The Impact Of Covid-19 Pandemic On Informal Workers' Employments And Income In Vietnam

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Abstract: The paper assesses and analyses the impact of Covid-19 on informal workers' employment as well as income in Vietnam via the probit model, using The Labour Force Survey by the General Statistics Office for the first three quarters of 2021. The results indicate that although informal workers are less likely to be reduced working hours, they have a higher risk of diminished income and employment, compared to formal workers. Based on the findings, the authors propose several suggestions to lessen the informal workers' risks of employment, income and working hours in the context of Covid-19. **Keywords:** Covid-19, income and employment of informal workers

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I. Introdution

The International Labor Organization affirmed that Covid-19 has caused considerable job losses and a significant decline in workers' income around the world [1]. Webb et al argued that the Covid-19 pandemic reduced the job opportunities and accessibilities of informal workers. The complex short-term effects of Covid-19 were likely to have long-term impacts on informal workers [2]. Specifically, around 25 million people could become unemployed worldwide due to the influence of Covid-19. Typically, during the peak of Covid-19 in Wuhan (China), around 5 million people lost their jobs in the first two months of 2020 [3], nearly 900 thousand Spanish workers and more than 10 million American ones became unemployed in March 2020 [4],[5]. Besides, the income of informal workers also experienced a significant decline in the context of the pandemic [6]. An empirical study in Thailand revealed that the average monthly income of informal workers was THB 13,507; however, during the outbreak of Covid-19, this figure was only THB 3,586, being equivalent to 27% of prepandemic income [7]. The ILO estimated that the amount of informal workers' income fell by 60% globally, 82% in low-middle-income countries, 28% in upper-middle-income nations, and 76% in high-income ones [1]. In addition, decreasing working hours was also an often considered aspect when studying the impact of Covid-19 on informal workers [2]. Regarding calculations by Lee et al, the number of informal workers' lost working hours around the globe was about 7% in the first quarter of 2020 [8]. Then, this number underwent an increase to 14% in the following quarter. In Southern Africa, the quantity of informal workers' working hours went down by 25% in June 2020, compared to April 2020 [9]. Thus, the Covid-19 pandemic has profoundly affected informal workers all over the world, in terms of three facets: employment, income, and hours of work [10].

There have been many studies on the impact of the Covid-19 pandemic on informal workers throughout the world. In Vietnam where the number of informal workers accounts for around 70% [11], most studies, however, only provide descriptive statistics instead of in-depth analyses of this relationship. Based on previous literature about the influence of shocks on vulnerable workers, this paper assesses the relationship of Covid-19 with their employment, income and working hours. Using a probit model, the paper analyzes and compares the impact of Covid-19 on the risk of changes in income and employment between informal and formal workers. This is considered a new approach to analyzing the effect of Covid-19 on Vietnamese informal workers.

The results are expected to shed more light on the theory of shock effects on informal workers. The paper also provides several recommendations to reduce the risks and impacts of the Covid-19 pandemic on Vietnamese informal workers. This paper consists of 5 sections. After the introduction, section 2 presents an overview of the influence of the Covid-19 pandemic on informal workers' employment and income. Section 3 focuses on presenting estimation methods. Section 4 outlines the current state of the Vietnamese labor market in 2021 and the research results. Finally, conclusions and some policy implications are proposed in section 5.

II. Literature Review And Theoretical Framework

2.1. The definition of informal workers

The International Labor Organization (ILO) defines informal workers as those possessing informal employment [12]. This definition includes both workers in the formal sector and informal sector. Informal employment consists of all employment arrangements that do not equip individual workers with legal or social protection through their work, thereby leaving them vulnerable to bear economic risks. They are regarded as one of the most susceptible objects to shocks because they grab little attention and support from the state [12].

2.2. The impact of Covid-19 on informal workers

The ILO estimated that 1.6 billion informal workers were remarkably influenced by closure decisions or high-risk working conditions from all over the world [1]. The short-term effects of the pandemic on the economy have greatly affected the informal workers' employment and income.

First and foremost, Covid-19 triggered a substantial decrease in informal workers' income. Clara asserted that moving restrictions, caused by Covid-19, reduced the income of informal workers [13], specifically: an 81% decrease in the income of African workers in the first month of the crisis [1], a 52% decrease in informal workers' wages, compared to formal workers in South Africa from April to June 2020 [9]. In particular, in India, the income of informal workers decreased by R\$811.22 billion which accounted for 96% of the total decrease [6]. It cannot be refutable that the informal workers' income was reduced more than formal workers' one in the context of Covid-19. In Vietnam, it was shown in the study of Le Phuong Hoa that the income of informal and formal workers in 2021 decreased dramatically by 8.4% and 4.7% respectively, compared to 2020 [14]. Thenceforth, the author emphasized that the decrease in income of informal workers was much greater than that of formal workers. It can be affirmed that the impact of Covid-19 not only made the informal workers' income decrease but also put informal workers at a higher risk of income reduction than formal workers.

Covid-19 not only had a negative impact on income but also affected the informal workers' employment. The International Labor Organization estimated that between 5 and 25 million workers globally were at risk of losing their jobs due to the crisis, and informal workers were affected the most [1]. Many studies have found that informal workers were more likely to lose their jobs in each country due to the effects of Covid-19 [15],[16]. Nonetheless, in every distinct country, the employment downward trend of different groups of people was not the same. Specifically, in Nigeria, the Covid-19 crisis has paralyzed both the formal and informal sectors; in particular, informal workers were more affected than formal workers because their enterprises had some difficulty adapting to the current situation [13]. Covid-19 not only made the unemployment rate rapidly increase but also triggered the employed labor force to sharply decrease and the labor market became unstable; thereby seriously affecting the employment opportunities of informal workers [17],[18]. In contrast, formal workers affected by Covid-19 were less likely to be laid off since businesses offered certain solutions to support formal workers and prevent employees from being laid off. Thus, the impact of Covid-19 diminished the informal workers' employment and made the informal workers' risk of job loss higher than that of formal workers. In particular, Covid-19 also affected the quantity of informal workers' working hours. According to the forecasting model of ILO, the global number of working hours in the first quarter of 2020 decreased by 4.5% (equivalent to about 130 million full-time jobs, assuming 48 working hours per week), compared to the pre-crisis period (the fourth quarter of 2019) [1]. Many studies have shown a serious decline in informal workers' working hours during the pandemic [19],[20]. However, each country had a distinctive reduction. Specifically, Mueller et al showed the impact of Covid-19 on informal workers who reported they were full-time employed before the pandemic in rural America, 21.36% of workers no longer have full-time jobs; 49.90% of workers were temporarily unemployed and 27.60% of workers switched to part-time employment [21]. In South Africa, informal workers were influenced by Covid-19 as well. Many of them lost their jobs, and a large number of workers, who are still working, had to face a serious reduction in working hours, compared to the previous year [22]. Therefore, Covid-19 has reduced the number of working hours of both informal and formal workers. In particular, based on the above data, the paper is expected to analyze the risk of reducing the working hours of informal and formal workers in detail.

Based on former domestic and international studies, this study will analyze the impact of the Covid-19 pandemic on *the income, employment and working hours of Vietnamese informal workers* and put it in a comparison with Vietnamese formal workers.

III. Methodology

3.1. Database

This paper uses data from *The Labour Force Survey for the first three quarters of 2021 by the General Statistics Office* in Vietnam (GSO). Each quarterly survey covers more than 200,000 people aged 15 years and over throughout 63 provinces. This data source enables the paper to determine the quantity of formal and informal workers. Based on direct questions about the impact of Covid-19 on workers, this paper identifies the Covid-19's influencing variables from this data source.

3.2. Procedure of Methodology

Firstly, the paper uses a dataset from *The Labour Force Survey* to describe the change in the number of informal and formal workers, their working hours as well as income for the first 3 quarters of 2021.

Secondly, the paper analyzes the risk of reduced working hours, income and job loss of workers due to Covid-19 through the probit model. A few studies have used the probit model to consider the risk of reduced income and job loss of workers around the world. Specifically, Balde et al analyzed the informal workers' risk of job loss and income reduction because of Covid-19 pandemic in sub-Saharan Africa via a probit model [16]. Similarly, Kansiime et al used this method to assess the risk of income shock due to poor product consumption caused by the impact of Covid-19 [23]. The research model is in the form of equation (1):

$Y_{jt} = \beta_0 + \beta_1 * infor_workers_{jt} + \beta_2 X_{jt} + u_{jt} (1)$

 \mathbf{Y}_{jt} are workers j whose working hours/income are declined and jobs lost due to Covid-19 in quarter t, taking the value of 1 if workers are affected, 0 if workers are not affected, this variable is directly determined from the dataset.

infor_workers_{jt} is the employment status j in quarter t, taking the value of 1 for informal workers, 0 for formal workers.

 X_{jt} are control variables including dummy variables of gender, age group, marital status, technical expertise, geographic region and region of the workers to control workers' characteristics. u_{it} are unobserved variables.

IV. Data Analysis And Discussion Of Results

4.1. The current state of the Vietnamese labor market

4.1.1. The workforce scale

Table 1 shows that the number of informal workers in Vietnam always took up nearly 70% of the total employed population. In the first and second quarters of 2021, the number of informal and formal workers remained unchanged. Nonetheless, in the third quarter, due to the severe impact of Covid-19 on the entire economy, the employed labor force decreased by 2.59 million workers, and the informal workforce declined by 1.93 million people (accounting for about 75% of the total reduced labor force). Besides, the results show that males were more likely to have informal employment than females (constituting about 55%) in 2021. In the second quarter, the wave of Covid-19 began to spread, which gave a rise to the number of informal male workers while the quantity of formal male workers witnessed a decrease. One of the reasons for this phenomenon was that a wide range of male workers had to leave their formal work to do the informal one. Nevertheless, the outbreak of Covid-19 pandemic in the third quarter affected informal female workers seriously (a 6.7% reduction in the number of informal female workers), while informal male ones only decreased by 5.3%. Therefore, it can be evidently seen that the Covid-19 pandemic has intensely reduced the proportion of informal workers, especially female ones. Thus, the proposed hypothesis is suitable for Vietnam in the context of Covid-19.

| Table 1: The number of Vietnamese informal and formal workers in the first three qu | uarters of 2021 |
|---|-----------------|
|---|-----------------|

(Unit: person)

| Quar | ntity | Formal workers | Informal workers | workers Employed workers | |
|-------------------------|-----------------------------|----------------|------------------|--------------------------|--|
| | Male | 7,691,382 | 18,708,430 | 26,399,812 | |
| 1 st Quarter | Female | 8,242,682 | 15,261,549 | 23,504,231 | |
| | Total 15,934,064 33,969,979 | | 49,904,043 | | |
| 2 nd Quarter | Male | 7,560,444 | 18,884,802 | 26,445,246 | |
| 2 Quarter | Female | 8,387,757 | 15,006,042 | 23,393,799 | |

| | Total | 15,948,201 | 33,890,844 | 49,839,045 |
|-------------------------|--------|------------|------------|------------|
| | Male | 7,353,193 | 17,872,863 | 25,226,056 |
| 3 rd Quarter | Female | 7,936,536 | 14,086,333 | 22,022,869 |
| | Total | 15,289,729 | 31,959,196 | 47,248,925 |

Source: Estimation from authors.

4.1.2. The number of Vietnamese workers' working hours in 2021

In the first three quarters of 2021, the quantity of informal workers' working hours was lower than that of formal workers. Specifically, the number of hours worked by informal workers in the second quarter did not change significantly, meanwhile the number of hours worked by formal workers decreased by 4.5%, compared to the previous quarter. In particular, when the Covid-19 pandemic broke out across the country in the third quarter, the average working hours of informal and formal workers reduced by nearly 20%, compared to the second quarter. The results of Table 2 show that male workers always had more hours of work than females in 2021. In the second quarter, the female workers' working hours were more severely affected than male workers (a decrease of 5% of formal female workers and 1.5% of informal female ones, compared to the first quarter). In the next quarter, female workers continued to be the group of workers whose working hours were reduced more than male workers (about 20%). Hence, it is apparent that in the context of the Covid-19 pandemic, informal workers had fewer working hours than formal ones, and female workers were always the subjects undergoing the most reduced working hours.

| Working hours | | Formal workers | Informal workers | |
|-------------------------|---------|----------------|------------------|--|
| | Male | 47.950 | 43.491 | |
| 1 st Quarter | Female | 46.820 | 40.036 | |
| | Average | 47.366 | 41.939 | |
| 2 nd Quarter | Male | 46.136 | 43.030 | |
| | Female | 44.399 | 39.545 | |
| | Average | 45.222 | 41.487 | |
| | Male | 37.114 | 34.819 | |
| 3 rd Quarter | Female | 34.931 | 31.999 | |
| | Average | 35.981 | 33.575 | |

| Table 2: Average working hours of Vietnamese informal and formal workers in the first three quarters of 2021 | |
|--|--|
| (Unit: hours per week) | |

Source: Estimation from authors.

4.1.3. Vietnamese workers' income in 2021

Table 3 shows that the informal workers' income was much lower than that of formal workers. Specifically, the income difference was about 65%. In the first three quarters of 2021, the income of all workers decreased gradually over time. The income reduction of informal workers was always lower than that of formal workers. In particular, in the third quarter, the income of formal workers decreased by 11.5% and the figure for informal workers declined by 9.5%, compared to the previous quarter. In terms of gender, male workers always had a higher average income than females. Moreover, in the second quarter, informal female workers experienced a 6% decrease in income while informal male workers' income remained stable. However, when the pandemic broke out seriously in the third quarter, male workers suffered from the most income reduction (about more than 10% compared to the previous quarter).

| Income | | Formal workers | Informal workers |
|-------------------------|---------|----------------|------------------|
| | Male | 10,380.56 | 6,796.53 |
| 1 st Quarter | Female | 8,068.496 | 4,909.442 |
| | Average | 9,186.261 | 6,026.095 |
| 2 nd Quarter | Male | 9,865.488 | 6,735.471 |
| | Female | 7,503.304 | 4,653.246 |
| | Average | 8,624.278 | 5,898.918 |
| | Male | 8,584.223 | 6,024.576 |
| 3 rd Quarter | Female | 6,759.337 | 4,273.692 |
| | Average | 7,634.713 | 5,333.525 |

| Table 3: Average income of Vietnamese informal and formal workers in the first three quarters of 2021 (Unit: |
|---|
| Thousand VND per month) |

Source:Estimation from authors.

4.2 The impact of Covid-19 on the Vietnamese informal workers' risk of reduced working hours, income and job loss

This paper analyzes the risk of reduced working hours, income and job losses for Vietnamese workers affected by Covid-19. The results after using probit probability model regression in Table 4 below specifically consider the risk of income reduction and job loss in two groups of formal and informal workers in Vietnam.

Table 4: Probit estimation's results of the workers' risk of reducing working hours, income and job loss

| Variables | | Working hours decline | Income reduction | Job loss |
|---|-----------------------|--------------------------|------------------|-----------|
| | | Regression coefficient | | |
| Informal workers (Reference: Informal workers) | | -0.276*** | 0.243*** | 0.212*** |
| | Primary | 0.150*** | 0.016 | 0.003 |
| Technical expertise (Reference: Non-technical | Intermediate | 0.052** | -0.288*** | -0.051 |
| expertise) | College | 0.020 | -0.489*** | -0.118*** |
| | University and higher | 0.056*** | -0.810*** | -0.252*** |
| | Married | -0.050*** | 0.086*** | -0.070*** |
| Marital status | Widowed | -0.01 | 0.075** | -0.021 |
| (Reference: Unmarried) | Divorced | 0.014 | 0.021 | -0.006 |
| | Separated | -0.072 | 0.104 | 0.092 |
| | Aged 20-24 | 0.052 | 0.153*** | 0.170*** |
| | Aged 25-29 | -0.000 | 0.171*** | 0.113** |
| Age group | Aged 30-34 | -0.025 | 0.152*** | 0.093* |
| (Reference: 15-19-year-old group) | Aged 35-39 | -0.061 | 0.101** | -0,007 |
| | Aged 40-44 | -0.101*** | 0.051 | -0.013 |
| | Aged 45-49 | -0.113*** | 0.013 | -0.070 |

| | Aged 50-54 | -0.159*** | -0.013 | -0.142** |
|--|--|-----------|-----------|-----------|
| | Aged 55-59 | -0.188*** | 0.083* | 0.114* |
| | Aged 60-64 | -0.273*** | 0.093** | -0.174*** |
| | Aged over 65 | -0.333*** | 0.156*** | -0.288*** |
| Gender (Reference: Male gender) | Female | -0.034*** | -0.042*** | -0.035** |
| | Red River Delta | 0.252*** | 0.054*** | -0.287*** |
| | North Central and Central Coast | 0.244*** | 0.079*** | 0.525*** |
| | Highlands | -0.229*** | 0.044* | 0.055 |
| Economic zone (Reference: Northern Midlands and Mountains) | South East | 0.375*** | -0.113*** | 1.026*** |
| | Mekong Delta | 0.450*** | -0.117*** | 0.710*** |
| | Hanoi | 0.345*** | -0.049*** | 0.504*** |
| | Ho Chi Minh | 0.004 | 0.117*** | 0.406*** |
| Sector (Urban areas reference) | Rural areas | -0.055*** | -0.112*** | -0.084*** |
| Cons | | -0.103*** | 0.573*** | -1.961*** |
| Number of observations | | | 78,747 | |
| Prob > chi2 | | | 0.0000 | |
| Statistics in parentheses * p < | < 0.1, ** <i>p</i> <0.05, *** <i>p</i> <0.01 | | | |
| | | | | |

Source: Estimation from authors.

Table 4 shows that the Covid-19 pandemic put informal workers at a lower risk of working hours reduction than formal workers. This result is similar to the report of UN Women which indicated that many females including 83% formal workers and 49% informal workers lost their jobs or had their working hours cut [24]. The reason comes from the fact that businesses with the support of the Vietnamese government had to implement distancing policies and regulations on Covid-19 prevention, so most of the informal workers in these businesses had their working hours reduced, temporarily left jobs to maintain them for formal workers and avoid the risk of bankruptcy. At the same time, this also limited the direct interactions and ensured the workers' health.

Regarding the risk of income reduction and job loss between the two groups of workers in Table 4, it was higher for informal workers than formal ones. According to Balde et al, informal workers often had precarious and high-risk jobs [15]. Moreover, Covid-19 social distancing limited their mobility, job searching and reduced demand for informal workers. As a result, the income and employment of informal workers may be reduced. Additionally, informal workers also had no access to benefits from the Trade Union, the Vietnamese government or social insurance, so when Covid-19 happened, their income and employment were at more risk of reduction than formal workers.

In addition, the results also analyze several controlling factors for the influence of Covid-19 on the risk of reduced working hours, income and job loss. Specifically, Table 4 shows that the impact of Covid-19 put female workers at a higher risk of reduction in all three facets of working hours, income and job loss, compared to male workers. In other words, female workers were more vulnerable to Covid-19 than male workers. Workers affected by Covid-19 in rural areas also had a higher risk of declined working hours, income and job loss than urban workers.

V. Conclusion and Policy Recommendations

This paper verified and explained the impact of the Covid-19 pandemic on Vietnamese informal workers. The results show that Covid-19 confronted informal workers with income reduction owing to the reduction of working hours and job loss. In particular, informal workers have been proved to have a lower risk of working hours decrease but a higher risk of income decline and job loss, compared to formal workers. These results give us several theoretical and practical implications.

Theoretically, the paper has diversified existing theories about the impact of Covid-19 on informal workers. Although many scholars have conducted reports on this relationship worldwide, there are still very few profoundly analytical studies in developing countries. In particular, this is a vital research topic in a country facing a serious Covid-19 pandemic like Vietnam with 70% of informal workers who own precarious jobs and lack social protection. Based on international documents, we use a probit model to examine the risk of income reduction, job loss, working hours of formal and informal workers in Vietnam.

Regarding practical aspects, the results are expected to contribute to helping Vietnamese government, businesses and employees have appropriate awareness and orientation in the context of the currently complicated Covid-19 pandemic. In addition, the authors propose some suggestions to minimize the influence of Covid-19 on informal workers:

Firstly, the Vietnamese government needs to conduct social support policies quickly and promptly to moderate the damage to informal workers when facing the Covid-19 shock. Social support measures such as providing long-term loans, extending debt for employees; offering businesses with credit facilities financial assistance should be taken to maintain employees' jobs and wages during the pandemic.

Secondly, the Vietnamese government had better adopt measures to help informal workers access accurate information about the pandemic to make timely precautionary decisions and lessen the damage they have to endure.

Thirdly, it is necessary to clearly stipulate the rights and responsibilities of businessé and organizations towards employees. Facing shocks, informal workers are the leading subject of layoffs when companies are in trouble. Therefore, employers need to consider the impact of decisions made on informal workers as well as their families.

Fourthly, more sustainable jobs should be created to ensure a stable income and working hours for vulnerable workers. Specifically, the Vietnamese government should organize programs and promulgate policies to support businesses to start and develop. At the same time, they also had better provide training for employees to improve their skills. Then, businesses will increase recruitment demands, making it easier for workers to find and maintain a stable job in terms of salary and working hours.

Fifthly, it is essential to develop a system of policies on education and training in order to improve the employees' knowledge and skills. The Vietnamese government should focus on promoting policies on education, skills training and qualifications for workers, especially informal workers. Thenceforward, their knowledge and skills will have been improved, which enables them to have the ability to get formal jobs with a high degree of protection and a more stable income.

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