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COVID-19 Pandemic and the Health and Well-being of Vulnerable People in Vietnam

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Abstract

Despite a sizable population and modest status as a low middle-income country, Vietnam has recorded a low COVID-19 fatality rate that rivals those of richer countries with far larger spending on health. We offer an early review of the emerging literatures in public health and economics on the pandemic effects in Vietnam, with a specific focus on vulnerable population groups. Our review suggests that vulnerable workers were at more health risks than the general population. The pandemic reduced household income, increased the poverty rate, and worsened wage equality. It increased the proportion of below-minimum wage workers by 2.5 percentage points (i.e., 32 percent increase). While government policy responses were generally regarded as effective, the public support for these responses was essential for this success, particularly where there were stronger public participation in the political process. Our review also indicates the need for a social protection database to identify the poor and the informal workers to further enhance targeting efforts. Finally, we suggest future directions for research in the Vietnamese context.

Key words: COVID-19, health, vulnerable households, poverty, inequality, Vietnam

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1. Introduction

The COVID-19 pandemic has affected every country across the world, richer and poorer alike, without any exception. It has resulted in more than 6.5 million deaths globally as of October 2022 (WHO 2022a). It is also predicted to result in slower poverty reduction, potentially pushing between 80 to under 400 million people into poverty globally (Sumner, Hoy, and Ortiz-Juarez 2022). Worse still, recent studies suggest that disadvantaged population groups—including those that are poorer, less healthy, and more vulnerable—suffered disproportionately more negative effects during the pandemic.

Indeed, analyzing a six-country survey implemented early in the pandemic (April 2020) that covers China, Italy, Japan, South Korea, the United Kingdom, and the United States, Dang, Huynh, and Nguyen (2022a) offer both theoretical and empirical evidence pointing to worse outcomes for poorer individuals. In particular, during the pandemic, the poor are less likely to have savings and protect their health with newly-established prevention measures, such as keeping a 4-foot physical distance, not touching their face, or covering their mouth when sneezing with a tissue, or seeking medical care when they exhibit early symptoms of the flu. They also conduct the following healthy activities less: wash hands, wear a mask, eat sufficient fruit and vegetables, and video chat with relatives and friends, and they rely on public transportation more.¹ These findings are broadly consistent with those discussed in recent review studies, which mostly focus on richer countries (Brodeur et al. 2021; Bloom et al. 2022).

Yet, since the existing evidence is mostly available for richer countries, do these findings similarly apply to a poorer country context such as Vietnam? Put differently, do vulnerable population groups in Vietnam suffer more than the regular population during the pandemic? One

¹ Several other studies that analyze the same survey observe a similar finding that the poor were more affected during the pandemic (Bonacini et al. 2021; Papageorge et al. 2021; Aubert et al. 2022).

might think the poor in poorer countries might even suffer more for various reasons. One key reason is that since poorer countries are constrained with limited resources for public health, they might likely perform worse than richer countries and could allocate even fewer resources to their poor during a health crisis. Furthermore, the differences in labor market institutions can vary widely between richer and poorer countries—the informal sector tends to be much larger in poorer countries, for example—so the policy environment in high-income countries may be quite different from those in poorer countries.

Vietnam offers a rather unique case study. Contrary to most expectations, the country stood out with an impressive performance against the pandemic. Despite a sizable population of almost 100 million people, to date the country records slightly more than 43,000 COVID deaths (WHO 2022a). This is no small feat, given Vietnam’s modest status as a low middle-income country. Indeed, the country has received strong praise for outperforming richer countries with far more developed medical systems thanks to its more effective and timely policy response to the pandemic (Huynh 2020; La et al. 2020; Trevisan et al. 2020; Hartley et al. 2021).

For illustration, we plot in Figure 1 the cumulative number of COVID deaths per thousand against public spending on health as a percentage of GDP (Panel A) and public spending on health measured in terms of US dollars (Panel B), using the latest data from WHO (WHO 2022a, 2022b).² The red line represents the regression lines of the number of COVID deaths against public spending in both panels, indicating a seemingly counterintuitive (but strongly statistically significant), positive relationship between public spending and the number of COVID deaths. In other words, Figure 1 shows that countries that spend more on its health does not necessarily

² For Figure 1, the data on COVID deaths are between early 2020 and October 2022 and the public spending data are in 2019, which rules out increased spending in immediate response to the pandemic. The full data for Figure 1 are presented in Appendix A.

reduce its COVID deaths. Vietnam lies well below the regression line in both panels, which confirms that the country performs above the world average (i.e., have fewer deaths) during the pandemic despite its lower-than-average public spending on health care.

As a concrete example, the data from Appendix A show that Vietnam spends about US\$ 181 in current health expenditure per capita per year, which is roughly one-sixtieth and one-twenty-fourth of that of the US and UK respectively. Yet, the fatality rate for Vietnam (447 per million people) is not higher, but amounts to only around one-seventh of the fatality rates for these two countries. Two richer countries in the Asia region, Japan and Singapore, achieve between two-thirds and four-fifths of the fatality rate of Vietnam but have health expenditures that are 15 to 24 more times than that of Vietnam. One country in the region that performs more or less similar to Vietnam is Indonesia, which spends one half less than Vietnam but has slightly more deaths. This paradox perhaps further highlights the important role of other factors such as appropriate policy responses and public support—rather than just resource allocation—in fighting the pandemic. Furthermore, the policies that work in a richer country context may work (or not work) in a poorer country context.

However, to our knowledge, no academic review exists on the pandemic negative impacts on the vulnerable population groups in Vietnam. We fill in this gap and offer an early review of the emerging literatures in public health and economics on the pandemic effects in Vietnam, with a specific focus on vulnerable population groups. These literatures are small, but fast growing, perhaps partly thanks to more availability of various surveys that span the period of the pandemic for the country.³ Still, where there is a gap in the existing literature for Vietnam, or where the findings for Vietnam differ from the current evidence base, we discuss studies on some other

³ Vietnam is well-known among researchers for its high quality micro survey data. The country ranks at position 77 out of 219 countries and territories in the world regarding its statistical performance index (Dang et al. 2021b).

countries that are similar either in terms of income levels or geographical proximity. We also review the country's major COVID-19 policy responses before offering comparison with other countries.

In this paper, we broadly define vulnerable people as any individuals (or households) that fall into the following categories

- i. the poor (or those that are currently non-poor but are vulnerable to falling into poverty)
- ii. low-wage workers (i.e., those that work below the minimum wages) and informal workers (i.e., those without a labor contract, temporary urban migrants, or street vendors), and
- iii. people in poor health (including elderly people and those with disabilities)
- iv. other disadvantaged groups, including ethnic minorities and (pregnant) women.

We review studies in public health in the next section before discussing economic studies in Section III. The categorization into these topics is mostly for presentation purposes, since many studies investigate the pandemic impacts on both health and economic outcomes. We subsequently review the policy environment and compare it with those in other countries in Section IV and finally conclude in Section V.

2. Effects on Health

We review studies on the general population first (Section 2.1) before discussing studies on the vulnerable population groups (Section 2.2) in this section.

2.1. General Population

Perhaps due to the relatively low fatality rate for Vietnam as discussed earlier, most health studies appear to focus on the pandemic negative impacts on mental health. The health studies also tend to collect data using web-based (convenience sampling) surveys and have a smaller sample size that is not nationally representative as most economic studies (that will be discussed in the next section).⁴

Analyzing a survey between 14 February and 2 March 2020 on 3947 participants recruited from outpatient departments of nine hospitals and health centers across Vietnam, Nguyen et al. (2020a) examined the effect of modifications of health literacy (HL) on depression and health-related quality of life (HRQoL). The authors find that people with COVID-19 symptoms had a higher depression likelihood and lower HRQoL-score those without. HL shows a protective effect on depression and HRQoL during the epidemic, 1 score increment of HL resulted in roughly 5% lower depression likelihood and 0.45 higher HRQoL-score.

Yet, those without COVID-19 symptoms might also suffer worse mental health because of non-pharmaceutical interventions against the pandemic such as lockdowns. Analyzing a web-based survey of 701 respondents during May 31-June 17, 2020, Gan et al. (2021) find negative psychological states during and after the lockdown, including boredom, anxiety, sadness, stress, anger, precautionary measures and posttraumatic stress symptoms. The authors also find that demographic characteristics (including male gender, young age, poor-health condition, high educational level, small family size, officers or professionals, using public transport, quarantine experience before the lockdown, non-extended lockdown period and living in rural areas) and

⁴ We do not review medical studies in this paper. For a recent review paper on this topic, see Dao et al. (2022). Implementing an early systematic review of studies on COVID-19 in Vietnam between May to August 2020 on 72 studies, Dao et al. (2022) find that most of these studies (42%) were about control and prevention of COVID-19, to be followed by studies on virology and genomics, natural history of the virus and its transmission (18%), and on investigation into epidemiology of the COVID-19 pandemic in Vietnam (13%). The authors also find only one study on development for candidate therapeutics, and no study on personal protective equipment or protocol for healthcare workers' safety.

various difficulties during lockdown (including insufficient information about COVID-19, income loss, having daily-life difficulties and unhappy experiences during lockdown) are related to higher degrees of different psychological symptoms during and after lockdown in Vietnam.

Anh et al. (2022) further demonstrates that the strictest lockdown adversely affected the living habits of Vietnamese citizens, thus impacting people's wellbeing. Work-from-home lockdown difficulties led to unexpected health issues that bring produce lower working effectiveness. Studies that analyze data from university students in Vietnam, obtains qualitatively similar findings. Duong (2021) finds that fear and anxiety of COVID-19 was strongly related to psychological distress and sleep disturbance and life satisfaction among Vietnamese university students. Moreover, the findings of the study revealed that fear and anxiety of COVID-19 reduced life satisfaction and increased sleep disturbance via psychological distress. Vu and Bosmans (2021) also observe that COVID-19 anxiety significantly and uniquely links to learning-related cynicism, suggesting that the pandemic affects Vietnamese students' ability to thrive through education.

On the other hand, Nguyen and Le (2021) find that increasing self-compassion and gratitude could help to improve psychological well-being and reduce the influence of COVID-19 stress and fears on the individuals' mental health.

2.2. Vulnerable Population

Under the COVID-19-induced lockdown, workers in the informal sector, including migrant workers, usually have no labor contract and have unstable jobs without health insurance and other benefits. Consequently, these vulnerable workers are likely to be at more health risks than the general population. To further examine this hypothesis for policy advice, Dang, Giang, and Do (2021b) collect data on the pandemic current death rates and infection rates for the first half of August 2021 from the Ministry of Health (2021) and combine these data with the most recent labor

data from the 2020 LFS and the population data from the 2019 Population and Housing Census, which provide estimates on the total number of vulnerable workers in each province (or major cities). Using their data, we plot in Figure 2 the infection rates and death rates against the number of the vulnerable workers at the province level.

This figure shows a positive and strongly statistically significant correlation between these variables. On average, a 1000,000-person increase in the number of vulnerable workers is associated with a 0.8 percentage point increase in the death rates (left panel) and a 0.3 percentage point increase in the infection rates (right panel). These figures are obtained from the OLS regressions of the rates on a dummy variable and the number of vulnerable workers in the province (as shown in the boxes inside the graphs). The larger cities in central and southern Vietnam (shown in dark blue with labels), and three major cities including Hochiminh city, Cantho, and Danang, (shown in orange) especially have higher death rates compared to their numbers of vulnerable workers.

Perhaps it is unsurprising that Dang et al. (2021) also observe that individuals in good health tend to have more positive evaluations for their current and future finance. This is consistent with Tran et al.'s (2020b) finding that having chronic health conditions is associated with lower HRQOL scores.

Certain population groups such as pregnant women have been shown to have much lower quality of life during the pandemic than the general population in various countries ranging from China to Iran (Mirzaei et al., 2021; Zeng et al., 2020). Nguyen et al. (2022) highlighted that intervention programs to improve the QOL and psychological well-being of pregnant women in epidemics such as COVID-19 or other diseases in the future should involve other family members such as parents-in-law and relatives as sources of support. While we are not aware of any studies

on the pandemic impacts on the elderly in Vietnam, recent meta-analysis for other countries suggest that the elderly generally experienced significantly lower levels of psychological symptoms including depression, anxiety, and perceived stress during the pandemic (Nam, Nam, and Kwon 2021).

Yet, the pandemics also resulted in other unintended consequences such as temporary reduction in air pollution, which is among the top public health challenges in Vietnam (Dang and Trinh 2021, 2022). The reduced air pollution is found to occur through lockdown-induced reductions in mobility and traffic activities.⁵

3. Effects on Economy

COVID is estimated to cause the Vietnamese economy to have slowed down by 3.6 percentage points in 2020, comparing World Bank's (2020) projected economic growth of 6.5 percent in the absence of the COVID-19 pandemic and the actual GDP growth of 2.9 percent for the country (GSO, 2021). The slower economic growth naturally trickles down to different sectors of the economy and affects all the population groups. We roughly group outcomes under two topics in this section, poverty and inequality (Section 3.1) and labor and other outcomes (Section 3.2), and discuss the vulnerable groups under each topic.

3.1. Poverty and Inequality

Using large-scale household consumption survey (VHLSS) data spanning the period 2016-2021 for Vietnam, Dang and Nguyen (2022) examine the negative pandemic-induced impacts on

⁵ Dang and Trinh (2022) also show that locations without either coal-powered stations or cement stations had even more reduced air pollution in the two-week period after the lockdown as well as over longer periods. This is because coal-fired power stations were allowed to be in normal operation during the lockdown like most other manufacturing activities (GoV, 2020), locations with these power stations might not have been affected by the lockdown and consequently might have not seen reduced air pollution.

household income, livelihood, and poverty in rural Vietnam. While the pandemic negative impacts could consist of lockdown effects and pandemic effects, the author focus on the former effects and exploit the variations of lockdown durations across years and provinces to identify the lockdown effects.

Their estimation shows that the lockdown has a detrimental effect on per capita income. A month under lockdown results in a 3.9 percent reduction in per capita income and a 2.6 percentage-point increase in poverty for rural households, and it decreases wage income and nonfarm income by 2.8 percent and 6.3 percent, respectively. To cope with the lockdown, rural people tends to increase agricultural production. A month of lockdown increases crop income by 9.5 percent, livestock income by 7.1 percent, and other farm income by 12.2 percent. In summary, the pandemic has a strong and negative effect on per capita income, reducing per capita income of households by 6.3 percent in 2020 and 21 percent in 2021. It also increases the poverty rate by 1 and 6 percentage points respectively in 2020 and 2021.

These results are not only useful as preliminary estimates of the pandemic negative impacts on poverty but can also serve as inputs to obtain estimates on other outcomes. One such outcome is food insecurity, which is one of households' major concerns during the pandemic (Yang, Panagoulas, and Demarchi 2020). In the absence of household survey data on food insecurity, Vu et al. (2022) propose a two-step approach to predict changes in food insecurity risk caused by income shocks using existing household-level data and external information on aggregate income shocks. For the first step, using national household survey data between 2010 and 2018, the authors estimate a 10 percent decrease in income to raise food insecurity by 3.5 percent.

Applying these estimates to the 2019 Labor Force Survey (LFS) in the second step, the authors estimate the share of food-insecure households to rise by 0.8 percentage points, but a small number

of districts are predicted to experience increases as large as 7.9 percentage points. They also predict an increase of one percentage point in the share of food-insecure children under 5, and a few districts are predicted to experience an increase as large as 19.3 percentage points.

Since the pandemic is estimated to reduce rural households' per capita income by 21 percent in 2021 (Dang and Nguyen, 2022), the actual pandemic impacts on food security were likely twice as strong as those predicted by Vu et al. (2022) for rural Vietnam. This further highlights Vu et al.'s (2022) conclusion that while the average impact of the income shock during the pandemic in Vietnam may appear small, certain districts in the country might be affected more severely than others and food relief policies should prioritize these districts.

These stronger pandemic impacts on certain locations also imply unequal distributional impacts of the pandemic. Indeed, analyzing the annual Labor Force Surveys (LFSs) between 2015 and 2020, Dang, Nguyen, and Carletto (2023) employ two different approaches to measuring wage inequality. In the first approach, they examine three groups of low-wage workers, who receive wages i) below the minimum wages, ii) in the bottom 10% of the wage distribution, and iii) in the bottom 40% of the wage distribution. To further explore whether the pandemic effects vary across the wage quintiles, they also run the same regression for each wage quintile.

They find that the pandemic reduced the monthly wages for workers below the minimum wages by around 20 percent in Quarters 2 to 4 of 2020. The corresponding estimated reductions for workers in the bottom 10 percent and 40 percent of the wage distribution are respectively 13 percent and 14 percent. While these decreases are smaller than the decrease for below-minimum wage workers, they are still larger than the estimated reduction of 9 percent for all workers. More alarmingly, the pandemic seems to have mostly affected wage workers in the lowest wage quintile but not the other wage quintiles. The estimated reduction on the second lowest wage quintile

appears negligible at 1 percent. Similar analysis for workers in the lowest wage quintile versus those in higher wage quintiles show more negative impacts for low-wage workers for nearly all industries and regions.

In the second approach, Dang et al. (2023) employ a population-level method that predicts the counterfactual wages in the absence of the pandemic, which allows for estimation of the pandemic effects on different wage inequality indexes using the Foster-Greer-Thorbecke (FGT) framework of poverty indexes (P_α).⁶ In particular, if the pandemic had not occurred, they estimate that the proportion of below-minimum wage workers would have been 7.7 percent. But the actual proportion of below-minimum wage workers was observed to 10.3 percent in 2020. Thus, the pandemic increased the proportion of below-minimum wage workers by 2.5 percentage points, which equals a 32 percent increase. The pandemic also increased the P_1 and P_2 indexes of below-minimum wages by 26 percent and 27 percent, respectively. Furthermore, the pandemic similarly worsened wage equality, increasing the Gini index by 4.7 percent. The Theil L and Theil T indexes were also increased by 10.2 percent and 7.8 percent, respectively. The pandemic had stronger effects on the 95th/5th percentile ratio than the 90th/10th percentile ratio, which further highlights the more negative effects on lower-wage workers.⁷

⁶ The Foster-Greer-Thorbecke index is defined as $P_\alpha = \frac{1}{n} \sum_{i=1}^q \left[\frac{z - Y_i}{z} \right]^\alpha$ (Foster, Greer and Thorbecke, 1984). Y_i is a welfare indicator for person i , z is the expenditure poverty line, n is the total number of people, q is the number of workers below z , and α can be interpreted as a measure of inequality aversion. When $\alpha = 0$, we have the headcount index H , which measures the proportion of workers below the poverty line. When $\alpha = 1$ and $\alpha = 2$, we obtain the poverty gap PG , which measures the depth of poverty, and the squared poverty gap P_2 which measures the severity of poverty, respectively. Dang et al. (2023) estimate P_α with Y_i as the monthly wage of workers and z as the minimum wage.

⁷ There might also be some distributional impacts at the province level. The authors find some evidence that provinces with greater openness to the global economy had higher levels of economic growth and witnessed weaker pandemic effects.

However, Dang et al. (2023) find no statistically significant differences by gender for the pandemic effects, which is reassuringly consistent with earlier analysis of a web-based survey by Dang et al. (2021b).⁸ This is different from the more negative pandemic impacts on women observed in other richer countries (e.g., Dang and Nguyen 2021; Alon et al. 2022). Dang et al. (2023) find no statistically pandemic impacts on ethnic minorities, which are possibly due to the fact that a major share of ethnic minorities live in the Northern mountain region, where there was a short pandemic lockdown. Furthermore, compared with the ethnic majority group, ethnic minorities have a smaller share of wages and nonfarm income, which were less affected by the lockdown.

3.2. Labor and Other Outcomes

The same study by Dang et al. (2023) also find that quality of employment, as measured by wage jobs, jobs with contracts, and formal jobs, was also reduced during the pandemic. Compared to the first quarter of 2020, workers' monthly wages decreased by 11% in the second quarter, 7.2% in the third quarter, and 8.2% in the fourth quarter. Informal household workers and foreign direct investment (FDI) sector workers were more affected than public sector workers, and workers in the transportation and tourism sectors were most heavily affected.

The results on informal workers are broadly consistent with those in earlier studies. In particular, analyzing data from a web-based rapid assessment survey implemented immediately after the removal of lockdown measures in Vietnam in late April-early May 2020, Dang et al. (2021b) find that having a job is positively and statistically significantly associated with better finance and more income and savings. Having a job is, unsurprisingly, negatively associated with

⁸ Yet, Dang et al. (2021b) find some indicative evidence suggests that women in Vietnam tend to have more pessimistic expectations for their future financial situations.

worries about job loss in the future and positively associated with more optimism about the resilience of the economy.

Further disaggregating employment along the security dimension into different types of jobs such as self-employment (i.e., including business owners and family workers) and working for wages (i.e., having a permanent job contract vs. having a short-term job contract), the authors find that being self-employed is less strongly associated with reduced job worries than working for wages. Individuals with a permanent job contract have fewer job worries and also have more positive assessments for the economy. Put differently, vulnerable workers (including those with lower educational levels, in worse health, or without a labor contract) are particularly at economic risks caused by the COVID-19 pandemic.⁹

Another study that focuses on two provinces in the north of Vietnam (Bac Ninh and Ninh Binh) similarly finds that many migrant workers reported low salary or losing their job during January–July, 2020 (Bui et al. 2021). The authors observe that while most migrants received information about COVID-19, they suffered from poor health and low occupational safety, fear of job loss and income cut, poor housing and living conditions, and limited access to public services.

Like other poorer countries, street vending is an important element of the urban informal economy in Vietnam (Truong 2018; Huynh-Van et al. 2022). On the demand side, street vending serves the basic needs (especially food) of the urban population, particularly for low-income groups and those with no time to prepare meals. On the supply side, street vending can present an important source of employment and income for poor and low-skilled migrant workers. Utilizing a mixed-methods approach to analyze the pandemic impacts on 91 women street vendors in

⁹ The media report that many vulnerable migrant workers in the major cities, who lost their job because of the pandemic, fall into economically precarious situations because of the lockdowns (Chieu 2021; Dinh and An 2021; Reuter 2021; Tran and Dinh 2021).

Hochiminh city, Thanh and Duong (2022) find these vendors to experience a large reduction in business and consumption. Furthermore, the businesses of immigrant vendors suffered more adverse effects than those of local vendors, and the vendors lacked coping strategies to sustain their businesses.

4. Policy Responses

We provide an overview of Vietnam's policy responses to the pandemic, including the country's vaccination campaign in comparison with some other countries (Section 4.1) before discussing the policies that aim at supporting the vulnerable population groups (Section 4.2).

4.1. Policy Responses and Public Support

Vietnam has taken swift action from early in the pandemic, given its more vulnerable to the pandemic due to its proximity to China and its low-resource healthcare system. Figure 3 documents the timeline of the major marks in the country's response, In particular, after detecting the first two cases on January 22, 2020, the country declared a public health emergency on February 1, 2020. The number of cases, however, increased approximately by 15-folds from 15 cases to 206 cases during March, 15-31, 2020. Accordingly, the government imposed the first nationwide lockdown from April 1 to 15, 2020. The lockdown measures included strict stay-at-home orders (except for buying critical supplies, health emergency cases, or working at essential businesses), quarantines, and social distancing. Border controls were tightened and all commercial flights into and out of the country were banned. To further step up its fight, the government even applied criminal charges to individuals who violated COVID-19 quarantine rules and spread infection in December 2020.

Figure 3 also shows that the pandemic has occurred in four waves (phases), leading to its peak in September 2021 that witnessed more than 800 COVID deaths a day. The government started

the vaccination campaign on a priority list, particularly for frontline workers, in March 2021. The campaign was gradually rolled out and covered 80 percent of the population in March 2022. Domestic flights officially resumed earlier in October 2021, and international flights to major destinations resumed in January 2022.

Vietnam has received strong praise for its effective fight against the pandemic (Trevisan et al. 2020; Dabla-Norris and Zhang 2021; Hartley et al. 2021). Although the public health system was evaluated as having moderate to good strength before the pandemic (Morisset et al. 2020; Tran et al. 2020a), it performed quite well during the pandemic. Tung (2021) highlights six aspects of policy responses that contribute to this success: i) direct and multidimensional communication of pandemic information to people, ii) using short and clear slogans to send out urgent anti-epidemic directions, iii) centralized isolation of infected cases and monitor suspected cases, iv) quickly locking down, disinfecting and mass testing, v) closely monitoring compliance with anti-epidemic solutions and strictly punishing the spread of fake news, and vi) urgently prevent price manipulation and speculation in essential products.¹⁰

Besides the government's timely and strong control measures, one key factor that could explain this solid performance is a high degree of adherence to personal and community preventive behavior among Vietnamese people (Nguyen et al. 2020b; Do et al. 2021). Indeed, Nguyen et al. (2020c) conduct an online survey on 1382 individuals, who are mostly public administration and health workers with relatives, to assess their perceptions and attitudes toward seven national response measures to COVID-19 epidemics were assessed. The authors find that the proportion of participants strongly agreeing with the measure "Isolate people from abroad and people in contact with people infected with COVID 19" was the highest (96.9%), following by the measure

¹⁰ Drawing on lessons learnt during the pandemic from low and middle-income countries, Tran et al. (2022) introduce a number of case studies to help strengthen the health system and community responses in resource-scarce settings.

“Obligatory to wear face masks in public places” (96.8%), and “Blockade of places having new cases” (92.9%).¹¹

In order to explain the successful coordination between the government and the public in the fight against the pandemic, Taniguchi (2022) argues that the Vietnamese government effectively managed the COVID-19 pandemic by utilizing the whole political systems and affiliated organizations and social media platforms, which helps increase government accountability and transparency through clear risk communication and providing scientifically credible information. In the process, these efforts have provided more room for the public participation in combating this pandemic that has resulted in a change in state–society relations. Further confirming this finding, Dang and Tran (2022) find that provinces that have higher quality of village head elections or where people have more opportunities to participate in the political process tend to have lower infected cases.

Yet, concerns were raised that Vietnam had a late start in its vaccine rollout. Furthermore, despite being included in the 16 priority groups, elderly people and people with underlying health conditions have not been systematically offered early vaccination at least in early waves of the pandemic (Tran-Nam, Le-Van, and Nguyen 2021). Indeed, Figure 4 shows the timeline of the vaccination rate for Vietnam in comparison with Indonesia, Japan, Singapore, the UK, and the US between the pandemic start and October 2022, using data from Mathieu et al. (2021). Vietnam lagged behind all these countries and only caught up with Indonesia, achieving a (one-dose-or-more) vaccination rate of 28 percent of the population in mid-September 2021. The country,

¹¹ The findings from academic studies are well supported by stories reported in the local media. Protection measures such as social distancing, washing one’s hands, and staying at home were perceived as actions of patriotism by the public (Le Thu, 2020). Perhaps the spirit of the country’s fight against the pandemic is best epitomized in the words of the then Prime Minister Nguyen Xuan Phuc “*Every business, every citizen, every residential area must be a fortress to prevent the epidemic*” (Pham, 2020).

however, subsequently sped up its vaccination campaign considerably and performed as well as the US with a vaccination rate of 70 percent in late November 2021. After that mark, Vietnam's vaccination rate climbed up quickly, equaling that of Japan at more than 80 percent in late January 2022 and subsequently outperforming Japan since late April 2022.

4.2. Policies Targeting the Vulnerable

Besides macro-economic and fiscal policies, Vietnam has implemented a number of pandemic aid packages for the poor and vulnerable population groups, including cash subsidies up to three months for those who lost their job, rent support for migrant workers, and loans for businesses (Dang, 2022). These social protection measures are generally considered critical for helping the poor and vulnerable during economic crises. They also help ensure political stability and smoother government functioning. Indeed, during the pandemic in a number of richer countries, poorer individuals are found to be less supportive of government responses, and poorer individuals residing in more economically unequal countries offer even less government support (Dang, Malesky, and Nguyen 2022b).

Analyzing web-based surveys for Vietnam and Thailand implemented between May and December 2020, Bui et al. (2022) find that for both countries, government financial support are positively correlated with more positive consumer sentiment and an increase in durable spending in different ways. Financial assistance recipients are more financially optimistic and have higher expectations about economic growth. They also have more trust in the government's ability to mitigate the negative effects of social distancing and are more likely to state that the government has been doing a good job in supporting households and firms affected by the pandemic. Government financial support is also correlated with weaker pandemic-induced concerns about health, job security, personal financial situation, and the economy. The last finding concurs with

that in a recent meta-analysis study, which finds cash transfer policies to improve mental health and subjective well-being in 38 low- and middle-income countries (McGuire, Kaiser, and Bach-Mortensen 2020).

Encouragingly, Do et al. (2021) report that the proportion of Vietnamese households in the poorest income quintile receiving the government support doubled that of the richest group, 29 percent compared to 15 percent. However, the authors also note that a considerable proportion (36 percent) of poor households were not beneficiaries of aid packages, which could occur due to weaker local government operations. A key reason is the absence of a basic social protection database to identify the poor and the informal workers. Consequently, Dang (2022) observes that while the government topped up existing social protection programs to support newly vulnerable groups with new programs amounting to about 1% of GDP, after three months of implementation, only 12 percent of the package had been disbursed. Notably, this lack of data is not particular to Vietnam but has been found to affect other countries with higher income levels such as Indonesia, which led to the amount disbursed for social assistance largely decreasing in 2020 from the previous year despite the COVID-19 outbreak (Ing and Basri 2022).

More generally, Tran-Nam et al. (2021) highlight that the lack of data and transparency could severely hinder different ministries' policy coordination and implementation and could significantly contribute to the country's weaker performance against the more infectious Delta variant. They also discuss various factors that, if they had been addressed in a timely manner, could have strengthened the country's fight. These include corruption relating to the procurement of health and medical equipment across provinces, poor staff capacity and discretionary power, and policy fragmentation among different ministries.¹²

¹² As an example for poor staff capacity and discretionary power, Tran-Nam et al. (2021) cite an example where the term "essential goods" was interpreted differently by the police in different localities (i.e., people could leave their

5. Conclusion and Future Direction

We offer an early review of the emerging literatures in public health and economics on the pandemic effects in Vietnam, with a specific focus on vulnerable population groups. We find that despite its sizable population and modest status as a low middle-income country, Vietnam has recorded a relatively low fatality rate during the COVID-19 pandemic. Indeed, two other richer, Asian countries that were among the top performers during the pandemic, Japan and Singapore, achieve between two-thirds and four-fifths of the fatality rate of Vietnam but have health expenditures that are 15 to 24 more times than that of Vietnam.

Our review suggests that while most health studies appear to focus on the pandemic negative impacts on mental health, vulnerable workers are at more health risks than the general population. Specifically, studies indicate a positive relationship between the number of vulnerable workers with both the infection rates and the death rates.

Regarding economic outcomes, the pandemic is observed to have a strong and negative effect on per capita income, reducing per capita income of households by 6.3 percent and 21 percent in respectively 2020 and 2021 and increasing the poverty rate by 1 and 6 percentage points respectively in 2020 and 2021. Certain districts in the country might be affected more severely than others in terms of food insecurity. The pandemic also worsened wage equality, increasing the Gini index by 4.7 percent. It increased the proportion of below-minimum wage workers by 2.5 percentage points (i.e., 32 percent increase) and had disproportionately stronger impacts on low-wage workers.

home to buy the essential goods during the lockdown). In some extreme cases, bread was not considered food, and hygiene products for women were not considered essential.

Vietnam has received strong praise for its effective fight against the pandemic. Some key aspects of this solid performance include direct and multidimensional communication of pandemic information to people, quick locking down, disinfecting and mass testing, rigorous monitoring compliance with anti-epidemic solutions, and tight control over price manipulation and speculation in essential products. But the public support for government responses is essential for this success, particularly where people have more opportunities to participate in the political process.

While the poorest Vietnamese households were twice more likely to receive the government financial support than the richest Vietnamese households, a considerable proportion (36 percent) of poor households were not beneficiaries. Among other factors, a key reason is the absence of a basic social protection database to identify the poor and the informal workers, which could severely hinder targeting efforts to support these vulnerable individuals.

Our review also points to the lack of research for certain vulnerable population groups. These include the overseas migrant workers, who often work in low-skill jobs and face the additional hurdle of migration laws and regulations and foreign language barriers. Migrant workers were noticeably at a disadvantage during the lockdown when travel restrictions were in place (e.g., Do and Kasper 2022).

Another area that receives little attention is whether, and to what extent, the pandemic could deepen inequalities in education for students who are poorer or live in more isolated areas with less internet connection. Recent evidence for Sub-Saharan African countries indicates that households with higher education levels or living standards or those in urban residences are more likely to engage their children in learning activities and more diverse types of learning activities after pandemic-induced school closures (Dang, Oseni, and Zezza 2022). Furthermore, a recent study for India shows that students in rural Tamil Nadu tested in December 2021 (18 months after

school closures) displayed considerable learning deficits in math and in language compared to identically-aged students in the same villages in 2019, but this deficit was largely made up within 6 months after school reopening (Singh, Romero, Muralidharan 2022). While this challenge has been recognized for Vietnamese students in higher education (e.g., Pham and Ho 2020), more evidence is useful to ensure equitable education outcomes for all population groups.

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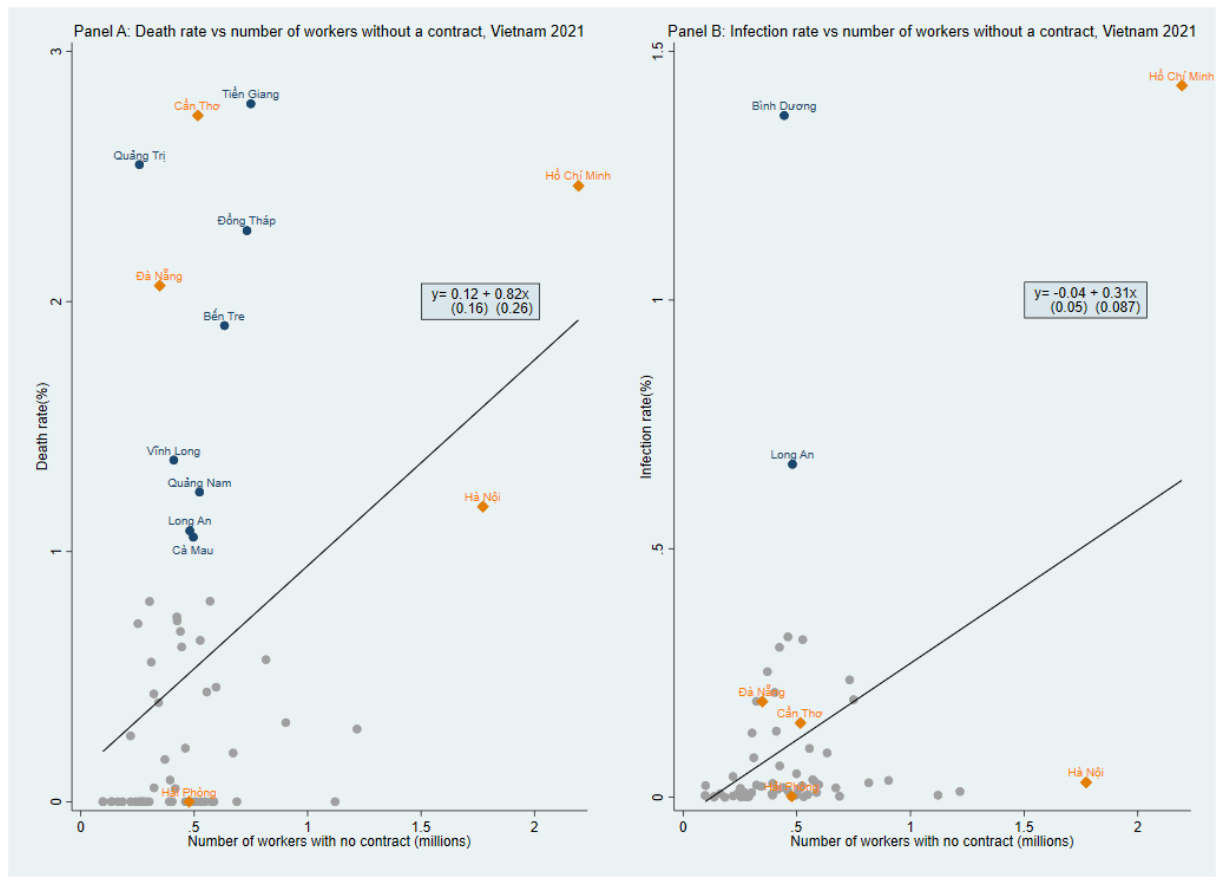
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Figure 1. Number of COVID deaths versus public spending on health for Vietnam and other countries



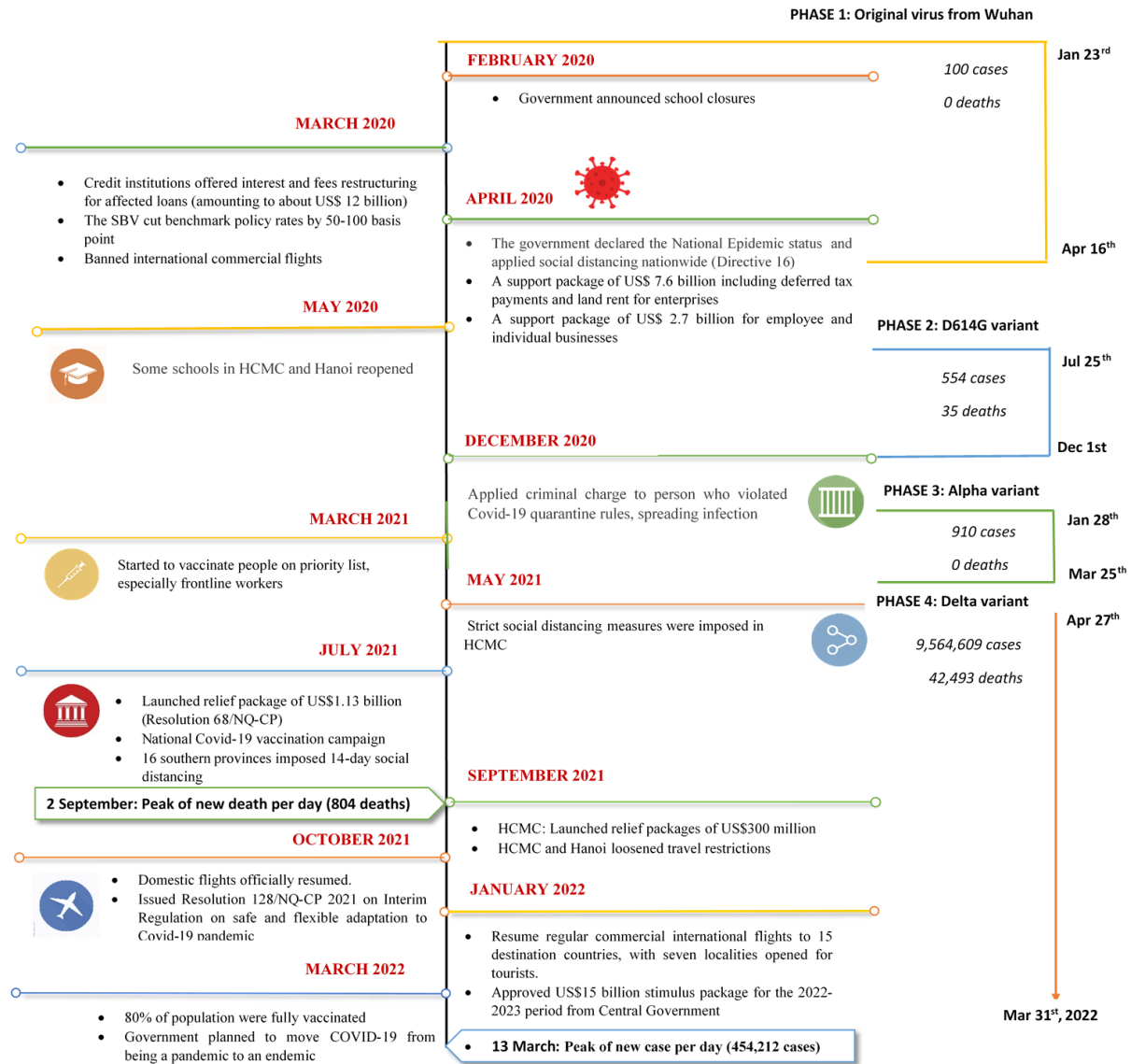
Note: Authors' calculations using data from WHO (2022a, 2022b). Data on COVID-19 deaths are between early 2020 and October 2022. Data on health expenditures are in 2019. The red line represents the regression fit and the estimated coefficients are shown inside the box.

Figure 2. Death rate and infection rate versus number of workers without a contract, Vietnam 2021



Note: Adapted from Dang et al. (2021). The red line represents the regression fit and the estimated coefficients are shown inside the box.

Figure 3. Timeline of government policy response to COVID-19, Vietnam 2020-2022

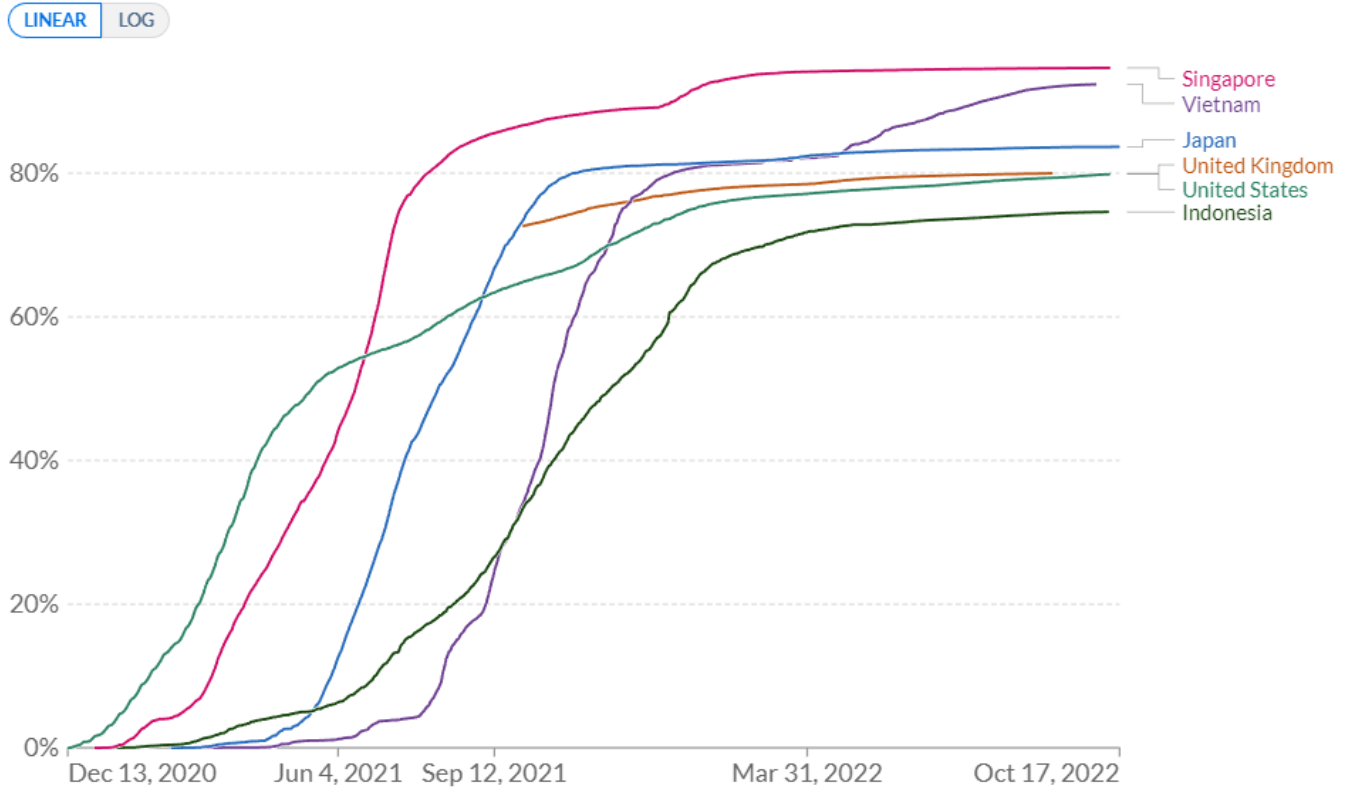


Note: Authors' illustration using data from Do et al. (2021), Minh et al. (2021), and WHO (2022a).

Figure 4: Vaccination rate timeline

Share of people who received at least one dose of COVID-19 vaccine

Total number of people who received at least one vaccine dose, divided by the total population of the country.



Source: Official data collated by Our World in Data

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Note: Graph is made using the graph function on OurWorldinData website, using data from Mathieu et al. (2021).

Appendix A. Number of COVID deaths and public spending on health for Vietnam and other countries

| No | Country | Current health exp. | | Death per million |
|----|----------------------------------|---------------------|------|-------------------|
| | | Percent of GDP (%) | USD | |
| 1 | Afghanistan | 13 | 66 | 205 |
| 2 | Algeria | 6 | 248 | 160 |
| 3 | Andorra | 7 | 2744 | 2009 |
| 4 | Angola | 3 | 71 | 60 |
| 5 | Antigua and Barbuda | 4 | 760 | 1503 |
| 6 | Argentina | 10 | 946 | 2902 |
| 7 | Armenia | 11 | 524 | 2941 |
| 8 | Australia | 10 | 5427 | 589 |
| 9 | Austria | 10 | 5242 | 2359 |
| 10 | Azerbaijan | 4 | 193 | 988 |
| 11 | Bahamas | 6 | 2005 | 2139 |
| 12 | Bahrain | 4 | 940 | 927 |
| 13 | Bangladesh | 2 | 46 | 180 |
| 14 | Barbados | 6 | 1143 | 1951 |
| 15 | Belarus | 6 | 399 | 753 |
| 16 | Belgium | 11 | 4960 | 2861 |
| 17 | Belize | 6 | 293 | 1757 |
| 18 | Benin | 2 | 29 | 14 |
| 19 | Bhutan | 4 | 116 | 28 |
| 20 | Bolivia (Plurinational State of) | 7 | 246 | 1931 |
| 21 | Bosnia and Herzegovina | 9 | 554 | 4894 |
| 22 | Botswana | 6 | 482 | 1208 |
| 23 | Brazil | 10 | 853 | 3255 |
| 24 | Brunei Darussalam | 2 | 672 | 307 |
| 25 | Bulgaria | 7 | 698 | 5396 |
| 26 | Burkina Faso | 5 | 42 | 19 |
| 27 | Burundi | 8 | 21 | 1 |
| 28 | Cabo Verde | 5 | 178 | 746 |
| 29 | Cambodia | 7 | 113 | 185 |
| 30 | Cameroon | 4 | 54 | 75 |
| 31 | Canada | 11 | 5048 | 1213 |
| 32 | Central African Republic | 8 | 37 | 24 |
| 33 | Chad | 4 | 30 | 12 |
| 34 | Chile | 9 | 1376 | 3237 |
| 35 | China | 5 | 535 | 19 |
| 36 | Colombia | 8 | 495 | 2817 |
| 37 | Comoros | 5 | 72 | 188 |
| 38 | Congo | 2 | 49 | 72 |
| 39 | Cook Islands | 3 | 662 | 57 |
| 40 | Costa Rica | 7 | 922 | 1778 |
| 41 | Croatia | 7 | 1040 | 4170 |
| 42 | Cuba | 11 | 1032 | 753 |
| 43 | Cyprus | 7 | 1996 | 1357 |

| | | | | |
|----|-------------------------------------|----|------|------|
| 44 | Czechia | 8 | 1844 | 3883 |
| 45 | Côte d'Ivoire | 3 | 75 | 32 |
| 46 | Democratic Republic of the Congo | 4 | 21 | 17 |
| 47 | Denmark | 10 | 6003 | 1234 |
| 48 | Djibouti | 2 | 62 | 194 |
| 49 | Dominica | 5 | 440 | 1031 |
| 50 | Dominican Republic | 6 | 491 | 408 |
| 51 | Ecuador | 8 | 486 | 2066 |
| 52 | Egypt | 5 | 150 | 247 |
| 53 | El Salvador | 7 | 300 | 655 |
| 54 | Equatorial Guinea | 3 | 255 | 135 |
| 55 | Eritrea | 4 | 25 | 29 |
| 56 | Estonia | 7 | 1599 | 2048 |
| 57 | Eswatini | 7 | 264 | 1239 |
| 58 | Ethiopia | 3 | 27 | 68 |
| 59 | Fiji | 4 | 236 | 987 |
| 60 | Finland | 9 | 4450 | 1128 |
| 61 | France | 11 | 4492 | 2265 |
| 62 | Gabon | 3 | 215 | 141 |
| 63 | Gambia | 4 | 30 | 158 |
| 64 | Georgia | 7 | 291 | 4228 |
| 65 | Germany | 12 | 5440 | 1822 |
| 66 | Ghana | 3 | 75 | 48 |
| 67 | Greece | 8 | 1501 | 3106 |
| 68 | Grenada | 5 | 534 | 2116 |
| 69 | Guatemala | 6 | 271 | 1129 |
| 70 | Guinea | 4 | 43 | 36 |
| 71 | Guinea-Bissau | 8 | 63 | 92 |
| 72 | Guyana | 5 | 326 | 1637 |
| 73 | Haiti | 5 | 57 | 76 |
| 74 | Honduras | 7 | 188 | 1128 |
| 75 | Hungary | 6 | 1062 | 4879 |
| 76 | Iceland | 9 | 6275 | 628 |
| 77 | India | 3 | 64 | 387 |
| 78 | Indonesia | 3 | 120 | 585 |
| 79 | Iran (Islamic Republic of) | 7 | 470 | 1743 |
| 80 | Iraq | 4 | 253 | 645 |
| 81 | Ireland | 7 | 5429 | 1629 |
| 82 | Israel | 7 | 3456 | 1375 |
| 83 | Italy | 9 | 2906 | 2972 |
| 84 | Jamaica | 6 | 327 | 1126 |
| 85 | Japan | 11 | 4360 | 360 |
| 86 | Jordan | 8 | 334 | 1398 |
| 87 | Kazakhstan | 3 | 273 | 1027 |
| 88 | Kenya | 5 | 83 | 108 |
| 89 | Kiribati | 10 | 172 | 111 |
| 90 | Kuwait | 5 | 1759 | 609 |
| 91 | Kyrgyzstan | 4 | 62 | 466 |
| 92 | Lao People's Democratic Republic | 3 | 68 | 106 |

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|-----|----------------------------------|----|------|------|
| 93 | Latvia | 7 | 1167 | 3140 |
| 94 | Lebanon | 9 | 663 | 1559 |
| 95 | Lesotho | 11 | 124 | 332 |
| 96 | Liberia | 8 | 53 | 60 |
| 97 | Lithuania | 7 | 1370 | 3348 |
| 98 | Luxembourg | 5 | 6221 | 1850 |
| 99 | Madagascar | 4 | 20 | 52 |
| 100 | Malawi | 7 | 30 | 144 |
| 101 | Malaysia | 4 | 437 | 1140 |
| 102 | Maldives | 8 | 854 | 580 |
| 103 | Mali | 4 | 34 | 38 |
| 104 | Malta | 8 | 2532 | 1633 |
| 105 | Marshall Islands | 16 | 664 | 289 |
| 106 | Mauritania | 3 | 58 | 220 |
| 107 | Mauritius | 6 | 686 | 810 |
| 108 | Mexico | 5 | 540 | 2589 |
| 109 | Micronesia (Federated States of) | 11 | 415 | 483 |
| 110 | Monaco | 2 | 2906 | 1617 |
| 111 | Mongolia | 4 | 163 | 661 |
| 112 | Montenegro | 8 | 735 | 4430 |
| 113 | Morocco | 5 | 174 | 446 |
| 114 | Mozambique | 8 | 39 | 73 |
| 115 | Myanmar | 5 | 60 | 360 |
| 116 | Namibia | 8 | 427 | 1636 |
| 117 | Nauru | 10 | 1049 | 93 |
| 118 | Nepal | 4 | 53 | 420 |
| 119 | Netherlands | 10 | 5335 | 1314 |
| 120 | New Zealand | 10 | 4211 | 647 |
| 121 | Nicaragua | 8 | 161 | 37 |
| 122 | Niger | 6 | 31 | 13 |
| 123 | Nigeria | 3 | 71 | 16 |
| 124 | Niue | 5 | 1012 | 0 |
| 125 | North Macedonia | 7 | 437 | 4584 |
| 126 | Norway | 11 | 8007 | 779 |
| 127 | Oman | 4 | 625 | 930 |
| 128 | Pakistan | 3 | 39 | 141 |
| 129 | Palau | 15 | 2356 | 333 |
| 130 | Panama | 8 | 1193 | 2003 |
| 131 | Papua New Guinea | 2 | 65 | 76 |
| 132 | Paraguay | 7 | 388 | 2782 |
| 133 | Peru | 5 | 370 | 6670 |
| 134 | Philippines | 4 | 142 | 586 |
| 135 | Poland | 6 | 1014 | 3104 |
| 136 | Portugal | 10 | 2221 | 2443 |
| 137 | Qatar | 3 | 1807 | 241 |
| 138 | Republic of Korea | 8 | 2625 | 562 |
| 139 | Republic of Moldova | 6 | 284 | 4426 |
| 140 | Romania | 6 | 739 | 3457 |
| 141 | Russian Federation | 6 | 653 | 2665 |
| 142 | Rwanda | 6 | 51 | 116 |

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|-----|------------------------------------|----|-------|------|
| 143 | Saint Kitts and Nevis | 5 | 1088 | 871 |
| 144 | Saint Lucia | 4 | 502 | 2216 |
| 145 | Saint Vincent and the Grenadines | 5 | 355 | 1049 |
| 146 | Samoa | 6 | 272 | 147 |
| 147 | San Marino | 6 | 3051 | 3485 |
| 148 | Sao Tome and Principe | 6 | 108 | 358 |
| 149 | Saudi Arabia | 6 | 1316 | 274 |
| 150 | Senegal | 4 | 59 | 121 |
| 151 | Serbia | 9 | 641 | 2458 |
| 152 | Seychelles | 5 | 840 | 1729 |
| 153 | Sierra Leone | 9 | 46 | 16 |
| 154 | Singapore | 4 | 2633 | 282 |
| 155 | Slovakia | 7 | 1342 | 3761 |
| 156 | Slovenia | 9 | 2219 | 4006 |
| 157 | Solomon Islands | 5 | 112 | 228 |
| 158 | South Africa | 9 | 547 | 1745 |
| 159 | South Sudan | 6 | 23 | 12 |
| 160 | Spain | 9 | 2711 | 2439 |
| 161 | Sri Lanka | 4 | 161 | 786 |
| 162 | Sudan | 5 | 47 | 115 |
| 163 | Suriname | 10 | 619 | 2382 |
| 164 | Sweden | 11 | 5671 | 1998 |
| 165 | Switzerland | 11 | 9666 | 1591 |
| 166 | Tajikistan | 7 | 62 | 13 |
| 167 | Thailand | 4 | 296 | 472 |
| 168 | Timor-Leste | 7 | 93 | 107 |
| 169 | Togo | 6 | 51 | 36 |
| 170 | Tonga | 5 | 242 | 115 |
| 171 | Trinidad and Tobago | 7 | 1168 | 3036 |
| 172 | Tunisia | 7 | 233 | 2501 |
| 173 | Turkmenistan | 7 | 500 | 0 |
| 174 | Tuvalu | 24 | 973 | 0 |
| 175 | Türkiye | 4 | 396 | 1213 |
| 176 | USA | 17 | 10921 | 3199 |
| 177 | Uganda | 4 | 32 | 82 |
| 178 | Ukraine | 7 | 248 | 2482 |
| 179 | United Arab Emirates | 4 | 1843 | 240 |
| 180 | United Kingdom | 10 | 4313 | 2876 |
| 181 | United Republic of Tanzania | 4 | 40 | 15 |
| 182 | Uruguay | 9 | 1661 | 2167 |
| 183 | Uzbekistan | 6 | 99 | 50 |
| 184 | Vanuatu | 3 | 104 | 47 |
| 185 | Venezuela (Bolivarian Republic of) | 5 | 339 | 204 |
| 186 | Viet Nam | 5 | 181 | 447 |
| 187 | Zambia | 5 | 69 | 225 |
| 188 | Zimbabwe | 8 | 103 | 383 |

Note: Data are from WHO (2022a, 2022b). Data on COVID-19 deaths are between early 2020 and October 2022. Data on health expenditures are in 2019.