnamese urban and rural areas (2016–2023, thousand VND).

Period	2016	2018	2019	2020	2021	2022	2023
Urban area	4551	5623	6022	5590	5388	5945	6260
Rural area	2423	2990	3399	3480	3486	3864	4169
Urban and rural areas	1.9	1.9	1.8	1.6	1.5	1.5	1.5

Source: General statistics office of Vietnam.

Table 4. Growth in average monthly per capita income in Vietnam by gender of household heads (2016–2023).

Period	2016–2019	2020	2021	2022	2023	2020–2021	2022–2023	2020–2023
Male heads of households								
Nominal income growth (%)	11.3	0.0	-0.3	11.0	6.6	-0.2	8.8	4.3
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	8.0	-3.3	-2.1	7.9	3.4	-2.7	5.6	1.4
Loss of nominal income (%)	0.0	-11.3	-11.6	-0.3	-4.7	-11.4	-2.5	-6.9
Loss of real income (%)	0.0	-11.3	-10.1	-0.1	-4.6	-10.7	-2.4	-6.5
Female heads of households								
Nominal income growth (%)	12.0	-4.1	-3.3	11.1	5.0	-3.7	8.0	2.2
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	8.7	-7.3	-5.1	7.9	1.8	-6.2	4.8	-0.7
Loss of nominal income (%)	0.0	-16.0	-15.3	-0.9	-7.0	-15.6	-3.9	-9.8
Loss of real income (%)	0.0	-16.0	-13.8	-0.7	-6.9	-14.9	-3.8	-9.4

Source: General statistics office of Vietnam.

3.3. Impact on Income by Gender of Household Heads

The data in Table 4 shows that during the 2020–2021 period, the pandemic negatively impacted the income of female heads of households more than male heads of households, although the income losses relative to “potential” are substantial. The data also reveals that the income of male heads of households recovered more quickly than that of female heads in the post-COVID-19 period (2022–2023).

The data in Table 5 shows that the absolute income of female heads of households is higher than that of male heads². However, the spread of their income has decreased since 2020. Recently, the ratio of male head income/female head income is 0.93 because the income growth of the latter is higher during COVID-19. This number is substantially higher than 0.86 in 2019.

² It is not very understandable why the income of female heads of households in Vietnam is higher than that of male heads and the growth rate of income of the latter is higher than that of the former. We left this issue for future research.

Table 5. Average monthly per capita income in Vietnam by gender of household heads (2016–2023, thousand VND).

Period	2016	2018	2019	2020	2021	2022	2023
Male heads of household	3000	3725	4132	4130	4118	4571	4873
Female heads of household	3439	4364	4828	4632	4480	4977	5226
Male and female heads	0.87	0.85	0.86	0.89	0.92	0.92	0.93

Source: General statistics office of Vietnam.

3.4. Impact on Income by Region

When considering economic regions, the data shows that on average, the pandemic affected three regions in the North (including the Red River Delta, the Northeast and Northwest, and the North Central Coast) less than three southern regions (including the Central Highlands, Southeast, and the Mekong Delta). This statement is true using both measures, including the income growth and loss relative to “potential.”

Data in Table 6 shows that the Northeastern and Northwest regions experienced the least negative impact, while the Southeast and Mekong Delta regions were the hardest hit. The main reason is that the pandemic in Southern and Mekong Delta regions, especially in Ho Chi Minh City with the highest income level, spread more widely and lasted longer, resulting in greater and longer periods of social distancing measures. The prolonged pandemic depleted the reserves of these regions, affecting the post-COVID recovery process during 2022–2023.

As a result, the relative incomes of the Southeast and Mekong Delta regions in 2023 decreased compared with those in 2019 while the relative incomes of the Northeast, Northwest and North Central Coast regions increased (see Table 7).

Table 6. Growth in average monthly per capita income in Vietnam (2016–2023): By economic region.

Period	2016–2019	2020	2021	2022	2023	2020–2021	2022–2023	2020–2023
Red River Delta								
Nominal income growth (%)	10.2	-2.0	-1.2	11.1	7.1	-1.6	9.1	3.8
Inflation (%)	3.3	3.2	1.4	3.3	2.5	2.3	2.9	2.6
Real income growth (%)	6.8	-5.2	-2.5	7.8	4.5	-3.9	6.2	1.1
Loss of nominal income (%)	0.0	-12.2	-11.3	1.0	-3.1	-11.8	-1.1	-6.4
Loss of real income (%)	0.0	-12.0	-9.3	1.0	-2.3	-10.7	-0.6	-5.7
Northeast & Northwest								
Nominal income growth (%)	10.4	4.0	3.4	11.7	8.5	3.7	10.1	6.9
Inflation (%)	2.6	3.6	0.5	3.1	1.7	2.1	2.4	2.2
Real income growth (%)	7.7	0.3	2.9	8.7	6.7	1.6	7.7	4.6
Loss of nominal income (%)	0.0	-6.4	-7.0	1.4	-1.9	-6.7	-0.3	-3.5
Loss of real income (%)	0.0	-7.4	-4.9	0.9	-1.0	-6.1	-0.1	-3.1
North Central Coast								
Nominal income growth (%)	12.2	2.2	2.6	13.6	7.5	2.4	10.5	6.5
Inflation (%)	3.3	3.3	2.1	3.3	3.4	2.7	3.4	3.0
Real income growth (%)	8.9	-1.2	0.5	10.3	4.1	-0.3	7.2	3.4
Loss of nominal income (%)	0.0	-10.0	-9.6	1.4	-4.7	-9.8	-1.7	-5.7
Loss of real income (%)	0.0	-10.1	-8.4	1.4	-4.8	-9.2	-1.7	-5.5
Central Highlands								
Nominal income growth (%)	9.4	-9.1	1.5	14.9	8.7	-3.8	11.8	4.0
Inflation (%)	2.5	2.7	2.2	3.6	3.3	2.4	3.4	2.9
Real income growth (%)	6.8	-11.8	-0.7	11.4	5.4	-6.2	8.4	1.1
Loss of nominal income (%)	0.0	-18.4	-7.9	5.6	-0.7	-13.2	2.4	-5.4
Loss of real income (%)	0.0	-18.6	-7.5	4.5	-1.4	-13.0	1.5	-5.7
Southeast								
Nominal income growth (%)	10.4	-4.1	-3.8	9.3	2.9	-3.9	6.1	1.1

Period	2016-2019	2020	2021	2022	2023	2020-2021	2022-2023	2020-2023
Inflation (%)	3.3	2.9	2.3	2.8	4.5	2.6	3.6	3.1
Real income growth (%)	7.2	-6.9	-6.1	6.5	-1.5	-6.5	2.5	-2.0
Loss of nominal income (%)	0.0	-14.5	-14.3	-1.1	-7.5	-14.4	-4.3	-9.4
Loss of real income (%)	0.0	-14.1	-13.3	-0.6	-8.7	-13.7	-4.7	-9.2
Mekong Delta								
Nominal income growth (%)	11.8	-0.3	-4.1	9.8	7.2	-2.2	8.5	3.1
Inflation (%)	3.5	3.8	2.4	2.9	3.1	3.1	3.0	3.0
Real income growth (%)	8.4	-4.1	-6.6	6.9	4.1	-5.3	5.5	0.1
Loss of nominal income (%)	0.0	-12.2	-16.0	-2.0	-4.6	-14.1	-3.3	-8.7
Loss of real income (%)	0.0	-12.5	-14.9	-1.4	-4.2	-13.7	-2.8	-8.3

Source: General statistics office of Vietnam.

Table 7. Average monthly per capita income in Vietnamese economic regions (2016-2023, thousand VND).

Period	2016	2018	2019	2020	2021	2022	2023
Average	3098	3876	4295	4249	4205	4673	4962
Red River Delta	3883	4834	5191	5085	5026	5586	5981
Northeast and Northwest	1963	2455	2640	2745	2837	3170	3438
North Central Coast	2358	3015	3331	3403	3493	3967	4264
Central Highlands	2366	2896	3095	2814	2856	3282	3566
Southeast	4662	5709	6280	6025	5794	6334	6520
Mekong Delta	2778	3588	3886	3873	3713	4077	4371
Relative to average							
Red River Delta	1.25	1.25	1.21	1.20	1.20	1.20	1.21
Northeast & Northwest	0.63	0.63	0.61	0.65	0.67	0.68	0.69
North Central Coast	0.76	0.78	0.78	0.80	0.83	0.85	0.86
Central Highlands	0.76	0.75	0.72	0.66	0.68	0.70	0.72
Southeast	1.50	1.47	1.46	1.42	1.38	1.36	1.31
Mekong Delta	0.90	0.93	0.90	0.91	0.88	0.87	0.88

Source: General statistics office of Vietnam.

3.5. Impact on Income Sources

In terms of the impact of COVID-19 on income sources, the data in Table 8 shows that using income growth as a measure, wages and salaries were the least affected. The income from agriculture, forestry, and fishery areas suffered the most during the pandemic. The agriculture, forestry, and fishery areas also had the slowest income recovery in the two years following the pandemic (2022–2023). For the 2020–2023 period, only income from agriculture, forestry, and fishery showed negative growth while other sources of income grew positively. In contrast, non-agricultural income and other income categories experienced relatively small declines during the pandemic and showed the highest recovery rates post-pandemic.

To some extent, this is contrary to the fact that the output growth of the agriculture, forestry, and fisheries sectors was stable during the pandemic.

One explanation may be that because of COVID-19, a substantial part of the labor force worked in the agriculture, forestry, and fisheries sectors. This movement means that despite the overall output increase during the pandemic, the average income decreased because of low productivity. It is also important to note that income from agriculture, forestry, and fisheries had shown negative growth before the pandemic (2016–2019). Therefore, over the entire 2016–2023 period, this income source showed almost no growth (in nominal value) and declined by more than 3 percent (in real value).

Table 8. Growth in average monthly per capita income in Vietnam (2016–2023): By income source.

Period	2016- 2019	2020	2021	2022	2023	2020- 2021	2022- 2023	2020- 2023
Wages and salaries								
Nominal income growth (%)	16.5	0.3	1.1	8.1	6.4	0.7	7.3	4.0
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	13.2	-2.9	-0.7	5.0	3.1	-1.8	4.1	1.1
Loss of nominal income (%)	0.0	-16.2	-15.4	-8.3	-10.1	-15.8	-9.2	-12.5
Loss of real income (%)	0.0	-16.1	-13.9	-8.2	-10.1	-15.0	-9.1	-12.1
Agriculture, forestry and fishery								
Nominal income growth (%)	-0.1	-6.5	-4.6	4.4	5.9	-5.6	5.2	-0.2
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	-3.4	-9.7	-6.5	1.3	2.7	-8.1	2.0	-3.1
Loss of nominal income (%)	0.0	-6.4	-4.6	4.5	6.0	-5.5	5.2	-0.1
Loss of real income (%)	0.0	-6.4	-3.1	4.6	6.0	-4.7	5.3	0.3
Non-agricultural income								
Nominal income growth (%)	10.1	-2.7	-0.7	16.0	8.2	-1.7	12.1	5.2
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	6.8	-5.9	-2.6	12.8	5.0	-4.2	8.9	2.3
Loss of nominal income (%)	0.0	-12.8	-10.8	5.9	-1.9	-11.8	2.0	-4.9
Loss of real income (%)	0.0	-12.7	-9.4	6.0	-1.8	-11.1	2.1	-4.5
Other income								
Nominal income growth (%)	7.5	1.8	-9.4	24.8	0.8	-3.8	12.8	4.5
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	4.2	-1.4	-11.3	21.6	-2.5	-6.3	9.6	1.6
Loss of nominal income (%)	0.0	-5.6	-16.9	17.3	-6.7	-11.3	5.3	-3.0
Loss of real income (%)	0.0	-5.6	-15.4	17.4	-6.6	-10.5	5.4	-2.5

Source: General statistics office of Vietnam.

The picture changed when using income loss as a measure, wages and salaries and non-agricultural income suffered the most, while agriculture, forestry, and fishery were the least affected. The reason is that, before the pandemic, the growth rate of wages and salaries was high while the growth rate of income from agriculture, forestry, and fishery was negative.

It is also worth noting that, over 2020-2023, the share of wages and salaries is unchanged while the share of income from agriculture, forestry, and fishery is decreased (see Table 9).

Table 9. Average monthly per capita income in Vietnam: By income sources (2016-2023, thousand VND).

Period	2016	2018	2019	2020	2021	2022	2023
Wages and salaries	1487	1981	2350	2357	2383	2577	2741
Agriculture, forestry and fishery	510	516	509	476	454	474	502
Non-agricultural income	748	882	998	971	964	1118	1210
Other income	353	497	438	446	404	504	508
Total	3098	3876	4295	4249	4205	4673	4962
Relative to total							
Wages and salaries	0.48	0.51	0.55	0.55	0.57	0.55	0.55
Agriculture, forestry and fishery	0.16	0.13	0.12	0.11	0.11	0.10	0.10
Non-agricultural income	0.24	0.23	0.23	0.23	0.23	0.24	0.24
Other income	0.11	0.13	0.10	0.10	0.10	0.11	0.10
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Source: General statistics office of Vietnam.

3.6. Impact on Income Groups

When divided by income groups, it is clear that the highest-income groups (groups 4 and 5) experienced the sharpest income reduction during the pandemic (see Table 10). The income losses (relative to “potential”) of groups 4–5 were also the biggest. Meanwhile, the income growth of the two lowest-income groups (groups 1 and 2) remained relatively stable compared to that during the pre-pandemic period (2016–2019). Specifically, the income growth of these two groups only decreased in 2021, while in 2020, their income increased significantly. Moreover, only group 1 has income gain relative to “potential” during 2020–2023.

In the post-COVID-19 period, group 1 experienced the highest income growth while the income recovery for other groups was moderate, slightly lower than before the pandemic. For the 2020–2023 period, the income of groups 4–5 is nearly unchanged while the income of group 1 reaches 7.4 percent compared to 5.3 percent during 2016–2019.

Table 10. Growth in average monthly per capita income in Vietnam (2016–2023): By income group.

Period	2016–2019	2020	2021	2022	2023	2020–2021	2022–2023	2020–2023
Group 1								
Nominal income growth (%)	8.6	15.3	1.1	17.4	7.3	8.2	12.3	10.3
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	5.3	12.1	–0.7	14.2	4.1	5.7	9.1	7.4
Loss of nominal income (%)	0.0	6.7	–7.5	8.7	–1.3	–0.4	3.7	1.7
Loss of real income (%)	0.0	6.7	–6.0	8.9	–1.3	0.3	3.8	2.1
Group 2								
Nominal income growth (%)	11.5	18.6	0.3	8.2	4.9	9.5	6.5	8.0
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	8.2	15.4	–1.6	5.0	1.7	6.9	3.3	5.1
Loss of nominal income (%)	0.0	7.1	–11.2	–3.3	–6.6	–2.0	–4.9	–3.5
Loss of real income (%)	0.0	7.2	–9.7	–3.2	–6.5	–1.3	–4.8	–3.1
Group 3								
Nominal income growth (%)	13.1	5.9	–1.3	11.0	5.7	2.3	8.3	5.3
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	9.8	2.7	–3.1	7.8	2.4	–0.2	5.1	2.5
Loss of nominal income (%)	0.0	–7.2	–14.4	–2.1	–7.4	–10.8	–4.8	–7.8
Loss of real income (%)	0.0	–7.1	–12.9	–2.0	–7.4	–10.0	–4.7	–7.4
Group 4								
Nominal income growth (%)	13.9	–1.2	–3.8	10.6	7.2	–2.5	8.9	3.2
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	10.6	–4.4	–5.6	7.4	4.0	–5.0	5.7	0.3
Loss of nominal income (%)	0.0	–15.0	–17.7	–3.3	–6.6	–16.3	–5.0	–10.7
Loss of real income (%)	0.0	–15.0	–16.2	–3.2	–6.6	–15.6	–4.9	–10.2
Group 5								
Nominal income growth (%)	10.2	–9.0	–0.1	11.5	6.0	–4.6	8.8	2.1
Inflation (%)	3.3	3.2	1.8	3.2	3.3	2.5	3.2	2.9
Real income growth (%)	6.9	–12.2	–1.9	8.3	2.8	–7.1	5.6	–0.8
Loss of nominal income (%)	0.0	–19.2	–10.3	1.3	–4.2	–14.8	–1.5	–8.1
Loss of real income (%)	0.0	–19.2	–8.9	1.4	–4.1	–14.4	–1.4	–7.7

Source: General statistics office of Vietnam.

As a result, the relative income (to average) of groups 1–3 increased during 2020–2023 while the relative income of groups 4–5 decreased (see Table 11). Recently, the absolute income of group 5 has been 7.5 times higher than that of group 1, decreasing substantially from 10 times during 2016–2019.

Table 11. Average monthly per capita income in Vietnam: By income groups (2016-2023, thousand VND).

Period	2016	2018	2019	2020	2021	2022	2023
Group 1	771	932	988	1139	1152	1352	1451
Group 2	1516	1907	2100	2491	2498	2702	2835
Group 3	2301	2934	3330	3528	3483	3866	4085
Group 4	3356	4291	4954	4896	4710	5207	5584
Group 5	7547	9320	10103	9193	9184	10237	10855
Average	3098	3876	4295	4249	4205	4673	4962
Relative to average							
Group 1	0.25	0.24	0.23	0.27	0.27	0.29	0.29
Group 2	0.49	0.49	0.49	0.59	0.59	0.58	0.57
Group 3	0.74	0.76	0.78	0.83	0.83	0.83	0.82
Group 4	1.08	1.11	1.15	1.15	1.12	1.11	1.13
Group 5	2.44	2.40	2.35	2.16	2.18	2.19	2.19

Source: General statistics office of Vietnam.

3.7. Impact on Income Inequality

Based on the analysis above, COVID-19 has had a more significant negative impact on the income of the "wealthy" (urban areas, female heads of households, Southeast region, groups 4–5). Because the income of the "wealthy" is reduced substantially, income inequality in the country has decreased significantly in Vietnam during 2020–2023. Table 12 shows the national GINI index, used to measure income equality in Vietnam during 2020–2023, stabilized at 0.374 during 2020–2023, much lower than the 0.426 level recorded during the pre-pandemic period (2016–2019). A similar trend occurred in different economic regions across the country.

Table 12. Gini index of income distribution in Vietnam.

Period	2016	2018	2019	2020	2021	2022	2023
Whole country	0.431	0.425	0.423	0.373	0.374	0.375	0.374
Urban	0.391	0.373	0.373	0.325	0.335	0.354	0.345
Rural	0.408	0.408	0.415	0.373	0.374	0.364	0.370
Red River Delta	0.401	0.390	0.387	0.317	0.327	0.333	0.335
Northeast and Northwest	0.433	0.444	0.438	0.420	0.428	0.408	0.411
North Central Coast	0.393	0.383	0.389	0.354	0.347	0.351	0.355
Central Highlands	0.439	0.440	0.443	0.406	0.418	0.399	0.404
Southeast	0.387	0.375	0.375	0.291	0.322	0.346	0.341
Mekong Delta	0.405	0.400	0.395	0.372	0.352	0.352	0.345

Source: General statistics office of Vietnam.

4. DISCUSSION

In this section, we discuss the question of why the COVID-19 pandemic had an impact on the "rich" more than the "poor." One explanation is that high-income groups concentrate in densely populated areas. These areas were subjected to more extensive and prolonged lockdowns during the pandemic, especially in Ho Chi Minh City, resulting in a sharper reduction in income from production and economic activities.

Figures 3 and 4 show the positive relationship between the monthly nominal income of one worker in 2019 (millions of Vietnamese Dong – VND) and population density in 63 Vietnamese provinces and cities. Figures 5 and 6 demonstrate the positive relationship between the 2019 income level and the number of COVID-19 deaths³ (updated to October 04, 2023) in 63 Vietnamese provinces and cities. According to these figures, the higher the average monthly nominal income is horizontal, the higher the number of COVID-19 deaths will be vertical. The

³ https://vi.wikipedia.org/wiki/%C4%90%E1%BA%A1i_d%E1%BB%8Bch_COVID-19_t%E1%BA%A1i_Vi%E1%BB%87t_Nam.

number of COVID-19 deaths reached 19,985 people, compared with 42,789 people in the whole country especially in Ho Chi Minh City. The average nominal income of one worker in Ho Chi Minh City is also the highest reaching VND 8,743,000/month in 2019.

Figures 7 and 8 demonstrate an inverse correlation between the number of COVID-19 deaths and the growth rate of average monthly nominal income during the pandemic (2020-2021), i.e., the higher the number of COVID-19 deaths (horizontal), the lower the average monthly nominal income growth (vertical). Figures 9 and 10 depict an inverse relationship between nominal income levels in 2019 (horizontal) and the nominal income growth during the pandemic (2020-2021) in 63 Vietnamese provinces and cities. According to this data, the higher the nominal income in 2019 (horizontal), the lower the nominal income growth of 2020-2021 will be vertical. Moreover, the former alone can explain about 37% of its changes during the pandemic.

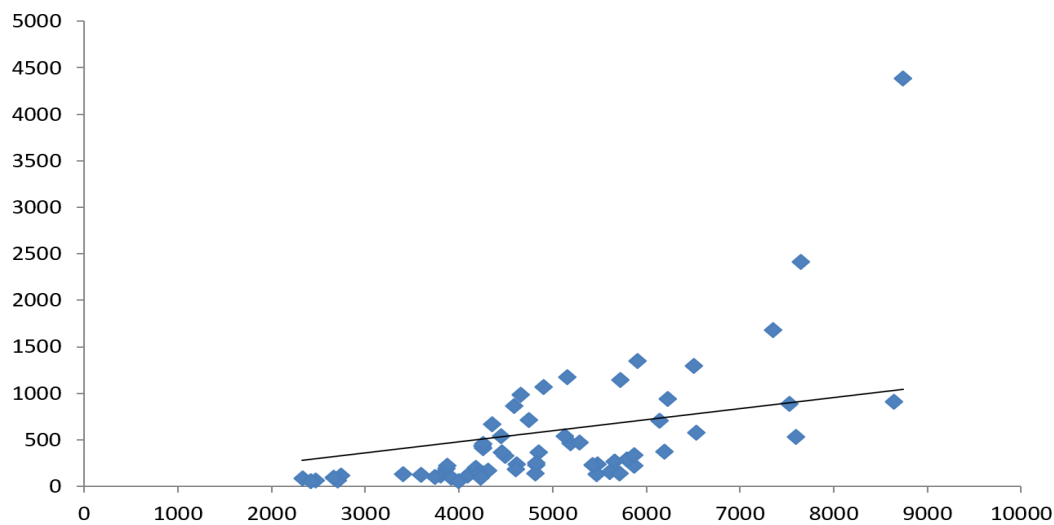


Figure 3. Average monthly nominal income in 2019 and population density in 63 Vietnamese provinces and cities.

Source: General statistics office of Vietnam.

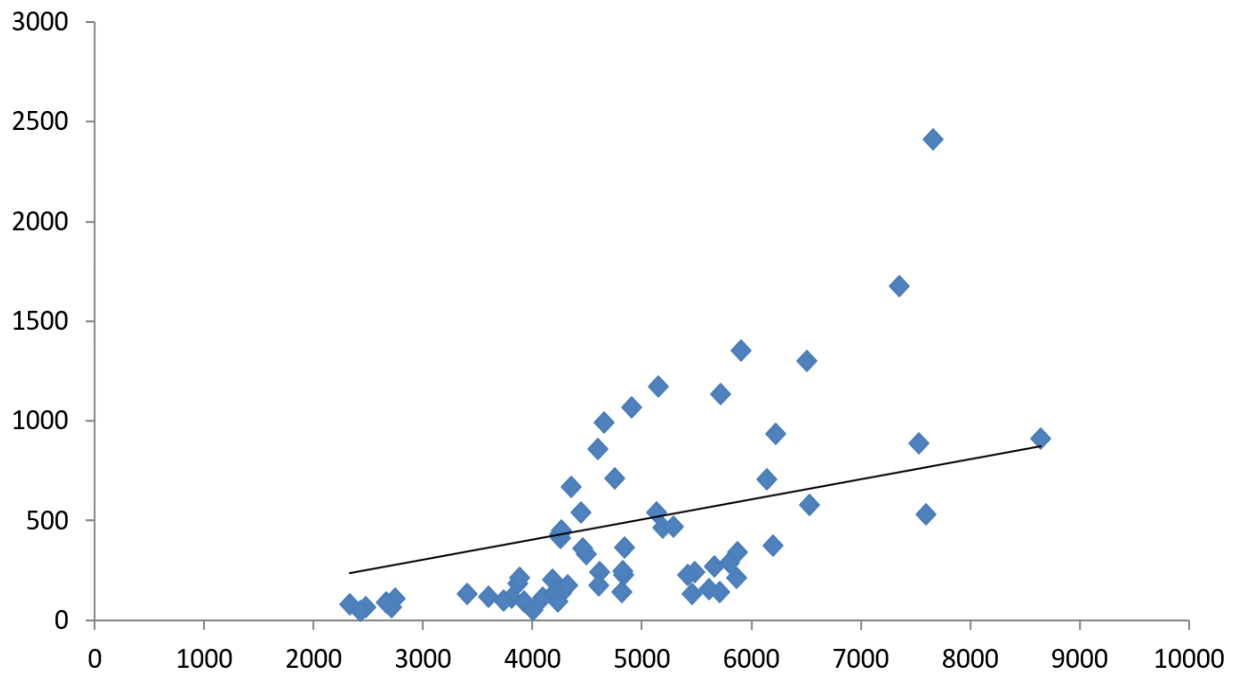


Figure 4. Average monthly nominal income in 2019 and population density in 62 Vietnamese provinces and cities (Except Ho Chi Minh City).

Source: General statistics office of Vietnam.

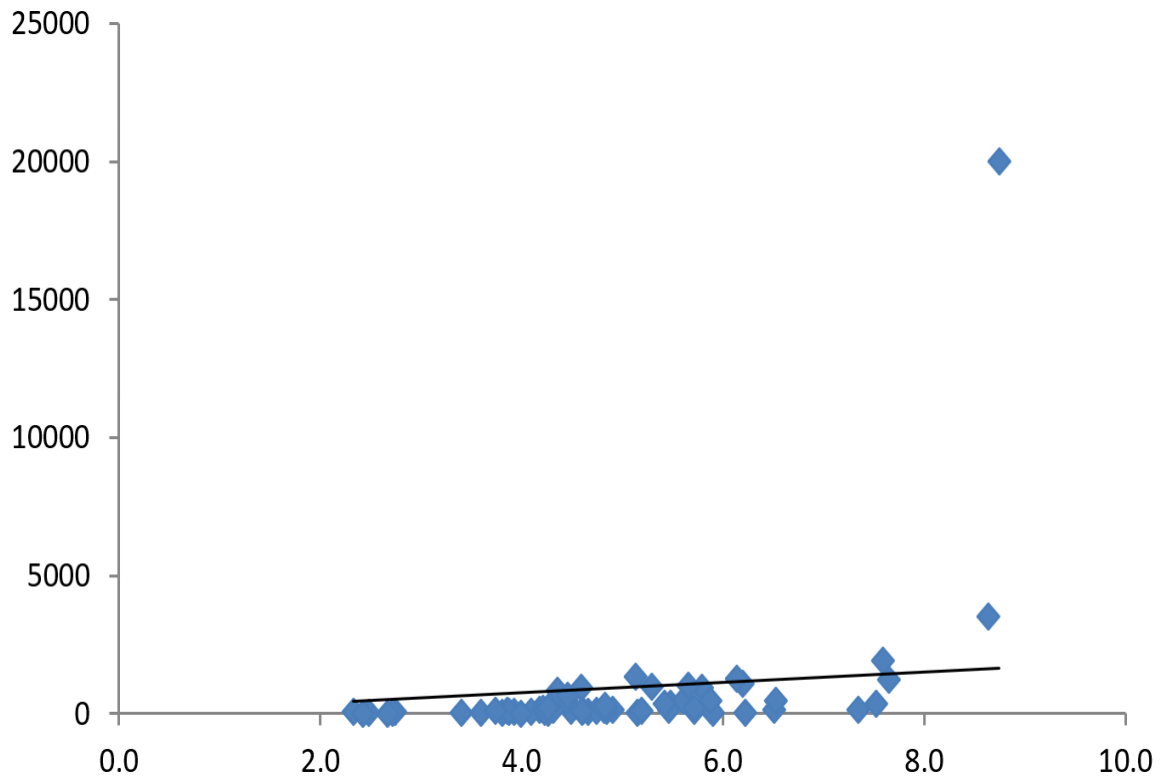


Figure 5. Average monthly nominal income in 2019 and number of COVID-19 deaths in 63 Vietnamese provinces and cities.
Source: General statistics office of Vietnam. <https://vi.wikipedia.org/wiki>.

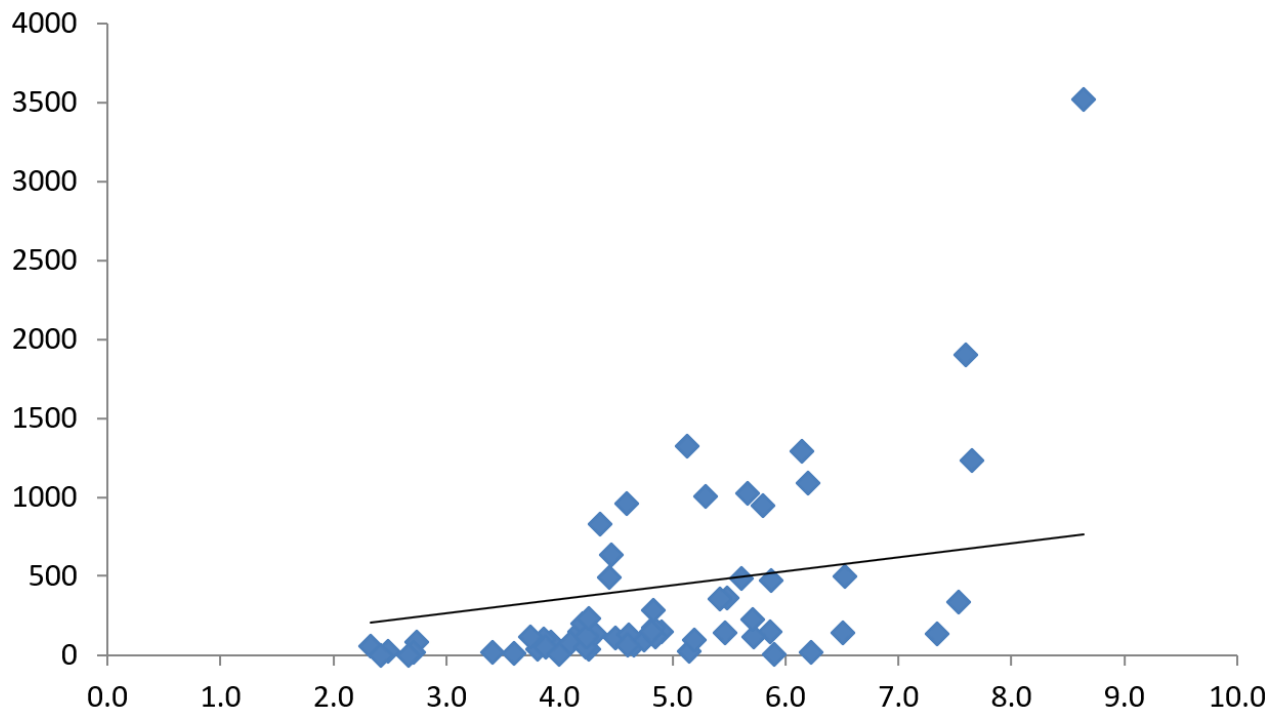


Figure 6. Average monthly nominal income in 2019 and number of COVID-19 deaths in 62 Vietnamese provinces and cities (Except Ho Chi Minh City).
Source: General statistics office of Vietnam. <https://vi.wikipedia.org/wiki>.

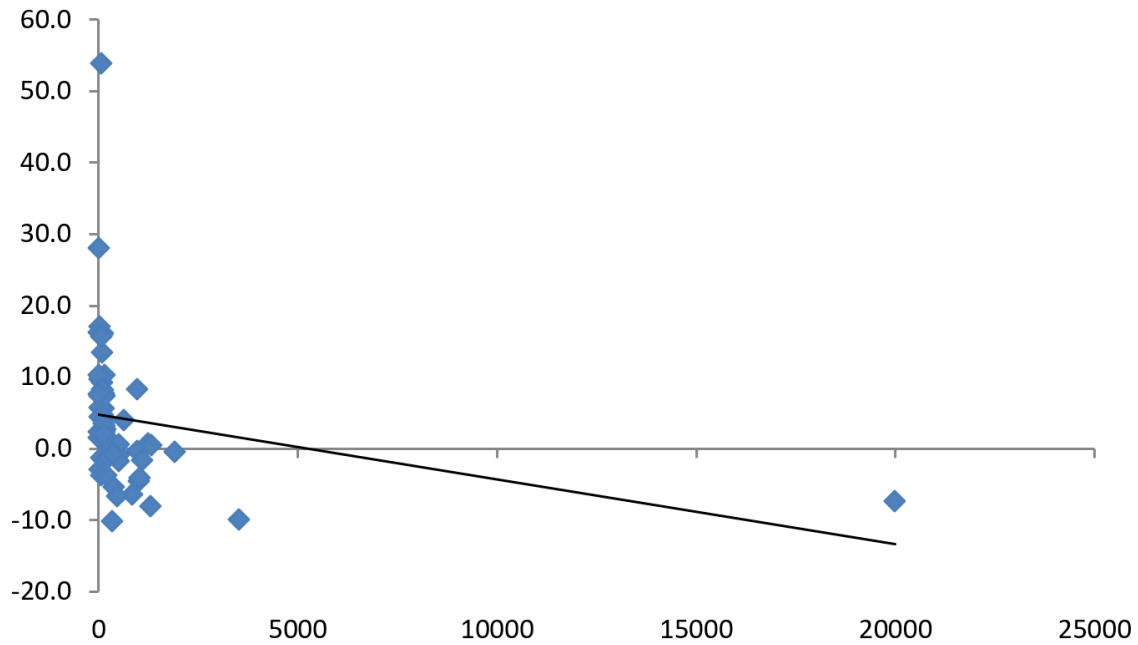


Figure 7. Number of COVID-19 deaths and average monthly nominal income growth of one worker during 2020-2021 in 63 Vietnamese provinces and cities.

Source: General statistics office of Vietnam. <https://vi.wikipedia.org/wiki>.

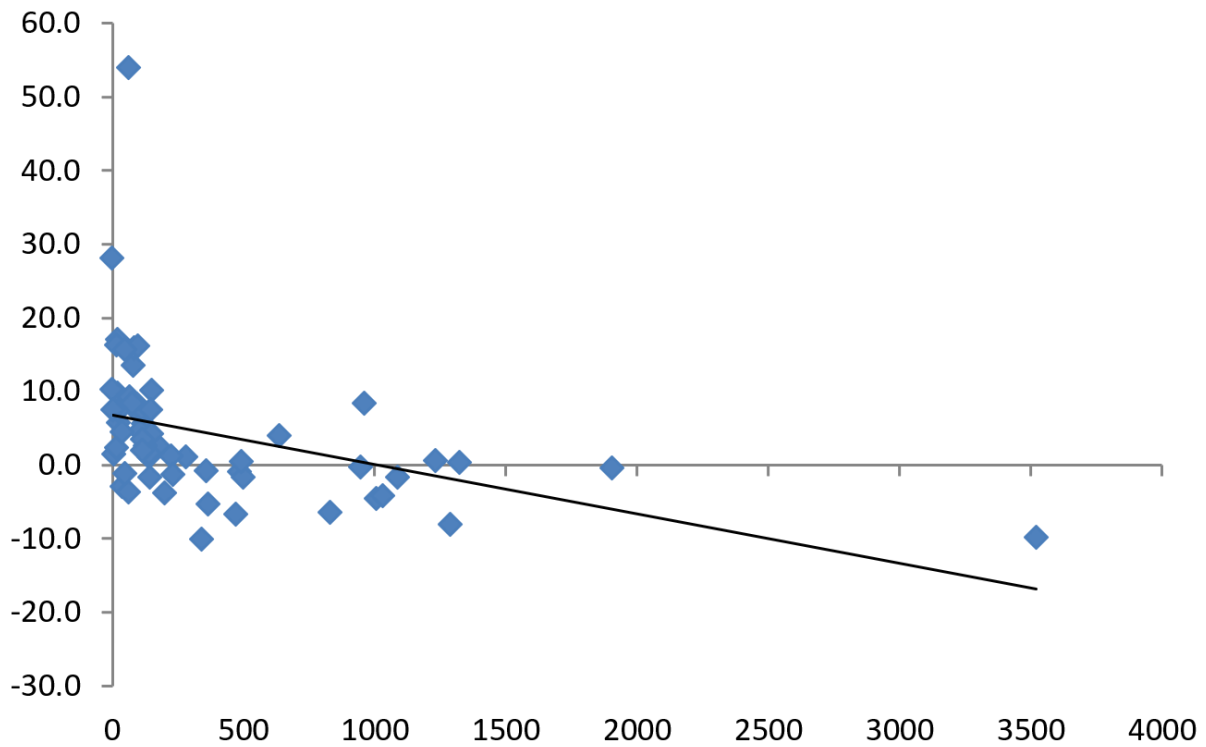


Figure 8. Number of COVID-19 deaths and average monthly nominal income growth of one worker during 2020-2021 in 61 Vietnamese provinces and cities (Except Ho Chi Minh City).

Source: General statistics office of Vietnam. <https://vi.wikipedia.org/wiki>.

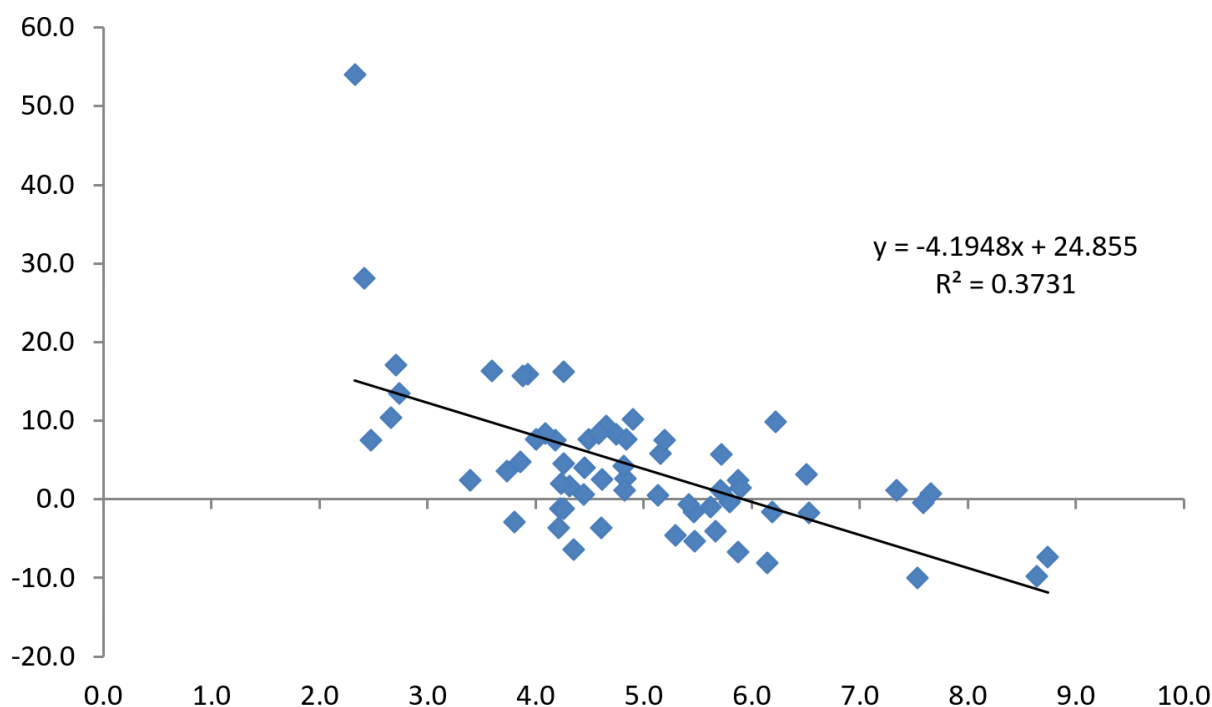


Figure 9. Monthly nominal income in 2019 and average monthly nominal income growth of one worker during 2020-2021 in 63 Vietnamese provinces and cities.

Source: General statistics office of Vietnam.

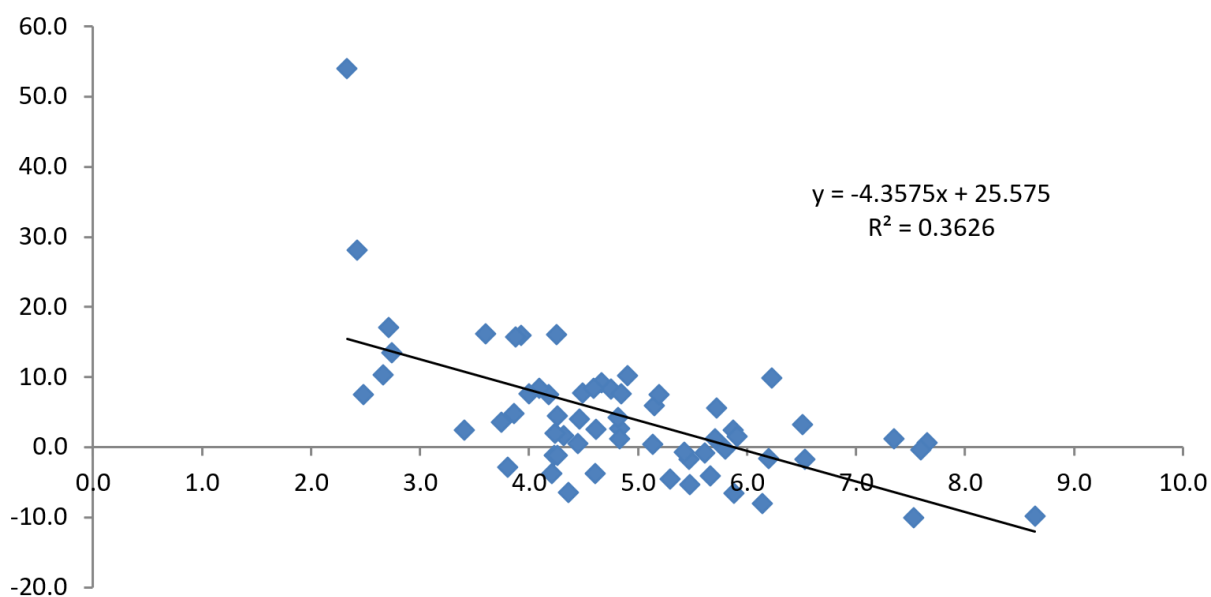


Figure 10. Monthly nominal income in 2019 and average monthly nominal income growth of one worker during 2020-2021 in 62 Vietnamese provinces and cities (Except Ho Chi Minh City).

Source: General statistics office of Vietnam.

5. CONCLUSION AND POLICY SUGGESTION

A comparison of data before, during, and after the pandemic shows that at the macro level, COVID-19 negatively impacted output growth. At the micro level, it significantly impacted the income of many demographic and economic status groups. Moreover, COVID-19 has impacted higher-income groups more than lower-income groups. In addition, the adverse effects exist during the pandemic and post-pandemic periods.

One possible explanation is that high-income groups live in densely populated areas that were more frequently and extensively locked down. The latter strongly impacts income. The data presented in this study supports this

explanation indicating that the income levels in Vietnamese provinces and cities in 2019 positively correlate to their population densities and numbers of COVID-19 deaths and inversely correlate to income growth in 2020–2021.

While the reduction in income among the wealthier groups resulted in a decrease in income inequality in the economy, this is not a desirable outcome because this means the overall income level of society decreased or grew more slowly compared to its potential in the pre-pandemic period.

The substantial negative impacts of COVID-19 on the income of social/population groups in Vietnam imply that controlling the spread of epidemics is crucial to ensure people's welfare, especially in provinces and cities with high population density.

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