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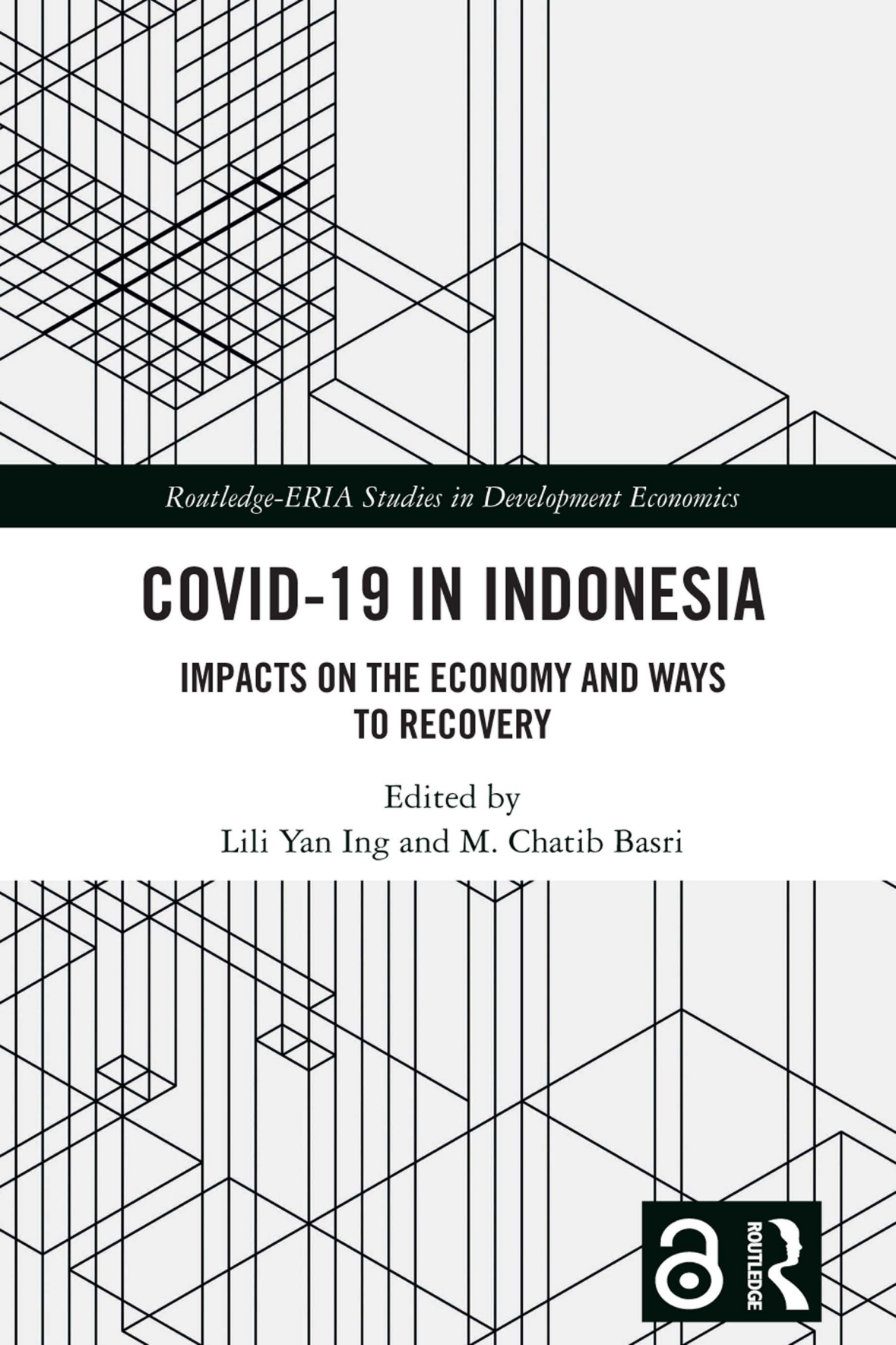
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*Routledge-ERIA Studies in Development Economics*

# **COVID-19 IN INDONESIA**

**IMPACTS ON THE ECONOMY AND WAYS  
TO RECOVERY**

Edited by

Lili Yan Ing and M. Chatib Basri



# COVID-19 in Indonesia

This book assesses the impacts of COVID-19 on the Indonesian economy, particularly on employment, education, poverty, trade, and macroeconomy.

The chapters explain how fiscal and monetary stimulus work and the roles of local governments in managing stimulus. It also presents paths to recovery and lessons learned from countries that have found success in mitigating the economic impacts of the pandemic (China, Germany, Singapore, and Vietnam).

This text will be a useful reference for policy makers, scholars, students, and public audience working or interested in the fields of development economics, trade, health economics, economics, and East Asia.

**Lili Yan Ing** is Lead Advisor for Southeast Asia at the Economic Research Institute for ASEAN and East Asia (ERIA). Dr. Ing served as Lead Advisor to the Minister of Trade of the Republic of Indonesia from 2017 to 2019.

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# **COVID-19 in Indonesia**

Impacts on the Economy  
and Ways to Recovery

**Edited by Lili Yan Ing  
and M. Chatib Basri**



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**Dedicated to doctors, nurses, health workers, teachers, and families who have lost their loved ones due to COVID-19.**



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This book is a synthesis of discussions with our colleagues, government and business counterparts, and students on questions as to what the impacts of this pandemic are on the Indonesian economy, what are the best paths to recovery, and how we can be prepared for any future pandemics.

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COVID-19 teaches us the real meaning of development and reminds us of the values of humanity.

# 1 Introduction

*Lili Yan Ing, M. Chatib Basri,  
and David Christian*

COVID-19 is a wake-up call for the world. In December 2019, COVID-19 was merely concerning news for most of us. By today, on average, at least three out of ten of our direct relatives or friends have been infected, and sadly at least one has passed away. Most of us have been working from home, driven into part time jobs, and even worse, losing jobs or having our businesses stop operating. This is how severely the pandemic has affected each and every of us.

The pandemic has brought some of the worst health and economic impacts of the modern development era since World War II. Whilst some Eastern countries seem much better prepared than their Western peers in terms of handling infections, testing, tracing cases, and mitigating the pandemic's economic impacts, the poorest countries have been hit hardest. Worldwide, as of the end of June 2021, COVID-19 has taken almost four million lives, infected more than 182 million people (Worldometer, 2021), and is estimated to have pushed about half a billion people or 8% of the world's population into poverty (Sumner et al., 2020), including 88–115 million who have been sent into extreme poverty (World Bank, 2020).

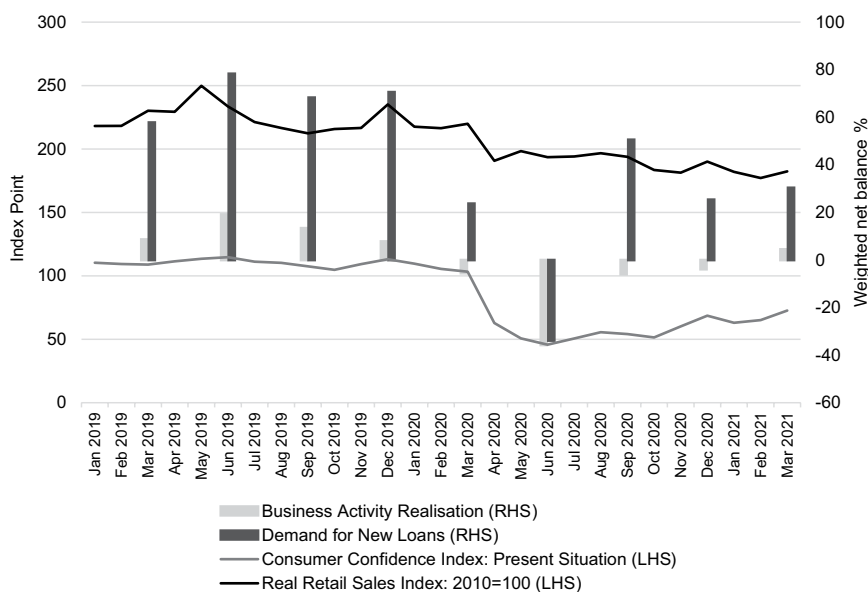
In Indonesia alone, between early March 2020 (when the first case was found in Indonesia) and June 2021, COVID-19 infected more than 2.2 million people and caused 60,000 deaths, with late surges of new cases especially more pronounced in several main business and tourism provinces such as Java and Bali. There have been signs of an uneven and overwhelmed health sector: (i) the testing rates in most cities in Indonesia are much lower than the benchmarks recommended by the World Health Organization and (ii) the recent surges in hospital bed occupancy rates (WHO, 2021). At the same time, the progress of vaccination in Indonesia has been strikingly slow. By the end of June 2021, only 4.9% of Indonesia's population had been fully vaccinated with a further 5.8% having received only the first dose. These numbers were less than half of the world average (Our World in Data, 2021).

As the results of slowing down in world demand and supply as well as prolonged consequences of the pandemic, the Indonesian economy has experienced a recession. Indonesia reported three consecutive negative growths of 1.74%, 2.41%, and 4.19% (QoQ) from the last quarter of 2019 until the second quarter of 2020 (CEIC, 2021). It has dragged more than 3 million people into unemployment

in Indonesia, and is resulting more than 12 million people into unemployment in 2021. The result is that an estimated 30 million Indonesians will fall into poverty – worse than Indonesia’s experience after the Asian financial crisis or the global financial crisis. The rise in poverty has been especially profound in urban areas, where the number of poor people grew by 22% in 2020, significantly more than the 4% rise observed in rural areas (CEIC, 2021).

The worst is that the pandemic largely affected micro, small, and medium-sized enterprises (MSMEs), with recent surveys in all provinces of Indonesia in June and December 2020 suggesting that about 36% of firms were closed at one point in time due to the pandemic. The surveys also indicate that 84.2% of the respondents reported a loss in income. They also report that as many as 69% of MSMEs suggested that they needed working capital assistance (Statistics Indonesia, 2020).

To provide a detailed picture of the Indonesian economy current situation, Figure 1.1 illustrates the adverse effects brought by the COVID-19 pandemic on Indonesia’s economic activities in general. After the disclosure of the first case in Indonesia, reported on 2 March 2020, most economic indicators started to deteriorate. The negative effects of the pandemic on business activities were especially profound during the March–June 2020 period, corresponding to the semi-lockdown policies, supply chain disruptions, and the initial uncertainties and adjustments to the pandemic. This is indicated by the free fall of the



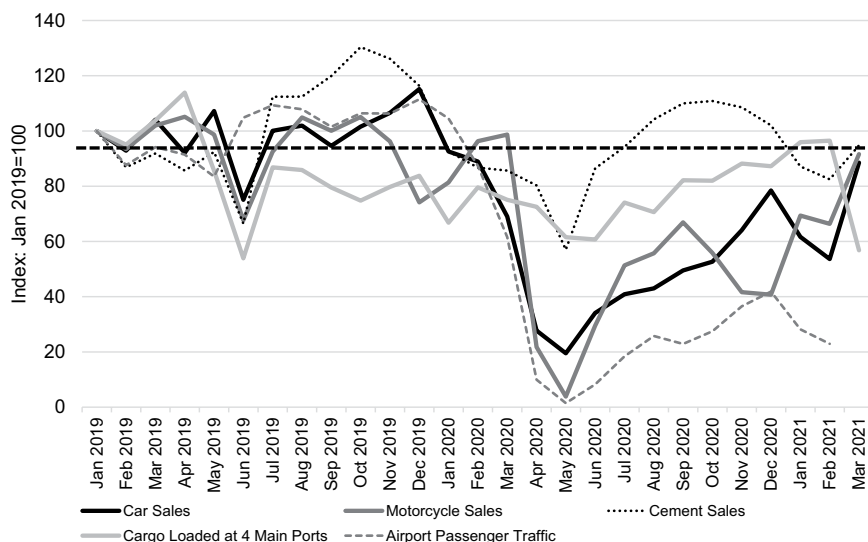
*Figure 1.1* Selected Business Indicators of Indonesia, January 2019–March 2021

Source: Authors’ calculations based on CEIC Indonesia Premium Database of which the data are from Bank Indonesia (accessed 6 May 2021)

Consumer Confidence Index (CCI) by 50% in just two months between March and May 2020, as well as sharp declines in retail sales, demand for new loans, and business activity realisation in Q2 2020. Most of the services sectors were especially hit hard by the pandemic.

Supported by the adaptation to the opening-up policies in the capital city and major business regions, business activities started to show a slow recovery from Q3 2020 until May 2021. The CCI grew from 55.6 in August 2020 to 72.6 by March 2021. Demand for new loans quickly rebounded in Q3, whilst the Business Activity Realisation Index recorded smaller quarterly declines in both Q3 and Q4 of 2020 but started to turn positive in Q1 2021. However, the retail sector has been hit hardest. After a steep fall in Q2, retail sales began showing a downwards trend. Whilst only a few retail subsectors have shown a recovery, such as the food and beverages sector and ICT-related sector, other services sectors mostly have not, such as culture, sports, arts and crafts, performances, recreation, and their related services. Figure 1.1 shows that whilst businesses have enjoyed a partial recovery since Q3 2020, most indicators are still far from reaching pre-pandemic levels, even a full year after COVID-19 first struck Indonesia.

In the real sector, trade and services, there has been a similar trend (see Figure 1.2), with most economic activities recording their sharpest declines around the March–May 2020 period. It appears that cargo movement was the least affected by the pandemic, as indicated by the smallest decline in Q2 2020 relative to the other indicators. Similarly, barring a decline in April–May 2020,



*Figure 1.2* Selected Proxies for Indonesia's Real Sector, January 2019–March 2021

Source: Authors' calculations based on CEIC Indonesia Premium Database of which the data are from Association of Indonesia Automotive Industries (GAIKINDO), Astra, Indonesia Cement Association, and Statistics Indonesia (accessed 30 May 2021)

cement sales recovered remarkably, even exceeding their pre-pandemic level by August 2020. In contrast, mobility of people was the most severely affected, as the pandemic almost completely halted travel, especially in the early stages of Q2 2020. Airport passenger traffic in May 2020 was merely 2% of its pre-pandemic (January 2019) level. Large-scale social restrictions and tightened requirements for travelling caused significant reductions in airport passenger traffic to linger afterwards, and by February 2021, passenger traffic had not reached even half its pre-pandemic level, remaining at 23%. On the other hand, after an initial free fall in March–May 2020, vehicle sales (both for cars and motorcycles) exhibited a positive recovery trend. By March 2021, a full year after COVID-19 hit Indonesia, most indicators had moved closer towards and almost reached their pre-pandemic levels, except for airport passenger traffic.

The pandemic is affecting the Indonesian economy in three ways. First, lower global demand is reducing demand for Indonesia's main export products. Second, as global capital dries up, foreign direct investment to Indonesia is also decreasing. Third, a drop in tourism is affecting services and MSMEs.

Even in the best scenarios, the Indonesian economy is estimated to grow at a maximum of just 4.3% in 2021 (IMF, 2021), and only if the Chinese economy grows at 8.4%, which seems unlikely to happen. It will take Indonesia at least three years to get back on its path of economic growth, yet it is still far from recovery, considering that the crisis has been heightened by the discovery of the more contagious Delta variant of the virus (and perhaps other variants later), coupled with the fact that only 11% of the world's population had been fully vaccinated by the end of June 2021 (Our World in Data, 2021).

What worries us most is that if we fail to make good corrections, rising unemployment and poverty may persist for the long term. In five years' time, it will be very difficult to help the people who are currently unemployed return to their previous employment as their skills will have become obsolete and they will be crowded out by fresh graduates. This will create structural unemployment, and structural unemployment will lower gross domestic product (GDP) in the long run.

The main issues caused by COVID-19 that will stay for the long term in developing and least developed countries are *rising poverty* and *unemployment*. To mitigate the effects of the pandemic, governments around the world have launched major fiscal and monetary stimulus measures. Whilst governments have launched these stimulus measures, there are many areas for improvement in their implementation, and the most important aspect is how to revive domestic consumption, provide social safety nets, and raise trade and investment to maintain the same levels of employment and get the economy back on the right growth path.

The discussions on these issues will be documented in the nine remaining chapters of this book. The next five chapters will focus on Indonesia by documenting the widespread effects brought by the COVID-19 pandemic in multiple areas, and how the Indonesian government has attempted to mitigate the adverse impacts of the pandemic using the various policy tools at its disposal. The last four chapters draw lessons from other countries that have coped relatively well with the pandemic: China, Germany, Singapore, and Viet Nam.

In Chapter 2, Chatib Basri and Syarifah Namira Fitriana start with reporting the overall macroeconomy and impacts of the COVID-19 pandemic on the Indonesian economy. The pandemic negatively affected consumption and investment has had destructive effects on employment, and increased poverty and informality in Indonesia, despite some early signs of a K-shaped economic recovery. This chapter presents empirical evidence that consumption drives investment in Indonesia, and not vice versa. It argues that the sluggish consumption and the resulting lack of economies of scale due to mobility restrictions have been stifling investment activities during the pandemic. Responding to such a problem requires the government to stimulate the economy in the short term by boosting consumption through fiscal policy whilst at the same time maintaining health protocols and addressing the pandemic. This chapter provides policy discussions and considerations on managing the budget deficit and the exit strategy with respect to fiscal stimuli once demand starts to recover.

The COVID-19 pandemic has significantly altered the way people live, work, shop, and communicate. In that regard, this chapter also investigates how mobility restrictions in response to the pandemic have changed societal behaviour in Indonesia. It documents the large drop in mobility in the early stages of the pandemic due to government restrictions, followed by the rapid rebound from June 2020 onwards as the government reopened the economy and the levelling out afterwards. Amongst other insights, this chapter provides evidence that people's mobility choices are in fact not strongly and causally linked with the current number of new cases or deaths. A steep jump in new deaths may persuade people to stay at home, but only temporarily. Several factors, such as urgent economic needs, working/office arrangements, and various cognitive biases, might explain such a phenomenon to one degree or another.

In Chapter 3 Lili Yan Ing and Yessi Vadila highlight how the COVID-19 pandemic has hit Indonesia's international trade as it simultaneously represents both demand and supply shocks and interrupts global supply chains due to mobility restrictions. The chapter examines the impacts of the COVID-19 pandemic on Indonesia's exports and imports, both in terms of volume and value. Empirical analysis using a difference-in-differences approach on Indonesia's monthly trade data from January 2017 to December 2020 confirms that the COVID-19 pandemic has indeed exerted a negative impact on Indonesia's trade activities, both exports and imports. The robust findings show that the COVID-19 pandemic is associated with reductions in export volume (value) by 10.7% (13.4%) and import volume (value) by 16.4% (25.9%).

Such sizeable drops in both exports and imports were driven by both the demand and supply shocks. On the demand side, the drop in global demand from Indonesia's major export destinations, such as China, the United States, Japan, India, and Singapore, significantly reduced Indonesia's exports. The empirical findings of this chapter also confirm that, on average, countries with better responses to the pandemic tend to have a higher demand for Indonesia's exports. This signifies global economic integration as Indonesia's trade performance is very much connected to the pandemic situation and management in other countries.

It also appears that mobility restrictions have reduced Indonesia's overall demand for imports. On the supply side, Indonesia's producers and exporters may have halted production due to prolonged declines in world demand.

Chapter 4 by Masyita Crystallin provides a comprehensive overview of Indonesia's fiscal policy experience in response to the COVID-19 pandemic. Ensuring survival and recovery from the adverse effects of the COVID-19 pandemic may exert additional fiscal and debt burdens on the economy that must be well managed. In light of such a precarious situation, the chapter starts by documenting the global macroeconomic environment in pandemic times as one characterised by a liquidity trap in which monetary policy's effectiveness in boosting spending has been limited. Against such a backdrop, it then highlights the crucial role of fiscal policy in dealing with the adverse impacts of the COVID-19 pandemic in Indonesia. This chapter also argues that the Indonesian government has maintained solid and prudent macroeconomic performance during the pandemic, as it has also done over the past decade.

This chapter then proceeds to explore in great details on how the Indonesian government has employed fiscal policy to mitigate the economic impacts of the pandemic, both in the form of demand-side and supply-side supports. On one hand, demand-side supports were primarily meant to boost household consumption and include, amongst other things, programmes such as the Family Hope Programme (PKH), food assistance, cash transfers, and the Pre-employment Card Programme, as well as some sectoral and regional stimuli. On the other hand, supply-side supports take the form of interest rate subsidies, cash transfers, loan restructuring, access to working capital for MSMEs, and state equity participation for state-owned enterprises (SOEs), amongst other things. To ensure fiscal sustainability in the medium term, this chapter discusses three key policy considerations for future reforms. First, the urgency of domestic revenue mobilisation to increase the currently stagnant tax ratio, taking into account tax compliance behaviours and downward trends in tax rates worldwide. Second, the need to deliver better government spending, especially in areas with high multipliers. Third, the importance of minimising external and internal risk exposure on the state budget.

Chapter 5 by Sudarno Sumarto and Zahra Amalia Syarifah investigates how the Indonesian government has mobilised and expanded its social welfare system to provide a safety net in cushioning the adverse socioeconomic impacts of the pandemic. Prior to the pandemic, Indonesia already had a social protection system in place to provide an economic buffer for the poor and vulnerable. But the COVID-19 pandemic is unique, as its prolonged nature means that the negative impact is extended to the middle class. After providing evidence that the COVID-19 pandemic has disproportionately impacted the poor and the middle class in Indonesia, this chapter argues that the more extensive breadth and coverage of targeted welfare programmes rolled out by the government played a key role in curtailing Indonesia's economic contraction in 2020. Such programmes include food assistance (*Program Sembako*), the Family Hope Programme (PKH), the Cash Transfers-Village Fund (BLT-DD), the Pre-employment Card Programme (*Kartu Prakerja*), as well as several other ad-hoc programmes.

This chapter also identifies two major issues that have reduced the efficacy of the safety net in Indonesia during the pandemic. One is related to the outdated social registry data that hampered beneficiary targeting, and the other to a highly centralised bureaucratic system that posed a coordination challenge in adjusting the welfare programmes to the specific needs of the crisis. The chapter provides a number of discussions and insights on the design of a better and more sustainable social protection system in times of the COVID-19 pandemic. First, it discusses the need to distinguish between the permanent or long-term nature of social protection and the temporary nature of some government measures in response to the short-term shocks in circumstances like a pandemic or natural disaster. Second, this chapter calls for a clearly delineated funding mechanism for social safety net programmes, a trigger for its launch, and a clearly defined targeting mechanism. Third, this chapter advises against focusing too much on financing and administering cash transfers whilst excluding the other existing complementary programmes. Finally, this chapter offers some specific considerations for policymakers as they design social programmes to navigate the survival, recovery, and transformation phases of the COVID-19 pandemic.

In Chapter 6, Diny Ghuzini examines Indonesia and identifies various initiatives introduced by the community, district, and particularly provincial (local) governments to mitigate the negative effects of the pandemic. The COVID-19 pandemic has been a challenge for governments at all levels. After first depicting the provincial disparity in economic performance during the pandemic, this chapter highlights the role of local government expenditure in keeping the economy afloat as the pandemic raged on. The data show that government expenditure in 2020 followed a similar trend in every province, where a drop in Q1 was followed by a modest increase in the next two quarters and a substantial increase in Q4. The chapter then chronicles various local policies in response to the pandemic, which ranged from large-scale social/mobility restrictions (PSBB/PPKM), the introduction of health protocols, local social assistance programmes to support MSMEs and informal workers, and many others. This chapter also depicts the crucial role of the utilisation of the Village Fund during the pandemic, which is shown to have a strong positive correlation with the number of recovered COVID-19 patients at the local level.

One of the challenges facing local governments in dealing with the adverse impact of the pandemic is the provincial disparity in fiscal space to disburse the necessary funds. For instance, this chapter shows that only ten provinces, mostly in Java, showed an increase in the disbursement of social assistance. In most other provinces, the amount disbursed for social assistance actually decreased in 2020 from the previous year despite the COVID-19 outbreak. Furthermore, this chapter also provides two case studies of local community initiatives in Yogyakarta and East Java to cope with the pandemic. Finally, given the vital role of local governments in building resilience to future shocks, it concludes with some policy recommendations to ensure a better design, targeting, and delivery of local social assistance programmes, an equal distribution of health supplies and resources, and to promote community-based initiatives involving local leaders in coping with crises.

In addition to documenting the pandemic's impacts and mitigation in Indonesia, the book also provides insights on how the pandemic affects other countries and how their crisis management worked. The last four chapters describe the lessons learned from four countries.

Chapter 7 by Zhihong Yu and Mo Tian presents an interesting analysis on how COVID-19 affected the Chinese economy. As China is a largely trade-driven economy, this chapter brings out trade aspects, using a decomposition method. They find that China's exports followed a V-shaped recovery path, as its initial dramatic drop was quickly followed by substantial growth by Q3 2020, which was mainly driven by manufactured goods and machinery and the transport equipment sector. In contrast, China showed a delayed recovery path in its imports, which collapsed in the first half of 2020 prior to a mild recovery in Q3. This chapter argues that the COVID-19 pandemic has affected China's foreign trade primarily through its impact on local and global supply in manufacturing production due to disruptions in transportation and lockdown measures and, to a lesser extent, swings in global demand.

At the sectoral level, the decomposition analysis of this chapter reveals that the machinery and transport equipment sector, manufactured goods sector, and the mineral fuels sector played dominant roles in sustaining China's foreign trade during the pandemic. The chapter also highlights the important roles of the Association of Southeast Asian Nations (ASEAN) and the European Union in driving both China's exports and imports amid the pandemic. This chapter also shows empirically that exports from the processing trade or from foreign-owned firms were more severely hurt and recovered less, and at a slower pace, than those from ordinary trade or by domestic-owned firms. This suggests that firms that are more deeply engaged in global supply chains are indeed more negatively affected by the pandemic since they are more sensitive to disruptions in international transportation and global production networks. Finally, this chapter offers some lessons on designing an optimal trade policy in a post-pandemic world, which entails stronger regional cooperation in international trade and investment, especially between ASEAN and China.

Chapter 8 by Günther G. Schulze describes and assesses various policy responses taken by the German government. Germany is one of the countries that have been successfully managing the pandemic and its economic impacts to alleviate the economic fallout of the crisis, both in the form of non-pharmaceutical interventions and fiscal measures. The chapter first documents the trajectory of the pandemic in Germany, highlighting the steep increase in the number of cases during the second wave around September–December 2020. It then recounts several non-pharmaceutical interventions to contain the virus in Germany, which included lockdowns and requirements to wear masks in public.

Furthermore, it discusses several variants of lockdown strategies and their effectiveness. The chapter argues that the reluctant imposition of lockdown measures by the German government in October 2020 was too late and not stringent enough, leading to the explosion of new cases. But, more importantly, the chapter also emphasises that the alleged trade-off between the protection of health and

the economy is in fact misperceived. It argues that a one-time hard lockdown and effective safeguard measures afterwards may keep infection rates low and allow the reopening of the economy with lower overall health and economic costs.

The chapter then provides a comprehensive overview of the fiscal measures taken by the German government in response to the pandemic. The measures are wide-ranging and include direct transfers (to producers, individuals, and municipalities), credit facilities, restart funds, loan guarantees, tax deferrals, value-added tax reduction, labour market measures, such as short-time working allowances, and altered insolvency rules. The chapter argues that all such measures, except for the relatively ineffective value-added tax reduction, have been essential in making the transition to the post-COVID-19 economy less costly in Germany. Finally, the chapter argues that policymakers need to strike a balance in sharing the financial burden of the pandemic between present and future generations, and between capital owners, employees, and taxpayers.

Chapter 9 by Siwage Dharma Negara focuses on how Singapore has been affected by the pandemic and how its government responded and kept the economy afloat. Singapore has been regarded as one of the leading countries regarding the handling of the COVID-19 pandemic, both from health and economic perspectives. This chapter argues that Singapore stands out in its ability to strike the balance between minimising the impacts of the virus on human health and minimising the large-scale economic impacts on people's livelihoods. From the public health standpoint, one key lesson is that *early* actions to restore public health are critical. Singapore has displayed an effective strategy to control the local transmission of the virus through its implementation of widespread testing and tracing, effective surveillance, and robust treatment.

This chapter also shows that strong state capacity combined with efficient bureaucracy engendered strong public compliance with respect to health and mobility protocols. Furthermore, Singapore's small population size and geographical constraints as an island nation also made efforts to combat the spread of the virus manageable. All these factors eventually led to faster economic and health recovery, of which Singapore ranked the highest in ASEAN.

From the economic standpoint, this chapter shows that Singapore is one of a few countries in Asia that have provided comprehensive financial support to businesses and employees, and with a fiscal stimulus size relative to GDP that was much higher than the regional average. A unique feature of Singapore's COVID-19 response budget was its reliance on past reserves instead of drawing more debt as most other countries did. This chapter also documents how various support for businesses, particularly SMEs, has been effective in minimising the risk of bankruptcy and worsening unemployment by first enabling them to simply survive the initial blow of the pandemic. Finally, this chapter argues that governments need to invest in the capabilities of workers and firms to adapt to a new post-pandemic environment to ensure robust growth recovery in the medium to long term.

Last, Duc Anh Dang in Chapter 10 partly echoes the Singaporean story and argues that an early and proactive response to the pandemic played a key role

in saving lives and reducing the impact of the crisis on Viet Nam's economy. Amongst ASEAN countries, Viet Nam has recorded the lowest COVID-19 cases relative to its population. This chapter explores the response of Viet Nam's government in coping with the COVID-19 pandemic and several factors that explain the relative resilience of the economy. First, the foreign market was the driving force as merchandise exports continued to grow at an exceptional rate. Second, domestic activities rebounded when the authorities started to ease most mobility restrictions. Third, the Vietnamese government was quick to use monetary and fiscal instruments to help the most vulnerable businesses and people. These include relatively well-implemented tax relief and direct financial support. This chapter also shows how prudent macroeconomic management in Viet Nam over the years resulted in sufficient fiscal room for its government to properly respond to the COVID-19 shocks.

Furthermore, this chapter provides several key lessons regarding economic recoveries amid the COVID-19 pandemic. The first takeaway is the absolute importance of pandemic preparedness in the health sector as the best way to deal with an external shock for planning ahead of time and responding quickly and boldly. Second, there is an increasing need to boost the trust from society and businesses in the government's policy responses to the pandemic. Third, Viet Nam's experience confirms how ample cash reserves and contingency funds, as a result of prudent macroeconomic management over the years, play a crucial role in the mobilisation of internal resources to respond to the pandemic. Last, response policies need to be consistent with the actual developments, fiscal capacity, and the ability to maintain macroeconomic stability.

The book concludes that "health and the economy are not a trade-off". We should prioritise health first with all efforts. Society can run businesses and return to normal daily activities if and only if they are safe and healthy. When we prioritise health first, then economic recovery will follow. First, we need to allocate tax incentives or any fiscal support to only productive activities (agriculture, industry, and services). Second, we need to ensure COVID-19 social safety nets work effectively and efficiently, but only temporarily. It is crucial to target the right beneficiaries, not consumption goods. Third, we need the local governments and line ministries to ensure the disbursement rates of fiscal and monetary stimulus measures and ensure the programmes are purely social and not political. Last, we need a clear post-COVID-19 strategy with a trade and investment strategy to help businesses recover quickly, having health and education at the top of the development agenda.

COVID-19 is an awakening for all of us in terms of understanding the real meaning of development. Other than GDP and economic growth, it is crucial to pay attention to human development (such as the percentage of the literate population, the percentage of graduates, and the percentage of engineers), health (protein consumption every day, life expectancy, and the number of doctors per 1,000 new born babies), and institutions (the percentage of population living in poverty, the percentage of the population having access to electricity and schooling, and the number of crimes per 1,000 people).

The success of a country is not merely determined by the levels of GDP or economic growth. It is determined by the success in improving the quality of life of its people – a safe, healthy, and educated society.

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# 2 The Indonesian Economy in the time of COVID-19

## Saving Lives and Livelihoods?

*M. Chatib Basri and Syarifah Namira Fitriana*

### 1. Introduction

Goodbyes come suddenly, without warning. The novelist Albert Camus illustrated dramatic farewell scenes in his seminal work, *The Plague*, in which he anxiously recounts the outbreak of pestilence in Oran, Aljazair. Of course, Camus was not writing about Wuhan in China or 2020, but readers of *The Plague* can imagine the anxiety and confusion of the residents isolated in Wuhan at the start of the coronavirus disease (COVID-19) pandemic.

The global economy has suffered – the biggest pandemic since the flu pandemic of 1918 or so-called ‘Spanish Flu’ spread globally. Table 2.1 shows how COVID-19 impacted economic growth in selected countries, with projections from institutions such as the International Monetary Fund, the World Bank, the Organisation for Economic Co-operation and Development, and Bloomberg. Most countries have seen a contraction in economic growth, including Indonesia.

Different from earlier economic crises, this was brought on by an outbreak. To reduce transmission, countries have implemented restrictions on mobility. The spectrum of restrictions has ranged from total lockdowns as in New Zealand, China (Wuhan), and Viet Nam, to relatively relaxed recommendations found in Sweden, the Netherlands (initially), and the United States (US). These restrictions have had major economic implications, encompassing both demand and supply shocks, as people reduced their demand and production networks were disrupted. By definition, a market is a place to exchange goods and services, either physically or virtually. Social and physical distancing restrictions do not allow physical encounters to take place. The only viable market becomes the virtual market, hitting both production and consumption. Baldwin and di Mauro (2020) posited that three things must be anticipated in this economic shock. First, the medical shock – put simply, sick people cannot work, so production is interrupted. Second, the economic impact of social distancing, including quarantine. Third, the psychological impact, where economic activities are delayed due to fear and worry.

The economic impact of COVID-19 is a vast new area for research. The issue is relatively new, and data are still quite limited. Yet, it is necessary to study the

*Table 2.1 GDP Growth in 2020 and Projections (%)*

	2020	IMF 2021 Projections		2020	IMF 2021 Projections
<b>ASEAN</b>					
Indonesia	-2.1	4.3	Viet Nam	2.9	6.5
Singapore	-5.4	5.2	Lao PDR	-0.6	4.6
Malaysia	-5.6	6.5	Cambodia	-3.1	4.2
Philippines	-9.5	6.9	Myanmar	3.2	-8.9
Thailand	-6.1	2.6	Brunei Darussalam	1.2	1.6
<b>Asia</b>					
China	2.3	8.4	Japan	-4.8	3.3
India	-8.0	12.5	Rep. of Korea	-1.0	3.6
<b>Pacific</b>					
Australia	-1.1	4.5	New Zealand	-2.9	4.0
<b>Europe</b>					
UK	-9.8	5.3	Germany	-4.9	3.6
Sweden	-2.8	3.1	Netherlands	-3.7	3.5
France	-8.2	5.8	Italy	-7.8	4.2
<b>North America</b>					
US	-3.5	6.4			

Abbreviations: ASEAN = Association of Southeast Asian Nations, GDP = gross domestic product, IMF = International Monetary Fund, Lao PDR = Lao People's Democratic Republic, UK = United Kingdom, US = United States

Source: International Monetary Fund (2021)

impact of COVID-19 on the economy given its vital importance. Limited data, combined with the continuing dynamic impacts of the virus, make it difficult to produce an authoritative study. Thus, this chapter is more of an ongoing research project. It aims to identify the phenomena that impacts the Indonesian economy. Indonesia was chosen for several reasons: first, the number of positive cases in Indonesia is one of the highest in Asia. Second, Indonesia has struggled to contain the pandemic, in part because geographically it is an archipelagic nation (with all of the logistic hurdles that entails). Third, like India, Indonesia is a vibrant democracy, which means that the decision-making process is difficult. Fourth, interestingly, despite the high number of positive cases, economic contraction has been relatively limited. In 2020, Indonesia's economic growth contracted by 2.07% – better than many countries in the Association of Southeast Asian Nations (ASEAN) and the world. All of these factors make Indonesia an interesting study subject.

The Indonesian economy was hit hard in the second quarter (Q2) of 2020, but has started to show signs of recovery. The recovery has followed a swoosh shape, with the lowest point in Q2 2020 (Figure 2.1), then beginning to improve, and is expected to show positive growth in Q2 2021, assuming that the pandemic does not worsen and that the government does not again impose Large-Scale Social Restrictions (PSBB). Economic recovery should probably quicken in the second

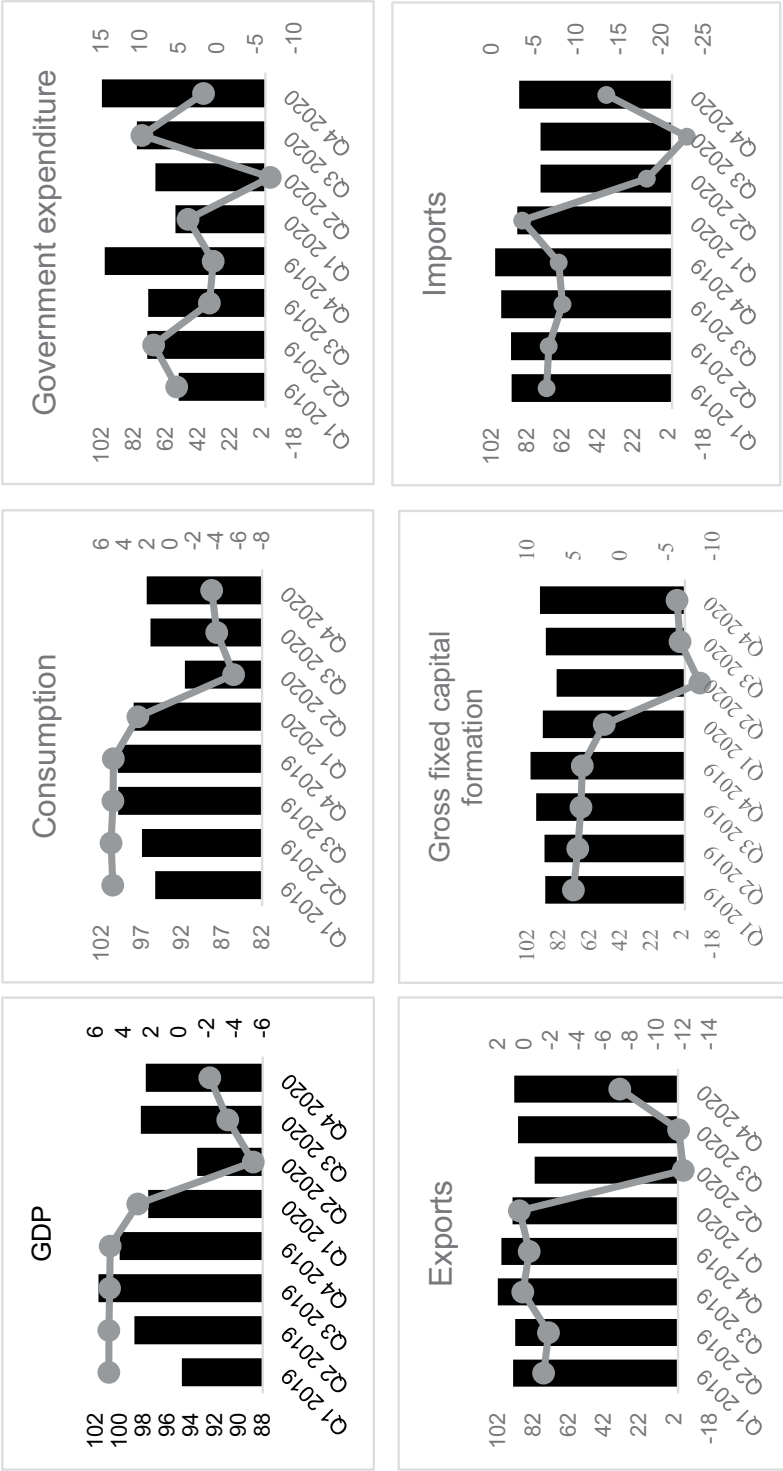


Figure 2.1 Indonesian GDP by Component (index Q4 2019 = 100, YoY growth, %)

Abbreviations: GDP = gross domestic product, Q = quarter, RHS = right-hand side, YoY = year on year

Source: Authors' calculations based on Statistics Indonesia (2021), *Gross Domestic Product Data*. [www.bps.go.id/subject/169/produk-domestik-bruto-pengeluaran-.html#subjekViewTab3](http://www.bps.go.id/subject/169/produk-domestik-bruto-pengeluaran-.html#subjekViewTab3) (accessed 8 April 2021)

half of 2021, due to vaccinations, as the greater the proportion of citizens who are vaccinated, the faster the recovery of mobility (this will be discussed in more detail in section 4).

Very few studies exist on the economic impact of COVID-19 in Indonesia, aside from a spattering of media articles. To fill the gap, this chapter will discuss in greater detail the economic impact of COVID-19 on the Indonesian economy. Specifically: how mobility restrictions have changed behaviour; how the policy response has been carried out; and what needs to be considered for the future.

It is very important to discuss how behaviour has changed during the pandemic. It can be surprising to see how people calculate economic and health risks in the face of a pandemic. What happens to behaviour and economic activities when the economy reopens while COVID-19 cases remain high? To get a picture of this, we used Big Data from Google Community Mobility Reports and the COVID-19 National Task Force. This led to several interesting findings, reflecting the dynamics of economic behaviours during this pandemic. After this discussion, the chapter will then examine policy responses to COVID-19 as well as considerations for future policy responses.

To answer these questions, the chapter is divided into several sections. The first section provides an introduction and background, then we will look at the impact of COVID-19 on the Indonesian economy, followed by an examination of the dynamics of community behaviours. In the fourth section, we will discuss the policy response and end with the way ahead and exit strategy.

## **2. The impacts of COVID-19 on the Indonesian economy**

The COVID-19 pandemic has become not only a public health crisis but has also caused severe destruction to the Indonesian economy. The far-reaching domino impact on the economy emerged as the consequence of the spread of the virus itself and the attempts to quarantine it. Either a black swan or pink flamingo, COVID-19 is the first powerful health-related event faced by Indonesia, at least since Independence Day in 1945. In this section, we will describe the economic impact of COVID-19 and make a brief survey of some of the government attempts in controlling the unfavourable condition.

### ***2.1 Domino effects on the economy***

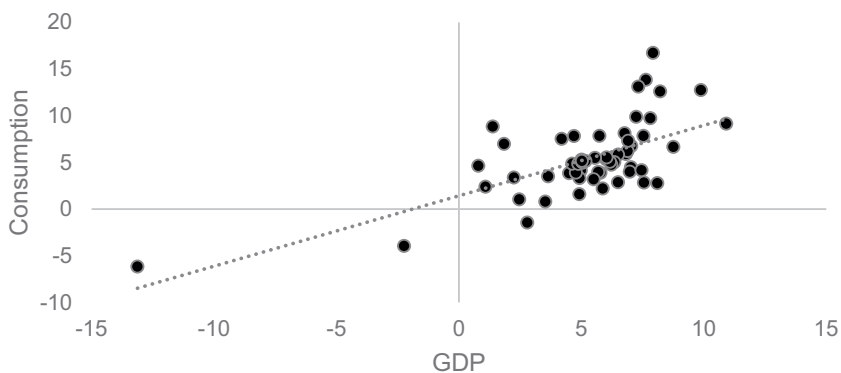
Unlike the other previous shocks, for the first time in Indonesian history people's mobility and economic activity are being restricted not only massively but also intentionally. Restrictions on economic activities globally and domestically to mitigate the disease have caused a supply and demand shock to the Indonesian economy, with the chance of spreading to a financial crisis if the condition is prolonged. Significant impacts on the economy have occurred due to loss of life, workplace absenteeism, business closures, a rise in unemployment, and

a reduction in productivity. These unfavourable impacts led to a reduction in income and economic recession.

A downward trend began to emerge in Q1 2020, with year-on-year gross domestic product (GDP) growth down to 3% from 5% in Q4 2019. However, as the disease entered Indonesia in March 2020, the economic destruction was more visible in Q2 2020. From April to June 2020, the Indonesian government imposed the first PSBB under which economic activity was restricted. Along with that, in Q2 2020 the Indonesian economy contracted by 5.3%. As we can see from Figure 2.1, all GDP components experienced a significant contraction that started in Q1 2020.

Although more negative growth appeared in Q3 2020, which made Indonesia fall into recession, the economy was progressing. The government selectively lifted the distancing restriction at the end of June 2020, and economic activities were allowed to resume although under several limitations. The upward trend continued to Q4 2020, but the Indonesian economy remained in negative growth. Amongst all of the GDP components, the only positive growth came from government expenditure, which rose significantly in Q3 2020. This reflects the government's efforts to tackle the disease and provide assistance for vulnerable groups.

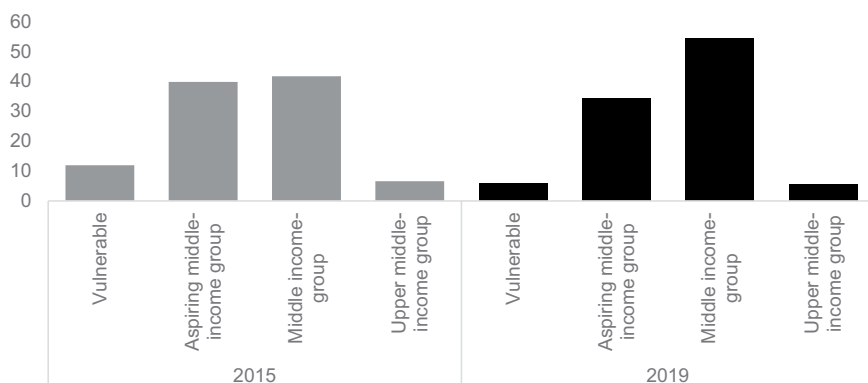
The Indonesian economy relies heavily on household consumption expenditure as it contributes about 57% of the total GDP. A simple correlation calculation depicted in Figure 2.2 shows a positive relation between consumption and GDP as high as 0.7. If we look at the consumption structure by income group, it appears that Indonesia's largest consumption expenditure comes from the middle- and upper-middle income groups.<sup>1</sup> In Figure 2.3, we show the consumption distribution pattern of Indonesians by category of expenditure amounts. From the figure, we can see that Indonesia's middle-income group generated the highest average share of consumption. Together with the upper middle-income



*Figure 2.2* Correlation of GDP and Consumption Growth, 1960–2019 (% , 2010p)

Abbreviation: GDP = gross domestic product

Source: Author's calculation



*Figure 2.3* Distribution of Expenditure per Capita, 2015 and 2019, by Income Group (%)

Source: Authors' calculations based on Statistics Indonesia (2015 and 2019), *National Socio-Economic Survey 2015 and 2019 Raw Data*. Jakarta

group, the total share of consumption expenditure was about 48% in 2015 and 60% in 2019.

Nevertheless, COVID-19 adversely affected consumption, particularly the consumption of several goods. Figures 2.4A and 2.4B present the composition of household consumption in GDP. From here, we can highlight that the pandemic affected non-essential goods more adversely.

People are still limiting their tertiary consumption, especially related to travel and leisure, and this is reflected in the sectoral GDP. The tourism industry is experiencing severe damage due to the disease. With its high dependency on the tourism industry, Bali became the province with the highest economic drop (–9% year on year) in 2020 and amongst the highest increases in the unemployment rate (4.1 percentage points).

The domino effect of COVID-19 on jobs is destructive as well, affecting 29 million people (14% of the working age population). As of August 2020,<sup>2</sup> 24 million Indonesians work shorter hours, 1.8 million are dismissed temporarily, 0.76 million are becoming non-labour force category, and 2.6 million are unemployed (Statistics Indonesia, 2020). Workers appeared to flow from formal to informal jobs. In fact, an additional 5.7 million people were working informally while the number of formal workers was down 6 million.

Looking closer at the rising number of informal workers, as presented in Figure 2.5, we can see that the pandemic has caused a high increase in unpaid/family workers and casual agricultural workers. These numbers reflect a labour surplus, wherein the reservation wage is close to zero since more people are willing to work unpaid during a pandemic. This phenomenon raises concerns related to the decrease in productivity, reflecting lower purchasing power levels.

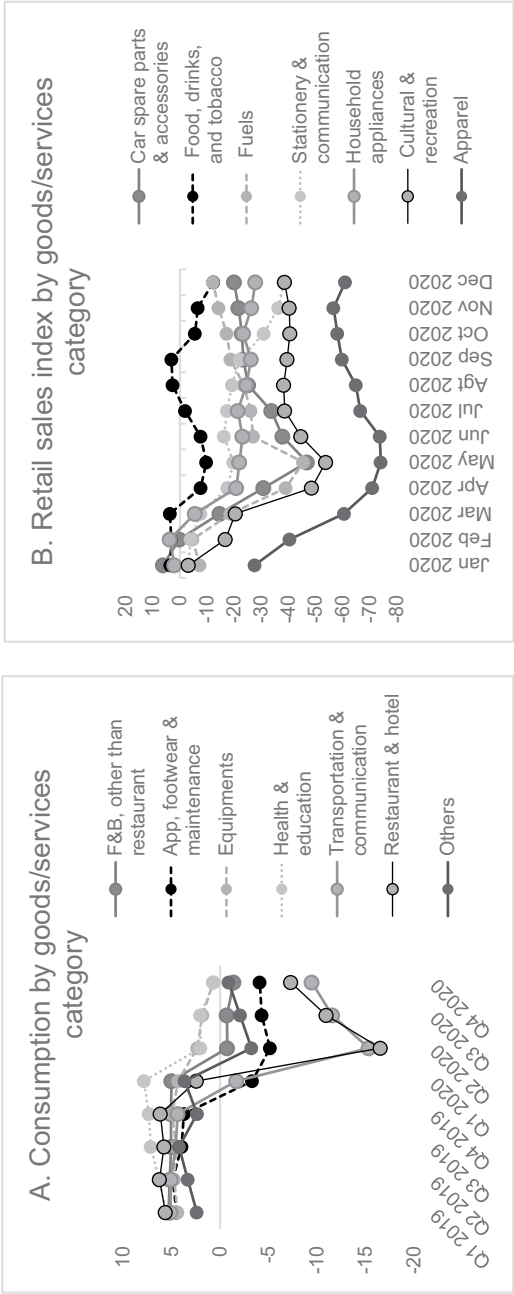
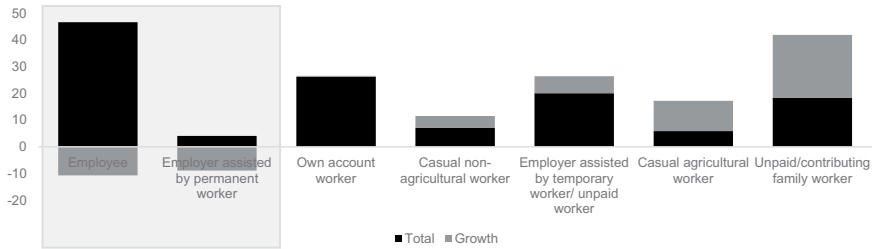


Figure 2.4 GDP Consumption Composition and Retail Sales Index (YoY growth, %)

Abbreviations: F&B = food and beverages, GDP = gross domestic product, YoY = year on year  
Source: Authors' calculations based on Statistics Indonesia (2021), Gross Domestic Product Data (accessed 8 April 2021); and Bank Indonesia (2021), Retail Sales Survey Series Data (accessed 8 April 2021)



*Figure 2.5* Employment by Status (people million, YoY growth)

Abbreviation: YoY = year on year

Note: Formal workers consist of employees and employers assisted by permanent workers; the rest are informal

Source: Authors' calculations based on Statistics Indonesia (2020)

A lower level of purchasing power, especially of the vulnerable group, will impact the poverty rate. By September 2020, the amount of people living in poverty increased to 27.55 million people (10.2% poverty rate), growing 0.41 percentage points from September 2019 (Statistics Indonesia, 2020).

## 2.2 Responding to the uninvited

Discovered in the city of Wuhan in December 2019, the world was well informed about the emergence of the new virus, but no one thought that the COVID-19 outbreak would become the world's most severe event in the past century. In Indonesia, the first two cases were reported on 2 March 2020 in Jakarta. However, there was public suspicion regarding the exact time of the arrival of COVID-19 in Indonesia since Indonesia had no reported cases until March despite numerous confirmed cases in neighbouring countries.

Even though the beyond-territorial virus is now a pandemic, Indonesia's exposure in responding to and containing the virus was limited as the country has no experience in dealing with a health issue as damaging as COVID-19. Nevertheless, beyond the lack of exposure, there is an impression that the government has been slow to respond to COVID-19. While neighbouring countries were taking action early to keep the disease at bay and developing tracing measures, the government chose to avoid public panic by signalling to the nation that everything was fine and deliberately withheld COVID-19 information from the public (Pangestika, 2020).

In the second week of March, President Joko Widodo (i) called on all Indonesians to practice social distancing in order to slow the spread of coronavirus, (ii) set up the COVID-19 National Task Force,<sup>3</sup> (iii) allowed more labs to test, and (iv) instructed related institutions and the task force to open information to the public. Yet, the spread continued rapidly, and by the end of the third week

of March the number of cases reached 514. Due to the expanding number of cases, extra measures were taken. On 31 March, President Joko Widodo signed the Presidential Decree on The Declaration of a Public Health Emergency Due to the Corona Virus Diseases 2019 and the Government Regulation on Large Scale Social Restrictions in Order to Accelerate the Management of Corona Virus Disease 2019. The first PSBB was conducted on 10 April for Jakarta and followed in other cities.

The first wave of PSBB was lifted around early June, and the economy was slowly reopened with caution. COVID-19 cases in Indonesia were mostly concentrated on Java Island. However, due to the increasing rate of positive cases, in the second week of September 2020, the Special Capital Region (DKI) Jakarta pulled back relaxations and reimposed restrictions called ‘Total PSBB’ for a month. Transition PSBB followed until the first week of January 2021. Considering the high occupancy rate of health facilities, the Indonesian government conducted a new distancing measure called the Enforcement of Limitations on Community Activities (PPKM) as a modification of the previous PSBB. The PPKM began in the second week of January, mainly targeting provinces in Java and Bali. Nevertheless, the rate of new cases was still high, with average daily additional cases reaching 12,700 in the fourth week of January 2021.

### **3. Dynamic behaviour during the pandemic and its implications for the economy**

Nobel Laureate Richard Thaler made a striking analogy between Mr. Spock and Homer Simpson (Belvedere, 2015).<sup>4</sup> Mr. Spock, a fictional character from *Star Trek*, is the personification of economic rationality, which Thaler coins ‘homo-economicus’ – someone who is cold, rational, calm, and calculating in every decision. In contrast, Homer Simpson, from the cartoon *The Simpsons*, is the personification of chaos: greedy, addicted to junk food and television, aggressive, lazy, and unprofessional. His decisions are rarely made with cold calculation. Unfortunately, most of us are more like Homer Simpson than Spock. Ironically, economic theory always assumes that people make decisions like Mr. Spock, rather than Homer Simpson. This approach examines how psychological, cultural, cognitive, and emotional factors influence an individual’s decisions. The pandemic led society to alter the way people live, work, shop, study, communicate, entertain themselves, and more. This section lays out the extent to which behavioural change during the pandemic will have consequences on the agenda of Indonesian economic recovery. We begin with a closer look at mobility patterns, as we presume that a better understanding of people’s decisions on mobility will gauge the potential impact of implementing or easing restrictions.

#### **3.1 Mobility patterns across periods**

As discussed earlier, a month after the first two cases appeared in Indonesia, the government imposed PSBB, which limited people’s activities. To depict the shift

in people's activities, we use Google Mobility data that captured users' visits to and length of stays at six categories of destinations – residential, workplace, park, retail and recreational, grocery store (traditional market and supermarket) and pharmacy, and transit station – and compared them with baseline days. The baseline day is the median value from 3 January to 6 February 2020 and thus represents a normal value for the specific day of the week. The data may not represent a perfect random sample of the population since they can only capture Android users without social, economic, and demographic characteristics. Nevertheless, the reported evidence is based on a large amount of data. The market share of the Android operating system in Indonesia from January 2020 to January 2021 was about 93% (Global Stats, 2021). Therefore, any biases are probably not critical in drawing broad changes in people's mobility.

In Figure 2.6, we portray people's mobility patterns from February 2020 to January 2021 based on the six categories of places. From the figure, we can see that COVID-19 significantly changed people's visiting trends to each place. The shift primarily began in the second week of March 2020, and applied to all places and islands. We can identify a large drop in visits to workplaces, retail and recreation spots, transit stations, grocery stores and pharmacies, and parks. On the other hand, visits to residential sites trended up. Each island group may have its own mobility variation, but we can see that each trend moves correspondingly to the national trend.

As the first wave of PSBB was selectively lifted around June and the economy could resume under some circumstances, Figure 2.6 shows an upward trend in visits to places starting in late May/early June. This figure shows that government restrictions had a strong influence in shaping people's mobility.

Despite the variations, in general we can also see in Figure 2.7 that people's pace after reopening was slowing down. From the figure, we can see that the rate of change between months shows a downward trend for all places, except residential sites which show an upward trend. By this, the number of people doing activities outside the home is growing at a deceleration rate. In reverse, the number of people staying at home is growing and still accelerating. This trend will have potential consequences on the economic cost of reopening.

### *3.2 Potential drivers of the weakening public response*

Given that people's mobility increased rapidly after the government reopened the economy, then began to level out and slow down, there are possible explanations to justify the phenomenon.

First, government restrictions are not entirely lifted. After the reopening, economic activities may resume but under specific health protocols. Health protocols imposed by the government and businesses have placed a cap to limit demand and production capacity, and therefore people's mobility.

The second possible explanation is that the pandemic has changed people's behaviour. One factor that can be attributed to the change is the emergence of precautionary motives during the pandemic. Precautionary motives can be

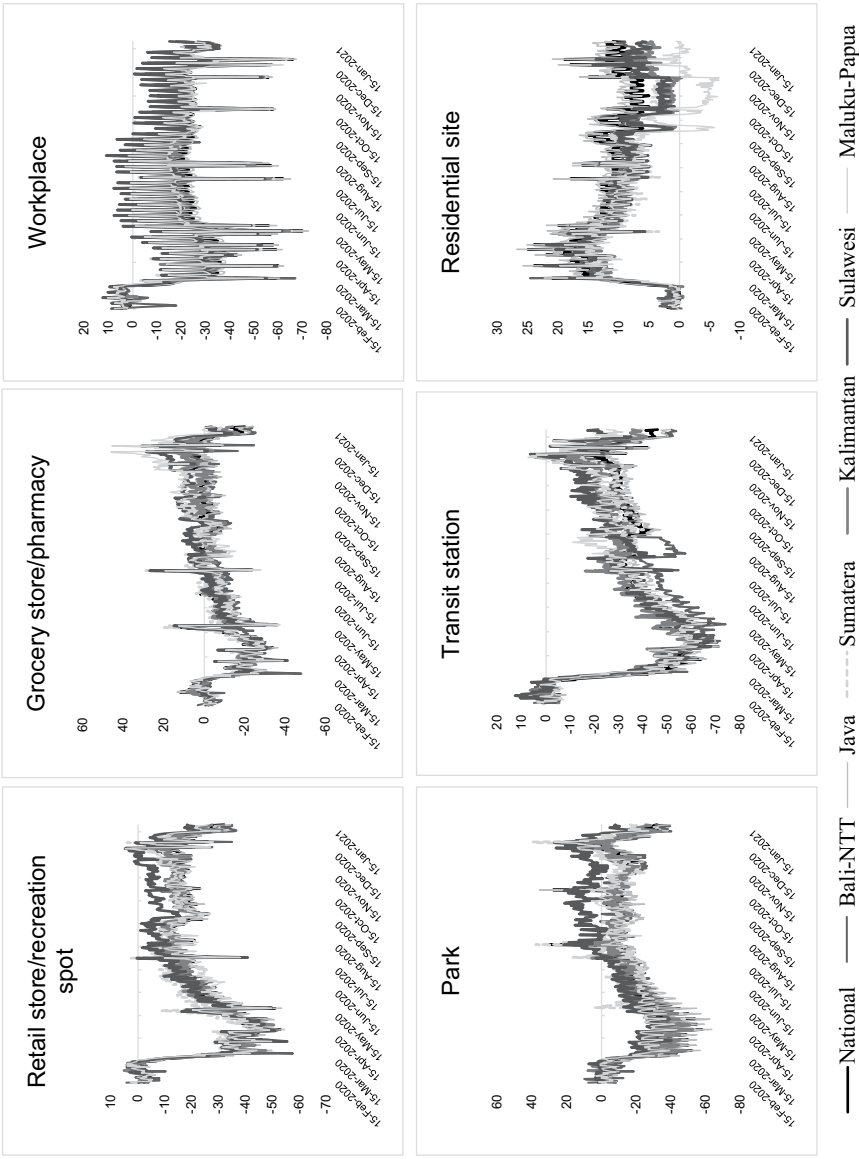


Figure 2.6 Mobility Patterns by Destination and Region

Source: Authors' calculations based on Google (2021), *Community Mobility Reports*, [www.google.com/covid19/mobility/](https://www.google.com/covid19/mobility/) (accessed 27 January 2021)

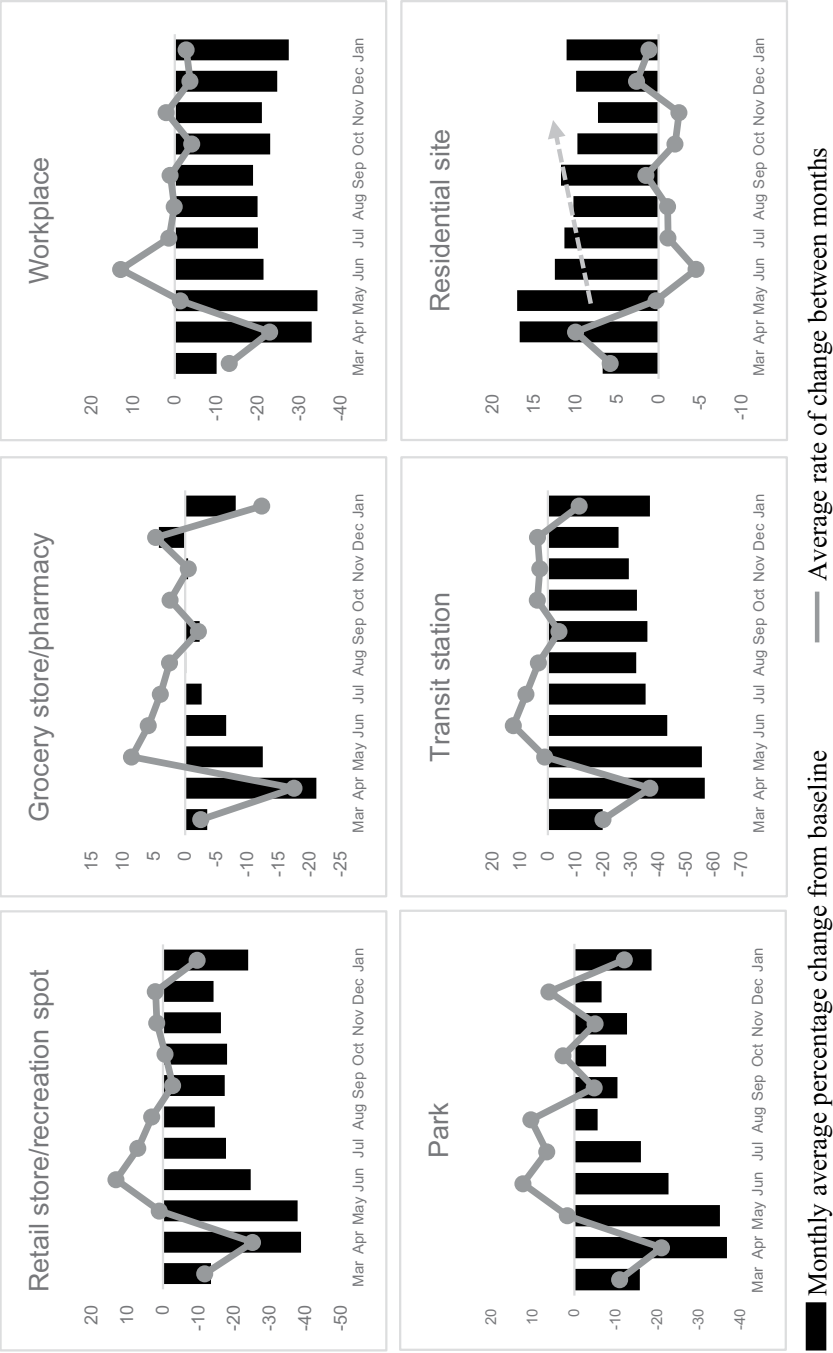
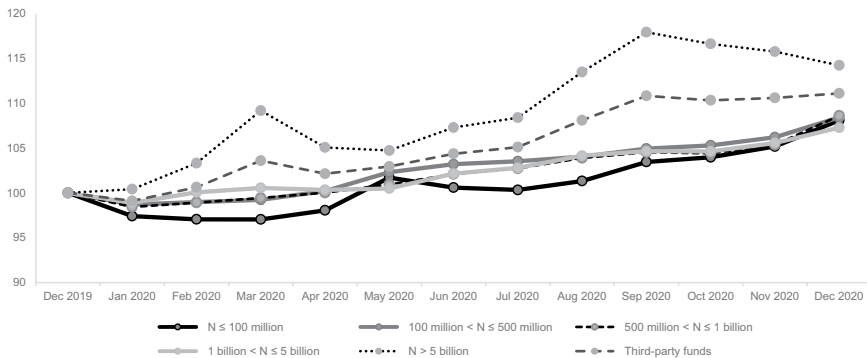


Figure 2.7 Average Mobility and the Monthly Difference

Source: Authors' calculations based on Google (2021), *Community Mobility Reports*. [www.google.com/covid19/mobility/](https://www.google.com/covid19/mobility/) (accessed 27 January 2021)



*Figure 2.8* Third-Party Funds by Nominal Rupiah

Source: Authors' calculations based on The Deposit Insurance Agency (2021), *Information on Deposit Statistics*. [www.lps.go.id/web/guest/data-distribusi-simpanan](http://www.lps.go.id/web/guest/data-distribusi-simpanan) (accessed 8 April 2021)

in terms of health or income. In terms of health, people may continue to limit their activities outside the home to avoid getting infected. In terms of income, the domino effect caused by COVID-19 to the economy and the uncertainty it created could induce people to be cautious about managing their income. Figure 2.8 shows the upward trends of the third-party funds, especially for savings higher than Rp5 billion.

Another behavioural factor that potentially contributed to the lower rate of people's mobility is the development of new habits. A survey by McKinsey & Company (2020) shows a clear shift for Indonesian consumers from offline to online spending in the time of COVID-19. The pandemic situation might urge Indonesians to become more tech-savvy, but this is an acceleration of habits that are predicted to occur during the industrial revolution 4.0. Such tech-savvy habits do not encourage higher mobility. There is a chance that this new behaviour pattern will last (McKinsey & Company, 2020; Bain & Company, 2020).

### 3.3 *New cases and public choice*

Up to this point, we derive that people's behaviour during the pandemic is closely related to the government's response and personal views towards COVID-19. The government's decisions to impose and ease restrictions are highly correlated to the development of total cases. The number of cases may also be correlated with people's mobility choices. To convey more about the linkage between people's mobility decisions and COVID-19 cases, we use data from the COVID-19 National Task Force and add a variable of new cases and new deaths to our model and draw causality through a vector error correction model (VECM). We summarise the results for the variable of new cases in Table 2.2.

Table 2.2 Causality Between New Cases and Visits to Places

<i>New cases and residential sites</i>		<i>New cases and parks</i>	
<i>Null hypothesis</i>	<i>Chi2</i>	<i>Null hypothesis</i>	<i>Chi2</i>
No causality from new cases to residential sites	1.76	No causality from new cases to parks	3.28
No causality from residential sites to new cases	4.40	No causality from parks to new cases	10.12
<i>New cases and workplaces</i>		<i>New cases and grocery stores/pharmacies</i>	
<i>Null hypothesis</i>	<i>Chi2</i>	<i>Null hypothesis</i>	<i>Chi2</i>
No causality from new cases to workplaces	3.82	No causality from new cases to grocery store/pharmacy	11.14
No causality from workplaces to new cases	9.78	No causality from grocery stores/pharmacies to new cases	19.44**
<i>New cases and transit stations</i>		<i>New cases and retail stores/recreation spots</i>	
<i>Null hypothesis</i>	<i>Chi2</i>	<i>Null hypothesis</i>	<i>Chi2</i>
No causality from new cases to transit stations	12.46	No causality from new cases to retail stores/recreation spots	12.96
No causality from transit stations to new cases	12.29	No causality from retail stores/recreation spots to new cases	14.15**

Note: \*\*Significant at 5%.

Source: Authors' calculation

From the VECM estimation, we look for the short-run causality to test whether all the lags of each variable together significantly affect all the variables in the system. The table shows no evidence that the additional number of cases affects people's choice to spend more time at home or visit other places. Nevertheless, the estimation results conclude that people's visits to retail stores/recreation spots and grocery stores/pharmacies cause new COVID-19 cases. Visits to grocery stores and pharmacies are usually related to primary needs (Figure 2.7 shows that visits to grocery stores/pharmacies fluctuate less than visits to other destinations), and this category includes traditional markets where imposing health protocols is more difficult.

Another interesting finding emerges when we substitute the variable of new cases with new deaths (Table 2.3). From the estimation using new cases, we find evidence that residential mobility and the number of new cases are independent in relation. On the other hand, by using the variable of new deaths, we find one-way causality as we reject the null hypotheses of no causality running from the emergence of new deaths to people's decision to stay at home. However, we do

Table 2.3 Causality Between New Deaths and Visits to Places

<i>New deaths and residential sites</i>		<i>New deaths and parks</i>	
<i>Null hypothesis</i>	<i>Chi2</i>	<i>Null hypothesis</i>	<i>Chi2</i>
No causality from new deaths to residential sites	13.41**	No causality from new deaths to parks	7.58
No causality from residential to new deaths	11.03	No causality from parks to new deaths	5.80
<i>New deaths and workplaces</i>		<i>New deaths and grocery stores/ pharmacies</i>	
<i>Null hypothesis</i>	<i>Chi2</i>	<i>Null hypothesis</i>	<i>Chi2</i>
No causality from new deaths cases to workplaces	7.52	No causality from new deaths to grocery pharmacy	7.56
No causality from workplaces to new deaths	7.78	No causality from grocery pharmacy to new deaths	5.86
<i>New deaths and transit stations</i>		<i>New deaths and retail stores/ recreation spots</i>	
<i>Null hypothesis</i>	<i>Chi2</i>	<i>Null hypothesis</i>	<i>Chi2</i>
No causality from new deaths to transit stations	6.66	No causality from new deaths to retail stores/recreation spots	6.78
No causality from transit stations to new deaths	6.09	No causality from retail stores/recreation spots to new deaths	2.80

Note: \*\*Significant at 5%

Source: Author's calculation

not find any causality evidence between the addition of COVID-19 deaths and visits to other places.

Diving further, we use another analytical tool of VECM called impulse response functions (IRFs), which allow us to estimate the effects of an exogenous shock to a single variable on the response of all variables in the system. Here, we estimate the likely response of the stay-at-home decision if there is a shock in the number of COVID-19 deaths, and vice versa. The result is presented in Figure 2.9. The IRF result shows that a shock to additional deaths in the first place induces people to increase the time spent at home. However, from the IRFs we also see that additional residential visits will only occur for less than 5 days. New deaths encourage people to stay at home, but temporarily.

### *3.4 Justification of the decision: more Homer Simpson than Mr. Spock*

The evidence that deaths are unlikely to make people stay at home for longer presents quite a dilemma, as evidence also exists that people's visits to certain places affect the number of new cases. Nonetheless, several plausible explanations

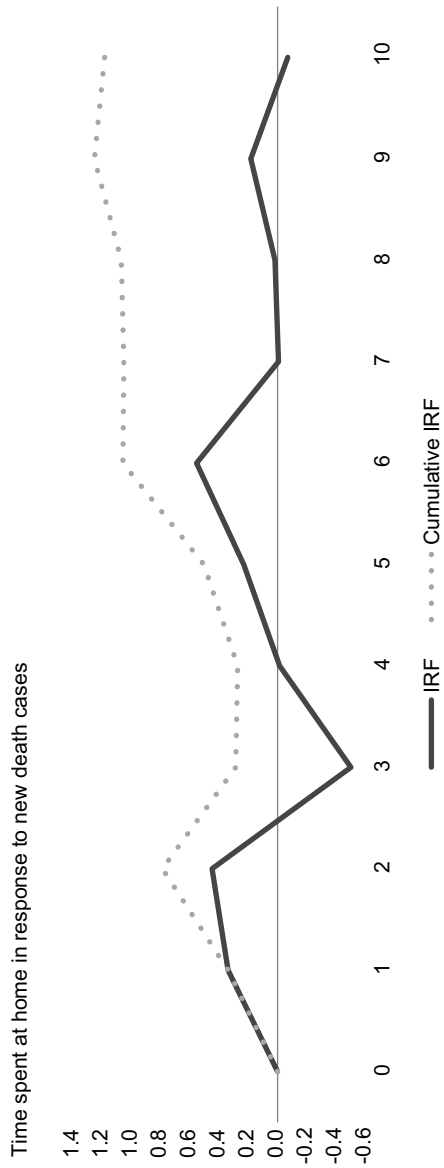
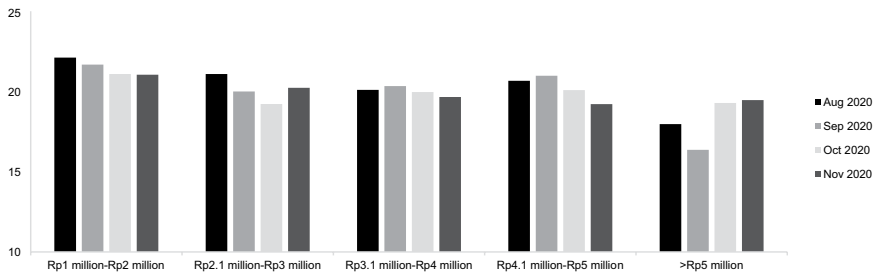


Figure 2.9 Impulse and Cumulative Response Functions Result for New Deaths and Time Spent at Home  
Abbreviation: IRF = impulse response function  
Source: Authors' calculation



*Figure 2.10* Savings to Income Ratio by Monthly Expenditure (%)

Source: Bank Indonesia (2021). *Consumer Expectation Survey*, [www.bi.go.id/id/publikasi/laporan/Documents/SK.zip](http://www.bi.go.id/id/publikasi/laporan/Documents/SK.zip) (accessed 8 April 2021)

could justify this phenomenon. The first potential driver is economic. Distancing measures may unfavourably affect the household economy. People can only stay at home for longer if they have a certain level of income to fulfil their necessities or have enough savings to cover all their costs in the absence of a stream of income. However, some people cannot endure the financial constraints over a long period. From Figure 2.10, we can see that Indonesians with monthly expenditures of Rp1 million–Rp2 million experienced ‘dissaving’<sup>5</sup> from August to November 2020. These periods are likely to be a turning point after the PSBB implementation in Q2 2020. A similar savings ratio trend was shown in other expenditure categories, except those with monthly expenditures higher than Rp5 million.

The dissaving trends presented in the figure highlight the obstacles some people face in staying at home. It is a privilege to stay at home for a longer period, as not everyone has the choice to do so. It is very likely that those who have the capacity to maintain their stream of income by working from home or have enough savings to cover their expenditures for a given period without the need to leave their house belong to the upper-middle-income population. This highlights the vital role of social assistance for vulnerable households. Without social assistance, self-isolation attempt, and government-imposed restrictions favour upper middle-income groups.

The second plausible explanation is that people may have to spend a shorter time at home if their office obliges them to do so. After the first economic reopening, some employees (within the stipulated limit) had to return to the workplace, but some parts of the buildings were closed and employees had to return home when infections occurred. Nevertheless, the areas were operational again in three to seven days. In the absence of cases in the building, new death numbers could scare some people into taking time off. However, in the case of leave, the number of days that workers are entitled to is also limited.

For people who have the option to stay at home for a longer period, psychological aspects could be the third potential explanation for people’s mobility

decisions. In some way, systematic errors or biases occur due to cognitive bias. The existence of these cognitive biases might then explain people's decision to stay at home temporarily.

The optimism bias, also known as 'unrealistic optimism' or 'the illusion of invulnerability', is an example of cognitive bias that leads people to overestimate the probability of favourable events happening in the future or mistakenly believe that one is less likely to experience unfavourable events than reality would suggest (Weinstein, 1980; Sharot, 2011). In this case, people will leave home sooner because they underestimate the probability of becoming infected. Another example of bias is the attribute effect or correspondence bias, where people believe that their neighbour is infected because of their ignorant character, while they are cautious.

In addition to the optimism and correspondence bias, loss aversion is potentially related as well. The bias of loss aversion is a concept that is closely associated with prospect theory (Kahneman and Tversky, 1979). The theory indicates that people are loss averse: psychologically, they value the pain of losing about twice as strongly as the joy of gaining. In our case, the probability of being adversely affected economically is more apparent than the probability of being infected with the virus: if I stay at home and do not work, I will definitely lose my income, but if I decide to leave home and work there is no certainty of being infected. Therefore, people choose to take a risk and leave home sooner, even if their decision may be at the expense of long-term benefits (Thaler et al., 1997).

Above all, human beings are social creatures in essence. They prefer to live in a community rather than alone, enjoy day-to-day interaction, and rely on cooperation to thrive. Distancing attempts may require a great deal of self-control and assistance.

#### **4. Navigating the economy in the time of the pandemic**

As mentioned earlier, we are starting to see signs of Indonesia's economic recovery. There are at least three patterns of this economic recovery.

First, in terms of economic growth, as mentioned earlier, the recovery has taken a swoosh shape. In the short term, this has been driven by household consumption. The speed of economic recovery is greatly influenced by the recovery of mobility. Figure 2.13 shows a negative correlation between mobility (proxied by data on people who stay at home) and some economic indicators. The more people who stay at home, the lower the economic indicators. As such, so long as health protocols are in place (because the pandemic is not over), the economy cannot operate at 100%. The implication is that without sufficient economies of scale, companies will be reluctant to add new investments due to the risk of loss. If investment is weak, in the short term, the source of economic growth will be from household consumption, which is supported by social assistance from the government, primarily in the form of cash transfers. Yet, in the medium term, the source of economic growth must shift to investment and trade. If all the countries in the world open themselves to investment and trade, economic growth will

rise. Imports for one country are exports for another. As such, open trade has a repercussion effect on economic growth.

Second, in terms of sectors and income groups, the economic recovery could be K-shaped, as popularised by Atwater (2020). This means that the recovery will not be uniform – some will rise to the top and some will fall to the bottom, as in the letter K. Sectors and people expected to recover quickly include technology, healthcare, and those with savings, while others are expected to collapse, such as small and medium-sized enterprises (SMEs) and marginal groups without savings.

Third, for the financial sector (capital and bond markets), the recovery may be V-shaped, with a rapid recovery. This is what we expect to see in 2021.

#### *4.1 Economic policy responses*

Indonesia has made real progress in reducing poverty: the extreme poverty rate of 70% in 1984 was successfully cut to 7% in 32 years (World Bank, 2019). Data from the World Bank (2019) suggest that at least 115 million Indonesians are no longer poor but have not yet reached the middle-income group. This ‘aspiring middle-income group’ matters for Indonesia, as their advancement will have profound economic and social impacts. If advancement is not feasible during the pandemic, at a minimum it is crucial to protect this section of the population. Indonesia cannot afford to push a significant number back into poverty. Providing social assistance that covers basic needs is one way to maintain economic growth and a certain level of prosperity. This highlights the crucial role of social assistance in maintaining consumption. Firstly, not everyone can stay at home. Providing social assistance for an extended period will support people during mobility restrictions, curbing the spread of COVID-19. If the pandemic is under control, people’s confidence will increase as well as consumption. Therefore, again, Indonesian economic recovery will be tied to its ability to address the pandemic’s health issues.

To mitigate the impacts of COVID-19 on the economy, the Indonesian government, Bank Indonesia, and the Financial Service Agency (OJK) have issued a series of policies. The first extraordinary move was supported by the Government Regulation in lieu of Law 1/2020 dated 31 March 2020 on the State Financial and the Financial System Stability Policies, which included a provision for the government budget (APBN) deficit to exceed the limit of 3% of GDP until 2022. Other extraordinary moves followed. For instance, in May 2020 the first policy package of Rp677 trillion (4.3% of GDP) was allocated and the number is increasing over time. The government’s fiscal stimulus has focused on three areas: (i) additional spending on healthcare, (ii) social assistance to vulnerable citizens, primarily through cash transfers, conditional cash transfers, and other social programmes, and (iii) support for businesses, particularly SMEs. To finance the budget deficit, the government of Indonesia and the Central Bank of Indonesia (*Bank Indonesia*) introduced the burden-sharing scheme.

We summarise the government’s responses to cope with the pandemic in Table 2.4.

*Table 2.4 Government's Extraordinary Policies on Health and Economic Recovery*

<i>A. Fiscal stimulus (Rp699.4 trillion) *</i>	
<i>Cluster</i>	<i>Policy</i>
Health	Rp176.3 trillion Diagnostic for testing and tracing, therapeutic treatment, vaccine programme, health tax incentive, and other health assistance
Social safety net	Rp157.4 trillion PKH, Program Sembako, social cash transfer, pre-employment programme, village fund cash transfer assistance, and other social safety net assistance
Priority programme	Rp125.1 trillion Labour-intensive institutions, food security, industrial estate, regional loans, ICT, tourism, and other priorities
SME and corporation support	Rp186.8 trillion SME interest subsidy; BPUM; IJP; PMN for SOEs, LPI, and Indonesian Export Financing Institution; fund placements; and other support
Business incentive	Rp53.9 trillion Income tax Article 21 borne by government, exemption of import income tax Article 22, deduction of income tax article 25 instalment, vehicle luxury tax borne by government, and other incentives
<i>B. Monetary and financial stimulus</i>	
<i>Institution</i>	<i>Policy</i>
Bank Indonesia	<ul style="list-style-type: none"> <li>– Reduction of the benchmark 7-day reverse repo rate to 3.5% as of February 2021 (this is the sixth rate cut since the pandemic started)</li> <li>– Bank Indonesia implements quantitative easing, with liquidity injections totalling around Rp750.4 trillion as of February 2021               <ul style="list-style-type: none"> <li>a. Quantitative easing January – December 2020 (Rp726.6 trillion)                   <ul style="list-style-type: none"> <li>✓ Purchase of SBN through the secondary market (Rp166.2 trillion)</li> <li>✓ Term repo and foreign currency swap (Rp289.6 trillion)</li> <li>✓ Exemption of additional giro for MIR (Rp15.8 trillion)</li> <li>✓ Reduction of the minimum statutory reserves (Rp155 trillion)</li> <li>✓ Other</li> </ul> </li> <li>b. Quantitative easing January – February 2021 (Rp23.8 trillion)</li> </ul> </li> <li>– Expanding the types of DNDF underlying transactions</li> <li>– Lowering Bank Indonesia SKNBI costs, supporting the distribution of non-cash transfer government programme</li> <li>– Relaxation related to credit cards: Interest rate decreased from 2.25% to 2.00%, minimum payment decreased from 10% to 5%, late fees decreased from 2% to 1%</li> </ul>

*(Continued)*

Table 2.4 (Continued)

*B. Monetary and financial stimulus*

<i>Institution</i>	<i>Policy</i>
Financial Services Authority	<ul style="list-style-type: none"> <li>– Relaxation on property loan-to-value ratio up to 100% and on motor vehicle down payments up to 0%</li> <li>– Burden sharing between Bank Indonesia and the Indonesian government (budget 2020):               <ol style="list-style-type: none"> <li>a. Public goods (Rp397.6 trillion)                   <ul style="list-style-type: none"> <li>✓ Private placement at Bank Indonesia</li> <li>✓ 7-day repo rate borne by Bank Indonesia</li> <li>✓ Bank Indonesia returns the interest/reward to the government in full</li> </ul> </li> <li>b. Non-public goods (Rp177.0 trillion)                   <ul style="list-style-type: none"> <li>✓ Tradable bonds on market rate</li> <li>✓ 7-day repo rate minus 1% borne by Bank Indonesia</li> <li>✓ Bank Indonesia acts as a standby buyer/last resort</li> </ul> </li> </ol> </li> <li>– Relaxation of the assessment of credit or financing quality based solely on the accuracy of principal and interest payments for loans of up to Rp10 billion</li> <li>– Credit restructuring without credit limits or types of debtors (MSMEs and non-MSMEs)</li> <li>– Elimination of compliance with the capital conservation buffer of 2.5% for risk-weighted assets until 31 March 2022 to provide capital space for the banking industry</li> <li>– Decreasing the minimum limit of the liquidity coverage ratio and net stable funding ratio to a minimum of 85% as of 31 March 2022, which aims to provide bank liquidity relaxation</li> <li>– Postponement of quality assessment of AYDA to be based on the latest quality until 31 March 2022 to increase capital capacity</li> </ul>

Note: \* By Ministry of Finance, as of February 2021

Abbreviations: AYDA = Agunan Yang Diambil Alih (Foreclosed Collateral); BPUM = Bantuan Produktif Usaha Mikro (Productive Assistance for Microenterprises); DNDF = Domestic Non-Deliverable Forward; ICT = Information and Communication Technology; IJP = Imbal Jasa Penjaminan (Subsidy for Loan Fee); LPI = Lembaga Pengelolaan Investasi (Investment Management Institute); MIR = Macprudential Intermediation Ratio; MSMEs = Micro, Small, and Medium-Sized Enterprises; PKH = Program Keluarga Harapan (Family Hope Program); PMN = Penyertaan Modal Negara (State Capital Injection); SBN = Surat Berharga Negara (State Securities); SKNBI = Sistem Kliring Nasional Bank Indonesia (National Clearing System); SMEs = Small and Medium-sized Enterprises; SOEs = State-Owned Enterprises

Source: Ministry of Finance (2021), *APBN KiTa: Kinerja dan Fakta*. Jakarta (Maret); Bank Indonesia (2021), 'Synergy Strengthening the National Economy Recovery', Press release, 18 February, Jakarta; and Financial Services Authority (2020), 'Peraturan Perpanjangan Kebijakan Stimulus Covid-19', 11 December. Jakarta

*4.2 Where do we begin?*

In terms of policy response, the important question to answer is what should be done to jump-start the economy? Specifically, is it more effective to focus on increasing production and the supply side through investment, or to focus on consumption?

Table 2.5 Causality Result Between Private Consumption and Investment

Short-run causality tests

Null hypothesis	Chi2
No causality running from consumption cases to investment	15.4**
No causality running from investment cases to consumption	10.7

Note: \*\*Significant at 5%.

Source: Author's calculation

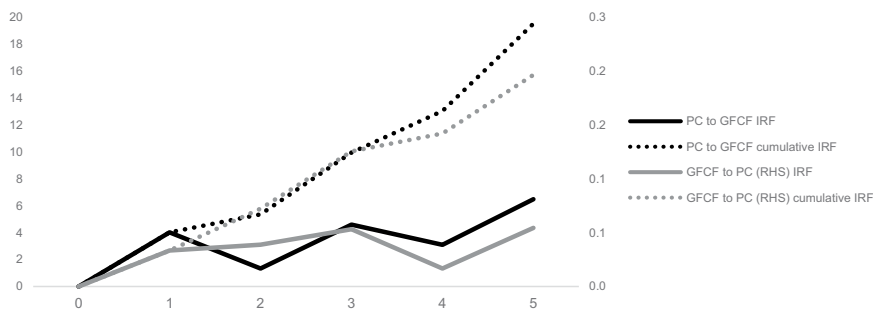


Figure 2.11 Impulse and Cumulative Impulse Response Function Result for a Shock in Private Consumption and Investment

Abbreviations: GFCF = gross fixed capital formation, IRF = impulse response function, PC = private consumption, RHS = right-hand side

Source: Authors' calculation

The Granger causality test offers some interesting insights. In the case of Indonesia, causality exists between consumption and investment – consumption influences investment, not vice versa.

Our estimation result using the VECM model confirms the relation. We conducted a causality test derived from the VECM estimation result (see Appendix). Table 2.5 presents the result. From the table, we find evidence of one-way causality between consumption and investment (at 5%): consumption significantly drives investment at 5%, and investment also significantly drives consumption, although only at 10%. To support the evidence, IRF analysis was performed as well. We estimated the likely response of consumption (investment) in the case of a shock to investment (consumption).

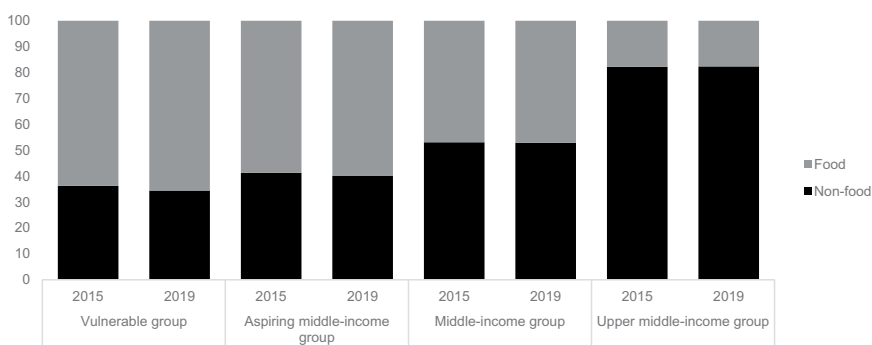
As we can see in Figure 2.11, the IRF result shows that both shocks to consumption and investment induce a positive trend in investment and consumption. The result of the IRFs confirms the evidence that, in the case of Indonesia, the magnitude of the investment response to a shock to consumption is much larger than the response of consumption to a shock to investment. These findings indicate that policy that comes from the supply side (e.g. monetary policy that cuts interest rates to stimulate investment) may not effectively increase consumption. The recovery of the Indonesian economy will rely heavily on consumption,

at least for the near term, so policy that ignites consumption will have a better outcome.

To stimulate the economy in the short term, consumption needs to be increased through fiscal policy increase consumption and use fiscal policy to do this. Therefore, in the short term, Indonesia needs to increase demand. If demand remains weak, companies will be reluctant to carry out production. The limitations of investment in the short term to stimulate short-term growth are reflected by weak demand for credit, even though interest rates have been lowered. This is also reflected in the high amount of undisbursed loans. As such, in the short term, monetary policy that focuses on lowering interest rates will not be as effective as fiscal policy.

This is why we must view the effectiveness of economic policies in sequence. Fiscal policy is the key to stimulating the economy. Only after demand increases as a result of this fiscal stimulus will companies respond by increasing production. This is when the demand for credit will rise. Of course, we realise that from the banking side, there are concerns about providing loans due to the increased risk of default. To overcome this, the government has rolled out a credit guarantee programme, in which the risk is borne by the bank and the government-financed credit insurance institution (Askrindo).

Nevertheless, the solution of consumption-driven growth is not without its challenges, especially during a pandemic. Figure 2.3 shows that the largest consumption expenditure comes from the middle- and upper middle-income groups. Figure 2.12 provides the allocation of consumption expenditure by income group.<sup>6</sup> On average, in 2019 the vulnerable group spent 66% on food and 34% on non-food goods, the aspiring middle-income group spent 60% on food and 40% on non-food goods, the middle-income group spent 47% on food and 53% on non-food goods, and the upper-middle-income group spent 18% on food and 82% on non-food goods. The higher a person's ability to consume, the higher the



*Figure 2.12 Average Monthly Per Capita Expenditure by Goods and Monthly per Capita Expenditure, 2015–2019 (%)*

Source: Authors' calculations based on Statistics Indonesia (2015 and 2019), *National Socio-Economic Survey 2015 and 2019 Raw Data*. Jakarta

allocation on non-food expenditure. These numbers reveal that the groups with the largest share of consumption spend more money on non-food items.

However, most of the non-food consumption is tertiary or non-essential. As described in Figure 2.4, during the pandemic, consumption in this category dropped quite severely. Non-essential consumption is likely associated with precautionary behaviour and government restrictions. People, especially the upper middle-income group, are still limiting consumption related to travel and leisure. In addition, PSBB has severely restricted entertainment activities. A survey by the Mandiri Institute (2020) showed that spending on hobbies and sports has increased dramatically during the pandemic. However, these new interests cannot substitute pre-pandemic leisure consumption. The upper middle-income group, which is economically secure and has little chance of being vulnerable to the pandemic, and which contributes to the largest share of consumption, has generally postponed consumption. Therefore, without addressing health issues, the economy will not fully recover.

As discussed earlier, our quantitative finding presented in Figure 2.13 shows a negative correlation between residential visits and the retail sales index, the consumer confidence index, the motor vehicle sales index, the purchasing manager index, the prompt manufacturing index, production capacity utilisation, labour usage, and business activity.<sup>7</sup> As inverse relationships appear, and people's mobility levels off, the economic condition is constrained and thus has consequences on economic recovery.

A lower level of demand causes difficulty for businesses to reach economies of scale and produce at the full level of capacity utilisation (economies of capacity). When economies of scale are not achieved, businesses produce at a higher cost. Based on this, it is likely that businesses are still able to cover production costs and remain open, but with a lower capacity to create (or even in the absence of) profit. Without profit, new investment is unlikely. Lower investment is also expected in the case of low capacity utilisation. When the existing production capacity is below its potential utilisation, business expansion is unlikely to happen. For example, health protocols that limit shopping mall and public transportation to 50% maximum occupancy and people's reluctance to go to a shopping centre or travel will not encourage developers and transport companies to build another shopping centre or buy another bus in the near future. In the short to medium term, higher investment is stimulated by a higher level of demand.

In terms of investment, as alluded to earlier, the continued limitations on mobility due to the pandemic have limited economies of scale. As long as the economy cannot fully operate, private investment will not increase sharply. This is because health protocols will be applied as long as the pandemic continues. To enforce physical distancing, restaurants, shopping centres, offices, and factories cannot operate at 100% capacity. As a result, it is hard to achieve economies of scale, which means that businesses cannot reach their break-even point, so they will operate at a loss. A study by Bank Mandiri (Unpublished) defined the break-even point as 67% for restaurants, 68%–75% for airlines, and 53% for the cement industry. The retail sector may be able to recover more quickly, as the break-even

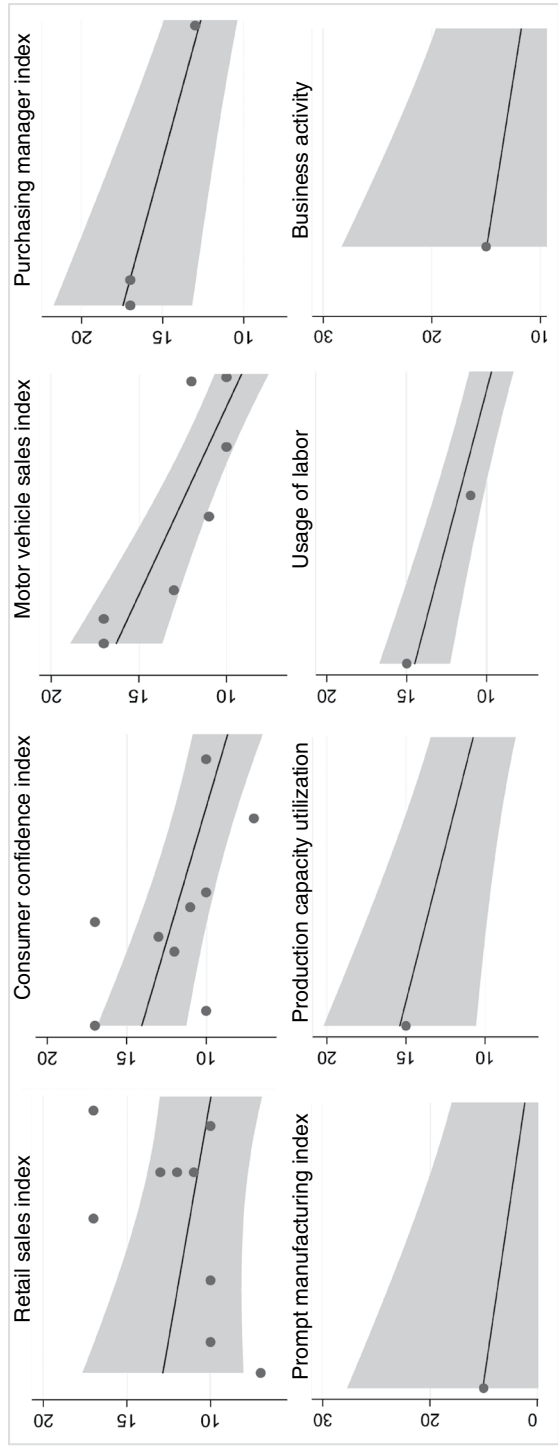


Figure 2.13 Correlation Between Residential Visits and Several Economic Indicators

Abbreviation: CI = Confidence Interval

Source: Authors' calculation

point is 32% for fast-moving consumer goods and 42% for non-fast-moving consumer goods. If the volume is low, why would you invest? This supports the important role of fiscal stimulus in the short term. However, the implication is that the budget deficit will rise.

### ***4.3 Financing the budget deficit***

An increase in the budget deficit requires financing. To cover this deficit, the government must employ a variety of financing combinations (Olivia et al., 2020). If the government only relies on domestic bonds, there is a risk of crowding out in the future. Currently, with the weakening of the economy, demand for credit has decreased. The upper middle-income group has reduced their consumption and increased their savings, resulting in a decrease in the loan to deposit ratio. As a result, liquidity is abundant, so there is room to finance the deficit through domestic bonds. While there is not currently a risk of crowding out, this could emerge as economic activity resumes. The government also cannot fully rely on external financing by foreign holders as, in addition to the relatively high costs, excessive dependency on external financing makes Indonesia vulnerable (Basri, 2017b). In an effort to close the deficit, Bank Indonesia introduced a burden-sharing programme through which Bank Indonesia buys government bonds on the primary market.

What about the risk of inflation? Nobel Laureate Milton Friedman argued that ‘inflation is always and everywhere a monetary phenomenon’ (Friedman and Schwartz, 1963). So why does financing the budget deficit through burden sharing by Bank Indonesia, which will increase the money supply, not cause inflation? Friedman’s argument is correct, assuming that the economy is not in a recession and people are spending money. Currently, people are saving money, not spending it. The government’s purchase of government bonds by Bank Indonesia increases the monetary base. This is then used for the government’s National Economic Recovery programme and similar efforts. This will increase the money supply and boost the economy. The parts of the proceeds that are not spent are deposited in banks. Since the economy is still weak, the needs of both individuals and companies are limited, so this money is saved rather than used. Because of this, third-party funds have actually increased. As a result, the cash surplus generated from the budget deficit is returned to the banking sector in the form of deposits. In these conditions, Bank Indonesia’s financing part of the budget deficit will not trigger inflation. Data show that base money or M0 growth has actually been negative since the fourth week of May 2020 due to negative net claims on the government. The reason: as of June 2020, the government had not spent much of its money. Net claims on the government started to return to positive when the government resumed spending in early July 2020, although M0 growth was still negative until the second week of December 2020. This suggests that we do not need to worry about inflation.

However, it is imperative that Bank Indonesia have an exit strategy prepared for when demand starts to recover. If it is not careful, inflation could emerge in

a few years. Bank Indonesia's burden-sharing programme is the right move when carried out over a defined and limited time frame. Further, when the majority of countries are 'printing money', this policy can be accepted by financial markets. However, the situation will be different when the economy starts to recover. At some point, Bank Indonesia must consolidate its balance sheet. Burden sharing can be used when demand is still weak, but only with a clear market rate and time frame. This scheme will not be appropriate if carried out continuously or after demand starts to recover. Thus, the fiscal stimulus cannot be carried out continuously as there are limitations to its financing. Given this context, it is crucial to discuss the exit strategy.

## 5. The way ahead: exit strategy

As discussed earlier, any economic recovery relies on the resumption of mobility. Thus, ending the pandemic is the key to economic recovery. This means that implementing health protocols and vaccinations is key. The problem is that vaccinations take time. Data from the Health Ministry show that from 13 January to 6 April 2021, 8,975,366 people received their first shot and 4,378,351 people received their second dose.<sup>8</sup> This gives a daily average of about 157,000. With the target of vaccinating 181.5 million people, Indonesia needs to be vaccinating about 1,000,000 people a day with both the first and second dose. As the vaccines in use in Indonesia all require two doses, this means that Indonesia needs to be vaccinating about 1 million people per day. Our current figures are far below this target. We need to see a significant acceleration to reach this goal. The longer it takes to complete the vaccination drive, the slower the economic recovery, particularly the recovery of private investment.

As discussed earlier, the government is only likely to reduce the fiscal stimulus if household consumption and private investment start to recover. Unfortunately, we are not certain that these will fully recover in 2021. This is because, as long as the pandemic is not resolved, consumption by the upper middle-income group – which accounts for the bulk of household spending – will not return. They spend heavily on entertainment, travel, and durable goods such as cars and houses. Spending on durable goods is cyclical. Meanwhile, entertainment and travel are at a standstill due to the pandemic. From the investment side, limited mobility resulting from the pandemic means limited economies of scale. As long as the economy cannot operate fully, private investment will not increase sharply. There is hope for exports, with improvements in prices for coal and palm oil. Yet, even this is limited. In this situation, the government's budget provides the mainstay.

If the pandemic can be controlled, there is hope that the fiscal stimulus can be reduced in 2022. The issue is that this cannot be done drastically. The government has to sit down with the legislature (DPR) from mid-2021 to hash out the 2022 Draft Budget (RAPBN). Law No. 2/2020 regulates that the budget deficit must return to the 3% cap in 2023. The government's 2021 macroeconomic framework and fiscal policy principles project tax revenue to range from 8.4% to 9.1% of GDP in 2023. Meanwhile, government debt to GDP is projected to

reach 36.5%–37.4%. This means that the burden of financing the debt will rise. Further, there are provisions for mandatory spending on, for example, education (20% of total spending) and regional transfers (about 30% of total spending). Thus, there is limited room for budget cuts. If tax revenue does not increase by 2023, to reach the 3% cap, the government will be forced to make cuts, including to productive spending and social aid. If this is done too drastically, it could lead to an economic contraction. If the private sector has not yet recovered, and government policy is pro-cyclical, economic recovery will slow. As a result, the debt to GDP ratio will rise due to weak GDP growth. Chan-Lau and Zhao (2020) demonstrated that financial markets will react negatively if a government withdraws its stimulus too quickly, as when the daily number of COVID-19 cases is high. Even when the pandemic is under control, it is prudent to anticipate that lingering trauma might impact the recovery process. Similarly, if the stimulus is withdrawn prematurely, this will have a negative impact on the lower middle-income group and SMEs.

We suggest that the government design its fiscal policy by examining developments in the situation, or data dependence. Reducing the budget deficit should be in line with economic conditions.

Limitations are inherent in any fiscal stimulus. A continued stimulus will endanger fiscal sustainability, increase the debt burden, and increase the risk of financial crisis. Bank Indonesia data show that the Tier 1 debt service ratio increased from 18.3% in 2014 to 30.1% at the end of 2020, while the Tier 2 debt service ratio rose from 33% in 2014 to 51% at the end of 2020. Going forward, Indonesia must look to investments and exports for growth. Foreign direct investment plays an important role in boosting investment in Indonesia. The Job Creation Law, 2020 is expected to stimulate investment. Further, efforts to boost tax revenue through administrative reforms are important (Basri et al., 2019). In addition, improving the quality of spending to productive sectors is crucial. It is vital that the government have clear priorities. Budget allocation should focus on pro-equity endeavours by prioritising digital infrastructure and literacy; investing in education and vocational training to upgrade and retrain our human resources; facilitating access to healthcare, particularly COVID-19 vaccines; and improving the social welfare system.

Indonesia must also anticipate the exit strategies of other countries, especially the US. As long as other countries are implementing quantitative easing, capital will flow to Indonesia and the exchange rate can be maintained. Eventually, though, the US will end its quantitative easing policy. This is a race against time. The government must get the pandemic under control before other countries recover and implement normalisation policies. If the pandemic is prolonged, the possibility of implementing government and Bank Indonesia policy will be extremely limited. Just look at what happened when the US Federal Reserve (the Fed) decided to end quantitative easing in 2013 by reducing the purchase of government bonds and financial assets. A panic known as the Taper Tantrum ensued, during which capital flowed back to the US. Emerging economies such as Indonesia, India, South Africa, Turkey, and Brazil were impacted. Indonesia and

India were able to weather this relatively well, through a combination of expenditure reducing policy (lowering the budget deficit by reducing fuel subsidies, and raising interest rates to reduce investment) and expenditure switching policy, by allowing the rupiah's exchange rate to follow the market. Indonesia took similar measures in 2018 when the Fed began to increase interest rates.

The Fed has stated that it will not taper or raise interest rates. However, there are concerns that this will increase the risk of inflation in the US if the US economic recovery occurs quickly. This is reflected in the increase in the Treasury yield at the beginning of 2021, which led to capital outflow from emerging markets. What is happening now is not a Taper Tantrum as in 2013, but rather a tantrum without tapering. Indonesia, and other emerging markets, must anticipate capital outflow – especially from bond markets – and pressure on the rupiah if the Fed normalises its monetary policy.

The situation is different now. Indonesia is in a new crisis and a new recovery process. The old playbooks from 2013 and 2018 will not work. Indonesia will need fiscal and monetary expansion when the economy starts to recover – not stabilisation. Ironically, without stabilisation, the financial markets, and especially the exchange rate, will be hit (Basri, 2017a). Thus, different macro management and macroprudential implementation are needed. The exit strategy design will greatly determine the economic recovery process. This is Indonesia's challenge. To face it, we need a good exit strategy.

## Notes

- 1 We followed World Bank (2019), which categorises the middle-income group as Indonesians with monthly per capita expenditure of Rp1,200,000–Rp5,999,999. For the other income groups, we map the vulnerable group as those living below and around the national poverty line (e.g. in 2019, the national poverty line was Rp440,538, so we define this group as those with per capita expenditure  $\leq$  Rp499,999). The aspiring middle-income group comprises those who are no longer living in poverty but who are not yet economically secure (monthly per capita expenditure of Rp500,000–Rp1,199,999). The upper middle-income group refers to those who are economically secure with little chance of falling into vulnerability ( $\geq$  Rp6,000,00).
- 2 Indonesia's national labour force survey is conducted twice a year: in February and August.
- 3 In July 2020, the task force was integrated with authorities from other ministries/agencies into the COVID-19 Handling and National Economic Recovery Committee (KPC-PEN) to overcome the disease and accelerate economic recovery.
- 4 See also Kahneman (2011) and Thaler (2016).
- 5 Condition where people use their savings for current expenses.
- 6 Non-food goods consist of consumption on housing and household facilities; various goods and services; clothing, footwear, and headgear; durable goods; taxes and insurance; and consumption for parties and ceremonies.
- 7 A negative correlation is also found when we break down the retail sales index by component (car and spare parts; food, drink, and tobacco; fuels; stationery and communications; household appliances; cultural and recreation; and apparel). See Appendix.
- 8 Indonesia's Task Force for COVID-19 (2021).

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# Appendix

## A. New cases and mobility decisions

*Table 2A.1* ADF Test for Unit Root at Optimal Lag Order

<i>Variable</i>	<i>ADF</i>	<i>5% Critical Value</i>
New cases	-3.98	-2.88
New death cases	-2.19	-2.88
Residential	-2.79	-2.88
Workplaces	-5.58	-2.88
Transit stations	-2.32	-2.88
Parks	-3.09	-2.88
Grocery store/pharmacy	-2.19	-2.88
Retail store/recreation spot	-1.94	-2.88

Abbreviation: ADF = Augmented Dickey Fuller

Note: Number of observations: 341

Source: Authors' calculation

### New cases and visits to places

*Table 2A.2* Johansen Tests for Cointegration

<i>Maximum rank</i>	<i>Trace statistic</i>	<i>5% critical value</i>
0	133.12	124.24
1	94.49	94.15
2	66.23*	68.52
3	42.23	47.21
4	21.45	29.68
5	10.31	15.41
6	2.37	3.76

Note: \* Number of cointegration

Source: Authors' calculation

*Table 2A.3* Short-Run Causality from Vector Error Correction Model

<i>Dependent</i>	<i>Explanatory</i>	<i>Chi2</i>	<i>Prob &gt; Chi2</i>
D.newcases	LD.residential.All lags	4.40	0.73
D.residential	LD.newcases.All lags	1.76	0.97
D.newcases	LD.workplaces.All lags	9.78	0.20
D.workplaces	LD.newcases.All lags	3.82	0.80
D.newcases	LD.transitstations.All lags	12.29	0.09
D.transitstations	LD.newcases.All lags	12.46	0.08
D.newcases	LD.parks.All lags	10.12	0.18
D.parks	LD.newcases.All lags	3.28	0.86
D.newcases	LD.grocerypharmacy.All lags	19.44	0.01
D.grocerypharmacy	LD.newcases.All lags	11.14	0.13
D.newcases	LD.retailrecreation.All lags	14.15	0.04
D.retailrecreation	LD.newcases.All lags	12.96	0.07

Source: Authors' calculation

**New death cases and visits to places***Table 2A.4* Johansen Tests for Cointegration

<i>Maximum rank</i>	<i>Trace statistic</i>	<i>5% critical value</i>
0	148.05	124.24
1	99.45	94.15
2	62.87*	68.52
3	36.85	47.21
4	14.95	29.68
5	6.34	15.41
6	1.63	3.76

Note: \* Number of cointegration

Source: Authors' calculation

*Table 2A.5* Short-Run Causality from Vector Error Correction Model

<i>Dependent</i>	<i>Explanatory</i>	<i>Chi2</i>	<i>Prob &gt; Chi2</i>
D.newdeathcases	LD.residential.All lags	13.41	0.04
D.residential	LD.newdeathcases.All lags	11.03	0.09
D.newdeathcases	LD.workplaces.All lags	7.78	0.26
D.workplaces	LD.newdeathcases.All lags	7.52	0.27
D.newdeathcases	LD.transitstations.All lags	6.09	0.41
D.transitstations	LD.newdeathcases.All lags	6.66	0.35
D.newdeathcases	LD.parks.All lags	5.80	0.45
D.parks	LD.newdeathcases.All lags	7.58	0.27
D.newdeathcases	LD.grocerypharmacy.All lags	5.86	0.44
D.grocerypharmacy	LD.newdeathcases.All lags	7.56	0.27
D.newdeathcases	LD.retailrecreation.All lags	2.80	0.83
D.retailrecreation	LD.newdeathcases.All lags	6.78	0.34

Source: Authors' calculation

## B. Correlation between time spent at home and several economic indicators

Table 2A.6 Correlation Value Between Residential and Several Economic Indicators

<i>Indicator</i>	<i>Correlation</i>	<i>Indicator</i>	<i>Correlation</i>
RSI	-0.43	Consumer confidence index	-0.80
RSI: Car spare parts	-0.85	Motor vehicle sales index	-0.89
RSI: Food drinks tobacco	-0.21	Purchasing manager index	-0.81
RSI: Fuels	-0.89	Prompt manufacturing index	-0.82
RSI: Stationery	-0.15	Business activity	-0.79
RSI: Household app	-0.47	Prod. capacity utilisation	-0.97
RSI: Cultural recreation	-0.81	Usage of labour	-0.99
RSI: Apparel	-0.88	Selling price	-0.97

Abbreviation: RSI = retail sales index

Source: Authors' calculation

## C. Private consumption and investment

Table 2A.7 ADF Test for Unit Root at Optimal Lag Order

<i>Variable</i>	<i>ADF</i>	<i>5% critical value</i>
Private consumption	-0.56	-2.98
Gross fixed capital formation	-0.84	-2.98

Abbreviation: ADF = Augmented Dickey Fuller

Note: Number of observations: 31

Source: Authors' calculation

Table 2A.8 Johansen Tests for Cointegration at Optimal Lag Order

<i>Maximum rank</i>	<i>Trace statistic</i>	<i>5% critical value</i>
0	21.19	15.41
1	2.04*	3.76

Note: \* Number of cointegration

Source: Authors' calculation

Table 2A.9 Short-Run Causality from Vector Error Correction Model

<i>Dependent</i>	<i>Explanatory</i>	<i>Chi2</i>	<i>Prob &gt; Chi2</i>
D.lnpc	LD.lngfcf.All lags	10.66	0.09
D.lngfcf	LD.lnpc.All lags	15.37	0.02

Source: Authors' calculation

# 3 Impacts of COVID-19 on Indonesia's Trade

*Lili Yan Ing and Yessi Vadila*

## 1. Introduction

The unprecedented shock caused by COVID-19 has significantly affected global trade. The global merchandise trade volume recorded its sharpest ever decline – 14.3% (QoQ) in the second quarter (Q2) of 2020, resulting in an annual contraction of 9.2% in 2020. The magnitude of the decline in trade differed across regions. In 2020, North America and Europe experienced the largest drop in merchandise export volume, with an annual percentage change of –14.7% and –11.7%, respectively. The largest decline in import volume was reported in South and Central America and Europe, with a contraction of 13.5% and 10.3%, respectively. Asia recorded the lowest decline in trade, as the export volume declined by 4.5% and the import volume fell by 4.4% (WTO, 2020).

Indonesia – the largest economy in Southeast Asia – also experienced a sharp decline in trade. In 2020, the volume of Indonesia's exports and imports dropped by 11.3% and 6.6% year on year (YoY) respectively (Statistics Indonesia, 2021a). In terms of value, Indonesia's total exports dropped by 2.6% from \$167.7 billion in 2019 to \$163.3 billion in 2020. The value of total imports decreased more than exports, with an annual decline of 17.3% from \$171.3 billion to \$141.6 billion. So, even though Indonesia recorded a trade surplus of \$21.7 billion in 2020, it was mainly driven by a larger decline in imports compared with that of exports. One important note is that even before the pandemic (since early 2018), Indonesia's exports declined at higher rates than its imports. The pandemic has magnified the issues.

In this chapter, we empirically examine how COVID-19 affects Indonesia's trade. Section 2 reviews the impacts of the COVID-19 pandemic on world trade. Section 3 presents Indonesia's current trade. Section 4 presents empirical analyses on how COVID-19 affects Indonesia's exports and imports. Section 5 concludes.

## 2. Impacts of COVID-19 on World Trade

COVID-19 has hit both the demand and supply sides of world trade. On the demand side, limited movement of people has significantly reduced demand in most sectors that eventually decreased world demand. On the supply side,

COVID-19 has pushed producers to reduce their scale of production with supply chains interrupted – reducing overall production. Exports have decreased mainly in industries where remote work or industry operation is less feasible. The world economy has even worsened due to the multiplier and prolonged effects of the pandemic.

COVID-19 is estimated to lower the world economy by \$5.8 trillion (6.4% of global gross domestic product (GDP)) under a three-month containment scenario and \$8.8 trillion (9.7% of global GDP) under a six-month containment scenario (Park et al., 2020). At the global level, United States (US) exports are expected to decline by almost \$85 billion – with services exports the most impacted. China is largely affected by declines in exports of manufactured goods, and Thailand is negatively affected by both declines in exports of manufactured goods and services (Maliszewska et al., 2020). The pandemic is predicted to affect trade relations and globalisation, providing advantages for some countries and disadvantages for others (Barua, 2020). By investigating 186 countries empirically in Q1 2020, using a gravity approach, Hayakawa and Mukunoki (2020) assesses that COVID-19 has significant negative effects on trade for exporting countries but not for importing countries. They also find that the negative impacts of COVID-19 are seen in exports from developing countries, but not from developed countries. Using Canadian data, Barichello (2020) observes that international demand for agricultural trade will continue due to availability and price, while livestock, pulses, and horticulture will likely face a larger trade decline due to the large loss of purchasing power in many importer countries.

### **3. Indonesia's Exports and Imports During the Time of COVID-19**

In 2020, the volume of total Indonesia's exports and imports (combined) decreased by 10.4% from 816 million tons in 2019 to 732 million tons in 2020. The total values of Indonesia's exports and imports fell by 10.1% from \$339 billion to \$305 billion over the same period.

Table 3.1 shows that in 2020, in terms of volume, exports of oil and gas increased by 4.8%, while non-oil and gas exports dropped by 12% compared with 2019. The volume of non-oil and gas imports fell by 6.1% to 37.7 million tons, while that of oil and gas imports dropped by 8% to 114.23 million tons. In terms of value, Indonesia's total exports decreased from \$167.7 billion in 2019 to \$163.3 billion in 2020 – a 2.6% drop. As the average prices of oil and gas declined sharply, the value of oil and gas exports fell by almost 30% while that of non-oil and gas exports dropped by 0.6%. The volume of Indonesia's oil and gas imports fell by almost 8% and that of non-oil and gas imports declined by 6%. In terms of value, they dropped by even higher rates – around 35% for oil and gas imports and 15% for non-oil and gas imports.

Figure 3.1a shows that Indonesia's exports fell more than usual in April 2020. Contrary to the previous 2 years when exports usually picked up in May, exports worsened in May 2020. At the same time, imports have also been plummeting,

Table 3.1 Indonesia's Exports and Imports, 2019–2020

<i>Exports</i>				<i>Imports</i>			
<i>Volume of Indonesia's exports (million tons)</i>				<i>Volume of Indonesia's imports (million tons)</i>			
	2019	2020	Change (%)		2019	2020	Change (%)
Oil and gas	26.53	27.79	4.76	Oil and gas	40.93	37.65	-7.99
Non-oil and gas	627.95	552.68	-11.99	Non-oil and gas	121.70	114.23	-6.14
<b>Total</b>	<b>654.48</b>	<b>580.47</b>	<b>-11.30</b>	<b>Total</b>	<b>162.63</b>	<b>151.88</b>	<b>-6.61</b>
<i>Value of Indonesia's exports (\$ billion)</i>				<i>Value of Indonesia's imports (\$ billion)</i>			
	2019	2020	Change (%)		2019	2020	Change (%)
Oil and gas	11.79	8.31	-29.52	Oil and gas	21.88	14.26	-34.85
Non-oil and gas	155.89	155.00	-0.57	Non-oil and gas	149.39	127.31	-14.78
<b>Total</b>	<b>167.68</b>	<b>163.31</b>	<b>-2.60</b>	<b>Total</b>	<b>171.27</b>	<b>141.57</b>	<b>-17.34</b>

Source: Statistics Indonesia (2021b)

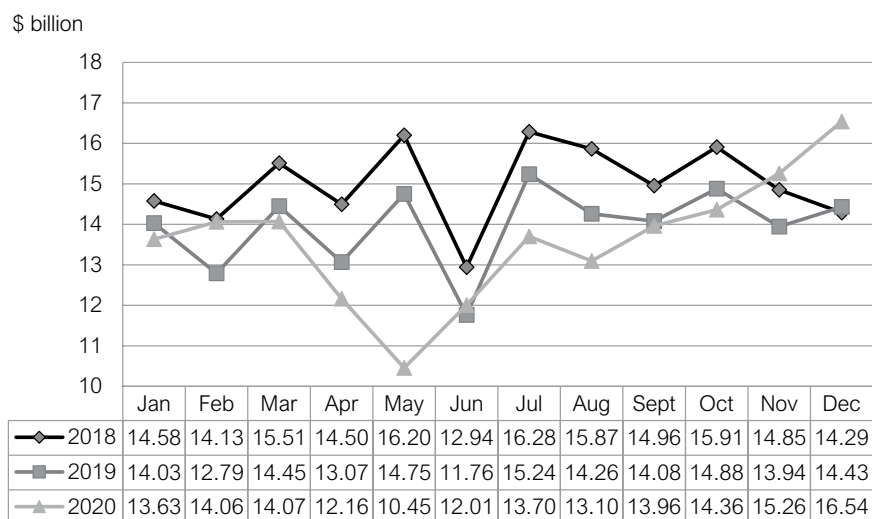


Figure 3.1a Value of Indonesia's Exports, Monthly, 2018–2020 (\$ billion)

Source: Statistics Indonesia (2021b) (accessed 15 February 2021)

as illustrated in Figure 3.1b. Indonesia's imports fell to \$8.4 billion in May 2020, mainly driven by decreases in imports of machinery and intermediate goods. Indonesia's imports were dominated by intermediate goods (72.9%) in 2020, followed by capital goods (16.7%) and consumption goods (10.4%). The share of intermediate goods was lower in 2020 than in 2019, while the share of capital

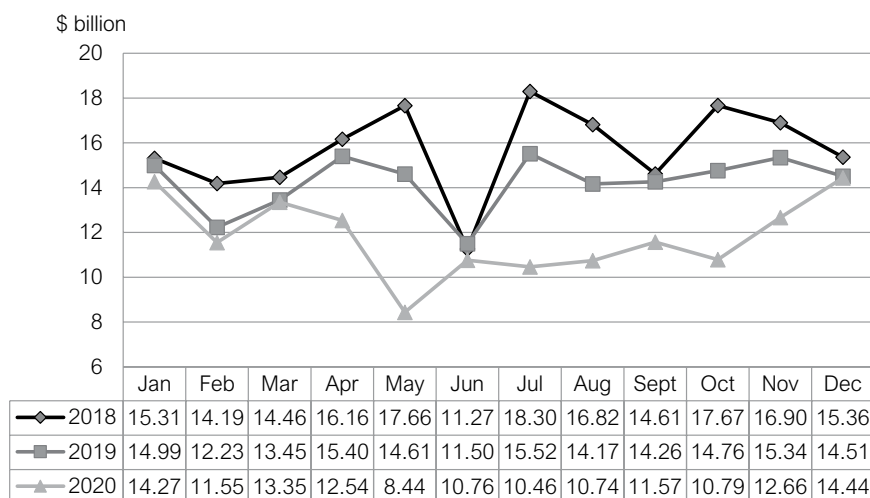


Figure 3.1b Value of Indonesia's Imports, Monthly, 2018–2020 (\$ billion)

Source: Statistics Indonesia (2021b) (accessed 15 February 2021)

Table 3.2a Indonesia's Top Five Export Destinations

Country	Value (\$ billion)			Share (%)		
	2019	2020	Change (%)	2019	2020	Change
China	27.96	31.78	13.64	16.68	19.46	2.78
United States	17.84	18.62	4.35	10.64	11.40	0.76
Japan	16.00	13.66	-14.62	9.54	8.37	-1.18
Singapore	12.92	10.71	-17.07	7.70	6.56	-1.14
India	11.82	10.41	-11.92	7.05	6.38	-0.67

Table 3.2b Indonesia's Top Five Import Origins

Country	Value (\$ billion)			Share (%)		
	2019	2020	Change (%)	2019	2020	Change
China	44.93	39.63	-11.80	26.23	28.00	6.72
Singapore	17.59	12.34	-29.85	10.27	8.72	-15.12
Japan	15.66	10.67	-31.86	9.14	7.54	-17.56
United States	9.26	8.58	-7.34	5.41	6.06	12.08
Malaysia	7.77	6.93	-10.81	4.54	4.90	7.88

Source: Statistics Indonesia (2021a) (accessed 28 April 2021)

and consumption goods rose. All components of import goods experienced negative growth in 2020, with the highest drop in the import value of intermediate goods (18.3%).

Tables 3.2a and 3.2b present export destinations and import origins. Table 3.2a records that China, the US, Japan, India, and Singapore have remained Indonesia's top five export destinations in 2020. The value of Indonesia's total exports to China grew by 13.6% and the share of exports to China to total exports increased to 19.4% in 2020. Similarly, the value of Indonesia's exports to the US grew by 4.4%, to 11.4%. However, Indonesia's exports to Japan, India, and Singapore fell by 14%, 17%, and 11%, respectively. Table 3.2b shows that Indonesia's main import origins in 2020 were China (28%), Singapore (8.7%), Japan (7.5%), the US (6.1%), and Malaysia (4.9%). However, the value of imports from each of these countries dropped in 2020. Imports from Japan experienced the largest drop (31.9%), followed by Singapore (30%), China (12%), Malaysia (11%), and the US (7%).

## 4. Impacts of COVID-19 on Indonesia's Trade: Product-Level Analysis

### 4.1 Estimation Strategy

To examine the effects of the COVID-19 pandemic on Indonesia's exports and imports, we will proceed with the following estimation strategy. First, we define the following model:

$$X_{i,t} = \alpha + \beta COVID_t + Z_{i,t} \gamma + M_{0,t} \theta + \lambda_{k,y} + \varepsilon_{i,t} \quad (1)$$

Exports and Imports are represented by  $X$  and  $M$ . Exports (imports) are measured both in terms of value and volume.  $Z$  is a set of time-variant sector characteristics, i.e. the GDP of Indonesia, the population of Indonesia, the average GDP of Indonesia's top ten trading partners, the average population of Indonesia's top ten trading partners, the average COVID-19 and health related indicators of Indonesia's top ten trading partners, the tariff rates and prevalence score of Non-Tariff Measures (NTMs) of Indonesia (for Indonesia's imports) and the average tariff rates and prevalence score of NTMs of Indonesia's top ten trading partners (for Indonesia's exports), the value of Indonesia's foreign direct investment (FDI) inflows, and business activity realisation by sector.  $COVID$  is a dummy variable: 1 for March to December 2020, and 0 otherwise. The coefficient of interest,  $\beta$ , captures the average differences in exports (imports) before and during the COVID-19 pandemic.  $i$  stands for products at the Harmonized System (HS) six-digit level and  $t$  stands for time, monthly,  $k$  stands for sectors at the HS two-digit level,  $i \in k$ .  $y$  stands for year and  $\varepsilon$  is an error term. The estimation results from running Equation 1 will show how COVID-19 affects trade.

To deal with potential confounders, such as any policies related to the initial sectoral structure differences, we incorporate a vector of initial conditions ( $X_0$  and  $M_0$ ) and the average of 6 months of exports (imports) before the period of analysis. We also include interactive two-digit sector-year fixed effects,  $\lambda$ , to control for shocks over time that affect trade across all sectors in major sectoral groups.

We also carefully anticipate that there may be an argument that the results can be misleading (overestimation of the impacts of COVID-19 on Indonesia's trade), as other factors could be driving the changes in trade. Thus, we conducted robustness checks to assess whether and to what extent changes in Indonesia's exports and imports are only affected by COVID-19, compared with what would have been expected in the absence of the pandemic. For that purpose, we incorporated a control group to help filter out any other effects. Such a control group would have to remain unaffected by the treatment. As COVID-19 is a global crisis that affects almost all aspects of life, including trade, identifying sectors suitable as a control group would not be a good solution. Therefore, following Metcalfe et al. (2011), Powdthavee et al. (2019), and Vandoros (2020), we use trends of the same variable, in earlier months, as a control group.

We use a difference-in-differences (DID) econometric approach to compare trends in trade figures during COVID-19 with the control group. The DID approach addresses the unobserved confounders problem and fixed omitted variables by exploiting the time or cohort dimension (Angrist and Pischke, 2009). Using this approach, we create a counterfactual trend of treated and controlled products (HS six-digit level). This approach assumes that the trends of behaviour of control and treatment group are similar or parallel before COVID-19, so we check whether the common trend assumption is convened (results reported in section 5).<sup>1</sup> We use the monthly trade volume and value in the previous three years as a control group. Likewise, we use the monthly volume and value of trade in the first two months in previous years as a control group for the non-COVID-19 trade impact in the first two months of 2020. The *treatment* period starts in month three of the year, when the first COVID-19 case was registered in Indonesia (KPC-PEN, 2020).

We apply the DID method approach by estimating the following equation:

$$\begin{aligned} X_{i,t} &= \alpha_0 + \alpha_1 D_{post} + \alpha_2 D_{tr} + \alpha_3 D_{post} D_{tr} + \alpha_4 Z_{it} + \epsilon_{i,t} \\ M_{i,t} &= \beta_0 + \beta_1 D_{post} + \beta_2 D_{tr} + \beta_3 D_{post} D_{tr} + \beta_4 Z_{it} + \epsilon_{i,t} \end{aligned} \quad (2)$$

The DID model includes a treatment group dummy variable: 1 for the group that is affected by the intervention, and 0 otherwise. In this case, observations in March to December 2020 take the value of 1, and observations in previous months take the value of 0. Another dummy that is included is the *post* variable, which takes the value of 1 in the period after an intervention (i.e. from March each

year, for both groups, 2020 and other years), and 0 otherwise. The interaction of these two dummy variables (*treatment\*post*) is the main variable of interest.

## 4.2 Data

The main data set for our analysis consist of monthly data of the volume of exports (imports) and the value of exports (imports) from January 2017 to December 2020. We use exports and imports by product at the HS six-digit level. The data are from the CEIC Indonesia Premium Database, (CEIC, 2021).

The first COVID-19 case in Indonesia was registered on 2 March 2020, while the first death occurred on 11 March 2020 (COVID-19 National Task Force, 2020). Therefore, we consider the period from March to December 2020 as the COVID-19 period. We set a dummy for COVID-19 that equals 1 during this period, and 0 otherwise. COVID-19 health related indicators include main measures such as the total number of tests per case of COVID-19 and the infection rate ( $R_0$ ). The basic reproduction number ( $R_0$ ) is a well-known epidemiological concept to measure the spread of an infectious disease. It is defined as the average number of secondary cases that one primary case will generate in a population, where nobody is either immune or vaccinated (Heesterbeek, 2002). Health indicators are extensively available on daily basis, so we aggregate them onto a monthly level. We also incorporate a variable that defines changes from the baseline in the workplace activities of Indonesia's top ten trading partners.

For control variables, we include key economic and COVID-19 related health indicators for Indonesia and its top ten trading partners. Trading partners' indicators are proxied by the average value of Indonesia's top ten trading partners. The economic indicators include GDP, FDI flows, average applied tariff rates by product at the HS six-digit level based on HS classification in 2017, the prevalence score of NTMs,<sup>2</sup> and the World Bank's Logistics Performance Index. We also include key sectoral activity measures for Indonesia, such as business activity by sector and production capacity utilisation by sector provided by the Central Bank of Indonesia (*Bank Indonesia*). Variables, variable definitions, unit descriptions, and data sources are shown in Table 3.3.

## 4.3 Empirical Results

Tables 3.4 and 3.5 show our estimation results of model (1) in examining the impacts of COVID-19 on Indonesia's exports, both in terms of volume and value (HS six-digit level), from January 2017 to December 2020. They show that COVID-19 negatively affects Indonesia's exports, both in volume and value, and the correlations hold with different specifications, by alternating or adding more control variables in our model.

COVID-19 is associated with a decrease of 4.6% in Indonesia's exports in terms of volume and 5.6% in terms of value.<sup>3</sup> Indonesia's GDP and the weighted

Table 3.3 Summary of Variables

No	Description	Year	Frequency	Unit	Original Source
1	Value of exports by HS 6 code	2017–2020	Monthly	\$ million	BPS/CEIC
2	Volume of exports by HS 6 code	2017–2020	Monthly	kg million	BPS/CEIC
3	Value of imports by HS 6 code	2017–2020	Monthly	\$ million	BPS/CEIC
4	Volume of imports by HS 6 code	2017–2020	Monthly	kg million	BPS/CEIC
5	Weighted average of population of top trading partners	2017–2020	Monthly	persons	United Nations
6	Indonesian population	2017–2020	Annually	persons	BPS/CEIC
7	Nominal GDP of Indonesia	2017–2020	Quarterly	\$ billion	BPS/CEIC
8	Ln of nominal GDP of Indonesia	2017–2020	Monthly		BPS/CEIC
9	Weighted average of nominal GDP of Indonesia's top trading partners	2017–2020	Quarterly	\$ billion	Economist Intelligence Unit
10	Ln of weighted average of nominal GDP of top trading partners (\$)	2017–2020	Quarterly		Economist Intelligence Unit
11	Initial conditions: Jul – Dec 2016 average of Indonesia's value of exports	2016	Monthly	\$ million	BPS
12	Initial conditions: Jul – Dec 2016 average of Indonesia's volume of exports	2016	Monthly	kg million	BPS
13	Initial conditions: Jul – Dec 2016 average of Indonesia's value of imports	2016	Monthly	\$ million	BPS
14	Initial conditions: Jul – Dec 2016 average of Indonesia's volume of imports	2016	Monthly	kg million	BPS
15	Simple average applied most favoured nation tariff rates of Indonesia's top 10 trading partners	2017–2020	Annually		UNCTAD TRAIN (WITS)
16	Simple average applied most favoured nation tariff rates of Indonesia	2017–2020	Annually	%	UNCTAD TRAINS (WITS)
17	NTM prevalence score of Indonesia (imposed by Indonesia)	2017–2020	Annually		Authors' calculations based on ERIA – UNCTAD NTMS database

(Continued)

Table 3.3 (Continued)

No	Description	Year	Frequency	Unit	Original Source
18	Business activity realisation of Indonesia, by sector	2017–2020	Annually	%	Bank Indonesia/CEIC
19	Production capacity utilisation of Indonesia, by sector	2017–2020	Annually	%	Bank Indonesia/CEIC
20	FDI inflow by sector	2017–2020	Quarterly	\$ million	BKPM (CEIC)
21	Number of tests per case of top trading partners	Jan 2020 – Feb 2021	Daily	ratio	Our World in Data/Johns Hopkins University
22	Reproduction rate of top trading partners	Dec 2019 – Nov 2020	Daily	ratio	Our World in Data/Johns Hopkins University
23	Change from baseline in workplace activities of top trading partners	Feb 2020 – Feb 2021	Daily	%	Google Mobility Index

Abbreviations: BKPM = *Badan Koordinasi Penanaman Modal* (Indonesian Investment Coordinating Board), BPS = *Badan Pusat Statistik* (Statistics Indonesia), FDI = foreign direct investment, GDP = gross domestic product, HS = Harmonized System, Ln = logarithm, NTM = non-tariff measure, ERIA = Economic Research Institute for ASEAN and East Asia, UNCTAD TRAINS = United Nations Conference on Trade and Development Trade Analysis and Information System, WITS = World Integrated Trade Solution

Source: Authors' compilations

Table 3.4 Impacts of COVID-19 on Indonesia's Export Volume

<i>DV: Ln volume of Indonesia's exports</i>	(1)	(2)	(3)	(4)
	<i>Fixed effect</i>			
COVID-19	-0.0451* (0.0224)	-0.0456* (0.0226)	-0.0461* (0.0226)	-0.0456* (0.0226)
Ln of Indonesian nominal GDP	1.086*** (0.136)	1.119*** (0.137)	1.006*** (0.139)	1.118*** (0.137)
Ln of nominal GDP of top 10 trading partners	0.951*** (0.175)	0.973*** (0.178)	0.973*** (0.178)	0.973*** (0.178)
Ln Indonesian population	-0.31 (39.02)	3.752 (39.27)	3.681 (39.26)	3.66 (39.27)
Ln of top trading partners population	-0.00332 (0.0266)	-0.0081 (0.0271)	-0.00823 (0.0271)	-0.00809 (0.0271)
Ln of six-month initial conditions (export volume)				
Applied MFN tariff rates		-0.0697 (0.0663)	-0.0694 (0.0663)	-0.0697 (0.0663)
Business activity realization of Indonesia, by sector			0.0369*** (0.0076)	
Ln of foreign investment realisation into Indonesia, by sector				-0.00393 (0.00788)
Constant	-50.27 (757.3)	-130.2 (762.1)	-124.7 (762)	-128.3 (762.1)
Sector-year interaction	Yes	Yes	Yes	Yes
Observations	141,477	138,934	138,934	138,934

Abbreviations: COVID-19 = coronavirus disease, DV = dependent variable, GDP = gross domestic product, Ln = logarithm, MFN = most favoured nation

Note: Standard errors in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: Authors' estimations

average of nominal GDP of Indonesia's top ten trading partners are positively correlated with export volume (1.1% and 0.9% in Table 3.4) and export value (1.2% and 0.8% in Table 3.5). This is in line with the gravity model framework, which emphasises the role of economic size from trading countries. Higher income in the exporting country indicates the availability of goods for exports. Larger economies of Indonesia's trading partners

Table 3.5 Impacts of COVID-19 on Indonesia's Export Value

<i>DV: Ln value of Indonesia's exports</i>	(1)	(2)	(3)	(4)
	<i>Fixed effect</i>			
COVID-19	-0.0558* (0.0219)	-0.0549* (0.022)	-0.0552* (0.022)	-0.0549* (0.022)
Ln of Indonesian nominal GDP	1.174*** (0.133)	1.201*** (0.134)	1.142*** (0.136)	1.201*** (0.134)
Ln of nominal GDP of top ten trading partners	0.789*** (0.171)	0.812*** (0.173)	0.812*** (0.173)	0.812*** (0.173)
Ln Indonesian population	23 (38.29)	24.92 (38.52)	24.88 (38.52)	24.93 (38.52)
Ln of top trading partners population	0.0158 (0.0259)	0.0135 (0.0264)	0.0135 (0.0264)	0.0135 (0.0264)
Ln of six-month initial conditions (export value)				
Applied MFN tariff rates		-0.0286 (0.0648)	-0.0284 (0.0648)	-0.0286 (0.0648)
Business activity realization of Indonesia, by sector			0.0194** (0.00742)	
Ln of foreign investment realisation into Indonesia, by sector				0.000381 (0.00769)
Constant	-499.8 (743.1)	-538.5 (747.6)	-535.6 (747.6)	-538.7 (747.6)
Sector-year interaction	Yes	Yes	Yes	Yes
Observations	141,668	139,123	139,123	139,123

Abbreviations: COVID-19 = coronavirus disease, DV = dependent variable, GDP = gross domestic product, Ln = logarithm, MFN = most favoured nation

Note: Standard errors in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: Authors' estimations

(generally translated into higher demand) are associated with Indonesia's increased exports. Meanwhile, other control variables are not statistically significant.

Tables 3.6 and 3.7 show that the COVID-19 pandemic is associated with reductions in Indonesia's import volume and value – a decrease of 7.3% in import volume and 11.6% in import value. The estimates of other covariates in general show the same pattern with export volume and value.

To ensure that COVID-19 rigorously affects exports and imports, we also exercise alternatives of specifications of COVID-19. We replace the dummy

Table 3.6 Impacts of COVID-19 on Indonesia's Import Volume

DV: Ln volume of Indonesia's imports	(1)	(2)	(3)	(4)
	<i>Fixed effect</i>			
COVID-19	-0.0737*** (0.0162)	-0.0739*** (0.0162)	-0.0749*** (0.0162)	-0.0738*** (0.0162)
Ln of Indonesian nominal GDP	2.077*** (0.0983)	2.064*** (0.0984)	1.989*** (0.1)	2.067*** (0.0984)
Ln of nominal GDP of top trading partners	1.189*** (0.146)	1.213*** (0.148)	1.213*** (0.148)	1.213*** (0.148)
Ln Indonesian population	-0.401 (27.34)	-0.345 (27.33)	-0.327 (27.33)	-0.171 (27.33)
Ln of top trading partners population	-0.000742 (0.0228)	-0.000634 (0.0228)	-0.000517 (0.0228)	-0.000627 (0.0228)
Ln six-month initial conditions (import volume)				
Applied MFN tariff rates		-0.00101 (0.0011)	-0.00102 (0.0011)	-0.00101 (0.0011)
Business activity realization of Indonesian, by sector			0.0220*** (0.00557)	
Ln of foreign investment realisation into Indonesia, by sector				0.00965 (0.00576)
Constant	-91.13 (531)	-92.43 (530.7)	-90.03 (530.7)	-96.09 (530.7)
Sector-year interaction	Yes	Yes	Yes	Yes
Observations	200,675	199,902	199,902	199,902

Abbreviations: COVID-19 = coronavirus disease, DV = dependent variable, GDP = gross domestic product, Ln = logarithm, MFN = most favoured nation

Note: Standard errors in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: Authors' estimations

of COVID-19 and include the COVID-19 health variables. To examine how COVID-19 affecting demand for Indonesia's exports, we use COVID-19 variables of Indonesia's top trading partners, including the COVID-19 reproduction rate, percentage changes from the baseline in workplace activities, and the number of COVID-19 tests per case.

Table 3.7 Impacts of COVID-19 on Indonesia's Import Value

DV: Ln value of Indonesia's imports	(1)	(2)	(3)	(4)
	<i>Fixed effect</i>			
Dummy 1 from March 2020; 0 otherwise	-0.117*** (0.0136)	-0.118*** (0.0136)	-0.118*** (0.0136)	-0.118*** (0.0136)
Ln of Indonesian nominal GDP	2.198*** (0.0828)	2.180*** (0.0829)	2.157*** (0.0844)	2.183*** (0.0829)
Ln of nominal GDP of top trading partners	1.360*** (0.123)	1.381*** (0.125)	1.381*** (0.125)	1.381*** (0.125)
Ln Indonesian population	-5.285 (23.05)	-5.197 (23.02)	-5.192 (23.02)	-5.025 (23.02)
Ln of top trading partners population	-0.00989 (0.0192)	-0.00979 (0.0192)	-0.00975 (0.0192)	-0.00978 (0.0192)
Ln of six-month initial conditions (import value)				
Applied MFN tariff rates		-0.000823 (0.000924)	-0.000825 (0.000924)	-0.000823 (0.000924)
Business activity realization of Indonesia, by sector			0.00668 (0.00469)	
Ln of foreign investment realisation into Indonesia, by sector				0.00956* (0.00485)
Constant	-3.72 (447.6)	-5.377 (447)	-4.651 (447)	-9.006 (447)
Sector-year interaction	Yes	Yes	Yes	Yes
Observations	200,675	199,902	199,902	199,902

Abbreviations: COVID-19 = coronavirus disease, DV = dependant variable, GDP = gross domestic product, Ln = logarithm, MFN = most favoured nation

Note: Standard errors in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: Authors' estimations

Table 3.8 shows the results of how these COVID-19 variables affect export volume and value. The COVID-19 reproduction rate of Indonesia's trading partners is associated with a reduction in export volume and value. In contrast, tests per case as a representation of government responses to the pandemic have positive effects on exports. This means that, on average, countries with better responses to the pandemic tend to have higher demand for Indonesia's exports than other countries. The positive change of work-related

Table 3.8 COVID-19 Health Variables: Export Volume and Export Value

Fixed effect regression	Dependent variable: Ln of export volume			Dependent variable: Ln of export value						
	(1)	(2)	(3)	(4)	(5)	(1b)	(2b)	(3b)	(4b)	(5b)
Reproduction rate of top trading partners	-0.0418** (0.0143)	-0.0568** (0.021)				-0.0387** (0.014)	-0.0518* (0.0205)			
Percentage change from baseline in workplace activities in top trading partners		0.00327** (0.00108)		0.00301** (0.00103)	0.00317** (0.00102)		0.00303** (0.00106)		0.00301** (0.00103)	0.00294** (0.000993)
Tests per case of top trading partners				0.0000315** (0.0000117)	0.0000292* (0.0000119)			0.0000248* (0.0000114)	0.0000239* (0.0000116)	
Constant	-178.0*** (16.4)	-147.7*** (19.65)	-169.1*** (15.44)	-137.3*** (19.5)	-136.7*** (19.47)	-183.7*** (16.06)	-156.9*** (19.19)	-176.3*** (15.1)	-148.4*** (19.03)	-147.3*** (19.01)
Set of controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Initial conditions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sector-year interaction dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	33,081	31,447	33,717	31,691	31,860	33,135	31,501	33,771	31,745	31,914
R <sup>2</sup>	0.01	0.011	0.01	0.011	0.011	0.009	0.01	0.01	0.011	0.01
F stat	74.32	61.54	77.21	62.48	77.13	70.96	61.54	73.93	60.25	74.68

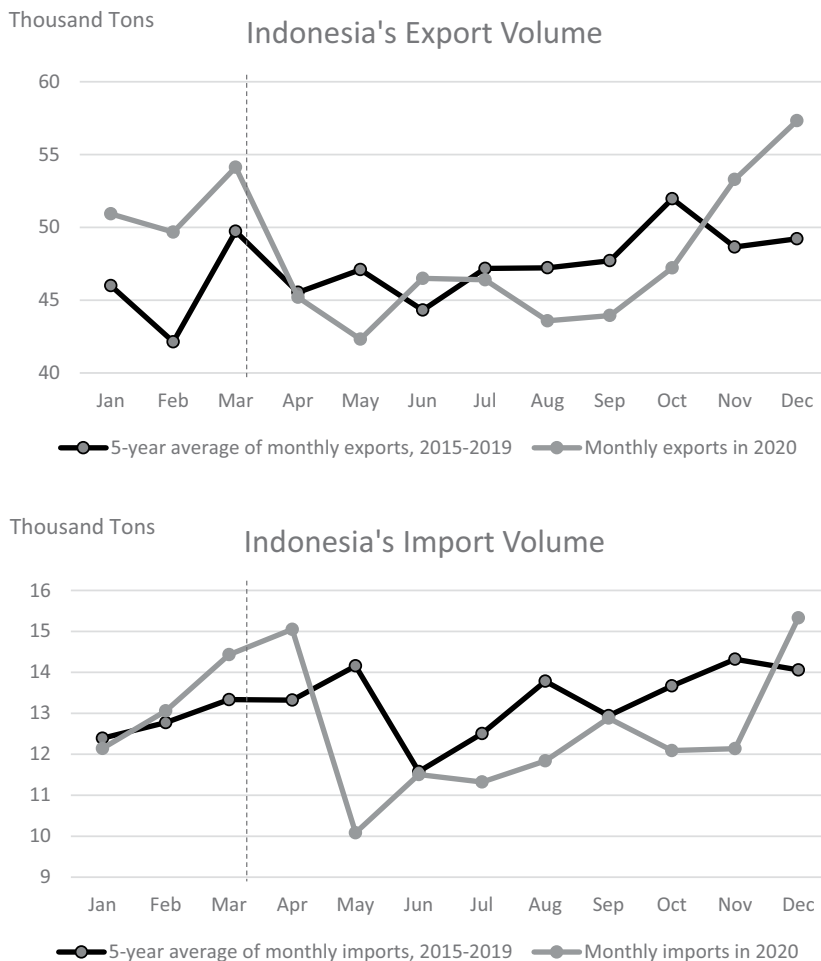
Abbreviations: COVID-19 = coronavirus disease, GDP = gross domestic product.

Note: A set of controls includes the GDP of Indonesia, GDP of top trading partners, population of top trading partners, import tariff of top trading partners, and business activity of Indonesia. Initial conditions are the export volume before the period of analysis, i.e. the average of 6 months of Indonesia's export volumes in 2016. Standard errors in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: Authors' estimations

activities in Indonesia's trading partners is also positively correlated to Indonesia's exports.

To counter an argument of overestimation of the impacts of COVID-19 on trade presented, as other factors could be driving the changes, we conducted robustness checks to assess to what extent the changes in Indonesia's exports and imports are only affected by COVID-19, compared with what would have been expected in the absence of the virus. We use a DID approach that addresses the



*Figure 3.2* Comparison of Indonesia's Average Monthly Trade in 2015–2019 vs. 2020

Source: Authors' calculations based on Indonesia's Customs data (accessed 12 April 2021)

unobserved confounders problem and fixed omitted variables by exploiting the time or cohort dimension.

Then we run model 2 using the DID approach. A DID approach requires that the trends in treatment and control groups are parallel before the intervention. To test whether this common trend assumption is met, we observe the trends described in Figure 3.2 that presents the monthly trade volume in 2020 and the average for 2015–2019. The dotted vertical line shows when the first COVID-19 case was registered (Indonesia Information Portal, 2020).

Indonesia's exports, both the average and monthly value, are reasonably parallel from January to March. However, the 2020 volume fell compared with the average exports after March. The gap between them can be associated with the COVID-19 pandemic. Furthermore, the import volume trend (five-year average and 2020 figure) fluctuates more after the pandemic, but it shows that the trend of the volume of imports in 2020 drop is more apparent than the five-year average. Figure 3.2 indicates that there is indeed a common trend in the two groups before the intervention.

Tables 3.9–3.12 present the results of the impacts of COVID-19 on Indonesia's exports and imports, using the DID approach. DID is the interaction between a treatment group dummy and a treatment period dummy, as explained in section 3. The coefficients of DID variables show the correlations between the presence of COVID-19 with exports and imports. In general, DID coefficients are shown in stronger magnitudes in capturing the impacts of COVID-19 on Indonesia's exports and imports, compared with that of a dummy of COVID-19 in model 1 presented in Tables 3.4–3.7.

On exports, Table 3.9 and Table 3.10 show that the DID coefficients are around  $-0.102$  and  $-0.126$  for export volume and value, respectively. This means that COVID-19 contributes to a decrease in the export volume and value of 10.7% and 13.4%, respectively, in the pandemic period from March to December 2020, compared with the situation without the pandemic.<sup>4</sup>

On imports, Table 3.11 and Table 3.12 show that the DID coefficients are around  $-0.152$  and  $-0.231$ , respectively. Thus, the data show that COVID-19 was associated with a decrease of 16.4% in import volume and 25.9% in import value.<sup>5</sup>

Last, to ensure that the effects of COVID-19 on Indonesia's exports and imports are not random, we perform placebo tests, limiting the sample to the pre-treatment period, up to February 2020, i.e. before the first registered COVID-19 case in March 2020, using an earlier random treatment period starting in February. We find no effects lending additional evidence that the findings of the baseline model are not random. The results of the placebo tests are in the Appendix.

Overall, we see that Indonesia's exports and imports are declining due to the COVID-19 pandemic, both in terms of volume and value.

On the demand side, the drop in global demand – especially from Indonesia's major export destinations (China, the US, India, and Singapore) – significantly reduced Indonesia's exports. Singapore, Indonesia's largest trading partner and investor, has faced a recession starting from Q2 2020 to Q1 2021. At the same time, the US and India remain far from recovery as they are still struggling with an increased number of COVID-19 cases, which are among the highest in the

Table 3.9 Impacts of COVID-19 on Indonesia's Export Volume, Using DID Approach

<i>DV: Ln volume of Indonesia's exports</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Fixed effect</i>							
Dummy treatment 1 if in treatment group (Dtr)	-0.0583* (0.0232)	-0.0685** (0.0245)	-0.0141 (0.025)	-0.0684** (0.0245)	-0.0134 (0.0251)	-0.132 (0.158)	0.0205 (0.396)
Dummy post-COVID-19 equals 1 if from March 2020 (Dpost)	0.0438*** (0.0127)	0.0442*** (0.0129)	0.0427*** (0.0129)	0.0441*** (0.0129)	0.0425*** (0.0129)	0.0432*** (0.0129)	0.0433*** (0.0129)
<b>Dummy interaction of Dtr and Dpost</b>	-0.104*** (0.0254)	-0.103*** (0.0259)	-0.0982** (0.0259)	-0.103*** (0.0259)	-0.0979*** (0.0259)	-0.0990*** (0.0258)	-0.102*** (0.0258)
Ln of weighted average of nominal GDP of top trading partners		-0.423*** (0.0988)	-0.462*** (0.0989)	-0.419*** (0.101)	-0.448*** (0.101)	1.031*** (0.169)	0.900*** (0.175)
Ln of weighted average of population of top trading partners		0.00488*** (0.00136)	0.00433** (0.00136)	0.00483*** (0.00138)	0.00419** (0.00138)	-0.00174 (0.027)	-0.00399 (0.0269)
Weighted average of applied MFN tariff rates of Indonesia's top ten trading partners		-0.00107 (0.00117)	-0.00107 (0.00117)	-0.00107 (0.00117)	-0.00107 (0.00117)	-0.00132 (0.00117)	-0.00246* (0.00122)
Business activity realisation of Indonesia, by sector					0.0695*** (0.00669)	0.0693*** (0.00668)	0.0507*** (0.00743)
Ln of foreign investment realisation into Indonesia, by sector				0.00167 (0.00715)	0.00518 (0.00716)		
Constant	9.855*** (0.0116)	21.86*** (2.822)	22.96*** (2.823)	21.70*** (2.906)	22.46*** (2.906)	-19.48*** (4.828)	-15.85** (5.033)
Dummy year	No	No	No	No	No	Yes	No
Sector interaction	No	No	No	No	No	No	Yes
Observations	148,666	143,840	143,840	143,840	143,840	143,840	143,840

**Abbreviations:** COVID-19 = coronavirus disease, DID = difference in differences, DV = dependent variable, GDP = gross domestic product, Ln = logarithm, MFN = most favoured nation, NTM = non-tariff measure.

Note: Standard errors in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$ .

Source: Authors' estimations

Table 3.10 Impacts of COVID-19 on Indonesia's Export Value, Using the DID Approach

<i>DV: Ln value of Indonesia's exports</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Fixed effect</i>							
Dummy treatment 1 if in treatment group	0.00228 (0.0226)	-0.0199 (0.0239)	0.0216 (0.0244)	-0.0189 (0.0239)	0.0233 (0.0245)	-0.127 (0.154)	0.263 (0.389)
Dummy post COVID-19 equals 1 if from March 2020	0.0509*** (0.0124)	0.0520*** (0.0126)	0.0509*** (0.0126)	0.0515*** (0.0126)	0.0503*** (0.0126)	0.0511*** (0.0126)	0.0515*** (0.0125)
<b>Dummy interaction of Dtr and Dpost, equals 1, if both are 1</b>	-0.125*** (0.0248)	-0.125*** (0.0252)	-0.122*** (0.0252)	-0.125*** (0.0252)	-0.121*** (0.0252)	-0.122*** (0.0252)	-0.126*** (0.0252)
Ln nominal GDP of top trading partners		-0.13 (0.0964)	-0.16 (0.0965)	-0.102 (0.0983)	-0.125 (0.0983)	0.645*** (0.165)	0.710*** (0.171)
Ln of top trading partners population		0.00626*** (0.00133)	0.00584*** (0.00133)	0.00598*** (0.00134)	0.00549*** (0.00134)	0.0173 (0.0263)	0.015 (0.0262)
Applied MFN tariff rates of Indonesia's top ten trading partners		-0.00191 (0.00114)	-0.00191 (0.00114)	-0.00192 (0.00114)	-0.00193 (0.00114)	-0.00205 (0.00114)	-0.00275* (0.00119)
Business activity realisation of Indonesia, by sector			0.0528*** (0.00652)		0.0534*** (0.00653)	0.0528*** (0.00652)	0.0336*** (0.00725)
Ln of foreign investment realisation into Indonesia, by sector				0.0103 (0.00698)	0.013 (0.00698)		
Constant	11.55*** (0.0113)	15.19*** (2.753)	16.04*** (2.754)	14.20*** (2.834)	14.79*** (2.834)	-7.003 (4.711)	-9.217 (4.909)
Dummy year	No	No	No	No	No	Yes	No
Sector interaction	No	No	No	No	No	No	Yes
Observations	148,874	144,038	144,038	144,038	144,038	144,038	144,038

Abbreviations: COVID-19 = coronavirus disease, DID = difference in differences, DV = dependent variable, GDP = gross domestic product, Ln = logarithm, MFN = most favoured nation, NTM = non-tariff measure

Note: Standard errors in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: Authors' estimations

Table 3.11 Impacts of COVID-19 on Indonesia's Import Volume, Using the DID Approach

<i>DV: Ln volume of Indonesia's imports</i>	(1)	(2)	(3)	(4)	(5)	(6)
<i>Fixed effect</i>						
Dummy treatment 1 if in treatment group	-0.178*** (0.017)	-0.231*** (0.0175)	-0.232*** (0.0175)	-0.201*** (0.0179)	-0.202*** (0.0249)	0.0133 (0.217)
Dummy post-COVID-19 equals 1 if from March 2020	0.0369*** (0.00931)	0.0378*** (0.00937)	0.0372*** (0.00938)	0.0355*** (0.00938)	0.0362*** (0.00937)	0.0363*** (0.00932)
<b>Dummy interaction of Dtr and Dpost, equals 1, if both are 1</b>	-0.141*** (0.0187)	-0.153*** (0.0188)	-0.152*** (0.0188)	-0.149*** (0.0188)	-0.150*** (0.0188)	-0.152*** (0.0187)
Ln of nominal GDP of top trading partners		1.015*** (0.0598)	1.049*** (0.061)	1.050*** (0.061)	1.063*** (0.13)	1.050*** (0.147)
Simple average applied tariff rates of Indonesia		-0.116 (0.0604)	-0.117 (0.0604)	-0.117 (0.0604)	-0.119* (0.0604)	-0.138* (0.061)
NTM prevalence score of Indonesia (i.e. imposed by Indonesia)						
Business activity realisation of Indonesia, by sector				0.0419*** (0.00494)	0.0405*** (0.00494)	0.0407*** (0.00549)
Ln of foreign investment realisation into Indonesia, by sector			0.0150** (0.00523)	0.0170** (0.00523)		
Constant	10.80*** (0.0085)	-18.01*** (1.816)	-19.30*** (1.871)	-19.37*** (1.871)	-19.42*** (3.817)	-19.08*** (4.354)
Dummy year	No	No	No	No	No	Yes
Sector interaction	No	No	No	No	No	No
Observations	207,632	201,296	201,296	201,296	201,296	201,296

Abbreviations: COVID-19 = coronavirus disease, DID = difference in differences, DV = dependent variable, GDP = gross domestic product, Ln = logarithm, NTM = non-tariff measure.

Note: Standard errors in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: Authors' estimations

Table 3.12 Impacts of COVID-19 on Indonesia's Import Value, Using DID Approach

<i>DV: Ln of value of Indonesia's imports</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Fixed effect</i>							
Dummy treatment 1 if in treatment group	-0.119*** (0.0144)	-0.190*** (0.0148)	-0.164*** (0.0151)	-0.191*** (0.0148)	-0.165*** (0.0151)	-0.117*** (0.021)	0.0601 (0.182)
Dummy post-COVID-19 equals 1 if from March 2020	0.0681*** (0.00788)	0.0696*** (0.00789)	0.0683*** (0.0079)	0.0691*** (0.0079)	0.0677*** (0.0079)	0.0684*** (0.00789)	0.0684*** (0.00784)
<b>Dummy interaction of Dtr and Dpost, equals 1, if both equal to 1</b>	-0.221*** (0.0158)	-0.232*** (0.0158)	-0.230*** (0.0158)	-0.231*** (0.0158)	-0.229*** (0.0158)	-0.230*** (0.0158)	-0.231*** (0.0157)
Ln of nominal GDP of top trading partners		1.321*** (0.0504)	1.318*** (0.0504)	1.350*** (0.0514)	1.350*** (0.0514)	1.088*** (0.109)	1.245*** (0.124)
Simple average applied MFN tariff rate of Indonesia		-0.110* (0.0509)	-0.111* (0.0509)	-0.110* (0.0509)	-0.111* (0.0509)	-0.112* (0.0509)	-0.140** (0.0513)
NTM prevalence score of Indonesia (i.e. imposed by Indonesia)							
Business activity realisation of Indonesia, by sector			0.0344*** (0.00415)		0.0350*** (0.00416)	0.0322*** (0.00416)	0.0271*** (0.00462)
Ln of foreign investment realisation into Indonesia, by sector				0.0127** (0.0044)	0.0143** (0.00441)		
Constant	12.59*** (0.00719)	-25.24*** (1.53)	-25.16*** (1.529)	-26.33*** (1.576)	-26.39*** (1.575)	-18.45*** (3.213)	-23.00*** (3.665)
Dummy year	No	No	No	No	No	Yes	No
Sector interaction	No	No	No	No	No	No	Yes
Observations	207,632	201,296	201,296	201,296	201,296	201,296	201,296

Abbreviations: COVID-19 = coronavirus disease, DID = difference in differences, DV = dependent variable, GDP = gross domestic product, Ln = logarithm, MFN = most favoured nation, NTM = non-tariff measure

Note: Standard errors in parentheses. \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: Authors' estimations

world. US demand is projected to rebound from Q3 2021, as it has improved its response to the pandemic by putting prevention measures in place and significantly increasing vaccine coverage. India is still facing a third wave, with the largest number of daily cases (250,000–300,000) and deaths (4,000) in the world. The only source of Indonesia's export increase in 2021 may come from its exports of palm oil and coal to China, as China's trade and economy has bounced back after Q4 2020. Furthermore, Indonesia's exports also declined due to the disruption of supply chains, as its exports rely mainly on imported machinery and intermediate inputs.

On the supply side, Indonesia's producers and exporters may have halted production due to prolonged declines in world demand. At the same time, Indonesia's overall demand for imports decreased (reflected in the recession during Q3 and Q4 2020) due to social distancing and a semi-lockdown in major cities of Indonesia. In addition, investors opted to wait and see as prolonged shocks were expected.

## 5. Conclusions and Way Forward

As for many other countries, Indonesia experienced a significant drop in exports and imports during the COVID-19 pandemic. Using Indonesia's monthly trade data at the HS six-digit level from January 2017 to December 2020 and the DID approach, we find that COVID-19 lowers the volume of Indonesia's exports by 10.7% (the value of Indonesia's export by 13.4%). At the same time, it reduces the volume of Indonesia's import by 16.42% (the value of Indonesia's imports by 25.9%). The results are robust to any specifications and methodology in the study.

We carefully note that our analyses may have limitations. First, the control economic variables are mainly available in quarterly, not monthly, data. Second, as most sectors in all the countries were affected by COVID-19, we use the trends of the same variable, in earlier years, as a control group. The shocks resulting from COVID-19 on the Indonesian economy cannot be separated from its impacts on other countries. Despite these limitations, this is one of the first analyses attempting to empirically capture the impacts of the COVID-19 pandemic on Indonesia's trade. The robustness checks results show that the impacts of COVID-19 on Indonesia's trade are reliable, and placebo tests confirm that the decreases in Indonesia's trade are not simply random.

The findings can shed light on efforts to improve understanding of Indonesia's trade, and thus help to formulate appropriate targeted responses to improve Indonesia's trade performance.

## Notes

- 1 Before running DID model, we checked whether the figure shows the common trend assumption, to ensure the results of DID approach valid.

- 2 The data on NTMs are available in the ERIA – UNCTAD database. TRAINS: The Global Database on Non-Tariff Measures. <https://trains.unctad.org/Default.aspx> (accessed 26 February 2021).
- 3  $\text{Exp}(0.0456) \approx 1.046$ ;  $\text{exp}(0.0549) \approx 1.054$ ; (Column 2 of Table 3.4 and 3.5).
- 4  $\text{Exp}(0.102) \approx 1.107$ ;  $\text{exp}(0.126) \approx 1.134$ .
- 5  $\text{Exp}(0.152) \approx 1.164$ ;  $\text{exp}(0.231) \approx 1.259$ .

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# Appendix

Table 3A.1 Placebo Test: Impacts of COVID-19 on Indonesia's Export Volume, Using DID Approach

<i>DV: Ln of volume of Indonesia's exports</i>	(1)	(2)	(3)	(4)	(5)	(6)
<i>Fixed effect</i>						
Dummy treatment 1 if in treatment group (Dtr)	-0.0876** (0.0318)	0.0737 (0.0411)	0.0741 (0.0412)	0.0742 (0.0419)	0.121 (0.244)	0.566 (0.857)
Dummy post-COVID-19 equals 1 if from 2020m3 (Dpost)	0.0204 (0.0165)	0.00105 (0.0191)	0.00116 (0.0191)	0.00115 (0.0191)	0.00104 (0.0191)	0.00168 (0.019)
<b>DID</b>	0.022 (0.0422)	0.0447 (0.0439)	0.0446 (0.0439)	0.0446 (0.0439)	0.0447 (0.0439)	0.0466 (0.0439)
Ln of weighted average of nominal GDP of top trading partners (\$)		0.431* (0.22)	0.431* (0.22)	0.431* (0.22)	0.43 (0.22)	0.313 (0.228)
Ln of nominal GDP of Indonesia (Rp)		0.356* (0.164)	0.355* (0.164)	0.355* (0.165)	0.356* (0.165)	0.334* (0.164)
Ln of weighted means of population of top trading partners		-0.000356 (0.0015)	-0.000333 (0.00151)	-0.000333 (0.00151)	-0.00548 (0.0263)	-0.00708 (0.0263)
Ln Indonesian population		-10.16*** (1.706)	-10.18*** (1.71)	-10.18*** (1.712)	-10.72** (3.329)	-29.16 (39.59)
Weighted average of simple average applied MFN tariff rates of Indonesia's top trading partner (applied on Indonesia's exports)		-0.000134 (0.00122)	-0.000134 (0.00122)	-0.000134 (0.00122)	-0.000135 (0.00122)	-0.00183 (0.00128)
Business activity realisation of Indonesia, by sector				0.0000293 (0.00955)	0.000276 (0.00945)	-0.0147 (0.0103)
Ln of foreign investment realisation into Indonesia, by sector			-0.00149 (0.00793)	-0.00149 (0.00801)		
Constant	9.862*** (0.0158)	181.7*** (25.2)	182.3*** (25.34)	182.3*** (25.37)	192.7** (61.32)	554.5 (768)
Dummy year	No	No	No	No	Yes	No
Dummy sector-year	No	No	No	No	No	Yes
Observations	118,258	114,395	114,395	114,395	114,395	114,395

Abbreviations: COVID-19 = coronavirus disease, DID = difference in differences, GDP = gross domestic product, MFN = most favoured nation

Source: Authors' estimations

Table 3A.2 Placebo Test: Impacts of COVID-19 on Indonesia's Import Volume, Using DID Approach

<i>DV: Ln of volume of Indonesia's imports</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)
<i>Fixed effect</i>							
Dummy treatment 1 if in treatment group (Dtr)	0.0594** (0.0122)	-0.546 (0.482)	-0.545 (0.482)	-0.536 (0.482)	-0.535 (0.482)	-0.691 (0.484)	-0.57 (0.694)
Dummy post-COVID-19 equals 1 if from 2020m3 (Dpost)	0.0670** (0.00863)	-0.130** (0.0124)	-0.133** (0.0125)	-0.130** (0.0124)	-0.132** (0.0125)	-0.163** (0.0152)	-0.163** (0.0151)
<b>DID</b>	-0.0685** (0.0146)	0.025 (0.0152)	0.0252 (0.0152)	0.016 (0.0153)	0.0164 (0.0153)	0.0254 (0.0152)	0.0251 (0.0151)
Ln of nominal GDP of Indonesia (Rp) – quarterly		3.236** (0.143)	3.278** (0.146)	3.281** (0.143)	3.302** (0.146)	3.774** (0.202)	3.778** (0.201)
Ln of weighted average of nominal GDP of top trading partners (\$)		0.731** (0.155)	0.749** (0.156)	0.740** (0.155)	0.749** (0.156)	0.999** (0.171)	0.643** (0.192)
Ln population of Indonesia		8.174 (27.69)	7.664 (27.7)	8.206 (27.69)	7.937 (27.69)	8.661 (27.7)	19.37 (47.58)
Ln of weighted means of population of top trading partners		0.0383 (0.0369)	0.0383 (0.0369)	0.0386 (0.0369)	0.0386 (0.0369)	0.0341 (0.037)	0.0325 (0.0369)
Simple average applied MFN tariff rates of Indonesia (applied to Indonesia's imports)		-0.147* (0.0604)	-0.147* (0.0604)	-0.147* (0.0604)	-0.147* (0.0604)	-0.148* (0.0604)	-0.169** (0.061)
Business activity realisation of Indonesia, by sector		-0.0105 (0.00691)	-0.0105 (0.00691)		-0.0055 (0.007)	-0.00592 (0.00703)	-0.0102 (0.00769)
Ln of foreign investment realisation in Indonesia, by sector				0.0282** (0.00587)	0.0274** (0.00594)		
Constant	10.76** (0.00705)	-284.2 (537.5)	-276.4 (537.6)	-287.3 (537.5)	-283.1 (537.5)	-320.6 (537.7)	-518.1 (923.3)
Dummy year	No	No	No	No	No	Yes	No
Dummy sector-year	No	No	No	No	No	No	Yes
Observations	164,731	159,691	159,691	159,691	159,691	159,691	159,691

Abbreviations: COVID-19 = coronavirus disease, DID = difference in differences, GDP = gross domestic product, MFN = most favoured nation, NTM = non-tariff measure

Source: Authors' estimations

# 4 Walking a Thin Line

## Fiscal Policy in Managing the Pandemic

*Masyita Crystallin*

### 1. Introduction

The chain of turbulences and reforms that commenced in the 1990s shaped the Indonesian economy and democracy for more than two decades. Economic growth was 7.2% on average between 1990 and 1996. When the Asian Financial Crisis (AFC) hit Indonesia in 1997, growth plunged to -13% while inflation skyrocketed to 60%, the second worst since the Guided Democracy era (1963–1965). The 1997 crisis was a big blow for Indonesia as the economy contracted significantly, and growth rebounded to an average of 5.2% only eight years post-AFC. The crisis pushed the country to undertake reforms in public finance, banking sector governance, democracy, and regional autonomy. A decade later, following the Global Financial Crisis (GFC), the country recorded economic growth of 5.4% on average from 2010 until 2019. Its fundamentals were in good shape until the coronavirus disease 2019 (COVID-19) outbreak in December 2019.

The global economy started to rebound in the last quarter of 2019 after being overshadowed by the trade war between the United States (US) and China and amplified by international geopolitical tensions, which generated uncertainties in global commodity prices. Indonesia's macro-fiscal condition remained sound at the end of 2019. Capital inflows began to rebound in emerging markets, including Indonesia, as trade tensions and uncertainty somehow eased and gradually dissipated.

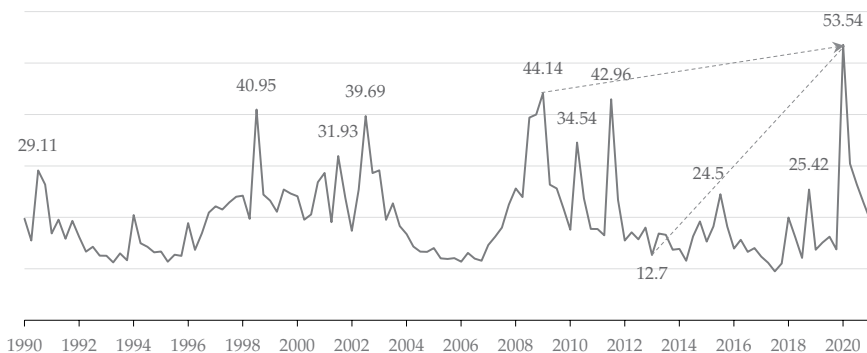
The fourth quarter of 2019 marked an improvement in the global economic environment. Indonesia enjoyed steady growth, improved trade balance, a manageable inflation rate of 2.78%, low unemployment, a lower Gini ratio of 0.39, a 5% Rupiah appreciation, and a 138-basis point decrease in Indonesia's ten-year government bond yield in the second half of 2019. Sound macroeconomic indicators, a manageable fiscal deficit of around 1.84% of gross domestic product (GDP) since 2013, and continuous capital inflows have given room for Indonesia to grow closer to its potential even after the commodity boom period ended in 2013.

Indonesia was on track to graduate from a middle-income to an upper-middle-income country before the pandemic. According to the World Economic Forum

(WEF), Indonesia's competitiveness index had improved in terms of business culture, financial system stability, and technological adoption, even though the overall score declined slightly (Schwab and WEF, 2019).<sup>1</sup> With macro stability and large market size as its main strengths, Indonesia is still considered lagging in innovation capacity. If augmented with structural reforms and developments designed to tackle three fundamental issues (i.e. productivity, human capital, and competitiveness) the country could push further to escape the middle-income trap by 2045 as long as the GDP grows at a rate above 5.5% annually (The Jakarta Globe, 2019). For this to happen, supply-side policy (i.e. structural reform to improve competitiveness and value-added in the economy) would need to be continuously improved. Several reforms in human capital, infrastructure, logistics, domestic revenue mobilisation, and quality of spending were already underway prior to the pandemic.

Yet, the rebound momentum faded as the COVID-19 pandemic hit Indonesia in early March 2020. Capital outflows from Indonesia reached Rp124.9 trillion in March 2020 (Bank Indonesia, 2020) and Rp158.3 trillion in September 2020, more severe than the outflows during the Taper Tantrum of 2013 and the GFC. The Volatility Index (VIX) hit an all-time high of 53.54, indicating heightened volatility in equity markets as portrayed in Figure 4.1. Emerging markets' currencies plummeted, including the rupiah. Only 20 days after President Joko Widodo announced the first case of COVID-19, the rupiah depreciated from Rp14,318 per US dollar in February to Rp16,575 per US dollar on 23 March 2020, the lowest level ever since the AFC.

Unlike the GFC or any other series of economic crises in the past, the COVID-19 pandemic required deliberate restrictive mobility measures which froze economic activities (i.e. consumption, trade, and investment). As a result, its economic impacts are much more profound. Indonesia's government responded with a fiscal package amounting to 6.34% of GDP<sup>2</sup> in 2020 and another 5.7% of GDP in the 2021 budget. The package focused on three major areas: health, social safety nets, and relief for businesses especially for micro, small, and medium-sized



*Figure 4.1* Chicago Board Options Exchange Volatility Index, 1989–2021

Source: Chicago Board Options Exchange (2021)

enterprises (MSMEs). Although the path toward economic recovery was obscure with the absence of any vaccines in 2020, stimulus packages helped cushion the economy from a much deeper contraction. Without the stimulus packages, the crisis could have pushed an additional 5.5 million Indonesians below the poverty line, reversing efforts to mitigate poverty, which was at an all-time low of 9.78%. The 2020 turbulence is now a guide, perhaps one the most reliable, for managing virus economics in 2021 and in the years of revival ahead.

This chapter delineates both opportunities and pressures facing Indonesia's fiscal authorities in designing economic relief and recovery programmes during this unprecedented situation. It is organised around two major themes. The first theme concerns short-run demand and supply-side fiscal policymaking to mitigate the pandemic's impacts in 2020 and 2021. The second theme deals with medium-term fiscal sustainability and discusses the elements of a sound macroeconomic policy framework, necessary reforms, and the need to build better. Further, we lay out several areas for reform that should be a priority during economic recovery.

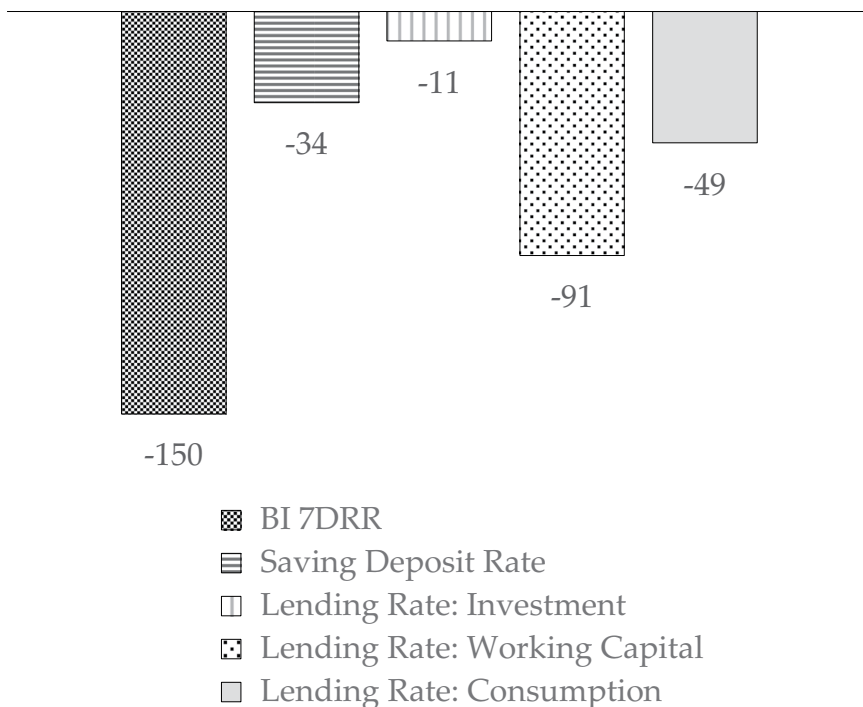
## **2. Macroeconomic Environment Behind the Policies**

An unprecedented and extraordinary event like the COVID-19 pandemic requires extraordinary responses. Several features distinguish the current crisis from previous ones, hence requiring different policy actions.

First, unlike the AFC or GFC, the COVID-19 pandemic was at first not a financial crisis. Instead, the pandemic brought economic activity to a standstill as countries restricted the movement of people and commodities to contain the spread of the virus. Such a response then created a sudden and profound aggregate demand (AD) freeze, both locally and globally. The demand shock, along with global value chain disruption resulting from restrictive global measures on the flow of goods, was then translated into an aggregate supply (AS) shock, resulting in significant job loss and reduced income, which would exacerbate the demand shock even further through the income channel.

Several stimulus packages might have dampened the AD shock domino effect and prevented a more profound jobs and income loss. Stimulus for the tourism and other leisure activities sector such as hotels and restaurants would probably not have increased the sector's output but at least it could have eased pressure on the industry. Moreover, in contrast to previous crises where the informal sector and SMEs played a vital role as shock absorbers due to their resilience, restrictive flows of people and commodities during the pandemic have, in fact, affected them the hardest. A standstill in this part of the economy would have undoubtedly and significantly affected economic growth, employment, and poverty because of its sizeable contribution to GDP (60%) and employment (97%), based on 2017 figures (Crystallin and Abdurrohmman, 2021).

Second, the world is currently in a situation known as a liquidity trap, a condition where monetary easing has limited impact on spending, as people are reluctant to spend. As per the International Monetary Fund's Chief Economist Gita



*Figure 4.2* BI 7DRR, Deposit, and Lending Rate Movement, January 2020–February 2021 (bps)

Gopinath, central banks have pushed interest rates below 1% in 60% of all countries or 97% of advanced economies for the first time (Business Today, 2021). Indonesia is no exception. Bank Indonesia (BI) has lowered its policy rate (seven-day reverse repo rate) by 150 basis points (bps) cumulatively between early 2020 and February 2021 (Bank Indonesia, 2021). However, monetary transmission has been sluggish, as interest rates on consumption loans and working capital loans fell by only 49 and 91 bps, respectively, far from a 150 bps reduction in the policy rate as detailed in Figure 4.2.

Figure 4.3 shows that liquidity in the banking sector remains ample. Loan-to-deposit ratio (LDR) reached 81.79% in February 2021, down from 94.43% in December 2019 before the pandemic but far from the BI lower band of 78%. Deposits grew at the highest rate since 2017, while credit growth contracted for the first time in two decades. Savings in the high-income group drove deposit growth. Deposits of over Rp2 billion grew at a double-digit rate since June 2020, surpassing the growth rate of deposits less than Rp2 billion and Rp100 million (Figure 4.4). Appetite for consumption at higher income levels plummeted. Working capital credit also contracted since June 2020 (Figure 4.5).

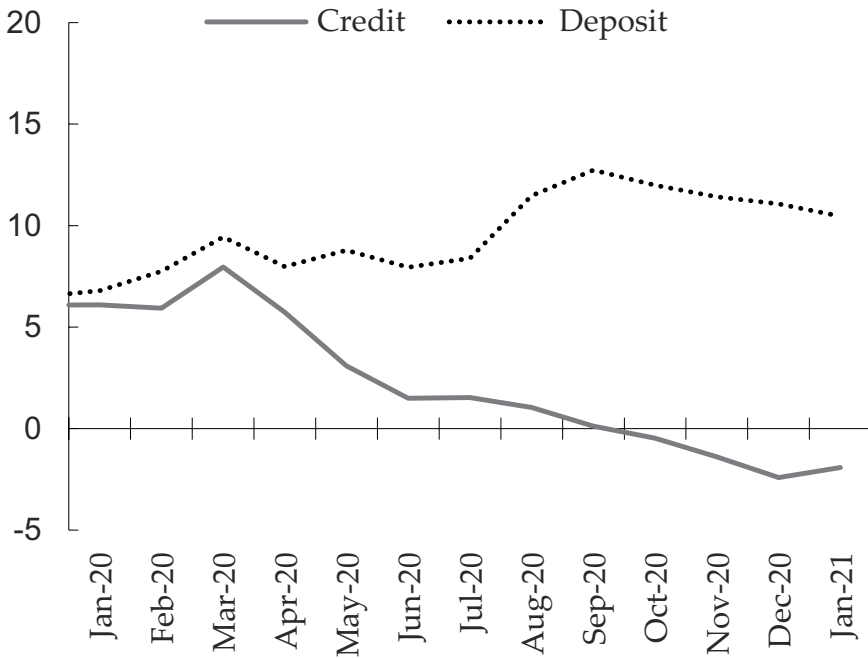


Figure 4.3 Deposit and Credit Growth, January 2020–January 2021 (YoY, %)

Abbreviations: BI = Bank Indonesia, bps = basis points, 7DRR = Day Reverse Repo Rate, YoY = year on year

Note: During the pandemic, Indonesia's deposits experienced high positive growth, the highest since 2017, while credit growth contracted for the first time in the last two decades. Credit contracted for five consecutive months from October 2020 to February 2021 as shown in Figure 4.3

Source: Author's calculations based on data from OJK (2021) and Census and Economic Information Center (2021a)

Banks have been extra careful in extending new credit. Despite increasing loans at risk (*LaR*) (from 9.93% in December 2019 to 23.38% at the end of 2020), the Financial Service Agency or *Otoritas Jasa Keuangan* (OJK), has kept non-performing loans (NPLs) at bay with restructuring policy, specifically POJK No. 11/2020. NPLs stayed at 3.17% in January 2021, similar to the level in February 2017 (3.16%). Big banks are not immune from this situation. The three largest state-owned banks in Indonesia already have *LaR* above 20% as of February 2021.<sup>3</sup>

Taken together, these conditions – credit contraction, risk aversion, lower consumption appetite, ample liquidity, and impaired monetary transmission – act as a catalyst for a liquidity trap. In this situation, the impact of monetary policy is muted, hence fiscal policy should take a more prominent role in stimulating the economy out of recession.

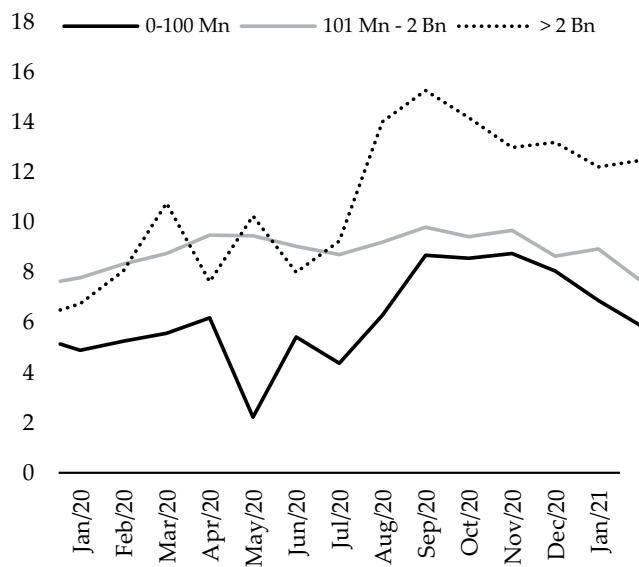


Figure 4.4 Nominal Deposit Growth (YoY, %)

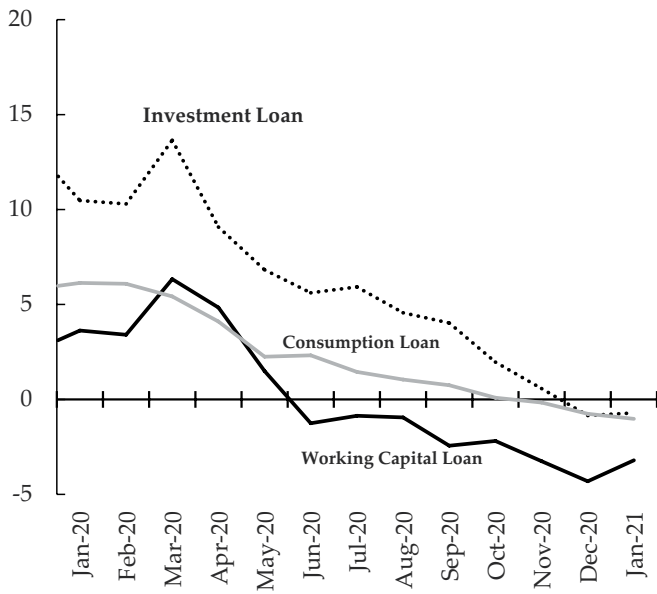


Figure 4.5 Credit Growth by Type (YoY, %)

Abbreviations: Bn = billion, Mn = million, YoY = year on year  
Source: Author's calculations based on data from OJK (2021) and Census and Economic Information Center (2021b)



Figure 4.6 Government Bond Yield (YoY, %)

Abbreviations: 10Y = 10-year, USD = US Dollar, LCY = Local currency

Source: Bloomberg (2021)

Third, despite ample global and domestic liquidity, countries face increasing financing costs. Figure 4.6 illustrates that government bond yield increased steeply in March 2020 at the height of worldwide financial uncertainty. From the first to the third week of March, US dollar-denominated ten-year yield increased by 155 bps to 4.18%, while rupiah-denominated ten-year yield increased by 140 bps to 8.37%. Therefore, one can observe that exchange rate risk seems to be more dominant than country risk during this period of high volatility. Moreover, Figure 4.7 points out that debt-service ratio (as a percentage of revenue) also increases due to increased outstanding debt and depressed income during a pandemic. In addition, the increased cost of borrowing also narrows fiscal space. The share of the cost of borrowing then tends to increase the debt-service ratio and interest ratio (as a percentage of expenditure) due to an increase in outstanding debt.

However, in the last five years, prudent debt management has helped Indonesia maintain its 2020 and 2021 credit ratings. These ratings were accompanied by a stable average time to maturity (ATM) up until May 2021 as shown in Figure 4.8. Furthermore, currency mismatch risk depicted in Figure 4.9 is still manageable, as 68% of government debt is still covered by rupiah-denominated bonds.

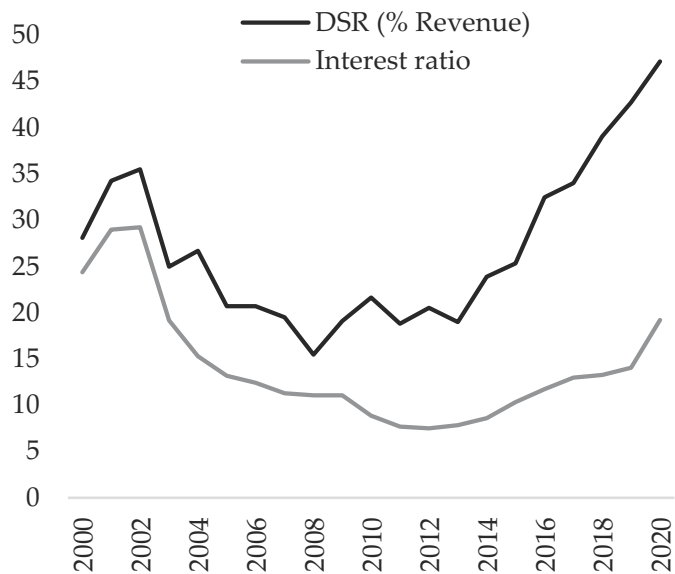


Figure 4.7 Debt Service Ratio and Interest Ratio (% Revenue)

Abbreviations: DSR = Debt Service Ratio

Source: Indonesia’s Ministry of Finance (2021a)

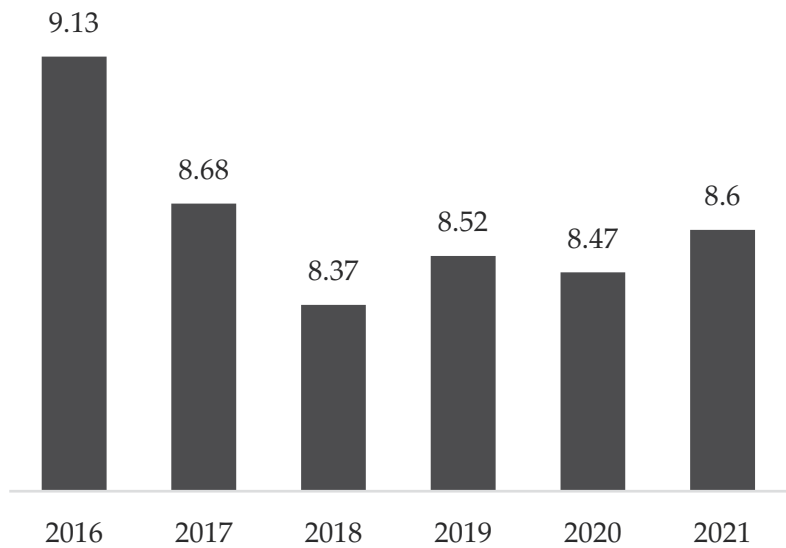


Figure 4.8 Average Time to Maturity (Years)

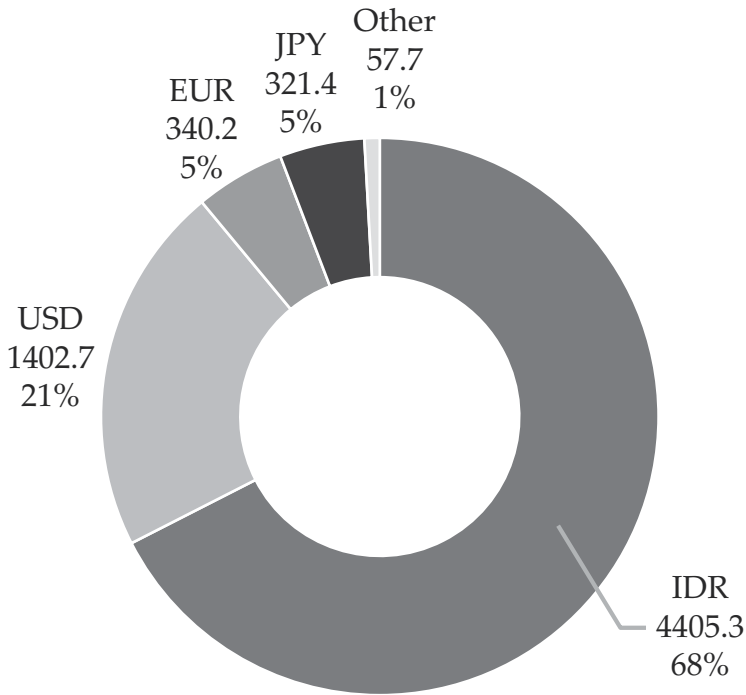


Figure 4.9 Government Debt Composition (%)

Abbreviations: EUR = euro, IDR = Indonesian rupiah, JPY = Japanese yen, USD = United States dollar

Source: Author's calculations based on data from Indonesia's Ministry of Finance (2021a)

### 3. Fiscal Policy for Mitigating the Pandemic's Impact

Unlike any other crisis that hit Indonesia in the last nine decades, the COVID-19 pandemic brought public health to the fore, as it threatened both lives and livelihoods brutally and massively. Never was there a crisis which required a combination of vast restrictive mobility measures and stringent health protocols, and which had such extensive and profound effects as to disrupt global value chains, wreck consumer confidence, plunge global manufacturing Purchasing Managers' Indexes (PMIs), freeze the real sectors, and jeopardise the financial sector's stability. A *'do nothing'* policy is, therefore, a non-viable option. As mentioned in the previous section, in a demand freeze and liquidity trap situation, the economy will depend more on fiscal policy than on monetary policy.

The Indonesian economy contracted by 5.32% in the second quarter of 2020, caused mainly by a major shock to domestic demand and aggravated

by short-term supply shock, which plunged Indonesia's manufacturing PMI to 27.5 on April 2020. The following month, more than 1.7 million workers suffered job loss, of which 82% were formal workers and 18% were informal workers (Indonesia's Ministry of Labor, 2020). The Gini ratio worsened slightly to 0.393, particularly in urban areas, while poverty rate increased 37 percentage points the same that month the pandemic hit (Statistics Indonesia, 2020b). Only six months later, 5.62 million people lost their jobs in the formal sector. Some 81% of them switched to the informal sector, 13.5% became self-employed, and the remaining 5.5% stayed unemployed (Statistics Indonesia, 2020a).

### *3.1 Demand-Side Support*

For fiscal year 2020, an economic recovery programme worth 4.2% of the GDP or Rp695.2 trillion served as a countercyclical strategy to cope with the demand and supply shocks. The programme aimed to stabilise consumption, maintain investment flows, and bolster trade activities on the demand side. To maintain household consumption, social protection programmes were expanded. Amongst these were the Family Hope Programme, food assistance, cash transfers, electricity bill discounts, and the Pre-employment Card Programme. At the end of 2020, state budget disbursement for these programmes was at 83.4%, amounting to Rp579.78 trillion.

In fiscal year 2021, Indonesia's government expanded its budget to Rp699.43 trillion and focused on three main areas (Indonesia's Ministry of Finance, 2021c). First, Rp176.3 trillion was allocated for vaccine provision and health intervention. This allocation, a 178% increase from the 2020 health budget, demonstrated the government's continued focus on public health and included the provision of health facilities; support for testing, tracking, and treatment; and the provision of facilities for health sector workers. Second, Rp157.41 trillion and Rp125.06 trillion were allocated for maintaining and improving purchasing power through social protection expansion and priority programmes,<sup>4</sup> respectively (Indonesia's Ministry of Finance, 2021c). These allocations decreased by less than 2%, from a total of Rp286.98 trillion in 2020 to Rp282.47 trillion in 2021. Third, Rp53.86 trillion tax incentives were allocated for businesses and Rp186.81 trillion were earmarked for MSMEs and corporate financing to jumpstart the economy and spur business performance. Combined, these allocations increased by 5% from Rp229.29 trillion in 2020 to Rp240.67 trillion in 2021.

#### *3.1.1 Social Protection Expansion*

Indonesia started implementing social protection programmes in 1998 and has since undertaken significant reforms in the number and quality of its programmes. Amidst the pandemic in 2020, social protection allocation worth

Rp203.9 trillion played an important role. It served as the primary intervention for addressing demand side shock by maintaining household consumption, the main engine of growth in the Indonesian economy.

During the pandemic, Indonesia's government increased the rupiah amount of social protection programmes and expanded the coverage to include more eligible beneficiaries. The ultimate goal was to maintain households' and workers' resilience and long-run self-reliance among low-income and vulnerable households. Table 4.1 records that the expansion served only as a temporary shock absorber for the bottom 40% (which then expanded to the bottom 50–60%) and the middle 40% to help them survive the pandemic. The government gradually reduced expansion by 29% from Rp220.29 trillion in 2020 to Rp157.41 trillion in 2021, except for the budget allocation for *Kartu Sembako* or the basic food vouchers programme, increasing by 4%, and for *Kartu Prakerja* or the pre-employment programme, for which the budget remains the same as in 2020 that is Rp20 trillion.

Evidence shows positive outcomes from the expansion of social protection programmes. A study by Banerjee et al. (2021) finds that the introduction of basic food vouchers was effective in reducing poverty by 20% amongst the bottom 15% of households. According to the Finance Ministry, expanded social protection programmes succeeded in reaching 2.2 million families in the Jabodetabek<sup>5</sup> area through food assistance, ten million beneficiaries of rice subsidies and conditional cash transfers (Program Keluarga Harapan or PKH), and 9.2 million family cash transfer beneficiaries in outer Jabodetabek. The expansion also helped 12.4 million employees through wage subsidies, 5.6 million pre-employment beneficiaries, 32.1 million beneficiaries of electricity bill discounts, and 25.4 million indebted MSMEs through Internet subsidies.

However, several challenges in implementing social protection programmes still need be addressed. Amongst the many challenges are data and targeting accuracy, overlapping benefits, spatial challenges, and a rather high probability of entry into and exit from poverty.<sup>6</sup> Effective social assistance distribution<sup>7</sup> through better data collection methods, a more robust targeting system, and dynamic data management can leverage social protection programmes in 2021 and improve future poverty alleviation efforts in Indonesia.

### 3.1.2 Sectoral and Regional Support

National economic recovery in 2020 witnessed sectoral and regional stimulus worth Rp66.59 trillion, which was fully disbursed and distributed. The objective of the sectoral and regional stimulus was to support frontline formal institutions, i.e. local governments and line ministries, in supporting the tourism industry, food estates, labour-intensive programmes, particularly local governments whose revenues were hit hard by the pandemic. The latter helped local government stay afloat while working to counter the pandemic's adverse effects.

Figure 4.10 exemplifies support for local governments from the central government also included regional incentive funds (Dana Insentif Daerah or DID) and

Table 4.1 Social Protection Expansion

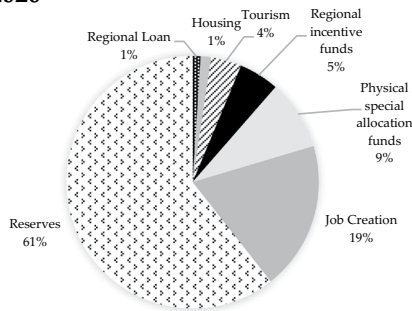
	Conditional Cash Transfer Program or <i>PKH</i>	Basic Food Voucher or <i>Kartu Sembako</i>	Electricity Subsidy	Cash Transfer for outer Jabodetabek Region	Basic Food Social Assistance for Jabodetabek Region	Village Fund Cash Transfer or BLT Dana Desa	Pre-employment Card or <i>Kartu Prakerja</i>	Internet Quota
Decile of Income	6				1.3 million HH			
	5				600.000 HH		5.6 million HH	41.8 million recipients
	4			9 million HH (2020) 10 million HH (2021)	Apr-Jun: IDR600K/month Jul-Sept: IDR300K/month 2021: IDR 300/month	11 million HH (2020) 8 million HH (2021)		Early Childhood (20 GB), Elementary -SHS (35 GB), University (50 GB), Teacher/lecturer (42 GB), at price of 1 GB of IDR 1 K
	3		450 VA: 24 million HH 900 VA: 7.2 million HH	Apr-Jun: IDR600K/month Jul-Sept: IDR 300K/month 2021: IDR 300K/month	2020: Excluding PKH & Food Voucher recipients.	Apr-Jun: IDR600K/month Jul-Sept: IDR300K/month	<b>Training</b> IDR 1 million/month <b>Incentive</b> IDR600 K/month <b>Survey (3x)</b> IDR 50K/month	
	2	10 million households (HH)	20 million HH (2020) 18.8 million HH (2021)		2021: 2020s criteria plus excluding Cash Transfer and Pre-employment recipients	<b>Excluding PKH &amp; Food Voucher recipients</b>		Students and teachers
	1	Index per component rises by 25%	450 VA → free 900 VA → 50% discount	2020: Excluding PKH& food voucher recipients				
Time Frame	monthly, for 12 months	monthly, for 12 months	6 months	9 months (2020) 4 months (2021)	9 months	6 months	Incentive for 4 months	5 months

Fiscal Year	2020	2021	2020	Jan – Jun 2021	Apr – Dec 2020	2021	Apr – Sept 2020	Jan-Jun 2021	Apr – Nov 2020	2021	Jan – May 2021
Additional Budget (trillion)	8.3	-	15.5	-	6.9	32.4	-	6.8	31.8	-	-
Total Budget (trillion)											
FY 2020: IDR	37.4	28.71	43.6	5.64	6.9	32.4	-	6.8	31.8	20.0	4.98
2020.39 FY:											
2021: IDE											
157.41											

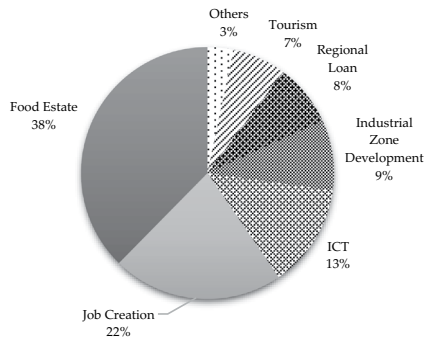
Abbreviations: BLT = Village Fund cash transfer programme (*Bantuan Langsung Tunai*), GB = gigabyte, HH = household, IDR = Indonesian rupiah, PKH = cash transfer programme known as Family Hope Programme (*Program Keluarga Harapan*), SHS = senior high school, VA = volt-ampere

Source: Indonesia's Ministry of Social Affairs (2021) and Indonesia's Ministry of Finance (2021b)

2020



2021



*Figure 4.10* Priority Programmes Budget Allocation, 2020–2021

Source: Author's calculations based on data from Indonesia's Ministry of Finance (2021b)

physical special allocation funds (Dana Alokasi Khusus or DAK) to increase local innovation and improve local infrastructure, respectively. In 2021, this kind of support exists in the form of priority programmes worth Rp125.06 trillion focusing on seven areas: food security (Rp47.1 trillion), job creation (Rp27.33 trillion), information and communication technology development (Rp16.65 trillion), industrial area development (Rp11.22 trillion), loans to regions (Rp10 trillion), tourism support (Rp8.66 trillion), and other programmes (Rp4.11 trillion).

### 3.2 *Supply-Side Support*

Tourism and supply chain disruption in Indonesia's real economy began to emerge in February 2020. At that time, in China alone, the manufacturing and services sectors contracted by 13%, the retail sector and investments contracted even worse, at 20% and 24%, respectively. Besides declining tourist visits from abroad, China's restrictive mobility measures and the adverse effects of COVID-19 in Wuhan affected Indonesia primarily through the textile and electronics sectors channel.

Unlike two previous major crises in 1998 and 2008, when banking sector-linked corporations were the hardest hit, supply-side disruptions originating from China during the COVID-19 pandemic severely affected physical-contact-intensive and labour-intensive sectors in Indonesia. These were mainly MSMEs and informal businesses in low value-added (VA) sectors such as agriculture and service sectors.

#### 3.2.1 *Support for MSMEs*

Responding to supply-side shock, Indonesia's government provided a policy package focusing on MSMEs, strategic sectors (i.e. tourism and other low VA

sectors), regional and local governments, and state-owned enterprises (SOEs). For an economy with a high share of informality like Indonesia, MSMEs' resilience is profound because they account for 97% of total employment, 61% of GDP, 14.4% of non-oil and -gas exports, and 60% of gross capital formation. Therefore, a major blow to MSMEs is also a major blow to per capita GDP and the entire economy, not to mention women's livelihood since 60% of MSMEs is run by women.

Fiscal relief for MSMEs, including SOEs, increased by more than 7% from Rp173.17 trillion in 2020 to Rp186.81 trillion in 2021. Relief was delivered through, amongst others, interest rate subsidies, tax relief, access to working capital, state equity participation for SOEs, cash transfer for MSMEs, and loan restructuring. The government also provided incentives and compensation for MSMEs in several strategic tourism spots.

### 3.2.2 Support for Labour-Intensive Sectors

Figure 4.11 reports that informal employment comprises about 57% of the Indonesian economy. Agriculture, manufacturing, and wholesale and retail trade sectors – are the top three GDP contributors – of informal workers. Agriculture (13% of GDP) consists of 88% informal workers, wholesale and retail trade (14% of GDP) is 67% informal, while manufacturing, whose contribution to GDP is the highest (21%), is only 37% informal.

Due to this distinctive nature of GDP contribution *vis-à-vis* informal employment, effective delivery of fiscal relief depends on industrial – labour relations in each sector. For instance, in the agriculture sector and the wholesale and retail

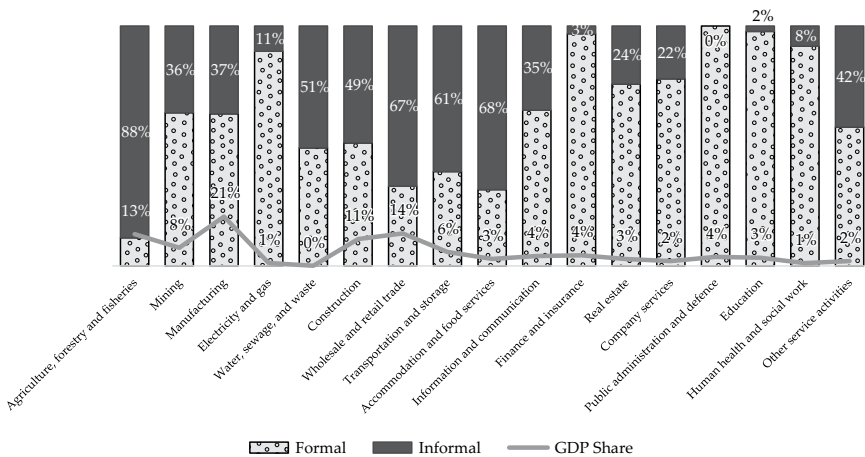


Figure 4.11 Informal and Formal Workers by Sector, 2019 (% of GDP)

Source: Author's calculations based on data from Census and Economic Information Center (2021c) and Statistics Indonesia (2020a)

trade sector, direct fiscal relief through social protection expansion would be more effective than tax incentives, working capital loan access, and debt restructuring. Meanwhile, fiscal relief delivery for sectors with low informal employment such as manufacturing may be more effective if provided for both employers and employees through tax incentives, access to working capital loans through state guarantee provision, and credit restructuring. In 2020, tax relief worth Rp123 trillion was allocated to businesses, but only 47% of this was absorbed, hence the allocation was decreased in 2021, i.e. Rp53.86 trillion or 7% below the tax incentive allocation absorbed in 2020. Relief included a temporary waiver for personal income tax (PIT), corporate income tax (CIT), and government-borne worker's withholding income tax that aim to maintain purchasing power. Income tax incentives are amongst the most considerable tax reliefs that aim to help businesses' cash flow. Accelerated value-added tax (VAT) refunds were also awarded to ease corporate liquidity while tax holidays on imports were implemented to spur production activities.

The government also encouraged targeted SOEs to strengthen their capital structure, amongst others, by providing capital injection and compensation. Criteria for selecting SOEs to be supported include asset size, exposure to the financial system, government share in the selected SOE, and how vital the selected SOE's operations are to the people and the government.

At a time when extra spending is needed to jumpstart a hibernating economy, close the infrastructure gap, and expand social protections and health care capacity, the revenue side of the state budget (Table 4.2) or domestic revenue mobilisation should go up. Domestic revenue mobilisation will help the country flatten the debt curve ahead. To maintain a  $-5.7\%$  fiscal deficit in 2021 or less in the coming years, the tax revenue-to-GDP ratio (tax ratio) must therefore match the fiscal consolidation plan. The financing strategy should also aim to improve the fiscal buffer, cash management, investment financing effectiveness ( $0.8\text{--}1\%$  GDP), and borrowing costs.

#### **4. Fiscal Sustainability and the Need for Further Reform**

##### *Lessons Learned*

The COVID-19 pandemic has highlighted the need for further reform. Indonesian Finance Minister Sri Mulyani emphasised the importance of using this crisis as an opportunity to continue with ongoing economic reforms (ADB and Indrawati, 2020).<sup>8</sup> Indonesia recently moved up to upper-middle-income country category and is aspiring to be a high-income country by 2045. Economic growth above its potential or around 5% of pre-pandemic era growth is greatly needed to achieve that long-run development goal.

However, as the recovery ahead will be incremental and subject to the development of COVID-19 vaccines, the government will need to continue supporting vulnerable households and businesses while considering medium-term fiscal sustainability. The temporary breach of the 3% maximum fiscal deficit stipulated

Table 4.2 Indonesia's State Budget, 2020–2021 (Rp trillion)

Category	2020			2021		
	State budget as of Presidential Decree 72/2020	Disbursement as of December 31	%	State budget	Disbursement as of February 29	%
A. Government revenues	1699.95	1633.6	96.1	1743.6	219.2	12.6
1. Tax revenue	1198.8	1070	89.3	1229.6	146.1	11.9
2. Customs and excise	205.7	212.8	103.5	215	35.6	16.6
3. Non-tax revenue	294.1	338.5	338.5	298.2	37.3	12.5
4. Grants	1.3	12.3	945.8	0.9	0.1	6.2
B. Government spending	2739.2	2589.9	94.6	2750	282.7	10.3
I. Central government	1975.2	1827.4	92.5	1954.5	179.7	9.2
1. Ministries expenditure	836.4	1055	126.1	103.2	97	9.4
2. Non-ministries expenditure	1138.9	772.3	67.8	922.6	82.7	9
II. Regional transfers	763.9	762.5	99.8	795.5	103	13
1. Transfer to regions	692.7	691.4	99.8	723.5	99.2	13.7
2. Village funds	71	71.1	99.9	72	3.8	5.3
C. Primary balance	-700.4	-642.2	91.7	-633.1	-23.2	3.7
D. Deficit	-1039.2	-956.3	92.0	-1006.4	-63.6	6.3
% to GDP	-6.34	-6.09		-5.7	-0.36	
E. Financing	1039.2	1190.9	114.6	1006.4	273.1	140.5
I. Government debt	1220.5	1226.8	100.5	1177.4	273.0	23.2
1. Government securities (net)	1173.7	1117.2	95.2	1207.3	271.4	22.5
2. Loan (net)	46.7	49.7	106.4	-29.9	1.6	-5.5
II. Investment financing	-257.1	-104.7	40.7	-184.5	0	0
1. SOEs	-31.5	-31.3	99.4	-3.7	0	0
2. Other government agencies	-5.0	-25.0	74.5	-5.0	0	0
3. Public services agencies	-42.0	-31.3	500	-6.1	0	0
III. Lending	5.8	1.5	25.8	0.4	0	0
IV. Guarantee	-0.6	-3.6	609.6	-2.7	0	0
V. Other financing	70.6	70.9	100.4	15.8	0	0.2
Budget surplus/(Budget deficit)					209.5	

Abbreviations: GDP = gross domestic product, SOEs = state-owned enterprises

Source: Indonesia's Ministry of Finance (2021b)

by law is unsustainable. Short-run stimulus through both fiscal and monetary policies must be accompanied by structural reform to unlock Indonesia's growth potential (The Jakarta Post, 2020).

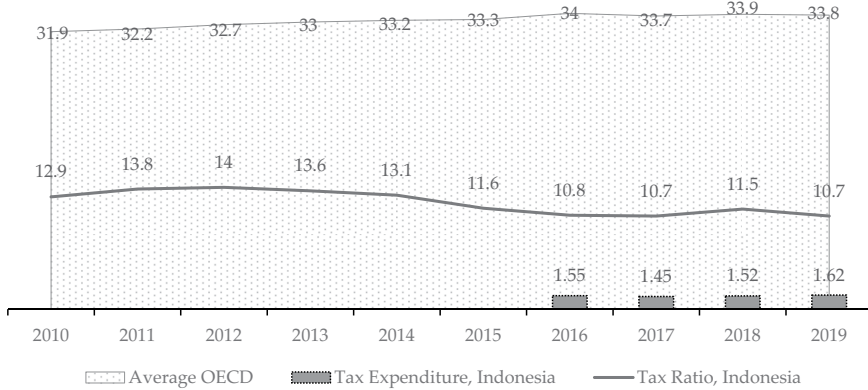
Reforms are currently underway in the areas of revenue and spending, social safety nets, education, health, data for better policymaking, productivity, and competitiveness. The recently enacted 'Omnibus Bill' on job creation (UU Cipta Kerja) aimed to, amongst others, induce growth-enhancing investment and simplify labour market regulations to increase employment creation. The law represents the government's political willingness to push structural reform despite the pandemic. One implication of the law is the establishment of Indonesia's sovereign wealth fund, Indonesia Investment Authority (INA), designed to invite domestic and foreign investors to co-invest in priority projects including infrastructure.

In terms of fiscal policy reforms, we emphasise three major points to consider: first, a sound macroeconomic framework goes a long way. Stable ratings in 2020, just when many other countries were being downgraded, highlight the importance of prudent macroeconomic management. Hill (2021) acknowledges that 'Indonesia's macroeconomic policy framework has held up well' during the pandemic. However, there is no such thing as free lunch. Fiscal and monetary prudence must be maintained post-pandemic to ensure medium-term fiscal sustainability and overall soundness of the macroeconomic policy, including domestic revenue mobilisation and improvement in spending quality. Indonesia's government should soon return to the 3% fiscal deficit cap stipulated by the law.

Second, in terms of domestic revenue mobilisation, taxation serves as an automatic stabiliser in the economy's circular flow. The less disrupted the economy, the less friction there will be in government revenue collection, mainly tax collection. In other words, increased tax revenues typically follow economic recovery, *ceteris paribus*, unless there are problems regarding behavioural compliance and/or administrative issues.

Before the pandemic hit Indonesia, annual tax revenue growth was at 9.9% on average. In 2020, tax revenue deviated from this trend as COVID-19 eroded business income, household income, and consumer spending. Before Statistics Indonesia officially announced the country's 2.07% GDP growth contraction on 5 February 2021, the Ministry of Finance projected contraction of -1.7% and 0.6% in 2020. With tax revenue comprising almost 79% of the national budget – of which 80% is income tax from non-oil and -gas sectors, including VAT – tax revenue shortfall was and will be unavoidable.

Indonesia's average tax ratio is at the level of low-income countries, according to the World Bank's Indonesia Public Expenditure Review (2020), and the lowest in the Asia – Pacific according to the Organisation for Economic Co-operation and Development (OECD)'s Revenue Statistics in Asian and Pacific Economies report (2020). The tax ratio has stagnated at 10% of GDP on average after 2015, lower than its peers in the Association of Southeast Asian Nations (ASEAN) – Malaysia, the Philippines, and Thailand. Even worse, it has been declining at a rate of 0.1% GDP every year since 2010, per author's calculations. As presented



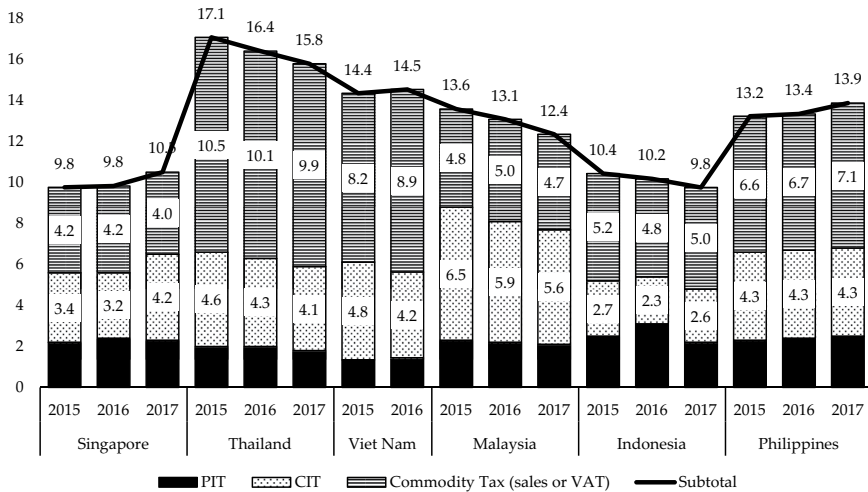
**Figure 4.12** Tax Ratio Within a Decade Compared to OECD Average (tax revenue as % of GDP)

Source: Author's calculations based on data from OECD (2020, 2021), Indonesia's Directorate General of Taxes (2021a), and MUC Consulting Group (2020)

in Figure 4.12, within the last decade, it was only between 2010 and 2015 that Indonesia managed to reach a tax ratio of 13.2% on average and a peak of 14% in fiscal year 2012.

Amongst ASEAN countries, Indonesia's corporate income tax (CIT) and personal income tax (PIT) rates are relatively and equally comparable, with a 22% CIT rate, 10% VAT rate, and a 5–30% PIT rate applied to four income brackets, Indonesia's formal tax rate can generally be considered much lower than in Malaysia, the Philippines, Thailand, and Viet Nam. Yet, Indonesia's tax ratio tells a different story (Figure 4.13). Tax revenue collection in Indonesia seems to somewhat lag compared to the five other big economies in ASEAN with comparable formal tax rates. Effectiveness of tax rates might better explain Indonesia's underperformance. As demonstrated in Figure 4.13, commodity tax (such as VAT or sales tax) contributes the most to the tax ratio in all five economies, except for Malaysia, where CIT has the highest share relative to the whole tax ratio.

The standard deduction (known as PTKP) in Indonesia,<sup>9</sup> has even increased significantly to US\$23,800 on an annual purchasing power parity (PPP) basis since tax reforms were implemented in the last decade. Indonesia's PPP-basis standard deduction for PIT is higher than in Malaysia (US\$10,241) and the Philippines (US\$12,243) but much lower than in Singapore (US\$25,664), Thailand (US\$26,464), and Viet Nam (US\$32,571). Yet, these five economies perform better in terms of tax ratio. These differences in tax revenues between Indonesia and the five other big ASEAN economies might indicate the influence of institutional factors such as informality, tax compliance, administrative issues, and fiscal policy issues.



*Figure 4.13* Comparison of ASEAN Member States' Tax Ratios (tax revenue as % of GDP)

Abbreviations: ASEAN = Association of Southeast Asian Nations, CIT = corporate income tax, PIT = personal income tax, VAT = value-added tax

Source: Author's calculation based on data from OECD (2020)

Besides the tax base's sensitivity to the domestic economy, other aspects such as tax compliance and fiscal policies (e.g. tax incentives, tax amnesties, and other facilities not limited to tax expenditure) reduce the effectiveness of short-run revenue collection, thereby decreasing the tax ratio. Before 2017, formal compliance rates were around 60% on average. In 2017 and onwards, the rate increased to 63% and peaked at 72% in 2019 (Indonesia's Directorate General of Taxes, 2020). However, from the start of the pandemic until 31 March 2021, formal compliance declined significantly to only 59.3%<sup>10</sup> (Kontan, 2021).

One of the many causes of poor compliance is the simplification of small business taxation. It is an unfortunate situation in which tax regime change may have inadvertently incentivised tax avoidance (Saputro, 2021). Even though tax expenditure increased or, in other words, higher revenue forgone was allocated to industries and individuals, the tax regime did not produce the expected results, especially for SMEs. Changing the revenue threshold, which was intended to simplify the tax regime, define a tax base for business taxation, and increase tax revenue, in fact only encouraged tax avoidance.

Compliance behaviour changes when so-called bunching effects occur as expressed in Saputro (2021). Many taxpayers deliberately declare their revenue equal to or just below the threshold for tax base determination in the new tax regime. In other words, decreasing the tax rate may not be optimal as suggested by the Laffer Curve, because a lower marginal tax rate has not resulted in higher

tax revenues (Trabandt and Uhlig, 2011). Instead, the new tax regime has led to tax avoidance and exposed Indonesia's tax ratio to risk. This behavioural phenomenon in Indonesia is one amongst many pieces of evidence of tax base erosion and regime change-led tax avoidance.

The previously mentioned tax compliance issue, amplified by demand and supply shocks in the domestic economy, combined with increasing tax expenditure from 2016 to 2019 in the form of regular tax incentives, as well as irregular incentives that aim to ease corporate and household balance sheets – all these factors affect Indonesia's tax ratio.

Indonesia's tax buoyancy is still sensitive to global commodity prices. The buoyancy index in the last decade was below one ( $< 1$ ), meaning that the growth rate of tax ratio in Indonesia has not met the growth rate of its economy. In other words, not all economic growth enjoyed by Indonesia is reflected in the current tax ratio with the existing tax rate and tax regime. Hence, policy response and breakthrough (e.g. fundamental, structural, and administrative reforms) are needed.

Taken together, several factors including (1) a macroeconomic-led tax base shock, (2) taxpayers' compliance, (3) race to the bottom with regard to CIT, VAT, and PIT rates, (4) global commodity prices, and (5) a changing economic structure (e.g. the rise of the digital economy) might explain Indonesia's low tax ratio and growing calls for fiscal and administrative reforms. At the same time, pressure mounts to increase government spending as an immediate response to the pandemic. As a result, both government revenue and government spending are likely to contribute to worsening fiscal sustainability and widening financing gaps as explained in Figure 4.14.

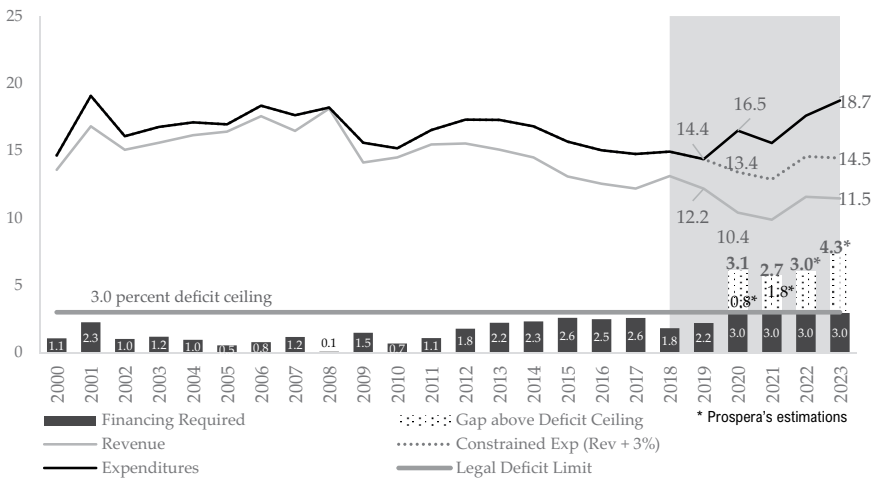


Figure 4.14 Expenditure, Revenue, and Fiscal Deficit (% of GDP)

Abbreviations: Exp = expenditures

Source: Indonesia's Directorate General of Taxes (2021b) and Prospera (2020)

However, administrative tax reforms in emerging markets usually take 6 to 10 years to successfully take effect (World Bank, 2020). Mexico, for example, undertook reforms in two waves (2002–2008 and 2013–2014). With a baseline tax ratio of 14.2% before the reform, Mexico succeeded in reaching a 16.6% tax ratio several years later in 2017. Bulgaria raised tax ratios significantly from 18% to 23.8% in 2009 after administrative reforms began in 2002. Besides implementation and other policy lags (i.e. legislative lag, recognition lag, and impact lag), policy design for tax reforms are not always effective. Furthermore, concerning domestic revenue mobilisation, tax reform is not an end goal but serves only as a means to achieve medium-term fiscal sustainability and to iterate toward an optimal tax system.

Third, spending reforms are indispensable. Even before the outbreak of COVID-19, several cross-cutting issues related to spending were emerging. Figure 4.14 records that both government expenditure and revenue decreased from 2014 until 2019. Low government expenditure in Indonesia is due to low domestic revenue mobilisation. Compared to neighbouring countries<sup>11</sup> such as Malaysia, the Philippines, Thailand, and other emerging market and developing economies (EMDEs), Indonesia’s government expenditure as a percentage of GDP (16.6%) is too low to close development gaps.

The trajectory and magnitude of government expenditure between 2016 and 2021 (Figure 4.14), improved in line with the development of energy and fertiliser subsidies (Figure 4.15). Decreasing energy subsidy starting in 2019 provided space in the state budget during the pandemic. Fiscal space accumulated after the 2014–2015 subsidy reforms were used by the government to fund vital spending and investments for medium- and long-term development, such as in infrastructure and human capital.

In addition, spending reform in 2014 gave liquidity space not only for the government but also for energy-producing SOEs (e.g. Perusahaan Listrik Negara

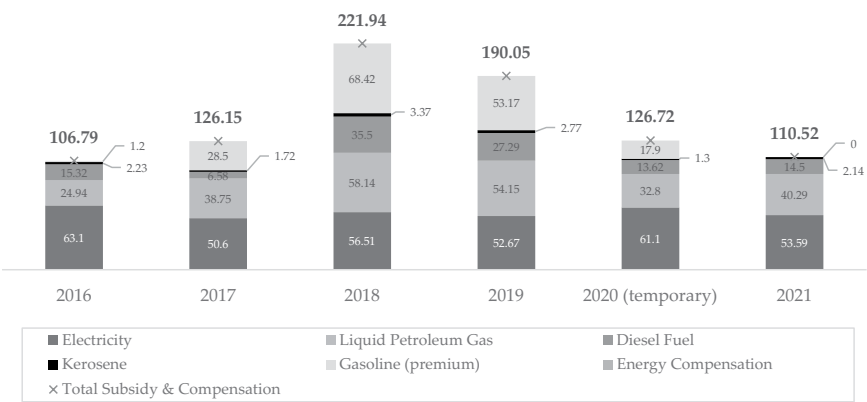


Figure 4.15 Energy Subsidy, 2016–2021 (Rp trillion)

Source: Prospera (2021) and Indonesia’s Ministry of Finance (2021a, 2021b)

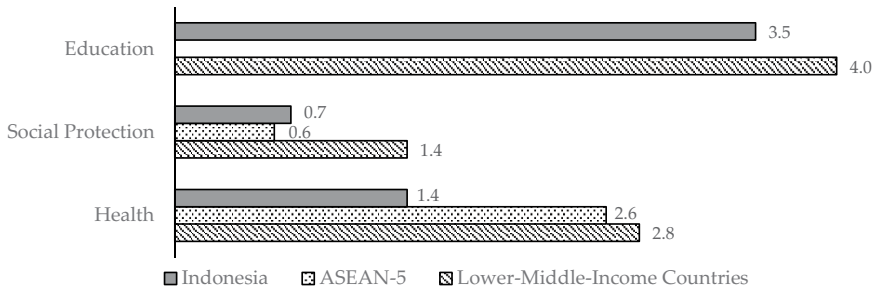


Figure 4.16 Comparison of Human Capital Government Expenditures (% of GDP)

Abbreviations: ASEAN-5 = Indonesia, Malaysia, the Philippines, Singapore, and Thailand; GDP = gross domestic product

Source: World Bank (2020) and author's estimations for education

and Pertamina) to rejuvenate their financial performance, which had long been overburdened by energy subsidies. Yet, even with a low fiscal deficit in 2018, the government faced quantity issues in terms of expenditure, which hindered it from expanding health, nutrition, sanitation, social protection, education, and infrastructure spending.

Before the pandemic, Indonesia's social protection, public health, and public education expenditures were relatively low compared to average expenditure of the rest of ASEAN-5 (Indonesia, Malaysia, the Philippines, Singapore, and Thailand), and its lower-middle-income country (LMIC) peers. As seen in Figure 4.16, Indonesia's health expenditure was only 1.4% of GDP before COVID-19 hit, much lower than that of ASEAN-5 (2.6% of GDP) and LMICs (2.8% of GDP). Public education expenditure was also lower than ASEAN-5 and LMICs, although social protection expenditure outweighed its Southeast Asian peers'. Considering Indonesia's massive demography composed of 47% aspiring middle class and 30.1% vulnerable and needy, the inadequacy of health, education, and social protection spending is an alarming pre-pandemic vulnerability in human capital development.

Each rupiah the government spends comes with an opportunity cost for public administrators and the society. During the pandemic, fiscal allocations for medium- to long-term productive expenditures such as human capital and infrastructure are jeopardised by limited fiscal space. In addition, the pandemic has also changed the spending behavior of households, businesses, and the government. As revenues erode, fiscal authorities give their best effort to make every dollar in the state budget count.

Inadequacy has therefore been an issue both before and after the pandemic. Moreover, according to the World Bank, some systemic issues like data quality, delivery systems, national – subnational coordination, constraints in private participation, and planning-budgeting inconsistencies also impede Indonesia's development progress. Thus, *spending more* and *spending better* are both critical.

Declining government revenue since 2020 has nudged fiscal authorities to prioritise spending by allocating rupiahs to areas with the largest net economic and socio-economic returns. Instead of undertaking budget austerity, Indonesia's government reallocated expenditure in the second quarter of 2020 in order to survive the pandemic, and revive, jumpstart, and, if possible, transform the economy. Several steps can be made to strike a balance between immediate short-run spending needs (e.g. vaccination, COVID-19 treatment, and demand-side support) and medium- to long-run expenditure to narrow the infrastructure gap worth US\$1.6 trillion and the human capital gap.

First, energy and subsidy reforms can be pushed further by gradually transforming sector-based subsidy expenditure (e.g. energy and fertiliser) into individual or household-based subsidies. Second, the government needs to improve data-information systems (e.g. integrated social welfare system or *Data Terpadu Kesejahteraan Sosial*), delivery systems, and public expenditure outcomes evaluations. Third, some tax expenditures need to be seriously reassessed. For instance, VAT exemption can be redirected to more household-based expenditures such as conditional cash transfer programmes (e.g. Program Keluarga Harapan, PKH) to enhance social protection expenditure. Any new fiscal space could also be used for early childhood education, workers' training, as well as retraining to help people adjust to the changing economic structure. Fourth, the regional transfer incentive system can be rejuvenated by continuing to use regional incentive funds (Dana Insentif Daerah or DID) while reformulating physical special allocation funds (Dana Alokasi Khusus or DAK). Rejuvenating the regional transfer system could incentivise fast-growing urban areas to improve their development and help implement beneficiary-based transfers, which takes into consideration the number of school-age children, the number of poor and vulnerable families, as well as proximity to basic infrastructure and public services.

From the perspective of policymaking, countries all over the world are in the same boat, facing the same storm, no matter the income status. Extensive fiscal policy must be implemented effectively despite minimal fiscal space. Indonesia is no exception. It is crucial for the country to continuously strengthen countercyclical policy while maintaining fiscal space in times of crisis. Optimal revenue, high quality spending, and prudent below-the-line financing have to be achieved whether via short-run optimisation efforts or a series of long-run structural reforms.

Indonesia's below-the-line financing realisation in 2020 was around 46% of government spending, or 8% exceeding its target. This is significant once we compare it to the revenue-to-spending ratio of 63% in 2020. That significantly below-the-line financing worth of Rp1,190 trillion in 2020 opens a wide window of opportunity for economic growth while at the same time enabling the government to deliver more public services through SOEs during a pandemic. However, inherent in that opportunity is the fiscal risk posed by SOEs.

By 2019, the size of Indonesia's SOEs was more than Rp9,000 trillion or about three and a half times the size of the state budget. SOEs whose businesses are in the financial services sector and the energy, oil, and gas industry dominate more

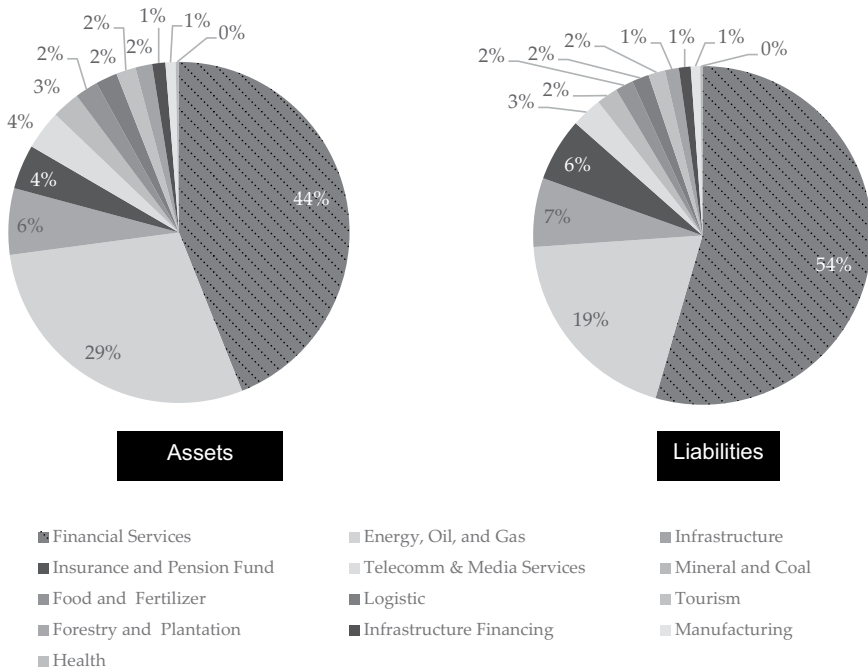


Figure 4.17 Indonesia's State-Owned Enterprises: Assets and Liability Share, 2019

Source: Indonesia's Ministry of State-Owned Enterprises (2021) and author's estimations

than 70% of SOEs' assets and liabilities share (Figure 4.17). About 90% of all SOEs are owned by the government with a share of 51–100%, but not all SOEs perform well financially, even before the COVID-19 pandemic.

Risks exposure to the state budget is transmitted by SOEs through at least two channels. The first channel is the financial structure of a particular SOE's corporate balance sheet, as measured by (but not limited to) the debt-to-equity ratio (DER). The second channel is the SOE's commercial performance measured by return-on-equity (ROE) and return-on-assets (ROA).

As described in Figure 4.18, before the COVID-19 pandemic, SOEs in the financial services, manufacturing, and health sectors were considered the top three vulnerable SOEs with a DER above three. This means that once they become financially insolvent and operationally non-performing, they could potentially expose high risks to fiscal space through below-the-line financing if/when they request a capital injection from the state budget. In terms of efficiency, the bottom three SOEs are those in insurance and pension funds, food and fertiliser, and forestry and plantation.

Therefore, similar to the revenue and spending side of the state budget, below-the-line financing needs reform to make it more efficient and to minimise the risk

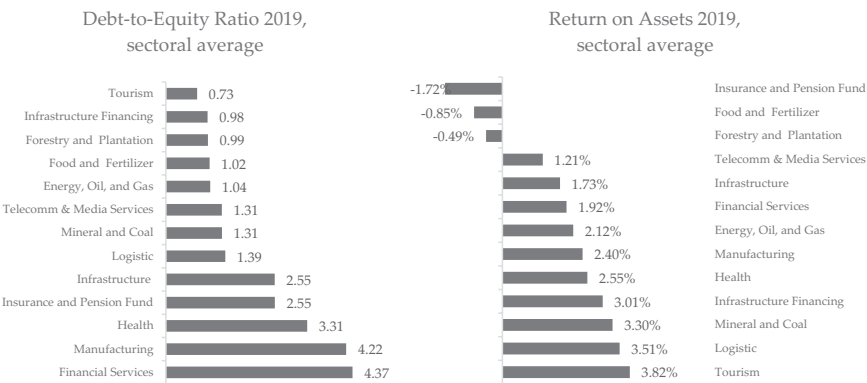


Figure 4.18 Indonesia’s State-Owned Enterprises: DER and ROA by Sector

Abbreviations: DER = Debt-to-Equity Ratio, ROA = Return on Assets

Source: Author’s estimations based on data from Indonesia’s Ministry of State-Owned Enterprises (2021)

it poses to the budget. In the short run, reform can be undertaken, for example, through divestment of financially non-performing SOEs or of SOEs whose contributions to public service are relatively small, or else through improving the efficiency of SOEs whose provision of public goods or services is considered suboptimal.

5. Conclusion

The COVID-19 crisis is unprecedented in scale and length. Beyond causing financial and standard macroeconomic distress, the crisis has brutally resulted in a massive death toll, mobility freeze, and on top of that, prolonged uncertainties and vulnerabilities. The Global Volatility Index has hit a record high over the last three decades. Meanwhile, for Indonesia and many emerging countries, the early stages of the crisis in March 2020 marked a rebound momentum reversal and sudden massive capital outflow more severe than during the Taper Tantrum of 2013 and the GFC. But, thanks to sound macroeconomic stability, manageable fiscal deficit since the commodity boom in 2013, and stable ratings, Indonesia’s economic contraction has not been as deep as its neighbouring countries.

Still, no matter the size of the economy, economies all over the world are in the same boat, facing the same challenges. Together, they are required to have the capability to protect lives and sustain livelihoods while walking a thin line between narrowing fiscal space, increasing debt burden, and sluggish monetary transmission. Therefore, in a situation where demand freeze conditions (i.e. as indicated by credit contraction, risk aversion, and low consumption appetite) converge with liquidity trap conditions (i.e. as indicated by ample liquidity despite dimmed

monetary transmission), a ‘do nothing’ policy becomes a non-viable option. Fiscal policy should take a more prominent role in jumpstarting the economy out of hibernation. Altogether, these issues open wide the window for reforms. However, this window will not stay open long as opportunities come and pass.

Going forward, three areas of reform are essential. *First*, domestic revenue mobilisation is urgently needed to increase the tax ratio and ensure medium-term fiscal sustainability and sound macroeconomic policy. Hence, fiscal stimulus needs to be effectively delivered to ease macroeconomic shocks and gradually expand the tax base. Taxpayer compliance behaviour; ineffective tax expenditure or amnesty; a tendency for a race to the bottom with regard to CIT, VAT, and PIT rates; as well as the changing economic structure (e.g. digitalization of the economy) must be taken into account in the domestic revenue mobilisation agenda.

*Second*, spending reforms are indispensable. For Indonesia, spending more and spending better are critical. With subsidy reform (i.e. from commodity-based to beneficiary-based), improvements in data gathering and evaluation of social protection spending, effective reassessment of tax expenditure, and rejuvenation of regional transfers – the government could gain fiscal space for spending more on areas with high multipliers. Last but not least, external and internal (e.g. from SOEs or quasi-fiscal channels) risk exposure to the state budget should be minimized in order to make below-the-line financing more efficient and cost-effective.

## Notes

- 1 Out of 140 economies, Indonesia’s competitiveness ranking dropped to 50th in 2019 from 45th in 2018.
- 2 Fiscal deficit under the original budget was 1.76%, revised to 5.07% under Presidential Regulation No. 54/2020 and to 6.34% under Presidential Regulation No. 72/2020 as conditions became more severe than originally expected.
- 3 PT Bank Mandiri (Persero) Tbk (BMRI), PT Bank Negara Indonesia (Persero) Tbk (BBNI), and PT Bank Rakyat Indonesia (Persero) Tbk (BBRI), all state-owned enterprise (SOE) banks, had LaRs of 22.91%, 28.01%, and 29.76%, respectively. PT Bank Central Asia Tbk (BBCA), the biggest private bank in Indonesia, had a LaR of 18.53%.
- 4 Priority programmes include sectoral job creation by line ministries, the food estate programme, industrial zone development, regional loans, tourism programmes, information and communication technology expansion, and others.
- 5 *Jabodetabek* is an abbreviation for Jakarta, Bogor, Depok, Tangerang, and Bekasi areas.
- 6 A typical exclusion and inclusion error in the social distribution in developing countries.
- 7 Appropriately targeted and fully disbursed social protection with minimal leakage.
- 8 Speech by Indonesia’s Minister of Finance at the Asian Development Bank’s 53rd Annual Meeting of the Board of Governors (2nd Stage) on 17–18 September 2020.
- 9 PTKP refers to standard deduction for personal income taxpayers (stands for *Penghasilan Tidak Kena Pajak*). By Indonesia’s Income Tax Law, PTKP acts as a deduction for individual’s and/or household’s income. Intuitively, the larger the family (maximum of three children), the higher the PTKP, the smaller the tax base for personal income tax (PIT).

- 10 Around 11,277,713 out of 19,006,794 active individual and corporate taxpayers have filed their annual tax returns as of 31 March 2020 (the due date for filing tax return according to law), as calculated by the Indonesia's Directorate General of Taxes (2021).
- 11 Ratio of public spending to GDP in 2018 was about 23% for Malaysia, 21% for Thailand, 21% for the Philippines, and 32% on average for emerging market and developing economies (EMDEs), according to the World Bank's *Indonesia Public Expenditure Review: Spending for Better Results* (2020).

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# 5 COVID-19 in Indonesia

## The Significance of Social Safety Nets

*Sudarno Sumarto and Zahra Amalia Syarifah*

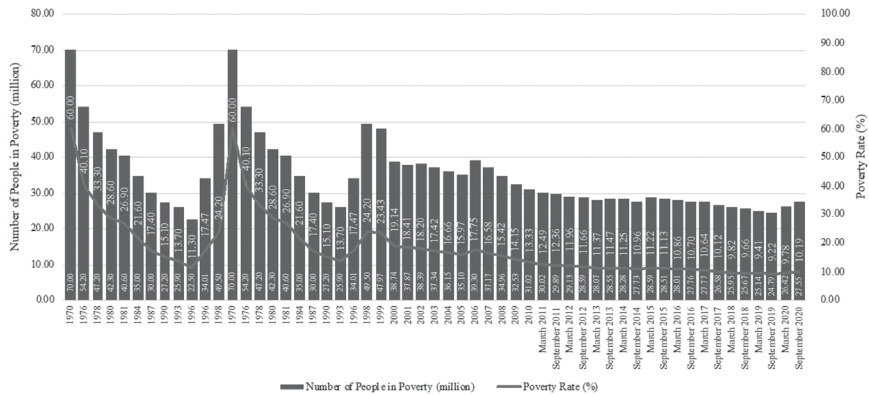
### 1. Introduction

When the coronavirus disease (COVID-19) swept across the globe in 2020, Indonesia was not exempt from its impacts. To soften the pandemic's adverse economic effect, the Indonesian government mobilised its welfare system to act as a social safety net. The extensive breadth and coverage of the welfare programmes rolled out by the government in 2020 played a key role in mitigating Indonesia's economic contraction to  $-2.07\%$ , which is well below the global average of  $-3.5\%$ . With the pandemic still not under control as of 2021, the Indonesian government reoriented its recovery strategy, which entails a change in the social programme mix, to ensure inclusive economic growth.

In March 2020, Indonesia announced its first COVID-19 case – much later than its neighbouring countries, which recorded their first cases as early as January 2020. Fearing an economic slowdown, the government initially downplayed the danger of the virus and even launched a tourism campaign to entice travellers to visit the country – despite the rising global COVID-19 case numbers. However, with the global number of new cases in the thousands as of March 2020, the prospect of an economic downturn is becoming more palpable.

Indonesia had been enjoying steady growth since the Asian financial crisis of 1997–1998, but fear of COVID-19 in urban areas and a slowing global economy brought this to a halt. When Statistics Indonesia announced its March 2020 poverty figures (Statistics Indonesia, 2020b), more than 2 years of poverty reduction efforts had evaporated as Indonesia's poverty rate climbed to  $9.78\%$  – close to its 2018 level (Figure 5.1). By September 2020, the rate had risen further to  $10.19\%$  or an additional 2.76 million new poor from September 2019 (Statistics Indonesia, 2020a). With a slow vaccine rollout, things may still get worse, and Indonesia's years of poverty alleviation efforts are at risk of being reversed as people fall into poverty.

Despite the increase in the poverty rate, this number was still below the projected numbers (Table 5.1). The Asian Development Bank, for example, forecast a rate as high as  $12.8\%$  (ADB, 2020). The actual outcome is an extraordinary achievement, considering that Indonesia experienced a significant economic contraction of up to  $-5.32\%$  in the second quarter of 2020 (Statistics Indonesia,



*Figure 5.1* Poverty Rate in Indonesia (January 1980 to March 2020)

Note: The poverty line calculation method was improved in 1996

Source: Statistics Indonesia (2021a)

*Table 5.1* Various Estimates of the Poverty Impact of COVID-19

Source	Lower Estimate	Upper Estimate
Suryahadi, Izzati, and Suryadarma (2020)	0.5%	7.3%
Kacaribu (2020)	+1.3 million new poor 0.4%	+20.0 million new poor 1.4%
Asian Development Bank (2020)	+1.2 million new poor 2.5%	+3.8 million new poor 3.4%
Yusuf (2020)	+7.1 million new poor 0.9%	+9.7 million new poor 1.3%
World Bank (2020)	+2.5 million new poor 1.9%	+3.6 million new poor 3.0%
The National Team for the Acceleration of Poverty Reduction, TNP2K (2020)	+5.5 million new poor 2.2%	+8.5 million new poor 4.2%
	+6.0 million new poor	+11.2 million new poor

Sources: Authors' compilation

2020a). Towards the third quarter of 2020, various economic indicators had shown improvements with the prospect of mass vaccination against COVID-19 in 2021. Nevertheless, this negative growth trend remained until the first quarter of 2021 (Statistics Indonesia, 2021b). Additionally, socioeconomic problems brought about by the pandemic risk creating permanent damage if not swiftly addressed (SMERU et al., 2020)

Although the problems Indonesia faces seem dire, the country was more prepared for the COVID-19 crisis than the last great shock during the Asian financial

crisis. Prior to the pandemic, Indonesia had a social protection system in place that could serve as a cushion to dampen the impact of the crisis on the poor and vulnerable. What was different this time was that the impact of the crisis extended beyond the poor. As economic uncertainty and labour vulnerability were on the rise, citizens at every income level – except the richest 5% – experienced negative income growth from September 2019 to September 2020 (Statistics Indonesia, 2021b). With the pandemic's widespread economic impact, the government saw the need to expand social assistance beyond the poor by mobilising and expanding its social protection system for crisis mitigation at a scale never seen in the history of the modern Indonesian welfare system.

Faced with the prospect of falling into a deep recession, the government rolled out a Rp700 trillion (more than \$50 billion) National Economic Recovery Plan (PEN) in April 2020 (see Tables 5A.2 and 5A.3 in the Appendix). The PEN is a series of programmes designed to handle the pandemic and dampen the impact of COVID-19 on the Indonesian economy. While 14% of the 2020 PEN was allocated to health programmes, the rest (86%) was allotted to economic programmes – micro, small, and medium-sized enterprise (MSME) assistance; corporate financing; sectoral ministries/agencies and local government support; business incentives; and social assistance programmes that took up the bulk of the economic recovery budget. Out of nearly Rp600 trillion budgeted for economic programmes, Rp220.39 trillion or about 43% was allotted for safety net programmes. Additionally, out of the funds allocated for health programmes, Rp4.1 trillion (6.5% of the PEN health programme allocation) was budgeted to subsidise the poor and vulnerable population's National Health Insurance (JKN) premium.

Throughout 2020, social assistance measures in the PEN became the primary means for the government to support the poor and vulnerable population. In the first quarter of 2020, gross domestic product (GDP) plunged by 2.97% from a growth rate of 5.07% in 2019. This fall reflected an economic slowdown across various economic indicators, including sluggish growth in the business sector that employs millions of Indonesians. The Ministry of Manpower (2020) revealed that workers in both the formal and informal sectors were impacted by layoffs and reduced hours. From February to August 2020, unemployment rose from 4.94% to 7.07% (Statistics Indonesia, 2020c). What followed was a decline in household consumption and an increase in their likelihood of falling into poverty.

A host of social safety net programmes rolled out by the government through the PEN became an effort to protect the poor and vulnerable households' consumption and cushion their fall in income amidst this shock. The government's policy interventions to support households included (i) providing electricity subsidies for the poor and vulnerable households, (ii) expanding the coverage and increasing the amount of benefits for the Family Hope Program (PKH) conditional cash transfer and the *Program Sembako* food voucher recipients, and (iii) launching a cash transfer (BST), the Presidential Aid (Banpres) in-kind food assistance, and the Village Fund-Financed Cash Transfer (BLT-DD) for poor and vulnerable families not receiving PKH or the *Program Sembako* food voucher.

Programmes aimed at individuals – such as *Kartu Prakerja* (Pre-employment Card), an income support programme, and MSME support programmes – were also launched to complement these household-based assistance programmes and to provide support for the productive-aged vulnerable population who experienced employment shocks.

The extensive breadth and coverage of the welfare programmes rolled out by the government in the 2020 PEN played a key role in slowing down Indonesia's economic contraction amidst a global shock. In 2020, Indonesia managed to keep its GDP contraction at  $-2.07\%$ , which was well below the global average of  $-3.50\%$  and the emerging market and developing economies average of  $-2.45\%$  (International Monetary Fund, 2020). Despite this success, the government cannot afford to be complacent – particularly given that high spending on stimulus and aid, combined with low tax revenue as in the 2020 PEN, is untenable in the long run. With the pandemic still ongoing beyond 2020, the government had to 'restart the economic engine' and prevent lasting damage caused by the pandemic.

Section 2 examines how the Indonesian government mobilised its resources through the social welfare system to provide a safety net in cushioning the pandemic's socio-economic impact. It explores how various aid programmes were devised to achieve the government's objective of covering as much as 60% of the population at the height of the pandemic in 2020 and how the government had to adjust its budget posture for 2021 by focusing on productivity-enhancing policies to hasten economic recovery. Taking a retrospective approach, this chapter will also evaluate the extent of the government's success in making its social welfare system a key instrument in its crisis mitigation strategy. The chapter will conclude by reflecting upon the lessons learned from the current pandemic and offering several policy recommendations, particularly on how Indonesia could build a social protection system that better protects its citizens from vulnerabilities in a world profoundly changed by the COVID-19 pandemic.

## **2. Breaking the Fall: Mobilising Social Welfare for the COVID-19 Response**

Following the Asian financial crisis in 1997–1998, the Indonesian welfare system transformed from a set of exclusionary policies favouring Soeharto's support groups to a social safety net (JPS) to dampen the impact of the crisis on the poor (Aspinall, 2014). At that time, the government implemented several programmes to ensure food security, promote school enrolment, provide healthcare, create jobs through labour-intensive efforts, and empower communities through block grants. The 1997–1998 crisis was the first time that Indonesia mobilised its welfare system as a social safety net. This achievement was remarkable since developing countries like Indonesia do not usually have adequate social protection measures.

During the 2008 Global Financial Crisis, the government once again deployed the JPS. Given that the crisis mainly hit the more affluent citizens, the government

focused efforts on shielding the Indonesian financial system from the impact of the crisis at the macroeconomic level rather than on mobilising the social protection system. Today, with the COVID-19 pandemic's economic impact sweeping through the population, the JPS that the administration has implemented resembles that which followed the 1997–1998 crisis. The difference is that new external and internal socio-economic dynamics have drastically changed the landscape. With a raging pandemic that has added a health dimension to the crisis, adjustments had to be made. Amidst the COVID-19 pandemic, the Indonesian social welfare system plays a key role in providing a social safety net within the government's economic recovery plan.

The government recognised that social assistance spending, rather than tax incentives, was the appropriate policy response to the pandemic. Amidst an economic slowdown, tax revenues from commercial and business activities plummeted, which would have made tax incentives ineffective in stimulating growth. On the other hand, social assistance can increase household demand and accelerate economic recovery. Maintaining household consumption is important in slowing down Indonesia's economic contraction, particularly since it comprises 56.81% of the country's total GDP as of March 2019 (Statistics Indonesia, 2019). To mobilise social assistance as a catalyst for economic recovery, the government focused on two things: *first*, the provision and distribution of social assistance; and *second*, the expansion of social assistance to the middle class.

For the former, the government has managed to benefit from the existing social programmes' distribution channels and disbursement mechanisms. For instance, the government utilised the existing beneficiary eligibility data and distribution channel for *Program Sembako* to increase the benefit amount from Rp150,000 to Rp200,000 for six months in 2020 and to expand its eligibility list from 15.2 million to 20.0 million beneficiary families. The PKH saw a similar expansion in coverage (from 9.2 million to 10.0 million beneficiary families) as well as a 25% increase in the benefit for its recipients. Meanwhile, the electricity subsidy was expanded to reach an extra 500,000 households and 1.3 million business subscribers on top of the existing 31.1 million beneficiary families (Appendix, Table A1).

In the expansion of both *Program Sembako* and PKH, the Integrated Social Welfare Database (DTKS) played a key role in targeting beneficiary families. The DTKS is a social registry that lists and ranks the poorest 40% of households in Indonesia. It also contains the households' addresses and socio-economic information. Figures 5.2 and 5.3 show the distribution of both PKH and *Program Sembako* recipient households according to expenditure deciles – with 1 being the poorest 10% and so on – which exhibit the increase in the number of households receiving aid following the increased social assistance budget in the 2020 PEN. The two programmes, PKH and *Program Sembako*, did well overall in targeting the poor and vulnerable groups but they also suffered from leakages as some of those in the top deciles also received the programmes' benefits. Under normal circumstances, the existing social assistance programmes would reach the poorest 40% of households in Indonesia with the aid of the DTKS for beneficiary targeting. However, amid the socio-economic shocks caused by the COVID-19

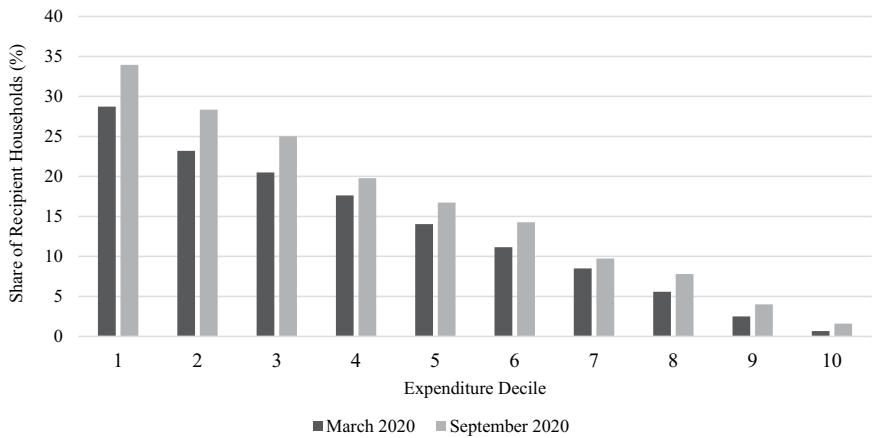


Figure 5.2 Distribution of PKH Recipient Households (March–September 2020) by Decile

Abbreviations: PKH = *Program Keluarga Harapan* (Family Hope Program) cash transfer

Source: Authors’ calculations, based on Statistics Indonesia (2021a)

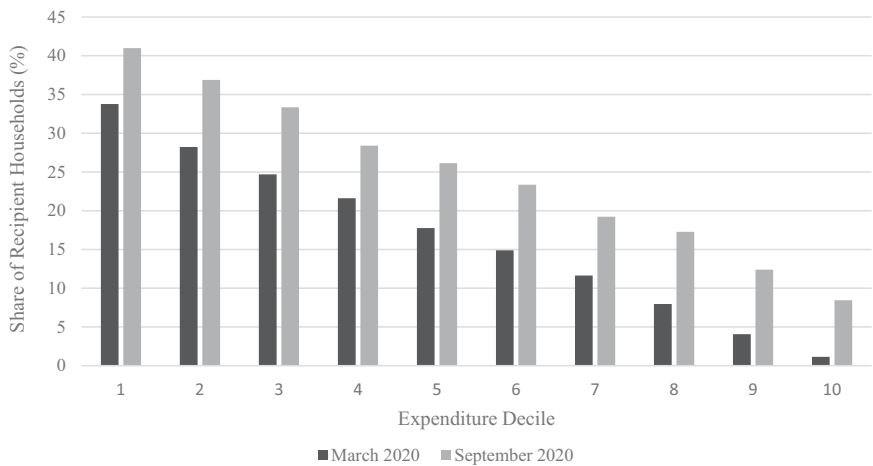


Figure 5.3 Distribution of *Program Sembako* Recipient Households (March–September 2020) by Decile

Source: Authors’ calculations, based on Statistics Indonesia (2021a)

pandemic, the government expanded the existing assistance programmes to reach individuals beyond the bottom 40%.

The government’s decision to extend assistance beyond the poorest 40% recognises two things. The *first* is that a static analysis of poverty masks its dynamic

nature, with many Indonesians still vulnerable to falling into poverty. A study by TNP2K (Febriady et al., 2018) found that more than 20% of Indonesians experienced poverty at least once between 2011 and 2013. This means that a considerable number of people move in and out of poverty over time. Covering those beyond the poorest 40% reflected the government's attempt to extend social protection to this vulnerable group. The *second* is how the COVID-19 crisis has disproportionately impacted not just the poor, but also the middle class.

With movement restrictions, those holding service and manual labour jobs who did not have the privilege of working remotely were more adversely affected. Statistics Indonesia (2020c) found that the ratio of people working in the informal sector lacking work insurance and a pension fund membership went up by 4.59% from August 2019 to August 2020. One reason for this could be women's increased participation in informal labour to supplement falling family incomes (Syarifah, 2022). However, a survey by the SMERU Research Institute (SMERU et al., 2020) also found that half of the people switching jobs amidst the pandemic moved to the informal sector. This suggests that the increase in informal labour might have been related to a general shift from formal to informal labour rather than simply women entering the labour market and taking up informal work. With the pandemic's widespread economic impact, the government saw the need to expand social assistance beyond the poor.

To both expand social assistance to the middle class and cover the bottom 40% that were missed by the DTKS, the government launched several ad hoc programmes in response to the pandemic. These programmes were mainly targeted at poor and vulnerable productive-aged individuals and those living in urban areas. The economic impact of the virus was especially dire in urban areas, where almost half of Indonesia's population lives. This was evident as almost 78% (or 876,500 people) of the 1,125,600 people being pushed into poverty from March to September 2020 were located in urban areas (Statistics Indonesia, 2020b). As a part of the 2020 PEN, the government launched the Banpres in-kind food assistance programme for poor and vulnerable households in the Greater Jakarta area. Meanwhile, for those in urban areas outside Greater Jakarta, the government launched the BST cash transfer programme.

To disburse the new programmes' benefits, the government partnered with several state-owned enterprises. For instance, it utilised *Program Sembako's* distribution channel and replicated its disbursement mechanism. Under normal circumstances, state-owned banks have the mandate to issue debit cards and top-up food vouchers for *Program Sembako* recipients. In response to COVID-19, state-owned banks were authorised to transfer cash to their account holders who were listed as eligible beneficiaries. Recognising that not all potential beneficiaries had bank accounts, the government partnered with Pos Indonesia, the national postal company, to disburse benefits. In the absence of bank accounts, beneficiary families could obtain a benefit eligibility card from their local postal service and cash out their transfers there. This was not the first time that Pos Indonesia was involved in social programme implementation as up until 2017, it was the government's partner in benefit disbursement for a host of regular social

assistance programmes before transfers were disbursed through banks and later on e-wallets. These changes in the disbursement mechanism for regular transfers saw Pos Indonesia's role scaled back to distributing disaster relief on an ad hoc basis.

Besides utilising existing distribution channels, the government recognised that with a projected fall in tax revenue and increased spending for the 2020 PEN, they had to tap into other funding sources to expand social assistance coverage. Although not hit as hard as urban areas, rural areas were also impacted by COVID-19. Reduced remittances from workers in urban areas could negatively impact rural farmers' ability to purchase farming input. Meanwhile, the return to villages of urban workers who lost their jobs could lead to social tension as competition for work in rural areas tightened (Asmanto, Maulana, and Jutarto, 2020; Asmanto, Dewi et al., 2020). When the government found that they were already cash-strapped in their ability to offer protection to the rural population, the *Dana Desa* (Village Fund) grant became a viable solution.

The government has distributed the Village Fund grant to villages across Indonesia since 2015. The Village Fund grant was designed to improve community participation in development. By law, local governments have the discretion to spend the grant so long as the money is spent on activities that empower villagers and improve their welfare. As a response to the pandemic, in March 2020 the central government issued a Government Regulation in Lieu of Law (Perpu) that mandated local governments to prioritise the Village Fund for the BLT-DD cash transfer and COVID-19 mitigation programmes (Asmanto, Maulana, and Jutarto, 2020; Asmanto, Hidayat, Adji et al., 2020; Asmanto, Dewi et al., 2020). Local village governments were tasked with identifying poor households eligible to receive BLT-DD, with priority given to female-headed households and those with people with disabilities or older adults. In practice, village authorities partnered with local COVID-19 task forces and other civil society organisations in villages to identify potential beneficiaries. By doing so, the government has managed to shift some of the financial liabilities arising from the assistance programme as well as delegating the task of beneficiary identification and benefit disbursement to local governments.

By December 2020, BLT-DD covered 8 million households in 74,311 villages or 99.14% of Indonesia's 74,953 villages (Coordinating Ministry for Human Development and Cultural Affairs, 2020). Of all BLT-DD's beneficiary households, 2,341,750 families or 31% were female-headed households. Additionally, a rapid assessment of the Village Fund grant found that an increase in grants received was related to an increase in villages' economic activity during the pandemic (Dartanto et al., 2021). This suggests that the Village Fund might have attained its objective of spurring economic growth in villages. However, the same study also noted that this link between the grant and economic activity was stronger in Java and less so in less developed areas of the country. This raises a concern about the possible emergence of a new dimension for socio-economic disparity across regions in Indonesia and the Village Fund's role in amplifying this phenomenon.

Aside from programmes aimed at households, the government also launched several initiatives targeted at individuals. In addition to fully subsidising the JKN premium for 96.4 million subscribers listed in the DTKS, the government also partly subsidised the premium for citizens holding a Class III JKN membership. To support vulnerable workers, the government also launched an income support programme for JKN Employment Insurance (BPJS-TK) holders. This assistance was given to 15.7 million workers in the private sector and non-permanent civil servants with salaries under Rp5 million who were registered as active BPJS-TK subscribers.

To support vulnerable productive-aged individuals, the government launched *Kartu Prakerja* in April 2020. *Kartu Prakerja* was initially designed as a re-skilling and entrepreneurship training programme aimed at job seekers, workers who had lost their jobs, and workers who needed general re-skilling. It also includes people working in the MSME sector. However, it soon came under intense public criticism in the mass media since the programme would not have been effective amidst an economic slowdown and contracting job market (Assariy, 2020; Rizal, 2020). Additionally, the Indonesian Corruption Eradication Commission called for an evaluation of *Kartu Prakerja* because of alleged mismanagement (Komisi Pemberantasan Korupsi, 2020). In response to the criticism, the government soon transformed *Kartu Prakerja* into a hybrid between a re-skilling and an income support programme. As of December 2020, *Kartu Prakerja* had 5.5 million individual beneficiaries – with 82% of them unemployed at the time of the training. Of those beneficiaries holding employment at the time of the training, 78% were in the informal sector. By excluding people in the DTKS who were already covered as *Program Sembako* recipients – along with offering JKN Class III premium discounts to families beyond the DTKS – the government has attempted to broaden the benefit coverage beyond the bottom 40%. Despite this effort, concerns of benefit adequacy remain.

### 3. Partially Breaking the Fall: Evaluating Social Programmes in the 2020 PEN

Assuming that the benefit incidence of the social assistance programme in each income group has not changed since March 2019, the proportion of assistance received by the poorest 10% of households would, on average, account for 11.35% of their total household expenditure. This proportion decreases as families move up the distribution ladder. However, in general, the value of assistance being offered by the government has not been proportionally distributed. An analysis found that families receiving COVID-19 ad hoc assistance programmes in the form of the BST and electricity discount had a greater proportion of their expenditure covered by government assistance than the less well-off families receiving regular assistance such as PKH and *Program Sembako* (Asmanto, Hidayat, Maulana et al., 2020). On average, the more well-off families entitled to ad hoc assistance received aid that amounted to 21.30% of their monthly household expenses. Meanwhile, the less well-off households receiving regular

programmes – such as PKH, Smart Indonesia Program (PIP) school assistance, *Program Sembako*, and the electricity discount – only received benefits that covered 16.95% of their total monthly expenditure. Consequently, this raises a concern of fairness in benefit disbursement in the 2020 PEN.

Moreover, despite the government's efforts at sustaining poor and vulnerable households' consumption, the tide of the crisis has swept through households across the wealth distribution. As a result, the Gini index increased from 0.380 in September 2019 to 0.385 in September 2020 (Statistics Indonesia, 2020a). This increase was more pronounced in urban areas, which saw an increase from 0.391 to 0.399 within the same period. This increase was the first following a steady decline in inequality since September 2014 and is an issue that should not be neglected by the government during the Indonesian economic recovery phase.

While the 2020 PEN was focused on health and economic efforts to dampen the impact of the crisis on the population, the 2021 PEN has shifted its focus on health, social protection, and economic recovery through job creation. Although several social protection programmes were continued to protect the poorest 40% of households beyond 2020, additional programmes related to COVID-19, such as the BST and BLT-DD, were phased out. To hasten economic recovery, the 2021 PEN budget focused on MSMEs and the business sector to accelerate economic recovery. Efforts in this area include business incentives, which will be extended until July 2021, and various programmes to support MSMEs.

When citizens were faced with slow economic growth during the COVID-19 pandemic, the government launched several incentives and programmes to accelerate their economic recovery. Indonesian MSMEs account for nearly 97% of domestic employment and 56% of total business investment in the country (Ministry of Co-operatives and SMEs, 2018). Given the large amount of vulnerable labour working in the MSME sector, the government has provided a range of support for MSMEs since 2020. These support programmes include the postponement of credit repayment instalments, credit restructuring, incentives for interest subsidies, and the government taking the role of guarantor for MSMEs seeking financing. For MSMEs that were already liable to pay tax, the government has provided tax deductions. Finally, for MSMEs that were not yet eligible to access financing, the government has provided opportunities for them to receive a Micro Business Productive Assistance (BPUM) grant that can be utilised for business capital. These programmes designed to support MSMEs were to be continued under the 2021 PEN.

In addition to support for MSMEs, the government was working to accelerate spending to boost economic growth through job creation. Labour-intensive programmes that were able to employ vulnerable and poor people are the main pillars in this effort. In the 2021 PEN, various ministries and state agencies have proposed a host of programmes valued at up to Rp123.8 trillion. This included labour-intensive programmes under the Ministry of Public Works and Public Housing, the Ministry of Transportation, the Ministry of Agriculture, the Ministry of Energy and Mineral Resources, and the Ministry of Marine Affairs and Fisheries. Furthermore, the Ministry of Village Development of Disadvantaged

Regions and Transmigration had also shifted the priority of the use of Village Funds from BLT-DD to finance the Labour-Intensive Village Grant (PKTD) focused on job creation. This programme mix reflected a shift in the PEN's strategic direction, from dampening the impact of the crisis by maintaining the household consumption level to hastening economic recovery by fostering productivity.

#### **4. Two Birds, One Stone: Tackling Both the Economic and Health Crises**

To work as an intervention that could effectively hasten economic recovery, the 2021 PEN served as an extension of efforts in the 2020 PEN. As such, policies between the two plans embody some sort of continuity and coherence. Rather than just serving as a cash reserve to be tapped out amidst the crisis, both the 2020 and 2021 PENs were strategic choices made by the government to avoid sacrificing either public health or the economy amidst a pandemic and a global recession. Although virus containment and economic growth were often posed as an either-or situation, strategies to pursue the two goals should be able to complement each other. Throughout 2020, Indonesia struggled to balance the two as it prioritised the economy. Only towards the end of 2020 did Indonesia begin to accelerate its public health measures by integrating a mass vaccination plan with economic recovery programmes in the 2021 PEN.

While other countries responded to the COVID-19 outbreak early in the pandemic with virus containment measures like lockdowns, Indonesia's government was reluctant to do so. Although Indonesia already has a legal framework to impose lockdowns, the Law on Health Quarantine No. 6/2018 dictates that while the central government has the right to impose quarantine to contain the spread of a disease, the government is obliged to fulfil citizens' right to basic needs during quarantine. Recognising the risk of an economic downturn due to citizens' limited mobility and the daunting logistics of basic needs provision in high-density urban areas, the government avoided the quarantine option. The lack of robust virus containment measures was exacerbated by low levels of testing and tracing, as well as under-testing. Towards the second half of 2020 when many countries were talking about the second wave, Indonesia was not even finished its first wave.

The absence of more robust public health measures by the government was, however, partly compensated by its economic recovery plans. A study found that countries that mobilised their social protection system amidst the pandemic saw a less severe economic downturn than those that did not (Lind et al., 2021). This was also the case with Indonesia since it saw a more modest economic contraction relative to other countries. Despite the Indonesian social welfare system's extensive role in providing a social safety net for the population, two major issues marred the Indonesian social protection system during the pandemic: (i) outdated data, and (ii) a highly centralised system that posed a challenge in coordination across government agencies.

Although regular assistance programmes in the 2020 PEN were expected to cover the poorest 40% families in Indonesia, this was not the case as the DTKS was last updated in 2015. Exacerbating the problem was the lack of a dynamic data updating system. As a result, the DTKS no longer reflected the population's movement in and out of poverty and suffered from inclusion and exclusion errors in its aid programme beneficiary lists. What Indonesia needed was a reliable data updating mechanism to ensure accuracy in benefit targeting.

A credible data system for social programmes requires technical capacities to support it, specialisation of supporting tasks from different agencies, interoperability across different databases, and independence from political and other external interests. Each element is necessary throughout each step of data updating – from data collection, assessment, management, to its utilisation. As with the practice in other countries, as the DTKS matures, the updating process must shift away from large-scale data collection approaches such as survey sweeps, towards increasing reliance on dynamic updating mechanisms at the local level (Barca and Hebbbar, 2020). In this process, local governments must gradually contribute both financial and labour resources to move towards sustainable, real-time updating of the database.

Indonesia's targeting system currently adopts the proxy means testing (PMT) approach, which requires a type of welfare assessment based on household information. This type of assessment is best conducted by an institution with strong technical capacities, and for many years this institution has been the National Team for the Acceleration of Poverty Reduction (TNP2K), an independent institution with strong connections to scholars around the world. TNP2K has been responsible for overseeing the development of the DTKS approach and system, which it has hosted for many years.

Social data systems require a unique set of technical capacities that are distinct to academic knowledge, although these are sometimes incorrectly assumed to be the same. Since its establishment in 2005, the DTKS' development has proven to be a path-dependent process where knowledge and lessons learned to improve the system. The DTKS developed organically to accommodate and respond to changing contexts, increasing its effectiveness while diverging from standard orthodox practices in PMT application. This means that an accurate understanding of the DTKS's performance and efforts to develop it further would require contextual and practical knowledge of its history. To apply un-contextualised academic understandings and pre-packaged approaches would, therefore, put its performance at risk. For example, errors in identifying potential beneficiaries, including those coming from statistical modelling, are inevitable and an expected part of the data development process. Nevertheless, without a proper scientific understanding of the context and the full process, such errors may lead to unjustified scepticism towards the quality of the DTKS.

TNP2K is an ad hoc agency founded by a former Vice President during the early stages of social protection system development in Indonesia. Formalising TNP2K's status or transferring its capacities to a non-ad hoc government institution could be considered by the government. Given this, the biggest question for

the DTKS at the moment is where the database should be institutionally located in the future for effective data management. Current law confers the responsibility for data related to social protection on the Ministry of Social Affairs, whose role includes all functions related to social protection data, such as data collection, systems, and management; and the database's utilisation for programmes it is reliant upon as a source for their beneficiary lists. However, this practice of having a multitude of roles under one roof deviates from the accepted best practice as it creates a risk to data quality due to a lack of checks and balances in the system. Moreover, years of experience with the data have shown that the Ministry of Social Affairs lacks capacity in data management despite its strength in programme design and implementation.

In terms of data hosting, similar to the way that central banks should be independent to be able to create effective monetary policies, the appropriate institution to host the DTKS must be independent of and different to the entities responsible for other aspects of the DTKS data management process. The separation of tasks would allow for a more accurate assessment of data quality, mitigation of political influence, and less potential for corruption. An organisation that could fulfil this task is the Ministry of National Development Planning (Bappenas). Unlike line ministries, Bappenas has a healthy degree of independence due to its main mandate of planning, budgeting, and coordinating development efforts, instead of project implementation where there is more potential for financial impropriety. Moreover, Bappenas is well connected to government offices across different levels and has the influence to improve social policies and to monitor the implementation of social programmes.

Statistics Indonesia would also be an appropriate agency to oversee data collection. Based on Law No. 16/1997 on Statistics, Statistics Indonesia is an institution that has the mandate to produce social and economic statistics, provide guidance to other agencies on the implementation of sectoral statistical activities, and coordinate with government agencies to standardise concepts and statistical measures. Since its establishment in the 1920s, Statistics Indonesia has developed a strong reputation for effective data collection and analysis. The institution has conducted numerous censuses and surveys and has become one of Indonesia's most respected and trusted government institutions – not only within Indonesia but also amongst international agencies.

Finally, the social registry must serve its intended users well. While the Ministry of Social Affairs is the main agency responsible for overseeing various social programmes, other ministries or agencies could also benefit from the DTKS. Ideally, the DTKS should have interoperability with other key databases to allow for more dynamic updating. Other countries, such as the Philippines, have begun building a social database by improving their national registries. This allows for more accurate verification and quick identification of data duplications and outdated information. As much as the DTKS informs agencies in benefit distribution efforts, other agencies must open channels for their database to, in turn, inform the DTKS regularly. As the main user of the DTKS, for example, the Ministry of Social Affairs will reap great benefits by consolidating the PKH database into the DTKS.

Besides issues with data, another problem that has been impeding the Indonesian social protection system's efficacy in serving as a social safety net is the system's bureaucratic structure. Amidst the COVID-19 pandemic, the Indonesian social welfare system's rigid bureaucracy and its centralised organisational structure has limited the government's ability to quickly adapt it to sudden changes. These issues have created additional bottlenecks for the government to implement adaptive programmes amidst a constantly evolving public health situation.

In 2011, the government implemented a major reform to the social protection system's beneficiary targeting mechanism. In a bid to minimise elite capture in local benefit disbursement and increase targeting accuracy, the government created a new social registry listing mechanism (TNP2K, 2019). This reform has not only allowed the government to improve benefit targeting, but also to streamline various programmes and centralise their disbursement mechanisms for better efficiency. Despite its many benefits, the reform took away a degree of flexibility for the government to make ad hoc changes to the social welfare system. As a result, when the pandemic hit, the government found it challenging to reach the new poor caused by the crisis and to create new COVID-19 mitigation programmes.

This systemic rigidity has extended beyond the realm of social assistance administration, as it has limited the government's ability to coordinate crisis mitigation efforts across agencies. Early in the pandemic, the government scrambled to tackle both the health and economic crises. With a social welfare infrastructure in place, in spite of its shortfalls, the government's attempt to mobilise the social protection system as a social safety net has managed to alleviate the impact of the crisis on the Indonesian economy. On the other hand, the lack of a clear virus containment strategy and inconsistent public health messages at the start of the pandemic have led to public disappointment with the government's management of the pandemic. Exacerbating the issue, the Indonesian Minister of Health has made various statements that the public perceived as an affront to the severity of the pandemic. Public disappointment with how the government handled the pandemic culminated in the minister's replacement in December 2020. This chain of events has revealed a bigger problem with the Indonesian healthcare system.

Although imperfect, the Indonesian social protection system already had some kind of infrastructure in place as it served as a social safety net after the 1997–1998 crisis. On the other hand, the Indonesian healthcare system lacked a similar infrastructure. Although Indonesia is already on its way to achieving a universal healthcare system, this is markedly different from an ability to mobilise the healthcare system to navigate a public health crisis. This shortfall calls for a clear pandemic mitigation strategy and robust public health infrastructure that could be mobilised amidst future crises. Moreover, to mitigate future storms effectively, the Indonesian healthcare system needs to be able to complement other efforts in the grand economic recovery plan, such as the various social programmes put in place during the COVID-19 pandemic.

As some clarity regarding the pandemic began to surface towards the end of 2020, Indonesia started to make up for the initial shortfall in its public health

measures. This included a plan to quickly get things back to what resembles normality by making vaccination a priority in the national recovery plan. Having struggled to contain the virus throughout much of 2020, by July 2020 Indonesia was involved in a COVID-19 vaccine trial with Sinovac Biotech, a Chinese biopharmaceuticals company. By the end of 2020, Indonesia had managed to secure vaccine supplies from Sinovac, Sinopharm, Moderna, Novavax, AstraZeneca, and Pfizer/Biotech, with 1.2 million doses from Sinovac arriving in December 2020 (Ministry of Health, 2021). With vaccines slowly rolling in, the government has adjusted its strategy to bolster economic productivity through the 2021 PEN. Having been able to survive the crisis with relatively little damage, the question that remains is what lessons can be learned from Indonesia's handling of the pandemic.

## 5. Way Forward: Treading New Waters – The Indonesian Welfare System After COVID-19

As the COVID-19 pandemic brought far-reaching and devastating shocks, to respond to them, the government introduced new programmes that temporarily expanded the social safety net. Faced with the existing centralised and rigid social protection system's difficulty in swiftly adapting to these shocks, given that Indonesia is vulnerable to systemic, significant, and unpredictable shocks, the question that arises is whether Indonesia needs a permanent and dynamic version of this expanded safety net, on top of the established social protection system.

Besides unpredictable catastrophes such as the ongoing pandemic, vulnerabilities also arise from at least four areas: the *first* is the new Job Creation Act No. 11/2020, widely known as the 'Omnibus Law', which has resulted in reduced protections for workers. This reduced protection emerged from a range of issues covered in the new law – from minimum wages, severance pay, and vacations, to maternity benefits. This has put workers in a more vulnerable position than before. With the population already prone to falling into poverty, a social protection system that could account for this vulnerability is key to maintaining the citizens' welfare. The *second* is regional economic integration, which has exposed Indonesian workers to heightened competition and job insecurity. The *third* is the encroachment of technology into work and, with that, reduced protections and increased job insecurity. By limiting people's mobility, the pandemic has accelerated digitalisation. From March to December 2020, social restrictions in Jakarta reduced citizens' mobility in transit stations by as much as 61% and 67% for retail and recreation sites (Google, 2021). As organisations and individuals incorporate digital technologies into business and social processes, the way they interact with one another has been transformed. Along with this tide, those who are not fast enough to adapt are at risk of being left out. *Finally*, climate change has increased the likelihood and frequency at which natural disasters occur. Without a permanent safety net to anticipate these shocks, we risk leaving individuals vulnerable to hunger, poverty, illness, and death. If not addressed, this would risk hurting public goods such as health and social stability.

While the safety net should be permanent, some of its components should be temporary and dynamic. For instance, beneficiaries of certain programmes can be dynamic as the risks they face throughout their life cycle vary. Programmes designed to support children and the elderly, which protect people at specific points in their lives, also fall into this category. Some groups, such as the chronically poor or disadvantaged, may become permanent beneficiaries. If a disaster takes place – be it an economic, health, or natural disaster – the social safety net can be activated and expanded to cover more of the impacted populations or increased in terms of the value of their benefits.

As some of these safety net programmes are not designed to be permanent, they should be able to be switched back to their pre-crisis levels after the initial shock has passed. Similarly, benefit type and amount could be adjusted based on beneficiary needs and ease of delivery. Despite the flexibility such a system could offer, a problem that may arise from it is entitlement and difficulties in rolling back its benefits. With benefits already expanded and added, beneficiaries could expect to continue receiving them. To avoid this problem, the temporary nature of these programmes should be made clear from the beginning.

Although some components are designed to be temporary, this safety net should still be part of the existing social protection system. This would require a funding mechanism, specifically a non-contributory scheme that is either funded by tax revenue or taken from the government's social assistance allocation. This temporary safety net would also need an institutional arrangement to trigger and administer the safety net, as well as a targeting or self-registration mechanism to identify recipients that might have been missed out. The activation of social safety net programmes during COVID-19 that appeared slightly arbitrary also came with a benefit targeting mechanism that was left to local authorities. Although such a targeting mechanism did help as the government raced against time, the lack of a clearly defined mechanism resulted in a widespread inclusion and exclusion error.

A clearly delineated funding mechanism, a trigger for its launch, and a targeting mechanism would require the government to have the political will and fiscal capacity to install and maintain such a system. Furthermore, efforts such as natural disaster relief or, as in the case of COVID-19, a pandemic mitigation task force, would call for different programmes to tackle different facets of the problem. With the need to orient many programmes administered by different government bodies towards specific efforts, interagency coordination would also be required to execute cross-agency programmes.

A key point that has to be understood in incorporating a safety net in Indonesia's social protection system is to distinguish between long- and short-term government actions within the programmes comprising the social safety net. While long-term social protection should be permanent, short-term actions should be able to respond to temporary circumstances related to either individual circumstances, such as loss of employment or illness, or regional and national-level shocks like a pandemic or natural disaster. When the government understands this distinction and is able to execute these two functions well, they can then

leverage the safety net for better reforms as well as more thorough and adaptable social protection.

Besides protecting citizens from various shocks, temporary actions can also be used to help the government enact difficult reforms. An example of this is the removal of Indonesia's fuel subsidy in 2004. At that time, the government provided transfers to poor households to offset the increase in fuel prices (Bazzi et al., 2015). For many years, Indonesia's domestic fuel prices were amongst the lowest in the developing world. As global oil and gas prices began to rise in 2004, subsidies that sustained these artificially low prices became fiscally untenable. In 2005, the government cut fuel subsidies and raised regulated fuel prices in February and September. With the fiscal savings generated by the subsidy cutbacks, the government launched a temporary unconditional cash transfer programme that began in late 2005, which targeted the poorest 30% of households in Indonesia to compensate for the rising prices. Despite being widely unpopular, the government managed to enact these fuel subsidy cuts. At that time, the launch of the transfer programme worked to facilitate a much-needed policy reform while minimising the hardship and unrest the reform was expected to cause. The lesson from this successful reform was to deliver benefits before enacting reforms.

While Indonesia would certainly benefit from a permanent safety net, there are also important notes to be made about the current social protection system. *First*, there is a lot of work to be done on improving the system's modalities, from financing to how existing programmes would complement each other in providing comprehensive protection for the population. *Secondly*, Indonesia is suffering from a severe and long-running problem of regional disparities. If this problem is ignored, it will worsen and increase inequality. As a chronic issue, such inequities have only been highlighted amidst the pandemic. This phenomenon was apparent in the disparity of the early COVID-19 vaccine rollout, which was disproportionately administered to the wealthy in Java's urban areas. This inequity calls for the public health system to be set up so that every citizen receives adequate care. Although access to healthcare amongst the poor has improved over time, a disparity remains in access to healthcare across the regions in Indonesia (Mulyanto et al., 2019). To ensure a more inclusive society, fragmentation should not occur in the Indonesian healthcare system and other aspects of basic needs, such as access to education. *Finally*, current complementary programmes are being neglected. Too much weight has gone into financing and administering cash transfers at the exclusion of other, complementary options, such as social insurance or community empowerment programmes. Any efforts to improve the existing social protection system, much less expand it with a permanent safety net, should address these concerns rather than perpetuating them.

Indonesia is projected to experience a K-shaped recovery, as the economic crisis unleashed by the pandemic is at risk of deepening the income gap since some sectors and income groups may have a harder time recovering than others. A K-shaped recovery reflects the divergent experiences of individuals from different social classes amidst the pandemic, with mainly high-skilled workers having the privilege to work from home and continue with their jobs while others

do not. For instance, workers in the hospitality and food service sector took a major hit as the former contracted by –24.4% while the latter shrank by –6.86% throughout 2020. If the economic recovery follows this pattern, the poor and vulnerable will take longer to recover.

To rebuild the Indonesian economy, the government must consider the different phases of recovery and adjust the mix of poverty reduction programmes and their goals accordingly. These three stages are *survival*, *recovery*, and *transformation*. The stages are not discrete chains of events, but rather an overlapping set of processes that can run parallel to each other with different emphases at different times. While throughout much of 2020 the Indonesian government focused on survival efforts by launching programs that were designed to retain household consumption, by 2021 some of them were phased out and replaced by programmes to hasten economic recovery.

In the economic recovery phase, the government realizes that the speed of recovery will vary between people in different sectors and income groups. For this reason, the government paid extra attention to MSME recovery efforts. Aside from continuing the capital assistance in 2021, the government – along with the Indonesian Central Bank and the Financial Services Authority – provided loan restructuring facilities to MSMEs. The government also planned to extend the provision of additional MSME credit interest rate subsidies under the *Kredit Usaha Rakyat* (KUR) programme until the end of 2021.

Finally, in the transformation phase, the Indonesian government must ensure that the boons of economic growth are not only enjoyed by some. The *first* transformation is social welfare reformation to broaden its coverage to protect every member of society throughout their life. Such a system is similar to welfare systems in other middle-income countries. This transformation combines a formal contributory-based social protection system for those who can afford it and government-subsidised coverage for those who are unable to afford coverage. Such a system will be able to protect every member of society while easing the fiscal burden, as costs are shared between the government and better-off citizens.

Meanwhile, the *second* transformation is related to how business is done. COVID-19 has changed the way we engage in business activities. For instance, the rapid adoption of technology as people moved their operations online has increased the demand for a technologically savvy workforce. This change requires human resources with new skills that are in line with the post-COVID-19 world. To compete in this new world, the ability to use digital technology for all economic and industrial actors, including MSMEs, is necessary. To ensure more equitable economic growth, the Indonesian government needs to acknowledge that acquiring these skills might be more difficult for some disadvantaged groups. For instance, while throughout 2020 *Kartu Prakerja* served as a hybrid between a social assistance and job retraining programme, it could be switched back to its initial function as a job retraining programme during the transformation phase.

The Indonesian government's economic recovery programme is not only a strategy to rebuild the economy to the same condition as before, but they are also an attempt to build an economic system that can compete in a changing world.

Additionally, they are also aimed to achieve inclusive and sustainable economic growth, which in turn can reduce poverty. In this effort, the government needs to commit to eradicating poverty by building a sustainable social protection system, capable human resources, and an inclusive business climate.

The COVID-19 pandemic has deeply changed the world – from the way business and work are done, and new ways in which people relate to one another, to how governments across the world administer public services. In the face of rapid change on a massive scale, governments across the globe have had to build back the economy quickly before the damage caused by the pandemic became irreversible. Since the Asian financial crisis in 1997–1998, the Indonesian social protection system has transformed from a set of exclusionary welfare policies to a comprehensive set of programmes that range from food assistance and healthcare to education and professional training support. To continue ensuring its citizens' welfare, Indonesia needs to reorient its social protection system to face uncertainties in the changing world. This entails building both a comprehensive and flexible social protection system.

Despite the problems it faced during the pandemic, Indonesia was more prepared to face the COVID-19 crisis than the Asian financial crisis in 1998. Prior to the pandemic, Indonesia had a social protection system in place that could serve as a cushion to dampen the impact of the crisis on the poor and vulnerable. However, what was different amidst the pandemic was that the impact of the crisis extended to the middle class. Under such circumstances, the government had to mobilise and expand its social protection system for crisis mitigation on a grand scale. This crisis mitigation entailed not only efforts to address existing problems within the Indonesian social protection system but also new issues brought about by the COVID-19 pandemic. Although the pandemic has presented the Indonesian government with these challenges, it has also opened new possibilities for reform and provided lessons to be learned in strengthening the Indonesian social protection system.

To be prepared to take on future challenges, the current economic recovery programme implemented by the government should not only be a strategy to rebuild the same economy as before, but also build an economic system that is able to tackle problems in a changing world with a robust social protection system at its core. Having impeded the Indonesian social protection system's efficacy in dealing with the pandemic, problems with data and the social protection system's organisational structure provide a valuable lesson on the importance of some degree of flexibility for the Indonesian social protection system. Such flexibility would be central in allowing the government to respond more swiftly and effectively to any crisis that may arise in the future.

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# Appendix

Table 5A.1 Indonesia's Social Protection System in the 2020 National Economic Recovery Plan (PEN)

Expenditure Decile		Social protection programmes			Social insurance programmes		
6				Village Fund-Financed Cash Transfer Program (BLT-DD)	Class III JKN Premium Subsidy	Pre-employment Card ( <i>Kartu Prakerja</i> )	Income support for workers with < Rp5 million income conditional upon their membership in the government's work insurance ( <i>BPJS Ketenagakerjaan</i> ) 15.7 million workers
	5				Fully subsidised JKN premium	5.6 million recipients	
4							
3							
							96.4 million people

2	Family Hope Program (PKH)	Program Sembako (food voucher)	100% electricity bill discount for 450 VA electricity subscribers						
1	10 million beneficiary families	15.2 million beneficiary families of Rp200,000/month (additional 4.8 million recipients due to COVID-19 pandemic for a total of 20 million)	24 million families						
Programme Length	12 months	12 months	6 months	9 months	9 months	6 months	4 months	4 months	

Abbreviations: BLT-DD = *Bantuan Langsung Tunai* – *Dana Desa* (Village Fund-Financed Cash Transfer), BPJS = *Badan Penyelenggara Jaminan Sosial* (Social Security Administrator), BST = *Bantuan Sosial Tunai* (cash transfer), COVID-19 = coronavirus disease, JKN = *Jaminan Kesehatan Nasional* (National Health Insurance), PEN = National Economic Recovery Plan, PKH = *Program Keluarga Harapan* (Family Hope Program) cash transfer, VA = volt-ampere

Source: Authors' compilation

Table 5A.2 Fund Allocation for 2020 PEN

<i>2020</i>			
Health	63.51	Economy	579.78
COVID-19 handling	42.52	MSMEs (interest subsidies tax subsidies)	112.44
Healthcare staff incentives	9.55	Social protection	220.39
Death compensation	0.60	Corporate financing	60.73
JKN premium subsidies	4.11	Sectoral ministries/government agencies and local government	66.59
COVID-19 Task Force	3.22	Business incentives (tax breaks)	56.12
Tax incentives	4.05		

Abbreviations: COVID-19 = coronavirus disease; JKN = *Jaminan Kesehatan Nasional* (National Health Insurance); MSMEs = micro, small, and medium-sized enterprises; PEN = National Economic Recovery Plan

Source: Ministry of Finance (2021)

Table 5A.3 Funds Allocation for the National Economic Recovery Plan, 2021 (Rp billion)

<i>2021</i>			
Health	176.32	Social protection system	157.41
Diagnostics for testing and tracing	9.91	PKH for 10 million beneficiary families	28.71
Therapeutics for care, self-isolation, healthcare personnel incentives, and medications	61.94	<i>Program Sembako</i> (Food Voucher) for 18.8 million beneficiary families	45.12
Vaccination for herd immunity	58.18	Cash transfer for 10 million beneficiary families valued at Rp300,000 /month	12.00
Laboratory research on COVID-19 vaccination	0.67	<i>Kartu Prakerja</i> (Pre-employment Card)	20.00
COVID-19 Task Force	0.53	Electricity subsidy for 31.4 million households	5.64
Communication and campaign for health and safety protocol and vaccination	1.18	Village fund cash transfer for 8 million beneficiary families valued at Rp300,000/ month	14.40
JKN premium subsidies	2.43	Internet credit subsidies, 20 GB (kindergarten), 35 GB (elementary – high school), 50 GB (university)	7.79
Healthcare and laboratory supplies	1.3	Insurance subsidies (Job Creation Act No. 11/2020)	1.55
Health tax incentives	18.61	Cash assistance reserve	22.20
Regular vaccination backup	3.71		
Other health measures to strengthen local COVID-19 handling	14.86		
Budget for preventive programs	3.00		

2021

Priority programmes	122.42	MSME and corporate support	184.83	Business incentives	58.47
Ministry/Government Agency Labour Intensive Program	27.33	Interest subsidy for MSME credit for 17.8 million MSMEs	31.95	Income tax borne by the government	5.78
Tourism (ecotourism and human resources training)	8.66	Grant for 12.8 million businesses valued at Rp1.2 million	15.36	Final income tax for MSMEs borne by the government	0.84
Food security (food estate and irrigation)	47.10	MSME and corporation guarantee fees	8.51	Sales tax on vehicles borne by the government	2.99
Information technology (social registry updating)	16.55	• MSME Rp62 trillion guarantee fees for guaranteed credit targets	4.76	Import duties borne by the government	0.49
Industrial estate for the development of strategic areas	11.22	• Corporate Rp66 trillion guarantee fees for guaranteed credit targets	3.75	Income tax on housing borne by the government	4.62
Local loan facilities	10.00	• Loss limit guarantee for MSMEs and Corporations	2.00	Import income tax exemption	13.08
Other priority programmes (local loan interest subsidies)	1.47	Exemption from administrative checks, burden fees, and subscriptions for a 3-month extension (January – March)	1.27	Deduction of income tax instalments	19.71
		Equity for 6 state-owned enterprises, Indonesian Export Financing Institution, and Sovereign Wealth Fund	58.76	Preliminary VAT refund	4.43
		Funds for bank credit restructuring	66.99	Decrease in corporate income tax rates	6.53

(Continued)

2021

	VAT not collected for the ease of import for export purposes	0.004
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Abbreviations: COVID-19 = coronavirus disease; GB = gigabyte; JKN = *Jaminan Kesehatan Nasional* (National Health Insurance); MSMEs = micro, small, and medium-sized enterprises; PKH = *Program Keluarga Harapan* (Family Hope Program) cash transfer; VAT = value-added tax

Source: Ministry of Finance (2021)

# 6 Mitigating COVID-19 in Indonesia

## The Roles of Local Governments

*Diny Ghuzini*

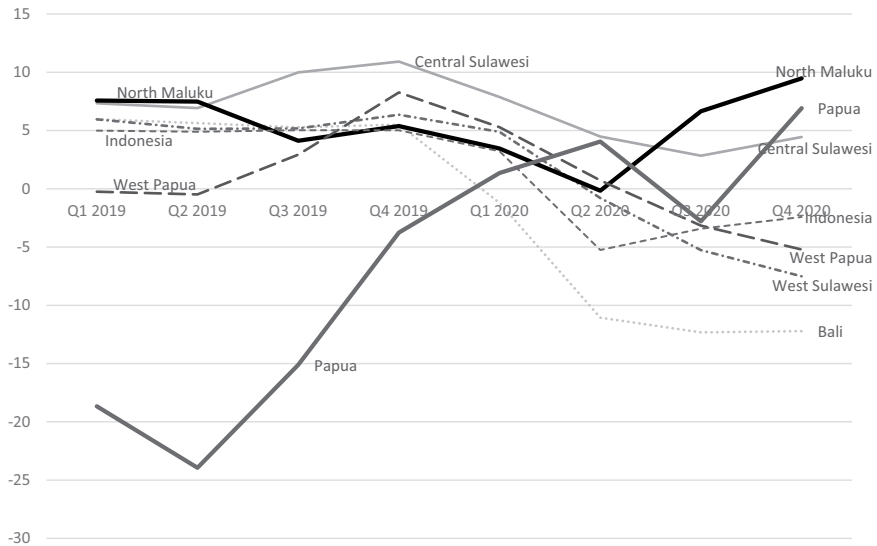
### 1. Introduction

The COVID-19 pandemic has slowed regional economic growth of all 34 provinces in Indonesia. Indeed, the pandemic poses great challenges to all sectors and governments at all levels.

Provinces that contracted economically by more than 5% in the last the three quarters of 2020 are Riau islands, Special Capital City Region (Daerah Khusus Ibukota or DKI) Jakarta, West Java, Central Java, Yogyakarta, East Java, Banten, Bali, East Kalimantan, West Sulawesi, and West Papua. In the second quarter of 2020, in addition to Riau Islands, Bali, and East Kalimantan, all the provinces in Java were severely affected by the pandemic. This large economic contraction in Java was mainly due to the implementation of large-scale social restrictions and lockdowns in the first half of 2020. As restrictions were eased and social assistance distributed in some provinces, growth rates started to increase albeit at different speeds (Figure 6.1).

Bali recorded the lowest growth at -11.06%, showed further drops in subsequent periods. The COVID-19 pandemic indeed devastated Bali's main industry – tourism. Foreign tourist visits dropped by 99.98% in November 2020 from the previous year, while the GDP shares of accommodation and service industries fell from around 20% in 2019 to 15% in 2020. Unlike other industries that can be effectively stimulated by national and local policies, the effects of a pandemic on a tourism industry that relies heavily on foreign tourists are striking; any rebound effect from the possibility of reinvigorated tourism could be easily reversed by predictions of future waves infection (Bhaskara and Filimonau, 2021).

When other provinces' growth rates were at their lowest, Papua's growth rate was one of the highest at 4.06% along with Central Sulawesi at 4.49%. Indeed, in 2019 and 2020, Central Sulawesi did better than other provinces with only a slight decrease in growth during the second and third quarters of 2020. By the end of 2020, North Maluku and Papua were amongst the provinces with the fastest recoveries with growth rates of 9.48% and 6.92%. Central Sulawesi also maintained its growth at 4.45% when other provinces' growths were still negative.



*Figure 6.1* GDP Growth by Province, 2019–2020 (%)

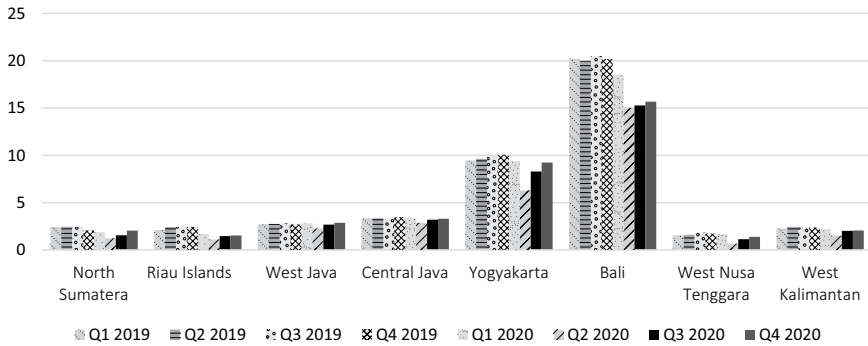
Abbreviations: GDP = gross domestic product, Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter

Source: Badan Pusat Statistik (2021), [www.bps.go.id/indicator/171/540/2/laju-pertumbuhan-y-on-y-pdrb-atas-dasar-harga-konstan-menurut-pengeluaran-2010-100-.html](http://www.bps.go.id/indicator/171/540/2/laju-pertumbuhan-y-on-y-pdrb-atas-dasar-harga-konstan-menurut-pengeluaran-2010-100-.html). (accessed 16 April 2021)

Based on sectoral growth, while the pandemic has not affected the agriculture sector, it largely affected manufacturing and services sectors. Provinces heavily rely their economy on tourism industries are hit the most. Tourism related sectors particularly hotels and restaurants and transportation sector have suffered most due to the continued spread of COVID-19 and its variants (Figure 6.2). Large drops in these sectors are noticeable in Bali and Yogyakarta, Indonesia's main tourist destinations. Other provinces that experienced significant decline in the GDP share of the transportation sector are North Sulawesi, Bali, provinces in Java, and Papua.

As a result, provinces that rely heavily on these industries reported large increases in unemployment. According to Statistics Indonesia or *Badan Pusat Statistik* (BPS, 2020a), more than 29 million working-age persons have been affected by COVID-19, of which 2.56 million became unemployed, 0.76 million were no longer in the labour force, 1.77 million became temporarily unemployed, and 24.03 million workers experienced reduced working hours. The rise in unemployment began in the middle of 2020 and occurred in all provinces, most notably in Bali, all provinces in Java, and Riau Islands (Figure 6.3). In addition, the share of the informal sector in the total workforce increased from 55.88% in 2019 to 60.47% in 2020 (BPS, 2020a).

Meanwhile, the information and communications sector and the health and social assistance sector gained from the pandemic. The share of these two

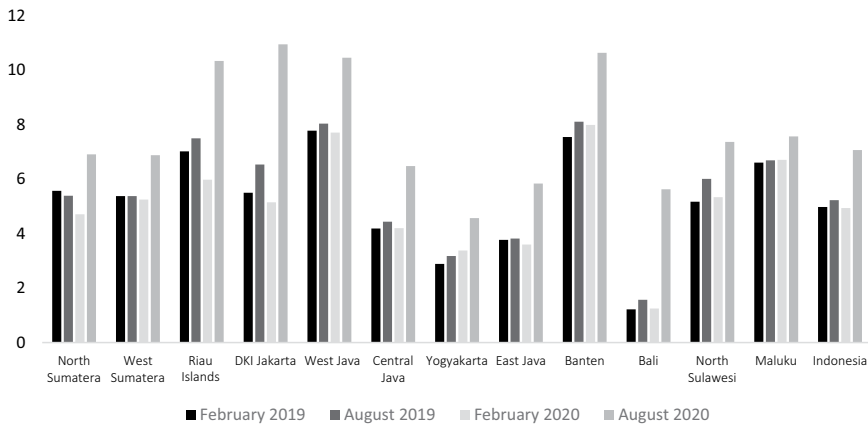


*Figure 6.2* GDP Share of Accommodation and Food Services Sector by Province, 2019–2020 (%)

Abbreviations: GDP = gross domestic product, Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter

Note: Excludes data on DKI Jakarta, Banten, and Central Sulawesi

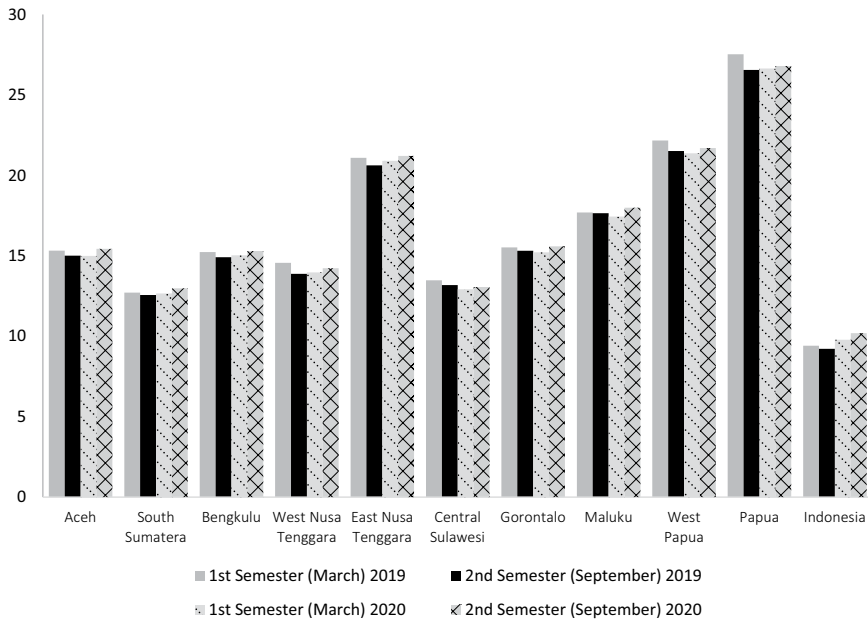
Source: Compiled by the author from Badan Pusat Statistik's various provincial subsites (accessed 21 February 2021)



*Figure 6.3* Open Unemployment Rate, 2019–2020 (%)

Source: Badan Pusat Statistik (2021), [www.bps.go.id/indikator/6/1181/1/tingkat-setengah-pengangguran-menurut-provinsi.html](http://www.bps.go.id/indikator/6/1181/1/tingkat-setengah-pengangguran-menurut-provinsi.html) (accessed 15 March 2021)

industries in GDP increased in 2020 for all provinces (except in North Sulawesi and East Java). This is not surprising, as the pandemic has limited physical mobility and encouraged other modes of communication. Remote working, home-based learning, and online transactions have become more common, contributing to the expansion of these industries.



*Figure 6.4* Percentage of Population Below the Poverty Line, 2019–2020 (%)

Source: Badan Pusat Statistik (2021), [www.bps.go.id/indikator/23/192/1/persentase-penduduk-miskin-menurut-provinsi.html](http://www.bps.go.id/indikator/23/192/1/persentase-penduduk-miskin-menurut-provinsi.html) (accessed 21 February 2021)

As a result of the economic slowdown, the national poverty rate rose from 9.22% in September 2019 to 10.19% in September 2020. This translates to an additional 2.76 million poor people, bringing the total up to 27.55 million (BPS, 2020b). This is also unsurprising – low growth rates due to the pandemic are expected to increase the number of poor people and decimate poverty eradication efforts in the past decade. It does, however, imply a greater need for social protection programmes to help those in need (Suryahadi et al., 2020). The poverty has increased in all provinces (Figure 6.4) with more pronounced increases in urban areas where 90% of COVID-19 cases have been reported (UN, 2020).

Over the same period, from 2019 to 2020, inequality also increased in urban areas more than in the rural areas. Out of 34 provinces, eight experienced more inequality, 24 reported a decrease in inequality, and two report no change in inequality (Figure 6.5). Most provinces in Java fall under the first group (increased inequality) while non-Java provinces fall under the second group (less inequality).

This chapter presents how COVID-19 has affected the economies of all provinces in Indonesia and reviews various initiatives introduced by community, district, and provincial governments to deal with its effects. Section 2 explains roles of local governments in coping with the pandemic and how to mitigate its

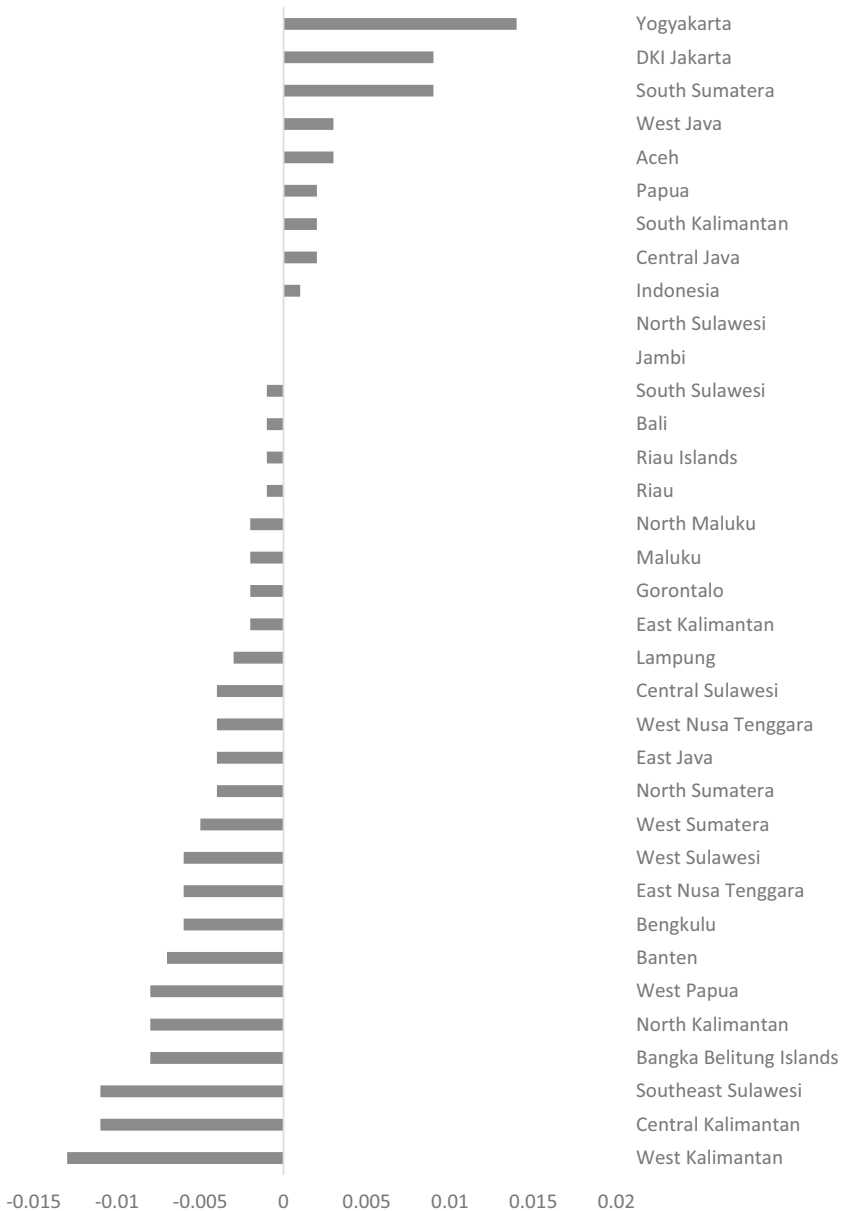


Figure 6.5 Change in Gini Ratio, March 2019–March 2020

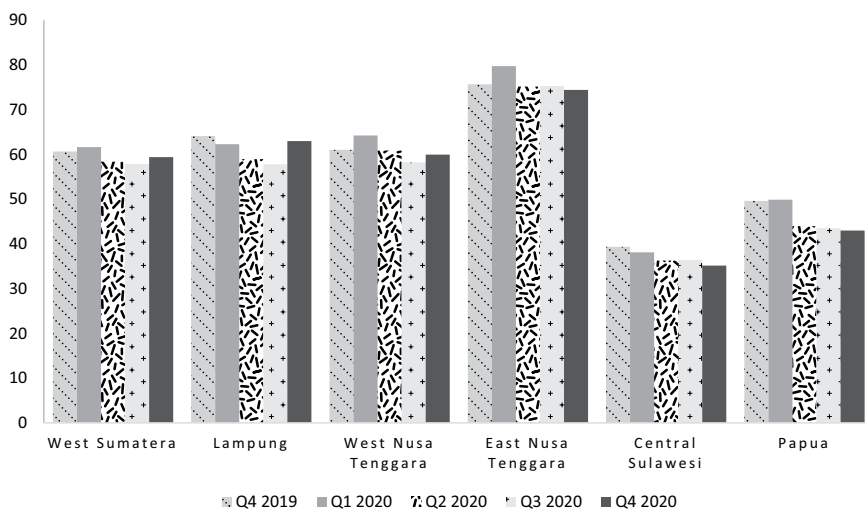
Source: Badan Pusat Statistik (2021), [www.bps.go.id/dynamictable/2017/04/26%2000:00:00/1116/gini-ratio-provinsi-2002-2018.html](http://www.bps.go.id/dynamictable/2017/04/26%2000:00:00/1116/gini-ratio-provinsi-2002-2018.html) (accessed 21 February 2021)

economic impacts. Section 3 reviews efficiency and effectiveness of fiscal distribution at local levels. Section 4 presents case studies of local community initiatives to cope with the pandemic. Section 5 concludes.

## 2. How Local Governments Cope With the Pandemic and Mitigate Its Economic Impacts

During 2019 and 2020, the GDP share of household consumption remained the highest amongst other expenditures but the effects of the pandemic on household consumption is mixed across provinces. West Nusa Tenggara, East Nusa Tenggara, and Papua experienced large drops in the GDP share of household consumption (Figure 6.6) but, over time, these provinces also exhibited the largest variation in the proportion of household consumption. Since these provinces are amongst the poorest in Indonesia, a higher percentage of income tends to go toward consumption, thus GDP share of consumption tends to be larger. In East Nusa Tenggara, for instance, where the poverty rate was the third highest in Indonesia in 2019 and 2020, the GDP share of consumption is almost 80%. Hence, a drop in consumption due to the pandemic further aggravates economic hardship in already poor populations. One way to compensate for the decline in consumption at the macro level is for local governments to increase expenditures.

Government spending is indispensable for keeping an economy afloat during a pandemic. A study of 34 countries showed a correlation between fiscal stimulus and reduction of working-hour loss in the second quarter of 2020 (ILO, 2020). Indonesia's provincial governments' disbursement, however, remained low by middle



*Figure 6.6* GDP Share of Household Consumption by Province, 2019–2020 (%)

Abbreviations: GDP = gross domestic product, Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter

Source: Badan Pusat Statistik (2021), [www.bps.go.id/subject/171/produk-domestik-regional-bruto-pengeluaran-.html#subjekViewTab5](http://www.bps.go.id/subject/171/produk-domestik-regional-bruto-pengeluaran-.html#subjekViewTab5) (accessed 23 February 2021)

of 2020. In August 2020, average provincial budget disbursement was at 37% and only five provinces had a higher disbursement rate than average (Kementrian Dalam Negeri, 2020). By January 2021, average disbursement was 80.2%, with the province of West Kalimantan having the lowest disbursement rate of 65.22%.

The GDP share of government expenditures shows a similar pattern across provinces. Every province experienced a drop in government expenditure in the first quarter of 2020, followed by a modest increase in the next two quarters, and a substantial increase in the last quarter (Figure 6.7). This pattern in the growth of government spending is in complete contrast with the pattern of household consumption described earlier. Moreover, it correlates with the increase in social protection programmes implemented by local governments. For the poorest provinces, especially, the GDP share of government expenditures increased significantly in the last three quarters of 2020. The GDP share of gross fixed capital formation also shows the same pattern for all provinces – a decrease in the first quarter followed by an increase by the end of 2020. Lockdowns and distancing measures implemented in the first half of 2020 brought about the drop in the GDP share of gross fixed capital formation.

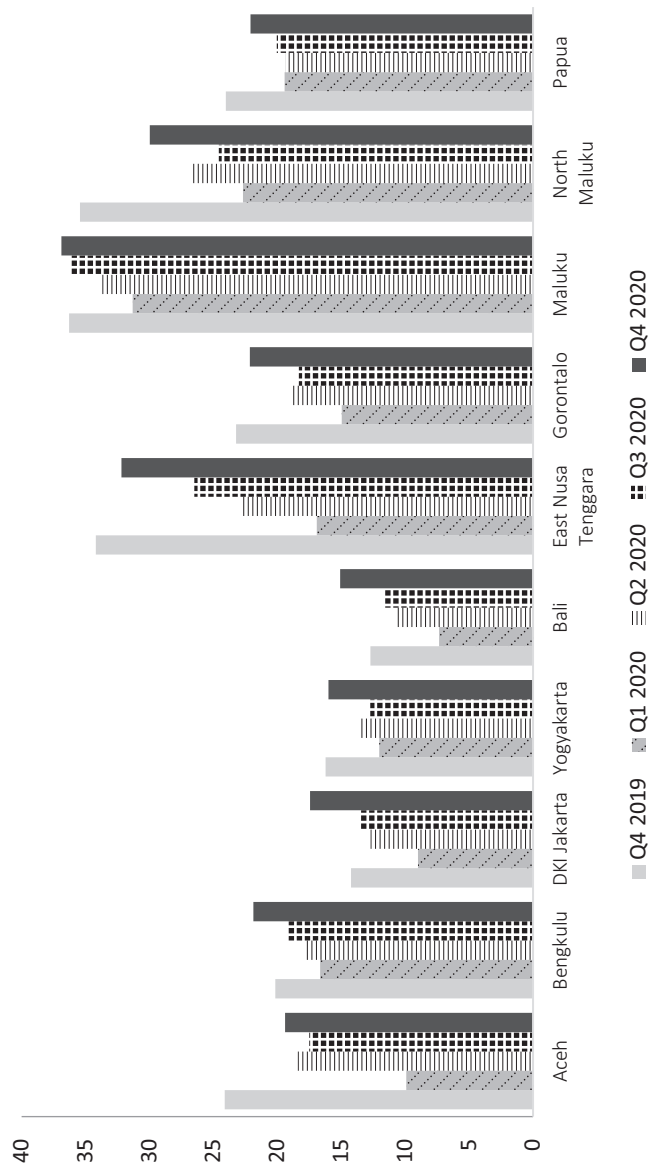
## 2.1 Impacts on Health

Indonesia's geographical diversity as an archipelago has led to disparities in the capacity of the local health care systems to deal with COVID-19. Especially in those frontier, outermost, and least developed regions (also known as 3T – *terdepan, terluar, tertinggal*), systems are likely to be inadequate for coping with the pandemic. More than 6% of subdistricts do not have a health centre. Of the existing health centres, 21% have limited referral transportation, and 35% have limited clean water and electricity (UN, 2020). On top of the limited capacity of the health care system, the COVID-19 pandemic substantially burdens underserved areas.

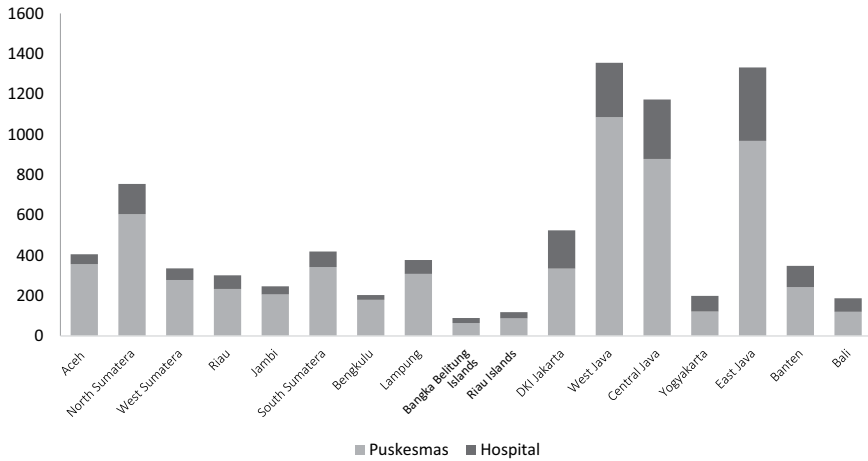
Local health centres or *Puskesmas* are the most accessible primary health-care providers throughout the country (Figures 6.8 and 6.9). North Sumatera, Central Java, East Java and West Java have the largest number of *Puskesmas*, however, they are also the most populated provinces. Amongst six provinces in Java, only DKI Jakarta and Yogyakarta have a relatively high number of health-care practitioners (medical specialists, general practitioners, and dentists), 158 and 93 respectively, relative to other provinces. The rest (West Java, Central Java, East Java, and Banten) have only less than 131 healthcare practitioners and 1,412 healthcare workers available for every 100,000 persons. Other provinces that have low healthcare support (nurses, midwives, pharmacists, and other healthcare workers) are West Sulawesi, Lampung, North Sumatera and East Nusa Tenggara.

## 2.2 Impacts on Education

The COVID-19 pandemic has led to massive school closures around the world including Indonesia. Indonesia's government closed 530,000 schools in early 2020, disrupting education for 60 million school-age children (UNOCHA,



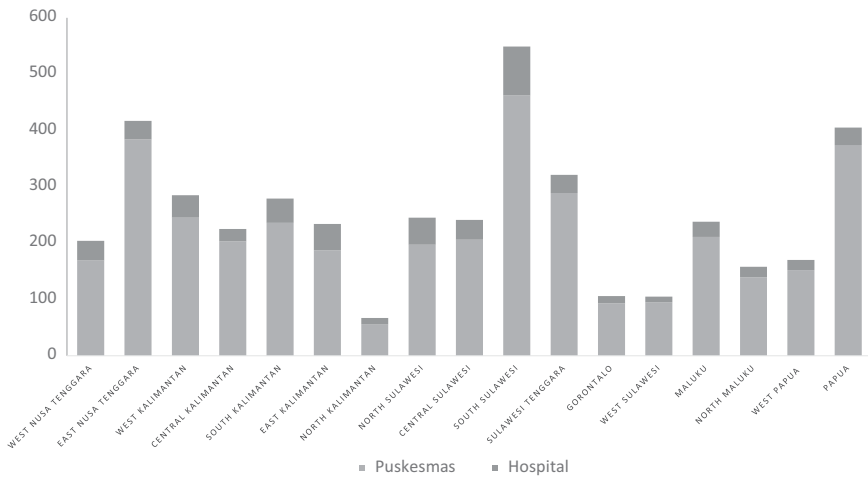
*Figure 6.7* GDP Share of Government Expenditure by Province, 2019–2020 (%)  
Abbreviations: GDP = gross domestic product, Q1 = first quarter, Q2 = second quarter, Q3 = third quarter, Q4 = fourth quarter  
Source: Badan Pusat Statistik (2021), [www.bps.go.id/subject/171/produk-domestik-regional-bruto-pengeluaran-.html#subjekViewTab5](http://www.bps.go.id/subject/171/produk-domestik-regional-bruto-pengeluaran-.html#subjekViewTab5) (accessed 23 February 2021)



*Figure 6.8* Number of Hospitals and Community Health Centres (Puskesmas) by Province, 2019

Abbreviations: Puskesmas = community health centre

Source: Indonesia's Ministry of Health (2021), [http://bppsdmk.kemkes.go.id/info\\_sdmk/history/](http://bppsdmk.kemkes.go.id/info_sdmk/history/) (accessed 23 February 2021)



*Figure 6.9* Number of Hospitals and Community Health Centres (Puskesmas) by Province, 2019

Abbreviations: Puskesmas = community health centre

Source: Indonesia's Ministry of Health (2021), [http://bppsdmk.kemkes.go.id/info\\_sdmk/history/](http://bppsdmk.kemkes.go.id/info_sdmk/history/) (accessed 23 February 2021)

2020). As a result, net enrolment rate for elementary schools (*Sekolah Dasar* or SD) decreased in 12 provinces and the number elementary schools, such as in North Sumatera, Jambi, DKI Jakarta, Yogyakarta, and Sulawesi Tenggara, also declined. Several other educational indicators, however, showed an increase from 2019 to 2020. The number of teachers in SD, junior high schools (*Sekolah Menenga Pertama* or SMP), and high schools (*Sekolah Menengah Atas* or SMA) increased except in Riau, Aceh, West Sumatera, and South Sumatera. Net high school (SMA and vocational professional high schools [*Sekolah Menengah Kejuruan* or SMK]) enrolment rate increased for all provinces. Junior high school (SMP) enrolment mostly increased except in Yogyakarta and West Sumatra which experienced a slight decrease. The number of high school (SMK) teachers decreased for more than half of the provinces, including West Java (47,159), Central Java (35,551), and East Java (39,490) but also increased in others such as West Sumatera (37,206), Riau (37,446), and South Sumatera (36,224).

Despite the positive signs mentioned earlier, the COVID-19 pandemic is likely to have an adverse impact on educational outcomes. Currently, the biggest challenge for students is unequal access to online learning. Remote and rural areas tend to have frequent power outages, and slow, unstable, or no internet connectivity. Many children from poor families do not have access to devices or the Internet to be able to participate in online learning. Based on a survey conducted by Indonesia's Ministry of Education and Culture, and the United Nations International Children's Emergency Fund (2020), 35% of students in Indonesia report problems with their internet connection and 73% of disabled students report problems such as difficulty concentrating, an unsupportive learning environment, and distraction from other family members. To help students and teachers with remote learning, the government started subsidising internet data plans for educational purposes in 2020.

### **3. Local Government Responses to the Pandemic**

Starting in the first year of the pandemic, local governments across Indonesia implemented policies and regulations to contain the virus and subsequently to mitigate its economic impact. Over time, as the state of emergency changed and the situation transformed, policies and regulations were continuously revised.

For the purposes of this study, local regulations are classified into four categories: (i) health, (ii) social protection, (iii) business incentives, and (iv) others. In some cases, a decree may be related to all four categories. For instance, Jakarta's Governor's Decree No. 3/2021 provided guidelines on large-scale social restrictions (*Pembatasan Sosial Berskala Besar* or PSBB), epidemiology research, economic recovery, and cash assistance for COVID-19 vaccinations. This type of regulation will be classified under health since a significant part of it is health related. In fact, all regulations on mitigating and suppressing the COVID-19 virus are classified under health. This includes public health protocols; social

and physical distancing; large-scale social restrictions (PSBB); community activity restrictions (*Pemberlakuan Pembatasan Kegiatan Masyarakat* or PPKM); enforcement of restrictions; religious services, worship, and public gatherings; school closures and remote teaching; remote work; self-isolation for positive cases; referral hospitals for COVID-19 patients; and travel permits for going in and out of provinces.

Information on local regulations were gathered from seven provinces in Indonesia that are largely affected by the pandemic either in terms of the number of cases, economic growth, and increased unemployment or poverty rates or the combination of those (DKI Jakarta, West Java, Central Java, Yogyakarta, Bali, Papua, and West Papua), three districts in Yogyakarta (Sleman, Kulon Progo, and Bantul) and four districts in Central Java (Surakarta, Grobogan, Sukoharjo, and Rembang).<sup>1</sup> Regulations included presidential decrees (*keputusan presiden*), ministerial decrees (*keputusan menteri*), regional regulations (*peraturan daerah*), governor's regulations (*peraturan gubernur*), governor's decrees (*keputusan gubernur*), governor's calls (*seruan gubernur*), instructions (*instruksi*), and circulars (*surat edaran*). A total of 189 regulations were analysed in this section, including 61 regulations from DKI Jakarta, 13 from West Java, 41 from Central Java, 36 from Yogyakarta, 21 from Bali, 11 from Papua, and six from West Papua.

One of the most important national policies to prevent the spread of COVID-19 in the initial phase of the pandemic was Government Regulation No. 21 of 2020 on Large Scale Social Restriction for Accelerating COVID-19 Eradication issued in March 2020. This became the basis for similar local regulations passed by local governments concerning large-scale social restrictions, community activity restrictions, remote learning, working from home, and public health protocols. In addition, all provinces passed some form of regulation regarding social and physical distancing to prevent the spread of the virus. DKI Jakarta, Central Java, Yogyakarta, Surakarta, and Sleman also devised specific methods for enforcing regulations, including fines and penalties for breaching health protocols.

Table 6.1 presents two examples of local regulations from West Java and Yogyakarta and their national references. The first regulation is from West Java, Governor's Decree No. 443/Kep. 240-Hukham/2020 on large-scale social restriction in Bandung City, Cimahi, West Bandung, Bandung, West Bandung, and Sumedang. The decree refers to nine national regulations issued by the President, the Ministry of Health, the Ministry of Home Affairs, the Ministry of Transportation, and the National Disaster Management Agency. The second regulation is from Yogyakarta, Letter of Department of Education No. 421/02280/2020 on remote learning for students to prevent COVID-19. It refers to three national regulations issued by the Ministry of Health, the Ministry of Education and Culture, and the National Disaster Management Agency.

To mitigate the economic impacts of the pandemic, provinces formulated social assistance programmes in addition to wide-scale national assistance programmes. Bali reallocated more than Rp756 billion of its budget for this purpose,

Table 6.1 Examples of Local Regulations on Health

<i>Local Regulation</i>		<i>National Reference</i>	
<i>Regulation</i>	<i>Subject</i>	<i>Regulation</i>	<i>Subject</i>
West Java Province: Governor's decree No. 443/Kep. 240-Hukham/2020	Large-scale social restrictions in Bandung City, Cimahi, West Bandung, West Bandung, and Sumedang to accelerate COVID-19 eradication	1. Presidential decree No. 7/2020	Taskforce for COVID-19 response acceleration
		2. Presidential decree No. 9/2020	Revision regarding the task force on COVID-19 response acceleration
		3. Presidential decree No. 12/2020	The non-natural disaster of COVID-19
		4. Minister of Home Affairs decree No. 20/2020	COVID-19 response acceleration for local government
		5. Minister of Transportation Regulation No. PM18/2020	Preventing the spread of COVID-19
		6. National Disaster Management Agency decree No. 9A/2020	Special emergency state due to COVID-19
		7. Head of National Disaster Management Agency decree No. 13A/2020	Extension of special emergency state due to COVID-19
		8. Minister of Health decree No. HK.01.07/Menkes/104/2020	COVID-19
		9. Minister of Health decree No. HK.01.07/Menkes/259/2020	Large-scale social restrictions
Yogyakarta Province: Letter of Department of Education No. 421/02280/2020	Remote learning for students to prevent COVID-19	1. Ministry of Health circular letter No. PK.02.01/B. VI/839/2020	Prevention of COVID-19 transmission in the workplace
		2. Ministry of Education and Culture circular letter No. 3/2020	Prevention of COVID-19 transmission in educational institutions
		3. Head of National Disaster Management Agency decree No. 13A/2020	Extension of special emergency state due to COVID-19

Source: Author's compilation from different sources

of which, around Rp274.7 billion was designated for health-related responses, Rp261.3 billion for social safety nets, and Rp220 billion for economic recovery.

### 3.1 Support to the Health Sector

Provincial governments provided guidelines for personal and public health (e.g. physical distancing, wearing face masks, and minimising activities outside their homes). DKI Jakarta set a fine of Rp250,000 and penalties such as community service for failing to wear a face mask in public spaces. Local governments have imposed safety measures for public places (e.g. offices, hotels, markets, schools, public transportation, restaurants, street markets, tourist attractions, places of worship, and other sites of large gatherings). The measures included reducing the number of visitors, requiring visitors to wear a face mask, providing hand sanitisers, and checking body temperatures, amongst others. The fine for violating public health protocols in office, hotel, and construction site in DKI Jakarta is maximum of Rp50 million (DKI Jakarta governor's regulation No. 41 of 2020). Provinces and districts with a high number of COVID-19 cases implemented large-scale social restrictions (PSBB) but these were later relaxed and downgraded to community activity restrictions (PPKM) in early 2021.

Local Health Agencies (*Dinas Kesehatan*) conducted contact tracing for positive COVID-19 cases. Results were indispensable for monitoring the evolution of the pandemic and for determining the appropriate policies to be implemented. Information gathered also increased awareness amongst communities and encouraged people to be more compliant with health protocols. Local governments provided up-to-date and timely information on positives cases, recovery and mortality rates, spatial information (with maps), vaccination progress, social assistance, and other educational materials. Information could be easily accessed from each province or district's dedicated COVID-19 website, e.g. <https://corona.jatengprov.go.id> for Central Java, <https://infocorona.baliprov.go.id> for Bali, and <https://covid19.papua.go.id> for Papua.

### 3.2 Social Safety Nets

Local regulations that aim to aid to communities during the pandemic are categorised under social protection. As the pandemic hit and the national government implemented social restrictions at the end of March 2020, local governments followed suit and local economies contracted in the first and second quarter of 2020. In response to the slowdown, local governments designed their own social assistance programmes on top of the national social safety nets (Table 6.2). Local regulations on social protection refer to regulations issued by the Ministry of Home Affairs and the Ministry of Finance regarding the local budget. Compared to the local regulations on health, local regulations on social protection vary greatly across provinces due to different budget structures.

Indonesia's social safety nets were designed to help those who are affected by COVID-19 as well as those who are not (Olivia et al., 2020). In 2020, the

Table 6.2 Local Regulations on Social Protection

<i>Province/ District</i>	<i>Regulation</i>	<i>Title</i>	<i>Assistance</i>
DKI Jakarta	Governor's decree No. 386/2020 (9 April 2020)	Recipients of social assistance for vulnerable populations to meet basic needs during large-scale social restrictions	1,194,633 household heads are identified to receive social assistance in the forms of rice, canned food, processed food, personal hygiene, and safety tools equivalent to Rp149,500. The assistance is financed by the local budget.
	Governor's decree No. 990/2020 (20 August 2020)	Recipients of Stage VI of social assistance for vulnerable populations to meet basic needs during large-scale social restrictions	1,160,409 household heads are identified to receive social assistance in basic needs equivalent to Rp300,000. The assistance is financed by the local budget.
West Java	Governor's decree No. 26/2020 (11 April 2020)	Social safety nets for populations affected by COVID-19	The government provides cash and non-cash assistance. Non- cash assistance is in the form of basic needs equivalent to Rp350,000 per month for four months starting from April 2020. It also assists families with members who are COVID-19- positive or are under supervision for 14 days.
	Governor's decree No. 94/2020 (17 December 2020)	Fourth revision on social safety nets for populations affected by COVID-19	Cash assistance is distributed in four stages: Rp150,000 each in the first and second stages, and Rp100,000 each in the third and four stages, starting in April 2020.

<i>Province/ District</i>	<i>Regulation</i>	<i>Title</i>	<i>Assistance</i>
Sleman	Regent's circular letter No. 443/00904	Living cost allowance for COVID-19-positive patients and patients under supervision that are poor or vulnerable	The government provides living costs of Rp45,000 per day for 14 days per family for COVID-19-positive patients and patients under supervision that are poor or vulnerable.
Bali	Governor's decree No. 15/2020 (29 April 2020)	Policy package for the acceleration of COVID-19 eradication in Bali	The government provides social safety nets for those who are affected by COVID-19, specifically those who are poor, laid-off workers, and students.
	Governor's decree No. 23/2020 (19 May 2020)	Providing social safety nets for institutions and organisations for the acceleration of COVID-19 eradication in Bali	Budget reallocation to provide social safety nets in the form of basic needs goods for institutions and organisations.
	Governor's decree No. 30/2020 (10 June 2020)	Providing incentives for healthcare practitioners who deal with COVID-19	Incentives are distributed every month for three months starting from March 2020. The incentives range from Rp2,500,000 to Rp15,000,000.

Source: Author, compiled from different sources

government allocated Rp210 billion for this purpose. In 2021, the government launched three social assistance programmes – the conditional cash transfer programme (PKH), the basic food voucher programme (*Kartu Sembako*), and the cash social assistance programme (*Bantuan Sosial Tunai* or BST) with a target coverage of 10 million, 18.8 million, and 10 million households, respectively. As of 25 March 2021, 10.5 million households have received assistance through the *Kartu Sembako* programme (Kemensos, 2021).

DKI Jakarta also provided social assistance the poor – Rp149,500 per month as of April 2020 and Rp300,000 starting in August 2020. As of 11 April 2021, assistance has been distributed to 1,041,905 households (Jakarta Corona, n.d.). In Yogyakarta, the families of COVID-19 patients and patients under supervision

that are poor or vulnerable are entitled to receive Rp45,000 per day for 14 days to allow all family members to self-isolate during that period. Meanwhile, West Java provides cash and non-cash assistance in the form of basic needs equivalent to Rp350,000 per month and distributed over a period of four months. West Java also assists families with members who are COVID-19 positive and are under supervision for 14 days.

### **3.3 Business Incentives**

Economic recovery covered support for informal businesses; micro-, small, and medium-sized enterprises (MSMEs); small and medium-sized industries or *Industri Kecil Menengah* (IKM); print media and online media businesses; and cooperatives. Assistance for businesses were paid out every month over a period of three months while assistance for cooperatives were given as a one-time payment. The social safety net allocation was distributed to students; formal and informal workers laid off during the pandemic; those who are considered poor by *desa adat* or the *adat* community (*adat* refers to customs or tradition); and those who are considered poor but not recipients of the conditional cash transfer programme (Program Keluarga Harapan or PKH), the food voucher programme (*Kartu Sembako*), temporary unconditional cash transfers (*Bantuan Langsung Tunai* or BLT), or the Pre-employment Card Programme (*Program Kartu Prakerja*).

Under the business incentive category are initiatives to encourage economic activities. The government of DKI Jakarta set the minimum wage in 2021 to be equal to that in 2000 for businesses or firms affected by the pandemic as a means to keep the existing business running. As mentioned earlier, the provincial government of Bali provided incentives for various types of businesses: informal businesses; micro-, small, and medium-sized enterprises (MSMEs); small and medium-sized industries or *Industri Kecil Menengah* (IKM); print media and online media businesses; and cooperatives. The total incentives allocated were Rp220 billion.

## **4. Efficiency and Effectiveness of Fiscal Distribution at Local Levels**

Local governments play a crucial role during the pandemic, but they need sufficient funding to respond to the needs of their communities immediately and effectively. Unfortunately, local governments face a ‘scissors effect’ during a pandemic, i.e. expenditure increases while income declines (Flynn et al., 2021). As local governments attempt to cope, wide disparities are inevitable. Provinces with the largest budgets are concentrated in Java. DJPK Kemenkeu recorded that by early 2020, average disbursement rate of the 2020 budget was only 80.5%, with Bangka Belitung Islands having the highest disbursement at 92.6% and West Kalimantan having the lowest at 65.2%.

The budget allocated and disbursed for social assistance also varies amongst local governments (Figure 6.10). Only a handful of provinces, mostly in Java, show an increase in the disbursement of social assistance. In most provinces, the

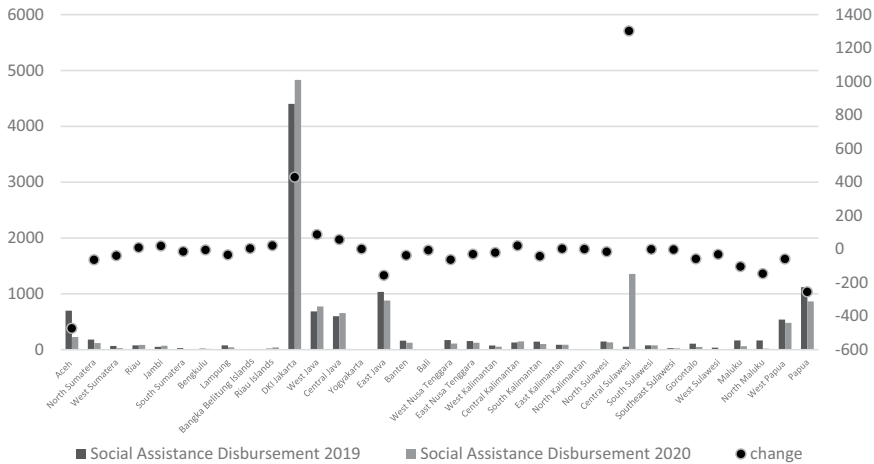


Figure 6.10 Social Assistance Allocation by Province, 2019–2020 (Rp billion)

Source: DJPK Ministry of Finance (2021), [www.djpk.kemenkeu.go.id/portal/data/apbd](http://www.djpk.kemenkeu.go.id/portal/data/apbd) (accessed 29 March 2021)

amount disbursed for social assistance decreased in 2020 from the previous year despite the outbreak of COVID-19. Only 12 provinces, including provinces in Java, increased social assistance disbursement in 2020 from the previous year. Most notable is DKI Jakarta which increased social assistance disbursement by Rp429 billion. Distribution of social assistance is imperative during a pandemic yet most local government decreased disbursement for social assistance from the previous year.

Social assistance disbursement rate for some provinces was above 100%, while others show very limited disbursement rates (Figure 6.11). Provinces of Aceh, Bali, Maluku, and North Maluku decreased disbursements substantially from above 200% in 2019 to less than 100% in 2020. Including these four provinces, more than half of all provinces shows a decrease in the disbursement rate. Aceh, Bali, Gorontalo, Maluku, North Maluku, and Papua are amongst the poorest and most impacted by the pandemic – one would expect that disbursement there should be high. Instead, data for 2020 show a large drop in disbursement rates in those provinces.

Poverty rates increased in all provinces but there is a large variation in magnitude. For instance, poverty rates were above 15% in Papua, West Papua, East Nusa Tenggara, Maluku, Gorontalo in the second half of 2020. Meanwhile the poverty rates are below 5% in Bali, DKI Jakarta, and Bangka Belitung Islands. The highest poverty rate was observed in Papua (26.64%) while the lowest ones were in Bali (4.45%) and DKI Jakarta (4.69%). Social assistance expenditures across provinces also showed huge disparities. Disbursement of social assistance expenditures in DKI Jakarta in 2019, the province with the largest social assistance disbursement, was four times larger than that of Papua, the province with

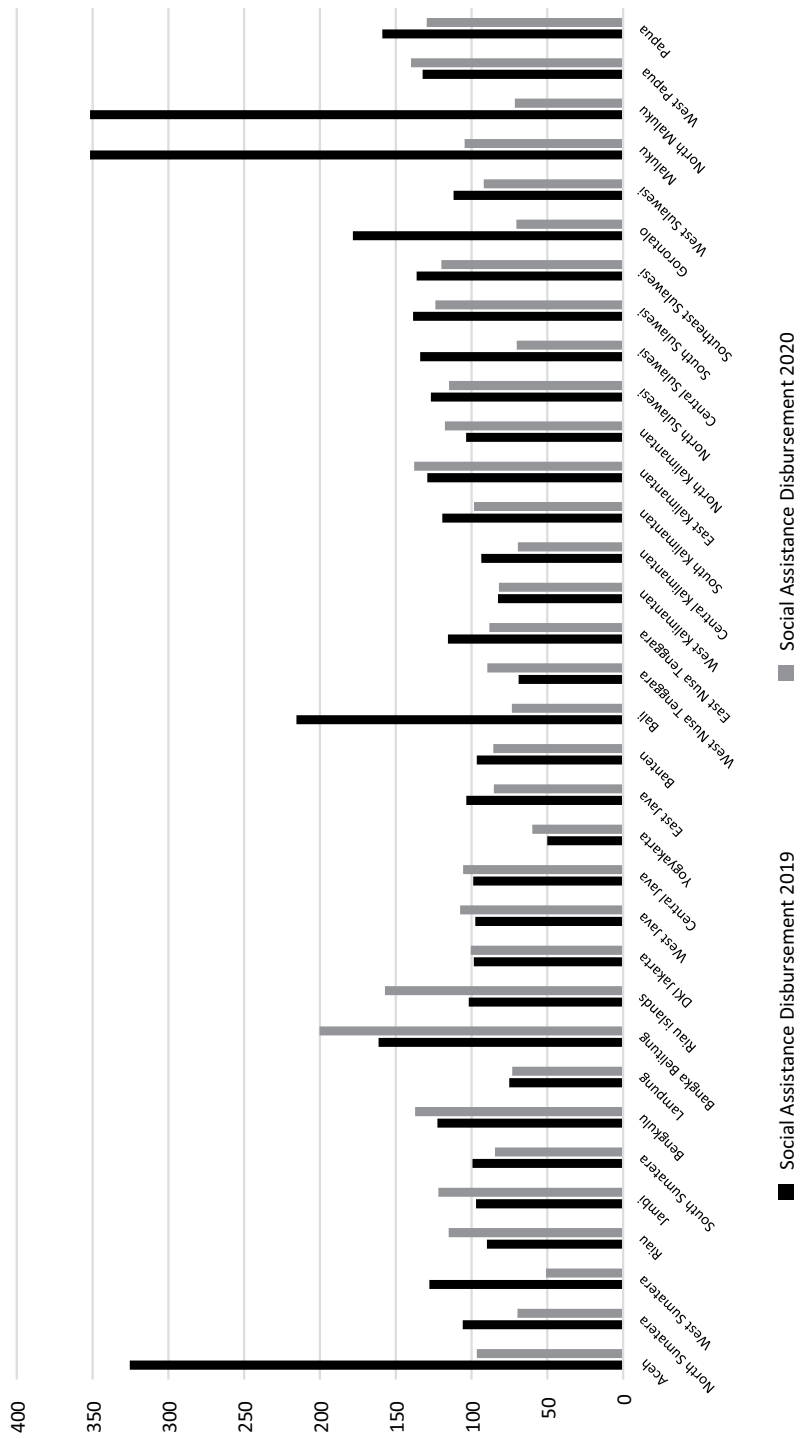
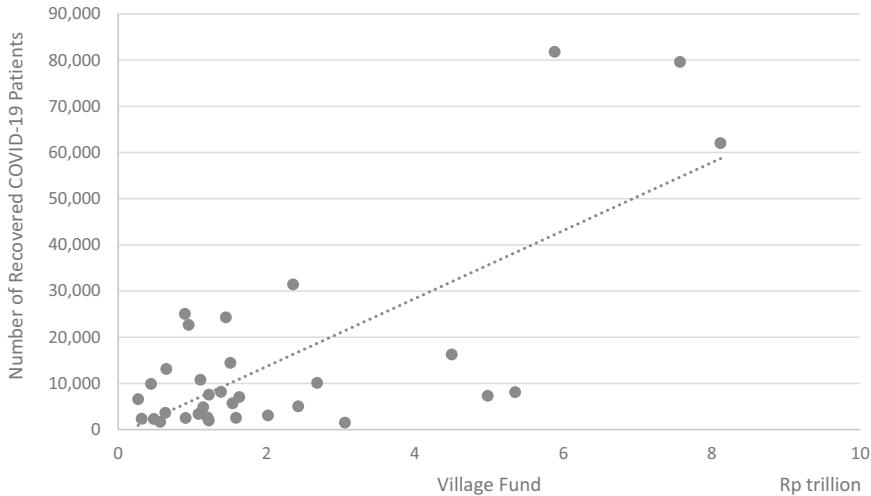


Figure 6.11 Social Assistance Disbursement, 2019–2020 (%)

Note: Social assistance disbursement 2019 is as of 21 October 2020 and social assistance disbursement 2020 is as of 11 February 2021

Source: DJPK Ministry of Finance (2021), [www.djpk.kemenkeu.go.id/portal/data/apbd](http://www.djpk.kemenkeu.go.id/portal/data/apbd) (accessed March 2021)



*Figure 6.12* Village Fund and Number of Recovered COVID-19 Patients

Source: [www.covid.go.id](http://www.covid.go.id) (2021), <https://covid19.go.id/peta-sebaran-covid19> (accessed 29 March 2021) and DJPK Ministry of Finance (2021), [www.djpk.kemenkeu.go.id/portal/data/apbd](http://www.djpk.kemenkeu.go.id/portal/data/apbd). (accessed 29 March 2021)

the second largest social assistance disbursement. Excluding DKI Jakarta as an outlier, social assistance disbursement in 2019 and the number of poor people in the same year showed a moderate positive correlation (Pearson's  $r=0.66$ ).<sup>2</sup> In 2020, this correlation was slightly weaker.

The Indonesian Village Fund, in effect since 2015, is an instrument of fiscal transfer from central to regional governments. It can be allocated toward village development, community empowerment, community development, and village administration (Sutiyono et al., 2018). Recently, it has also been used to help people cope with the impact of the pandemic. In 2020, its largest recipients were Central Java (Rp8.1 trillion), East Java (Rp7.5 trillion), West Java (Rp5.9 trillion), Papua (Rp5.3 trillion), and Aceh (Rp4.98 trillion), provinces with the highest number of villages. The 2020 Village Fund allocation had a strong positive correlation of 0.73 with the number of recovered COVID-19 patients as of 10 January 2021 (Figure 6.12). Thus, it can be argued that the Village Fund is effective in helping families of patients recovering from COVID-19.

## 5. Case Studies of Local Community Initiatives to Cope With the Pandemic

The novelty of and the speed at which COVID-19 spread has overwhelmed many countries including Indonesia. Many viewed Indonesia's government response at the onset of the pandemic as slow (Djalante et al., 2020). A survey conducted

by Change.org in March 2020 showed that local governments were perceived to be responding better than the central government (Kompas, 2020). In the same survey, 42.8% of respondents considered the central government's response as slow and ineffective.<sup>3</sup> Given how widespread COVID-19 infections have become, the geographical diversity of Indonesia's provinces, and the government's limited support, local communities have been compelled to step up. This section discusses two local community initiatives: Sambatan Jogja (SONJO) in Yogyakarta (Box 1) and village-level innovations in Sampang, East Java (Box 2).

### Box 1 Sambatan Jogja (SONJO) in Yogyakarta

SONJO began as a WhatsApp group (WAG) at the end of March 2020 after two confirmed COVID-19 cases were reported. Utilising the old concept of *sambatan*, a tradition of voluntary communal work with cultural roots in Java, the group aimed to help vulnerable people and people at risk in Yogyakarta. Many micro- and small businesses in Yogyakarta could not continue operating after the government declared a community health emergency due to COVID-19 and more people stayed home. As a result, there was an excess supply of various products and services. SONJO became an intermediary through which buyers and sellers could create a virtual market. Google Sheets were used to build databases of food producers and sellers, volunteer registration, and member registration.

SONJO also regularly organises webinars, namely SONJO *Angkringan* and SONJO *Migunani*, during which experts are invited to discuss specific topics. SONJO *Angkringan*'s webinars discuss issues that arise in the WAGs. The results of these discussions influence policies within SONJO. As of mid-June 2021, the webinar series had aired 56 episodes. SONJO *Migunani* is a platform for sharing knowledge and skills among the members of SONJO. At the time of writing, SONJO *Migunani* has reached its 7th episode. Some of the topics discussed include, among others, methods of 'Vacuum Frozen Packing' for culinary products, methods of handling infectious COVID-19 corpses, and developing multilevel shelters for isolating COVID-19 patients.

As of the time of writing (mid-June 2021), the original SONJO WAG had grown to include 19 different WAGs within SONJO. SONJO's role in coping with the pandemic has evolved greatly since March – May 2020 when large-scale social restrictions were implemented and SONJO's activities focused on facilitating the process of providing personal protective equipment (*alat pelindung diri* or APD) for healthcare practitioners and for matching buyers and sellers of food in cities.

Groups created in March 2020 mostly responded to the need for an intermediary in regulating the supply and demand for food and PPE.

For instance, SONJO Food were created to establish a virtual market for food. SONJO Food created a producer database, facilitated trade between members during Ramadhan, provided space for members to advertise their products, prepared them to go into the marketplace, and provided product-related instructional videos from members. Due to limitations on WhatsApp and a large number of members joining, SONJO Food was split into two groups, SONJO Food-1 and SONJO Food-2.

Other subgroups are SONJO Innovation, SONJO Media, and SONJO Database. SONJO Innovation gathers entrepreneurs and experts in engineering, agriculture, agricultural technology, and pharmacy to facilitate discussions on improving and innovating medical equipment. Members include trustworthy doctors, health workers, and producers of health equipment. The group also helps distribute basic needs assistance to targeted recipients. SONJO Media connects SONJO members and journalists, and facilitates dissemination of information on SONJO's activities to the public. SONJO Database is the back office where programmes and activities are prepared, and where SONJO's website, apps, and flyers are managed. Some of the members of this group are students.

SONJO operates in Yogyakarta, a relatively small area and community of only four districts and a city, but its impact goes beyond. SONJO Learning provides opportunities for those interested to learn about SONJO's experience. After joining and learning from the group, alumni of SONJO Learning are expected to create a similar initiative in their own community. So far, they have replicated SONJO in Tulungagung, Jakarta, Magelang, and Medan.

One of the relatively new SONJO groups is SONJO Support, created on 14 December 2020. This group was suggested by Bantul health workers to solve the faulty online hospital referral system. At that time, the healthcare system in Yogyakarta was under severe pressure with COVID-19 cases rising rapidly. Through SONJO Support, hospitals could select patients for admission based on patient data compiled by group members. As the hospital referral system improved, the group became less active (Tisnadibrata, 2021).

At the end of May and early June 2021, SONJO, together with the Department of Economics of Universitas Gadjah Mada, organised two international webinars called SONJO Solidarity Journey (SSJ). The first SSJ was entitled 'Developing Community-Based Shelters for Covid-19 Patients: Sharing Experience from Bantul, Indonesia'. It aimed to share the experiences of Bantul, Indonesia in supporting hospitals with their handling COVID-19 patients by developing multilevel shelters and a dual referral system across hospitals and shelters. Representatives from 11 World Health Organization Country Offices (Bangladesh, Bhutan, Republic of Korea, India, Indonesia, Maldives, Myanmar, Nepal, Sri Lanka, Thailand, and Timor-Leste) attended the webinar.

The second SSJ was held collaboratively between SONJO, the Department of Economics of Universitas Gadjah Mada, and the University of Southampton in the United Kingdom. The webinar's theme was 'Does Social Capital Induce Adaptation and Innovation? Lesson Learned from SONJO during the COVID-19 Pandemic'. This webinar aimed to share SONJO's experience in forming social capital during the pandemic using WAGs.

Recently, SONJO, together with Nahdlatul Ulama and the Muhammadiyah<sup>4</sup> COVID-19 Command Center (MCCC) have collaborated on developing shelters in Kudus to tackle the drastic surge in COVID-19 cases in the region. SONJO has provided experts, knowledge, and experience in developing social capital and also on how to develop multilevel shelters (district, village, sub-village, and *pesantren* or Islamic boarding school shelters). In Kudus, in particular, attempts have also been made to develop university shelters and corporation shelters.

Source: Author

## Box 2 Village Innovations in Sampang

The following description of village-level initiatives is mainly based on Susilo et al. (2021), which focuses on 10 villages in Sampang. Sampang regency has maintained the longest period of having no cases (green zone)<sup>5</sup> in East Java until the first case was reported in May 2020. To date, Sampang is classified as a low-risk region (yellow zone).

One of the strategies for preventing the spread of COVID-19 is implementing strict entry restrictions and observing health protocols. This includes distributing face masks and prioritising masks made by the villagers. In cases where there are no mask-makers in a village, masks are procured from adjacent villages. Each villager is allocated at least two washable masks. The strategy tackles two issues at the same time: maintaining health protocols and promoting the local economy.

The second strategy focuses on food sufficiency. The pandemic has increased the number of poor people in the villages but basic food assistance from the government, organisations such as East Java art communities, and groups of Indonesian migrant workers are limited. Villages have thus created 'village wallets' whereby funds are gathered voluntarily from village officials and then distributed to those who are poor but do not receive food assistance from the government.

The third innovation relates to reporting positive COVID-19 cases. Village administrators set up call centres using WAGs to monitor entry into the villages and to report anyone who experiences COVID-19 symptoms.

The fourth strategy involves forming volunteer groups to help village heads handle the pandemic, such as by tracking people who are entering the villages. This volunteer group is financed by the Village Fund (*Dana Desa*). Amongst the 10 villages, those with more volunteers observe fewer cases. The use of volunteer groups may thus be an effective strategy.

The last strategy is to provide internet connection in the villages by constructing wireless transmitter signal towers. Although the quality of the connection is not the same amongst the villages, it enables villagers to communicate with friends and families without meeting face to face and it supports online learning for students.

Source: Author

## 6. Policy Recommendations

The COVID-19 pandemic has affected local governments and their communities differently. Significant drops in household consumption were observed in East Nusa Tenggara, West Nusa Tenggara, South Sulawesi, and Papua. North Sumatera experienced a drop in both agriculture and manufacturing. Bali and Yogyakarta were severely impacted by the contraction of the tourism industry. Transportation industries in all provinces were severely weakened. Unemployment and poverty rates also increased in all provinces.

Local governments are vital for reducing inequality and building communities' resilience to future shocks. Local policymakers should therefore prioritise ensuring that social assistance is carefully targeted and smoothly distributed. Local governments should also design and prepare more comprehensive social assistance to anticipate the possibility that non-vulnerable groups might also become vulnerable in the future. Local policies regarding social assistance are more diverse than local policies on health and preventing the spread of the virus. Nevertheless, governments should ensure equal distribution of health supplies and resources. Disparities in provinces' healthcare systems may undermine efforts to mitigate COVID-19.

Since the impacts of the pandemic are widespread, affecting Indonesia's outermost regions and unreachable populations, local governments should promote and incentivize community-based initiatives and encourage local leaders to cope with the crisis. Community members and local leaders are better informed about the characteristics and needs of their communities, and thus are better equipped to plan and implement the most suitable responses.

## Notes

- 1 As of February 15th, 2021, the highest number cases were observed in DKI Jakarta, West Java, and East Java. Tourism is among the most affected by the pandemic and two provinces that rely heavily on the accommodation and food service industry are Yogyakarta and Bali. Bali and DKI Jakarta also recorded among the highest increase in unemployment rates from February 2020 to August 2020. Papua and West Papua, consistently showed high poverty rates that have been amplified by the pandemic in the last two years, as recorded in September 2019 and September 2020.
- 2 Pearson's  $r$  is a measure of linear correlation between two sets of data. A positive value of Pearson's  $r$  suggests that provinces with a larger population of poor people are associated with greater social assistance disbursement.
- 3 In the survey, the central government was defined to include the president, the minister of health, and the National Disaster Management Agency (BNPB), while local governments comprised the governor (*gubernur*), mayor (*walikota*), and regent (*bupati*).
- 4 Nahdlatul Ulama and Muhammadiyah are the largest Islamic organisations in Indonesia (Suarainvestor.com, 2020).
- 5 Risk of transmission of COVID-19 in cities or districts ranges from green, yellow, orange to red zones. Green zone indicates no cases or no new cases, yellow zone indicates low risk, orange zone indicates medium risk, and red zone indicates high risk (<https://covid19.go.id/peta-risiko>, 2021).

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# 7 Off the Cliff and Back

## An Anatomy of China's Trade amid the COVID-19 Pandemic

*Zhihong Yu and Mo Tian*

### 1. Introduction

Since the first COVID-19 case reported at the end of December 2019 in Wuhan, there has been tremendous loss of life and economic hardship around the world. The number of confirmed cases rose rapidly in Wuhan and other cities in China towards the end of January 2020 when the World Health Organization (WHO) declared the outbreak a Public Health Emergency of International Concern (WHO, 2020). China has taken unprecedentedly stringent measures to prevent the spread of the virus across China and the rest of the world. First, the central government decided to place Wuhan on lockdown. Wuhan is the seventh largest city in China with a population of over 11 million. Second, in the rest of China, residential-block-based, semi-lockdown and quarantine procedures were adopted, halting intraregional mobility of residents except essential workers such as those in the healthcare sector. Production units remained shut down even after the Chinese New Year holidays, and recreational facilities and restaurants were also closed. Third, interprovincial and intercity travel restrictions were strictly enforced, which substantially reduced the flow of people and merchandise. By the end of February, the pandemic had been effectively contained; cases of new infections had sharply declined to single-digit figures in most provinces and cities outside Wuhan. In March, lockdown and quarantine measures were lifted. Economic activities gradually resumed, with factories restarting production and restaurants reopening. On 8 April, Wuhan eased outgoing travel restrictions, effectively ending the 76-day lockdown. In the first quarter (Q1) of 2020, China's gross domestic product (GDP) declined by 5% relative to the same period in 2019.

In this chapter, we employ monthly export and import data from the China Customs Office to analyse China's trade performance in 2020 amid the COVID-19 pandemic. We obtain data for China's total exports and imports at the aggregate level, as well as at a more disaggregated level by Standard International Trade Classification (SITC) sectors, selected trade partners, trade regime, and ownership. This enables us to provide detailed analysis of the effects of the pandemic on China's foreign trade. In particular, we employ a decomposition method that allows us to decompose year on year (YoY) growth of China's aggregate exports and imports into different components by sectors or trade partner,

and then quantify the contributions of individual sectors and trade partners to total growth.

Our main findings can be summarised as follows: First, at the aggregate level, there is a clear 'off the cliff and back' trend, especially for China's exports. At the beginning of the pandemic, China's exports dropped dramatically relative to the same period of the previous year, but then experienced a V-shaped recovery starting in April, then finally achieving significantly higher growth in the third quarter (Q3). By contrast, China's total imports not only fell substantially in Q1, but also collapsed in the second quarter (Q2), and then recovered mildly in Q3 of 2020. Combined with our analysis of trends in the Purchasing Managers' Indexes (PMIs) of China, Europe, and the United States (US), we conclude that the pandemic's effects on China's foreign trade is mainly through its impact on local and global supply in manufacturing production due to disruptions in transportation and lockdown measures, and, to a lesser extent, swings in global demand.

Second, at the sectoral level, our decomposition analysis reveals that the machinery and transport equipment sector, manufactured materials sector, and the mineral fuels sector played dominant roles in the dynamics of China's foreign trade during the pandemic. Whilst the manufactured goods sector contributed the most to the speedy recovery of China's exports in Q2 and Q3, the collapse of global energy trade in the mineral fuels sector led to a sharp decline in China's imports, resulting in postponed recovery. Meanwhile, the export of labour-intensive goods such as footwear, clothing, and bags, were negatively affected by the pandemic in Q2, pulling down China's export recovery, but returning to positive growth in Q3.

Third, when investigating the contributions of major trade partners to China's trade growth, we find that the Association of Southeast Asian Nations (ASEAN) and the European Union (EU) played important roles in driving both China's exports and imports amid the pandemic. The quarterly YoY growth of China – EU trade was consistently negative for both exports and imports, thus substantially driving the fall in China's exports in Q1 and the drop in imports in Q1 and Q2. By contrast, YoY growth for China – ASEAN trade was consistently positive for imports, and negative in Q1 and Q2 for exports. This implies that ASEAN has been very important in stabilising China's exports and imports. Our calculations reveal that, had ASEAN's quarterly growth rates been the same as that of the EU, quarterly growth rates of China's exports would have dropped by around 3–5 percentage points; and that of imports by 1–3 percentage points.

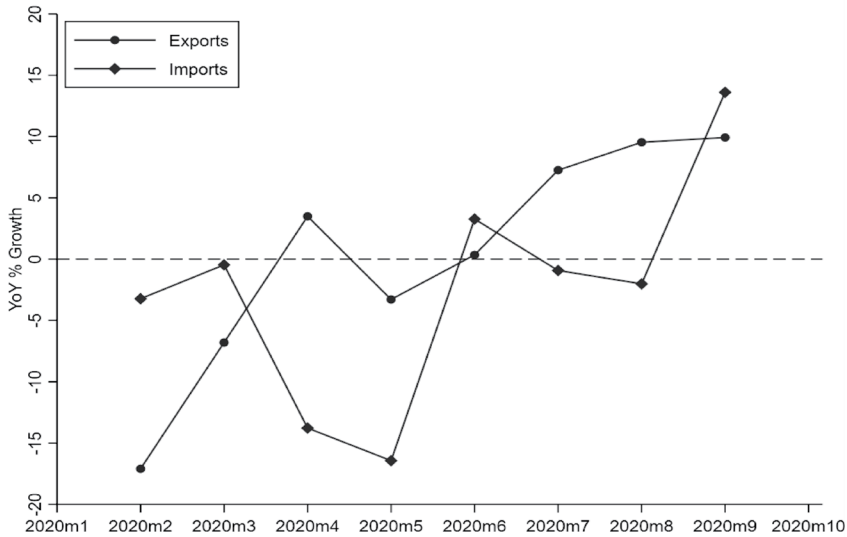
Furthermore, the US played a dominant role in the fall and recovery of China's exports, whilst other resource-rich countries were important in driving the downward trend of China's imports. Finally, to shed some light on the effects of the pandemic on global supply chains, we examine the different roles played by processing trade and foreign-owned firms. Our analysis reveals that exports from the processing trade or from foreign-owned firms were more severely hurt, recovered less, and at a slower pace than those from ordinary trade or by domestic-owned firms. This is consistent with the notion that firms more deeply engaged in global supply chains are more negatively affected by the pandemic since they are more sensitive to disruptions in international transportation and global production networks.

## 2. Fall and Recovery of China's Exports and Imports

The COVID-19 pandemic spread across the world beginning in March 2020 and evolved into a global crisis. The cumulative number of confirmed cases outside China exploded from 100,000 to over 10 million in less than three months. All of China's major trade partners were severely affected and many of them implemented stringent lockdown policies and border control measures (e.g. customs inspections, quarantine procedures, travel restrictions) to prevent the spread of the virus. In the meantime, new international travel restrictions were applied by Chinese authorities to prevent 'importing' the virus from the rest of the world, including substantial cuts in international flights and issuances of visas. As a result, costs of international transportation for goods and people were substantially driven up. At the same time, the pandemic caused the most severe economic depression since the 1930s (International Monetary Fund, 2021). The pandemic thus resulted in to both a sharp rise in trade costs and to substantial economic contraction, resulting in the collapse of global trade flows. Global merchandise trade dropped steeply by a record 14% in Q2 of 2020 relative to the previous quarter and is forecast to drop by 9.2% for the whole year by the World Trade Organization (WTO).

Pandemics can affect foreign trade from both the supply side and the demand side. First, the shutdown of production units can lead to a sharp decline in manufacturing supply. Second, lockdown measures can decrease the income of workers and households, and investments by firms, which result in lower demand for consumer, intermediate, and capital goods. Finally, restrictions on interregional transportation and international travel can significantly increase costs and negatively impact both supply and demand.

With these mechanisms in mind, we first investigate trends in China's total exports and imports at the aggregate level (Figure 7.1). For exports, there was a significant fall in Q1 of 2020 compared with the same period in 2019, especially in January and February when exports dropped by around 17%, and then later declined to a YoY growth rate of -7% in March. This is not very surprising, as the pandemic caused significant disruptions on the supply side. The extension of factory closures after the Chinese New Year holidays and restrictions on interregional transport led to negative shocks to manufacturing sectors. According to the National Bureau of Statistics, the PMI hit a record low of 35.7 in February, about 15 points lower than for the same period in the previous year. The turning point occurred after March when China managed to effectively control the pandemic and restart the economy speedily. The PMI bounced back to 51–52 in March and April, and then recovered steadily reaching 52.1 in November, the highest in more than three years. Exports also recovered in Q2 of 2020, and continued to expand in Q3. YoY growth in April, May, and June, were, respectively, around 5%, -4%, and 0%, leading to slight positive growth in Q2 overall. Even stronger, positive growth took place from July to September, reaching around 10% in September. Combined with the steady increase of the PMI during



*Figure 7.1* China's Exports and Imports (YoY % growth by month)

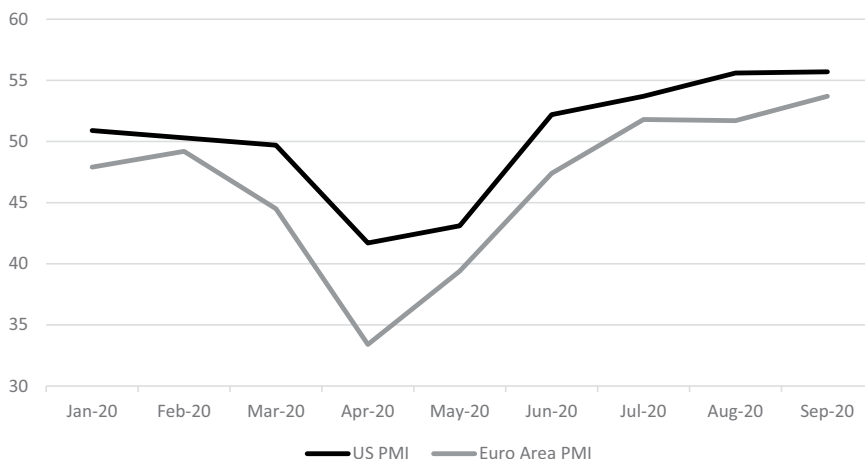
Abbreviations: 2020m1 = January 2020, 2020m2 = February 2020, 2020m3 = March 2020, 2020m4 = April 2020, 2020m5 = May 2020, 2020m6 = June 2020, 2020m7 = July 2020, 2020m8 = August 2020, 2020m9 = September 2020, 2020m10 = October, YoY = year on year

Note: The graph plots the year on year growth of China's total imports and exports (in US\$) for the first three quarters of 2020 by month. For January and February, the Chinese Customs Office only reports trade statistics for both months as a whole period, rather than separately. So '2020m2' refers to January and February, rather than February only

Source: Authors' calculations

the same period, we conclude that the fall and recovery of China's total exports was mainly driven by supply-side effects of the pandemic, although demand-side shocks may have also played a significant role.

China's total imports followed a different trajectory. In Q1, there was only a slight decline in imports relative to the same period in the previous year. YoY growth rate was around 4% in January and nearly zero in February, much smaller in magnitude compared to the sharp fall of exports in the same period. However, in Q2, growth rates plummeted, reaching 15% to -17% in April and May, respectively, despite substantial recovery of over 3% growth in June. This perhaps can be explained by the global collapse of international trade and economic activities, since the pandemic worsened in Q2 and many countries implemented severe lockdown measures or strict travel restrictions. According to the WHO, by June 2020, the number of global confirmed cases and deaths exceeded 10 million



*Figure 7.2* Manufacturing Purchasing Managers' Index for the United States and the European Union

Abbreviations: EU = European Union, PMI = Purchasing Managers' Index

Note: This graph reports the manufacturing PMI for the US and the EU by month

Source: Authors' calculations based on Statista (2021), *Manufacturing Purchasing Managers' Index (PMI) in the United States from May 2020 to May 2021*, [www.statista.com/statistics/271662/purchasing-managers-index-pmi-in-the-united-states/](https://www.statista.com/statistics/271662/purchasing-managers-index-pmi-in-the-united-states/) (accessed 11 June 2021)

and 500,000 respectively. The US, with 2.6 million confirmed cases, and Brazil, with 1.3 million, are the top two affected countries. For major European economies such as the United Kingdom, Germany, France, and Italy, the numbers reached 200,000–300,00. In Q3, YoY growth rates of China's imports fell back to slightly negative rates in July and August, but then increased dramatically to over 15% in September. This is possibly due to the fact that the pandemic was initially mitigated in Q3 amongst China's major trade partners especially the US and the EU, and thus lockdown measures were eased, production resumed, and supply to the Chinese market recovered. More specifically, the manufacturing PMIs for the US and the EU sharply declined in April and May, followed by a steady recovery from June to September (Figure 7.2). The trend is very similar to the trend in China's total imports, which implies that the decline and recovery of China's imports are mainly driven by the supply side dynamics of its major trade partners.

To summarise, both China's exports and imports exhibit a clear 'off the cliff and back' trend as a result of the COVID-19 pandemic, mainly through the impacts on local and global supply chains in manufacturing production. This is evidenced by the fact that the V-shaped recovery of China's exports follows the same path as China's PMI during the same period; whilst the trajectory of China's imports closely coincides with the trend of the PMIs in the US and the EU. Needless to say, disruptions in travel and transportation, and declining demand played significant roles, but the loss and restoration of manufacturing supply seems have been the dominant factor.

### 3. The Impact of COVID-19 Across Sectors and Products

In this section we undertake a decomposition analysis to disaggregate the total impact of the pandemic by sector as the follows:

$$\Delta EX = \sum_i w_{i,t-1} \Delta EX_i,$$

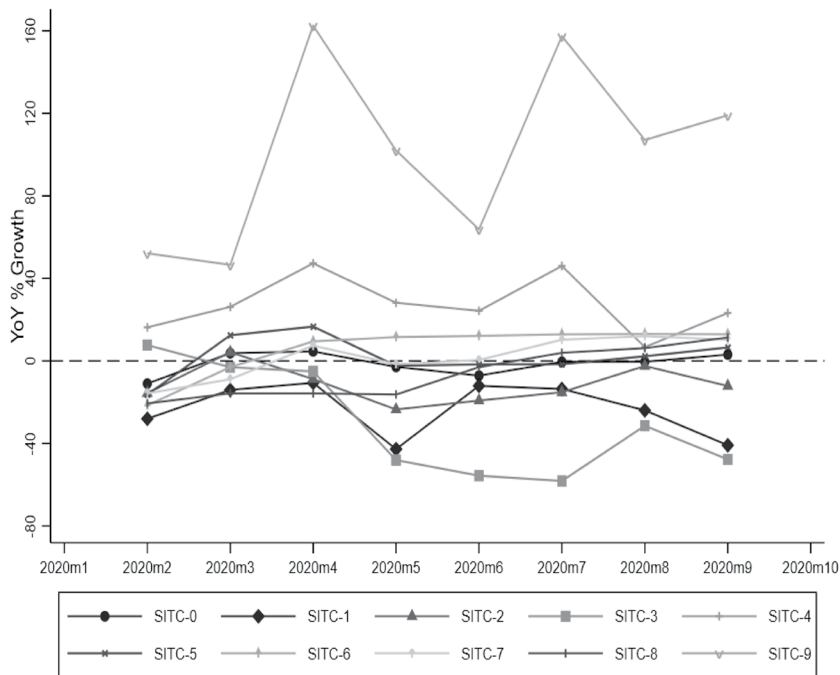
$$\text{where } w_{i,t-1} = \frac{X_{i,t-1}}{X_{t-1}}$$

Where  $\Delta EX$  and  $\Delta EX_i$  are the YoY growth rates of China's exports respectively at the aggregate and sectoral  $i$ 's level, and  $X_{t-1}$  and  $X_{i,t-1}$  are China's aggregate and sectoral exports in the same period of the last year, respectively. Apparently, the contribution of each sector  $i$  to total YoY growth is determined by (a) the share of that sector in China's total exports in the last year ( $t-1$ ), and (b) the YoY growth in the current year ( $t$ ).

#### 3.1 Decomposition of Exports

Decomposition results are shown in Table 7.1a, where the contribution of each sector to total exports growth (Column 4) equals the product of the share of each sector in Q1 of 2019 and the YoY growth of that sector in Q1 of 2020 (Column 3). The following patterns merit noting:

First, throughout all the quarters, aggregate YoY growth was dominated by three sectors, namely, manufactured materials (SITC 6), machinery and transport equipment (SITC 7), and miscellaneous manufactured articles (SITC 8), with the machinery and transport equipment sector playing the most important role. These three sectors jointly accounted for around 88% of China's total exports, with the machinery and transport equipment sector taking the largest share at around 50%. Moreover, monthly YoY growth of the machinery and transport equipment sector in Figure 7.3a was very similar to that of the aggregate exports. This sector's YoY growth rate in Q1, Q2, and Q3 were, respectively, -13.2%, 2%, and 10.9%, whilst those of the aggregate exports were, correspondingly, 13.4%, 0.07%, and 8.9%. Both exhibit a sharp V-shaped recovery. Second, it is noteworthy that the miscellaneous manufactured articles sector, which consists of mainly labour-intensive items such as footwear, textiles, and furniture, shows a different path of recovery compared to the earlier-mentioned sectors. As can be seen in Table 7.1a and Figure 7.3a, its YoY growth rate in Q1 and Q2 were, respectively, -19% and -11%, and then continued to decline, meaning that this sector was affected more negatively than the manufactured goods, and machinery and transport equipment sectors. Not until Q3 did exports start to recover with a positive YoY growth rate of 1.8%. One possible reason behind this trend is that labour-intensive sectors were more negatively affected by mobility restriction measures, especially those in western provinces which are more heavily hit by the pandemic.



*Figure 7.3a* China's Exports by Industry (YoY % growth by month)

Abbreviations: 2020m1 = January 2020; 2020m2 = February 2020; 2020m3 = March 2020; 2020m4 = April 2020; 2020m5 = May 2020; 2020m6 = June 2020; 2020m7 = July 2020; 2020m8 = August 2020; 2020m9 = September 2020; 2020m10 = October; SITC = Standard International Trade Classification; SITC-0 = food and live animals; SITC-1 = beverages and tobacco; SITC-2 = crude materials, inedible, except fuels; SITC-3 = mineral fuels, lubricants, and related materials; SITC-4 = animal and vegetable oils, fats and waxes; SITC-5 = chemicals and related products, n.e.s.; SITC-6 = manufactured goods classified chiefly by material; SITC-7 = machinery and transport equipment; SITC-8 = miscellaneous manufactured articles; SITC-9 = commodities and transactions not classified elsewhere; YoY = year on year

Note: The graph plots the year on year growth of China's exports (in US\$) for the first three quarters of 2020 by month and by SITC 1-digit sectors. For January and February, the Chinese Customs Office only reports the trade statistics for both months as a whole period, rather than separately. So '2020m2' refers to January and February, rather than February only

Source: Authors' calculations

Second, in sharp contrast to the 'fall and recovery' pattern of the machinery sectors (SITC 7), there are three sectors [beverages and tobacco (SITC 1), crude materials, inedible, except tobacco (SITC 2), and mineral fuels, lubricants, and related materials (SITC 3)], that experienced a continuous downward trend

throughout the whole pandemic. As seen in Figure 7.3a, monthly YoY growth of the beverages and tobacco sector remained significantly lower throughout the pandemic period, whilst that of the crude material sector followed a similar trend, although less negative. The sharpest decline took place in the mineral fuels sector, with negative YoY monthly growth rates hitting a historic low of -40% to -60% starting in May. As shown in Table 7.1a, across quarters, YoY growth rates of the beverages and tobacco sector were -22% to -27%, whilst that of the crude materials sector were -8% to -17%. The collapse of beverages and tobacco exports during the pandemic is perhaps not very surprising, since retailing and restaurant sectors were affected by lockdown measures and thus demand from China's foreign trade partners fell. For the mineral fuels sector, the downward trend is mainly due to the collapse of commodity prices worldwide. As discussed in the World Bank's *Commodity Markets Outlook* (World Bank Group, 2020), energy commodities especially crude oil suffered a steep decline in demand and thus prices, as a result of the sudden stop in economic activity and disruptions to supply chains and transportation. It was expected that energy prices could drop by 40% in 2020 relative to the previous year. However, despite the large decline in exports from those three sectors, their combined negative contributions to China's overall exports is not very large, around -1% at most. This is due to the small share of these sectors in China's total exports (0.1–0.2% for beverages and tobacco, 0.5–0.8% for the crude materials sector, and 1–2.5% for the mineral fuels sector).

Third, as shown in Figure 7.3a, in stark contrast to the earlier mentioned three sectors, the animal and vegetable oils, fats, and waxes sector (SITC 4) always had large and positive growth throughout the pandemic. Table 7.1a shows that quarterly YoY growth rates were, respectively, around 20%, 33%, and 24% in Q1, Q2, and Q3. However due to its very small share in total exports, the contribution of this sector to China's aggregate export growth is negligible.

Finally, the trend in the chemicals and related products sector (SITC 5) was not very different from that of the aggregate exports, with a dip in its growth rate in January to February, but then rebounded in March, followed by mildly positive YoY growth throughout Q2 and Q3. Although it is the fourth largest sector in China's exports with a share of 6–8%, its growth rates especially for Q2 and Q3 are small in magnitude at only 2–4%, thus its contribution to overall export growth is also small.

### ***3.2 Decomposition of Imports***

Next, we discuss decomposition of China's imports by sector and examine whether falling imports were also dominated by key sectors such as the machinery and transport equipment sector. The decomposition method used is the same as that used for exports shown in Equation 1, and results are reported in Table 7.1b. We identified five sectors, namely, mineral fuels, lubricants, and related materials (SITC 3); chemicals and related products (SITC 5); manufactured materials

Table 7.1a Decomposition of China's Exports by Sector (YoY growth)

SITC Sector	Q1 2020			Q2 2020			Q3 2020					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution
0 Food and live animals	2.6	2.8	-5.5	-0.14	2.5	2.5	-1.9	-0.05	2.5	2.3	0.8	0.02
1 Beverages and tobacco	0.1	0.1	-22.2	-0.02	0.2	0.1	-23.4	-0.04	0.1	0.1	-26.9	-0.04
2 Crude materials, inedible	0.8	0.8	-7.9	-0.06	0.7	0.6	-17.3	-0.13	0.6	0.5	-10.1	-0.06
3 Mineral fuels	2.1	2.5	3.1	0.06	1.9	1.2	-34.9	-0.65	1.7	0.8	-47.0	-0.80
4 Animal and vegetable oils	0.0	0.1	20.2	0.01	0.0	0.1	33.2	0.02	0.0	0.1	23.9	0.01
5 Chemicals	7.2	7.9	-5.1	-0.37	6.8	7.0	3.7	0.25	6.2	5.9	2.3	0.14
6 Manufactured goods	16.7	16.4	-15.0	-2.50	17.1	19.0	11.1	1.90	15.9	16.5	13.0	2.06
7 Machinery and transport	48.6	48.7	-13.2	-6.42	47.1	47.9	2.0	0.92	46.9	47.7	10.9	5.09
8 Miscellaneous manuf.	21.7	20.3	-19.0	-4.11	23.3	20.6	-11.3	-2.63	25.4	25.0	7.1	1.80
9 Commodities and trans.	0.3	0.6	49.8	0.17	0.5	1.0	105.3	0.49	0.5	1.1	125.5	0.66
Total Growth				-13.39				0.07				8.89

Abbreviations: Commodities and trans. = Commodities and transactions; Contribution = Contribution of sector j in the year on year growth rate of China's aggregate export growth for quarter 1, 2, or 3, which equals 1\*3; Growth = the year on year growth rate of exports of sector j for quarter 1, 2, or 3; Miscellaneous manuf. = miscellaneous manufactured goods; Q1 = first quarter; Q2 = second quarter; Q3 = third quarter; Share\_19 = the share of sector j in total exports during quarter 1, 2, or 3 in 2019; Share\_20 = the share of sector j in total exports during quarter 1, 2, or 3 in 2020; SITC = Standard International Trade Classification, Total Growth = the year on year growth rate of China's total exports, which equals the sum of contributions across sectors

Source: Authors' calculations

(SITC 6); machinery and transport equipment (SITC 7); and commodities and transactions (SITC 9) that contributed the most to the trend in China's total imports. However, unlike the pattern observed in China's exports, each sector's contribution varied over time, without any single sector dominating the aggregate trend.

First, as shown in Table 7.1b, the annual growth of China's total imports was  $-2.26\%$  in Q1 of 2020, of which the commodities sector, the chemicals sector, and the machinery and transport sector contributed the most, with YoY growth rates of around  $-1.5\%$ ,  $-1\%$ , and  $-0.8\%$ , respectively. The sizable roles played by the chemicals sector and the machinery and transport sectors are not very surprising, since they constitute a large share of China's total imports ( $37\%$  and  $11\%$ , respectively). It is somehow unexpected that the commodities sector contributed the most to the overall negative growth of China's imports in Q1 since its share of total imports was only  $3\%$ . Its YoY growth rate was, however, significantly lower, reaching  $-47.5\%$ , hence contributing substantially to the drop in China's total import growth. It is also noteworthy that the mineral fuels sector, the second largest import sector, experienced a positive growth rate of  $3.5\%$ , thus offsetting the large negative effects of the three earlier-mentioned sectors. This is consistent with the trend in mineral fuels exports (Table 7.1a) as mineral fuel prices had not yet fallen in Q1 when the pandemic had not yet spread worldwide.

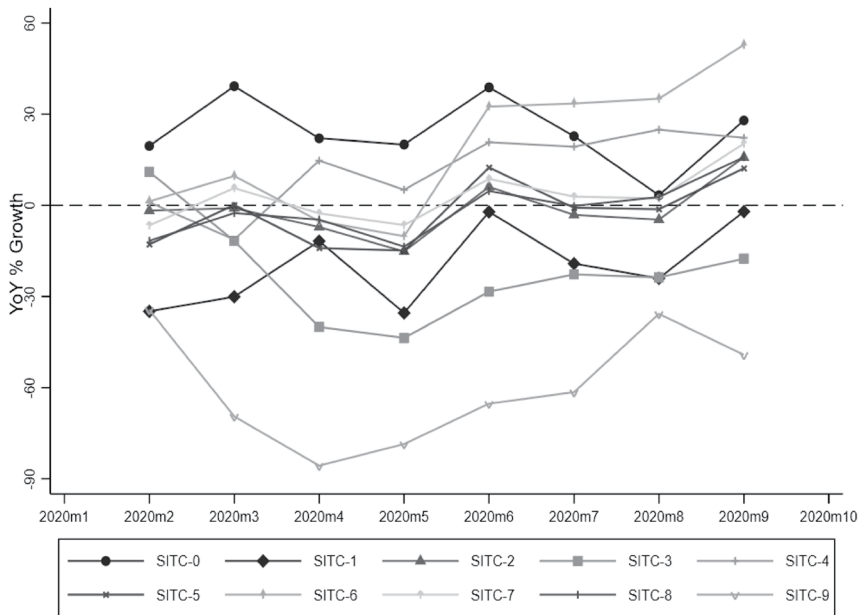
Sectoral import patterns changed significantly in Q2. Overall YoY growth rate was  $-9.3\%$ , of which the mineral fuels sector contributed the most at  $-6.48\%$ . This can be explained by the fact that global energy prices collapsed during Q2, just as exports in the mineral fuels sector experienced a sudden drop as reported in Table 7.1a. Note that China is one of the world's largest importers of mineral and energy products, and that the mineral fuels sector accounts for  $17\%$  of China's total imports, thus contributing significantly to total imports. By contrast, the commodities sector consists of a very small share of China's total imports ( $3\%$ ) but negative YoY growth rate was as large as  $-79.4\%$ , leading to a sizable contribution of  $-2.27\%$ . Furthermore, the chemicals and the crude material sectors, the third and fourth largest importing sectors, contributed negative growth rates of  $-0.70\%$  and  $-0.78\%$ , respectively, due to their non-negligible share in total imports. Interestingly, the machinery and transport sector, as China's largest import sector, contributed a negligible  $-0.1\%$  to overall quarterly growth.

The earlier-mentioned sectoral pattern was reversed in Q3 when imports started to recover. YoY growth in Q3 of China's total imports was  $3.56\%$ , with the machinery and transport equipment sector (SITC 7) playing a key role. The contribution of this sector to total quarterly growth was  $3.37\%$  due to its large share in total imports and a positive growth rate of  $8.6\%$ . Similarly, the manufactured goods sector, which played a negligible role in the previous two quarters, contributed considerably to the growth of total imports in Q3, mainly with a very high quarterly growth rate of  $40.5\%$ . It is noteworthy that the mineral fuels sector and the commodities sector continued their downward trend in Q3, but the magnitudes were smaller. Their negative contributions to overall growth were  $-3.38\%$  and  $-0.96\%$ , respectively. All other sectors, except the beverages and

tobacco sector, experienced mildly positive growth rates, which led to a moderate quarterly growth rate for total imports.

As for other sectors, note that the food and live animal sector always had positive YoY growth rates throughout the period, as can be seen in Figure 7.3b, thus making a positive contribution of around 1% to total imports in each quarter. By contrast, the beverages and tobacco sector always exhibited negative growth rates, thus making small, negative contributions to overall import growth.

To summarise, our decomposition results show distinct roles played by each sector in the ‘off the cliff and back’ trend in China’s total exports and imports during the pandemic, especially the machinery and transport equipment sector and the



*Figure 7.3b* China's Imports by Industry (YoY % growth by month)

Abbreviations: 2020m1 = January 2020; 2020m2 = February 2020; 2020m3 = March 2020; 2020m4 = April 2020; 2020m5 = May 2020; 2020m6 = June 2020; 2020m7 = July 2020; 2020m8 = August 2020; 2020m9 = September 2020; 2020m10 = October; SITC = Standard International Trade Classification; SITC-0 = food and live animals; SITC-1 = beverages and tobacco; SITC-2 = crude materials, inedible, except fuels; SITC-3 = mineral fuels, lubricants, and related materials; SITC-4 = animal and vegetable oils, fats and waxes; SITC-5 = chemicals and related products, n.e.s.; SITC-6 = manufactured goods classified chiefly by material; SITC-7 = machinery and transport equipment; SITC-8 = miscellaneous manufactured articles; SITC-9 = commodities and transactions not classified elsewhere; YoY = year on year

Notes: The graph plots the year on year growth of China's exports (in US\$) for the first three quarters of 2020 by month and by SITC 1-digit sectors. For January and February, the Chinese Customs Office only reports the trade statistics for both months as a whole period, rather than separately. So '2020m2' refers to January and February, rather than February only

Source: Authors' calculations

Table 7.1b Decomposition of China's Imports by Sector (YoY growth)

SITC Sector	Q1 2020			Q2 2020			Q3 2020					
	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution
0 Food and live animals	3.8	4.9	25.9	0.98	3.9	5.4	26.3	1.02	3.8	4.4	17.7	0.68
1 Beverages and tobacco	0.4	0.3	-33.2	-0.14	0.4	0.3	-16.8	-0.06	0.3	0.3	-15.8	-0.05
2 Crude materials, inedible	13.5	13.6	-1.5	-0.20	13.6	14.2	-5.8	-0.78	14.7	14.5	2.4	0.35
3 Mineral fuels	17.2	18.2	3.5	0.60	17.3	11.9	-37.6	-6.48	15.8	12.0	-21.4	-3.38
4 Animal and vegetable oils	0.4	0.4	-2.8	-0.01	0.4	0.5	13.7	0.06	0.5	0.5	22.1	0.10
5 Chemicals	11.2	10.5	-8.3	-0.93	10.8	11.1	-6.4	-0.70	10.2	10.2	3.4	0.34
6 Manufactured goods	6.8	7.3	4.3	0.29	6.8	7.8	4.8	0.33	6.6	9.0	40.5	2.67
7 Machinery and transport	36.8	36.8	-2.2	-0.79	37.2	40.9	-0.2	-0.09	38.9	40.8	8.6	3.37
8 Miscellaneous manuf.	6.9	6.4	-8.4	-0.58	6.8	7.2	-4.6	-0.32	7.1	7.3	6.1	0.44
9 Commodities and trans.	3.1	1.7	-47.5	-1.48	2.9	0.6	-79.4	-2.27	2.1	1.1	-46.7	-0.96
Total Growth				-2.26				-9.30				3.56

Abbreviations: Commodities and trans. = Commodities and transactions; Contribution = Contribution of sector j in the year on year growth rate of China's aggregate import growth for quarter 1, 2, or 3, which equals 1 \* 3; Growth = the year on year growth rate of imports of sector j for quarter 1, 2, or 3; Miscellaneous manuf. = miscellaneous manufactured goods; Q1 = first quarter; Q2 = second quarter; Q3 = third quarter; Share\_19 = the share of sector j in total imports during quarter 1, 2, or 3 in 2019; Share\_20 = the share of sector j in total imports during quarter 1, 2, or 3 in 2020; SITC = Standard International Trade Classification, Total Growth = the year on year growth rate of China's total imports, which equals the sum of contributions across sectors

Source: Authors' calculations

mineral fuels sector. Concerning exports, China's two largest sectors, the machinery and transport equipment sector and the manufactured materials, played dominant roles. With a combined share of around 65% of China's total exports, these two sectors' substantial decline in Q1, return to positive growth rates in Q2, and strong recovery in Q3 basically characterised the aggregate trend of exports. On the other hand, the miscellaneous manufactured articles sector, which includes labour-intensive goods such as footwear, clothing, and bags, dropped in the first two quarters, and then recovered but more slowly than the manufactured goods sector and the machinery and transport equipment sector with positive growth rates returning only in Q3. Since the pandemic was well contained in China from Q2, we conclude that the 'fall and recovery' of China's total exports is mainly driven by the supply side dynamics together with varying foreign demand. For imports, however, its sharp fall in Q2, in contrast to the low, positive growth of the exports during the same period, is mainly driven by the collapse of global energy trade in the mineral fuel sector, rather than the moderate fall in the imports of machinery goods and materials. Interestingly, however, in Q3, the negative growth of the mineral fuels sector was dominated by a sizable positive growth of the machinery goods and materials sector, which is very similar to the pattern we observe for the decomposition of exports. Hence, for China's imports, it is the global trend of energy and mineral goods, as well as the interrelatedness of manufactured goods sector and the machinery and transport equipment sector that shaped the sudden drop and slow recovery of China's imports, reflecting the disruption of global supply networks.

#### 4. The Impacts of COVID-19 Across Trade Partners

In this section, we analyse the heterogeneous impacts of the pandemic on China's exports and imports across their major trade partners. In particular, we adapt the decomposition method from the previous section to the trade partner level rather than the sectoral level as shown here.

$$\Delta EX = \sum_c w_{c,t-1} \Delta EX_c,$$

$$\text{where } w_{c,t-1} = \frac{X_{c,t-1}}{X_{t-1}}$$

Where  $\Delta EX$  and  $\Delta EX_c$  are the YoY growth for China as a whole and according to trade partner  $c$ , respectively, and  $X_{t-1}$  and  $X_{c,t-1}$  are China's exports in the same period of the last year as a whole and by trade partner, respectively. In addition, we also calculated the YoY growth rates by trade partner-sector pair, aiming to disentangle cross-country heterogeneity in further detail and depth.

##### 4.1 Decomposition of Exports

Table 7.3a shows decomposition results for exports. We focus on the following major trade partners of China: the US, the EU, ASEAN, the Republic of Korea (hereafter, Korea), and Japan. Taken together, these five trade partners account for 60% of China's total exports. The following important patterns can be observed.

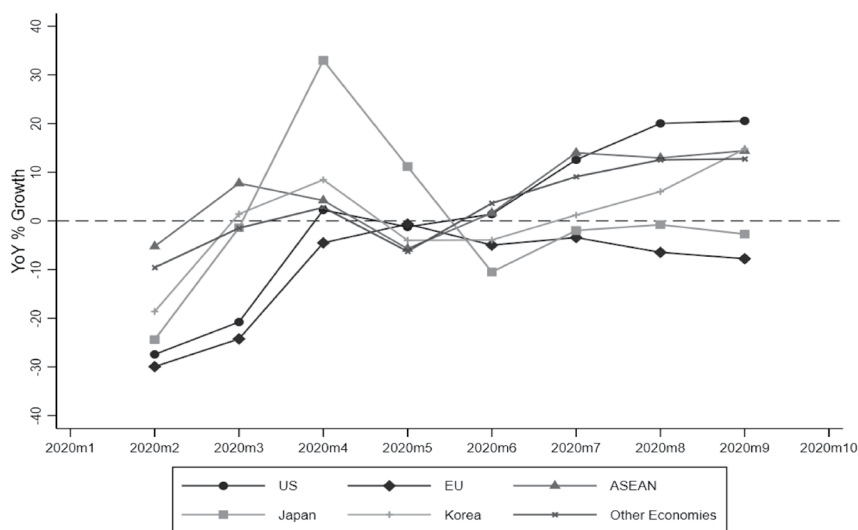
First, the US plays a vital role in the fall and recovery of China's aggregate exports. Specifically, as can be seen from Column 4 and 12 of Table 7.2a, the contributions of the US to China's total export growth are, respectively,  $-4.14\%$  out of  $-13.4\%$  in Q1, and  $3.0\%$  out of  $8.9\%$  in Q3. This is perhaps not very surprising as the US is one of China's two largest export destinations. It is also clear from Figure 7.4a that the trajectory of the YoY growth of China's exports to the US follows closely that of China's aggregate export growth as shown in Figure 7.1a. From January to March 2020, there was a massive drop in China's monthly YoY export growth to the US from  $-20\%$  to  $-30\%$ . The growth rate bounced back to around zero from April to June, and then sharply increased to between  $10\%$  and  $30\%$  from July to September. This dynamic pattern is, however, far from identical across sectors. In Table 7.3a, we show the YoY growth rates of China's sectoral exports by destination. As can be seen from Columns 1, 6, and 11, the pattern of exports to the US was dominated by four sectors, namely, the chemicals and related products sector (SITC 5), the manufactured goods sector, (SITC 6), the machinery and transport equipment sector (SITC 7), and the miscellaneous manufactured articles sector (SITC 8). However, these sectors played different roles across different quarters.

In Q1 of 2020, the manufactured goods sector, the machinery and transport equipment sector, and the miscellaneous manufactured articles sector experienced substantial drops with YoY growth of  $-20\%$  to  $-30\%$ . This drove the decline in China's aggregate exports to the US, and can be explained by the worsening trade war between the two countries. Large multinational corporations such as Apple, Google, and Microsoft announced they would relocate manufacturing for new electronic devices from China to Southeast Asian countries, such as Viet Nam and Thailand (Ting-Fang and Li, 2020). In Q2, however, the chemicals sector and the manufactured goods sector exhibited sizable positive YoY growth, which contributed the most to the recovery of the total exports. On the other hand, the miscellaneous manufactured articles sector, which includes most labour-intensive products such as clothing and footwear, still declined by  $-22\%$  relative to the same period in the previous year. This partly offset the large and positive growth in the chemicals sector and the manufactured goods sector. Note that the largest export sector, machinery and transport equipment, had a mild negative growth rate of  $-0.4\%$ , which also slightly dragged down the positive growth of China's exports to the US. Finally, in Q3, these four sectors returned to positive growth rates. The machinery and transport equipment sector and the manufactured goods sector contributed the most due to their large shares in China's total exports to the US. The chemicals sector also saw a large growth rate, but its share is relatively small (below  $10\%$ ) compared to the other two sectors ( $14\%$  for manufactured goods and  $47\%$  for machinery and transport equipment), thus playing a minor role in the recovery of exports in Q3. It is also worth noting that the commodities and transactions sector rose to positive growth in Q3, albeit at a low rate of  $4\%$ .

Second, exports to ASEAN seems to have been less affected by the pandemic compared to exports to other destinations. In Q1 of 2020, YoY growth of exports to ASEAN was  $-0.1\%$  but exports to other destinations declined massively. This is

interesting, since one would expect that strict lockdown measures in China would have affected all destinations negatively including ASEAN. This trend continued in Q2. And then in Q3, there was large positive YoY growth of 14%, which contributed about 1.9% growth to the total 8.9% YoY growth of China's export basket. As can be seen in Figure 7.4a, the monthly YoY growth rates of China's exports to ASEAN were flat and around zero from January to June, but rose sharply to around 15% from July to September.

When we investigate YoY growth rates across sectors in Table 7.3a, very interesting patterns emerge. As shown in Columns 3, 8 and 13, the machinery and transport equipment sector, which accounts for nearly half of China's exports to ASEAN, exhibited positive YoY growth from Q1 to Q3 (especially in Q3 with a high growth rate of 17%). One possible explanation is that, when multinationals shift their production from China to ASEAN countries, they also stimulate importation of intermediate inputs along the supply chain from China to ASEAN. For example, if Microsoft relocates their production of laptops from China to Thailand, exports from China to the US will decline, but exports from



*Figure 7.4a* China's Exports by Trade Partner (YoY % growth by month)

2020m1 = January 2020; 2020m2 = February 2020; 2020m3 = March 2020; 2020m4 = April 2020; 2020m5 = May 2020; 2020m6 = June 2020; 2020m7 = July 2020; 2020m8 = August 2020; 2020m9 = September 2020; 2020m10 = October; ASEAN = Association of Southeast Asian Nations; EU = European Union; US = United States, YoY = year on year.

Notes: The graph plots the year on year growth of China's exports (in US\$) for the first three quarters of 2020 by month and by major trade partners. For January and February, the Chinese Customs Office only reports the trade statistics for both months as a whole period, rather than separately. So '2020m2' refers to January and February, rather than February only.

Source: Authors' calculations.

China to Thailand may increase as China remains the key supplier of some laptop parts and components. As a result, demand from ASEAN countries in the machinery and transport equipment sector remained strong and prevented the collapse of China's exports to this region, unlike those to the US and EU. By contrast, sectors that are not heavily engaged in intra-industry trade and global value chains such as crude materials, manufactured materials, beverages and tobacco, and miscellaneous manufactured articles, all experienced negative growth rates in Q1 and Q2, which led to low, negative export growth from China to ASEAN overall. In Q3, all sectors, except the beverages and tobacco, mineral fuels, and crude materials, saw strong positive growth rates, thus resulting in a high overall growth rate.

Third, in stark contrast to exports to ASEAN, China's exports to the EU were consistently on a downward trend with no signs of recovery. During Q1, China's YoY exports to the EU decreased by 28% (Table 7.2a and Figure 7.4a), the largest fall amongst all major destinations, and remained negative for the rest of the period covered in this study. Even in Q3, when China's exports to the US and ASEAN bounced back to a sizable positive growth, YoY export growth rate to the EU was at around -6%.

Persistent negative growth of exports to the EU is somewhat puzzling. Columns 7 and 12 in Table 7.3a reveal that this is mainly due to the decline in two key sectors, the machinery and transport equipment sector, and the miscellaneous manufactured articles. These two sectors consist of nearly 70% of China's EU exports. YoY growth rate of China's exports to the EU in the machinery and transport equipment sector in Q2 and Q3 were, respectively, -3% and -0.1%. In contrast, those of exports to the US were -0.4% and 17%, respectively. Furthermore, for the miscellaneous manufactured articles sector, China's YoY exports to EU declined by a massive 19.3% in Q3 relative to the previous year, which is, again, a huge contrast to the 4% positive YoY growth in exports to the US during the same period.

Fourth, for China's two major East Asian trade partners, Japan and Korea, the patterns are less clear. Like exports to most other destinations, China's exports to Japan and Korea dropped substantially in Q1, with YoY growth of around -16% and 11%, respectively. However, unlike for other countries, YoY growth of exports to Japan sharply increased to 10% in Q2, and then declined to -2% in Q3. By contrast, export growth to Korea in Q2 were identical to that of the same period of the previous year, and then bounced back to a high growth rate of 7% in Q3. Further sector level analysis reveals that the sharp increase in exports to Japan in Q2 is mainly due to the unusually high YoY growth rate in the manufactured goods sector (53%) and mildly positive growth rate in the machinery and transport equipment sector (7%). These two sectors account for nearly 60% of China's exports to Japan. For Korea, the recovery of exports in Q3 is mainly driven by the 8% YoY growth rates in the manufactured goods sector and the machinery and transport equipment sector, which, combined, account for 65% of China's exports to Korea. This pattern is similar to that of China's exports to ASEAN.

Table 7.2a    Decomposition of China's Exports by Trade Partner (YoY growth)

Trade Partner	Q1 2020			Q2 2020			Q3 2020					
	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
US	16.5	14.3	-25.1	-4.14	17.5	17.6	0.7	0.13	17.2	18.6	17.6	3.03
EU	17.7	14.7	-28.0	-4.96	16.9	16.4	-3.4	-0.57	17.4	15.1	-5.9	-1.02
ASEAN	14.0	16.2	-0.1	-0.02	14.1	14.0	-0.1	-0.01	13.8	14.5	13.8	1.91
Japan	6.4	6.2	-16.1	-1.03	5.5	6.1	10.0	0.56	5.6	5.1	-1.8	-0.10
Korea	4.7	4.8	-11.3	-0.54	4.7	4.7	0.0	0.00	4.1	4.0	7.1	0.29
Other	40.6	43.8	-6.6	-2.70	41.3	41.3	-0.1	-0.03	41.9	42.8	11.4	4.79
Total Growth				-13.39				0.07				8.89

ASEAN = Association of Southeast Asian Nations; Contribution = Contribution of sector j in the year on year growth rate of China's aggregate export growth for quarter 1, 2, or 3, which equals 1\*3; EU = European Union; Growth = the year on year growth rate of exports of sector j for quarter 1, 2, or 3; Q1 = first quarter; Q2 = second quarter; Q3 = third quarter; Share\_19 = the share of sector j in total exports during quarter 1, 2, or 3 in 2019; Share\_20 = the share of sector j in total exports during quarter 1, 2, or 3 in 2020; Total Growth = the year on year growth rate of China's total exports, which equals the sum of contributions across sectors; US = United States.

Source: Authors' calculation.

Table 7.2b Decomposition of China's Imports by Trade Partner (YoY growth)

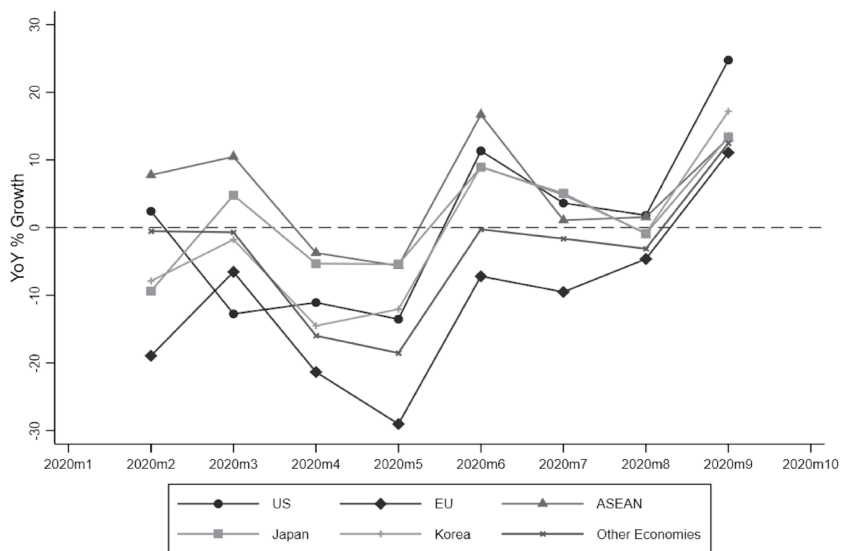
Trade Partner	Q1 2020			Q2 2020			Q3 2020					
	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
US	6.0	5.9	-3.6	-0.22	5.9	6.2	-5.1	-0.30	5.9	6.3	10.1	0.60
EU	13.6	11.9	-14.7	-2.01	13.7	12.2	-19.5	-2.68	13.2	12.6	-1.1	-0.15
ASEAN	12.6	14.0	8.7	1.10	13.2	14.8	2.1	0.28	14.3	14.6	5.6	0.79
Japan	8.2	8.0	-4.3	-0.35	8.3	9.1	-0.7	-0.06	8.2	8.4	6.0	0.49
Korea	8.6	8.3	-5.7	-0.49	8.5	8.8	-6.6	-0.56	8.2	8.5	7.2	0.59
Other	51.0	51.9	-0.6	-0.30	50.4	48.9	-11.9	-5.98	50.1	49.6	2.5	1.23
Total Growth				-2.26				-9.30				3.55

Abbreviations: ASEAN = Association of Southeast Asian Nations; Contribution = Contribution of sector j in the year on year growth rate of China's aggregate import growth for quarter 1, 2, or 3, which equals 1\*3; EU = European Union; Growth = the year on year growth rate of imports of sector j for quarter 1, 2, or 3; Q1 = first quarter; Q2 = second quarter; Q3 = third quarter; Share\_19 = the share of sector j in total imports during quarter 1, 2, or 3 in 2019; Share\_20 = the share of sector j in total imports during quarter 1, 2, or 3 in 2020; Total Growth = the year on year growth rate of China's total imports, which equals the sum of contributions across sectors; US = United States

Source: Authors' calculations

## 4.2 Decomposition of Imports

Moving on to the decomposition of China's imports by trade partner (Table 7.2b), the following patterns merit noting. Firstly, the EU played a key role in the collapse of China's aggregate imports in Q1 and Q2. As can be seen from Column 4, China's total imports declined by  $-2.26\%$  in Q1 relative to the same period in the previous year, out of which  $-2.01\%$  is contributed by the EU. Although the EU accounted for only 14% of China's imports in 2019, its YoY growth in Q1 of 2020 is  $-14.7\%$ , the largest in terms of magnitude amongst China's major trade partners. This makes the EU a crucial factor in China's import collapse in Q1. Negative YoY growth continued in Q2 with an even larger negative growth rate of  $-19.5\%$ , resulting in a  $-2.68\%$  growth contribution to the overall  $-9.30\%$  YoY growth of China's total imports. In Q3, overall negative growth rate shrank substantially to only  $-1.1\%$ , thanks to positive growth in September as shown in Figure 7.4b. When we further investigate the sectoral distribution of China's import growth



*Figure 7.4b* China's Imports by Trade Partner (YoY % growth by month)

Abbreviations: 2020m1 = January 2020; 2020m2 = February 2020; 2020m3 = March 2020; 2020m4 = April 2020; 2020m5 = May 2020; 2020m6 = June 2020; 2020m7 = July 2020; 2020m8 = August 2020; 2020m9 = September 2020; 2020m10 = October; ASEAN = Association of Southeast Asian Nations; EU = European Union; US = United States, YoY = year on year

Note: The graph plots the year on year growth of China's imports (in US\$) for the first three quarters of 2020 by month and by major trade partners. For January and February, the Chinese Customs Office only reports the trade statistics for both months as a whole period, rather than separately. So '2020m2' refers to January and February, rather than February only

Source: Authors' calculations

from the EU in Table 7.3b, we find that this was mainly driven by the machinery and transport equipment sector which accounts for half of China's imports from EU. YoY growth of this sector was around -20% and -28% in Q1 and Q2, respectively, the largest drop amongst all major trade partners in the same sector.

Second, it is very important to note that China's imports from ASEAN exhibited positive growth rates in all three quarters, which mitigated the negative growth effects from the EU and other trade partners. As can be seen in Table 7.2b, ASEAN's contributions to China's total import growth from Q1 to Q3 were 1.1%, 0.3%, and 0.8%, respectively. This is in stark contrast to negative growth and contributions by the US and the EU in Q1 and Q2. One possible explanation is that ASEAN countries are less affected by the pandemic than the US and the EU. As of early May, there were 4 million COVID-19 confirmed cases worldwide of which only 1.3% were in Southeast Asia. Furthermore, most products traded between China and ASEAN are intermediate parts and components engaged in supply chain complementarity. This makes China – ASEAN trade more resilient to the pandemic shock.

When we investigate YoY growth rates across sectors in Table 7.3b, it is clear that the machinery and transport equipment sector, which also accounts for half of China's imports from ASEAN, exhibited positive YoY growth in all three quarters. This is in sharp contrast to the pattern of import growth from the EU. It is also noteworthy that the mineral fuels sector, which accounts for 15% of China's imports from ASEAN, had a high positive growth of nearly 19% in Q1, which contributed strongly to China's large and positive total import growth during this period. Although YoY growth of the mineral fuels sector turned negative in Q2 and Q3, the magnitude is much smaller than the growth of mineral fuels sector import from the EU. Such contrast between China – EU and China – ASEAN trade is very interesting and merits further research.

Third, note that 50% of China's imports are from all 'Other' trade partners (last row of Table 7.2b), which is therefore the main driving force in the sharp fall in import growth in Q2 and the mild recovery in Q3. Unfortunately, customs data only reports the sectoral distribution of China's imports for selected countries, so we cannot undertake sectoral level analysis for 'Other' trade partners. However, combined with findings from the previous section that the collapse of China's imports in Q2 is mainly due to the sharp fall of prices and quantities exported in the mineral fuels sector, we can infer that the -12% YoY import growth rate from 'Other' trade partners is largely driven by the substantial drop in the mineral fuel products from resource-rich countries. In Q3, around 30% (1.23/3.55) of total import growth was contributed by 'Other' trade partners, which we suspect, again, comes from the machinery and transport equipment sector as discussed in the last section.

Fourth, Japan, Korea and the US, as can be seen in Table 7.2b, each had a relatively small impact on China's total imports due to their small shares, in contrast to their larger shares in China's exports. However, unlike the EU and ASEAN, their growth trajectories were very similar to the trend of China's total imports, which declined in Q1 and Q2 with YoY growth rates of -3 to 7%, and

Table 7.3a China's Exports by Trade Partner and Sector (YoY growth)

SITC Sector**	Q1 2020			Q2 2020			Q3 2020								
	US	EU	ASEAN*	Japan	Korea	US	EU	ASEAN*	Japan	Korea	US	EU	ASEAN*	Japan	Korea
0 Food and live animals	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
1 Beverages and tobacco	0.0	-25.9	9.4	-5.9	-18.6	0.4	-23.3	15.9	-11.0	-0.6	-1.4	-27.2	7.0	-8.1	9.6
2 Crude materials, inedible	-54.4	-45.0	-9.4	36.4	-6.8	-66.5	6.3	-13.9	2.4	39.9	-34.7	-36.1	-19.7	-44.3	29.4
3 Mineral fuels	-16.6	-18.1	-15.1	-4.4	-15.8	-17.0	-24.5	-24.2	-24.8	-23.2	-14.2	-23.2	-16.7	-23.9	-5.7
4 Animal and vegetable oils	-38.2	-24.0	7.1	48.6	-10.4	-63.8	-45.4	-42.4	-25.8	-25.0	-78.3	-68.6	-50.8	-56.6	-67.8
5 Chemicals	0.5	25.2	144.3	-0.9	60.9	20.4	36.0	47.0	-36.7	70.2	3.3	39.0	71.5	2.2	32.7
6 Manufactured goods	-12.7	-22.0	9.6	-17.0	-3.3	21.4	1.4	0.8	7.4	0.1	30.7	-6.9	14.1	-1.7	0.7
7 Machinery and transport	-20.3	-33.3	-12.3	-15.9	-11.3	40.6	43.9	-5.6	52.6	8.6	46.1	7.3	10.7	6.0	8.1
8 Miscellaneous manuf.	-26.6	-25.5	2.8	-18.5	-13.1	-0.4	-2.9	4.6	7.4	-4.7	16.9	-0.1	16.9	0.9	8.3
9 Commodities and trans.	-30.0	-33.8	-5.9	-17.5	-11.5	-21.8	-27.0	-0.4	4.1	9.7	4.1	-19.3	32.3	-5.8	15.3
	29.0	51.6	18.8	16.8	106.6	148.9	92.7	36.9	29.9	208.9	180.6	102.4	105.0	76.0	395.8

Commodities and trans. = Commodities and transactions; Miscellaneous manuf. = miscellaneous manufactured goods; Q1 = first quarter; Q2 = second quarter; Q3 = third quarter; SITC = Standard International Trade Classification.

Notes: This tables shows the year on year growth of China's exports by trade partner and SITC sector. \*The China Customs Office publishes only the sector level data for selected countries that does not include Lao, PDR; Brunei; and Cambodia. 'ASEAN' group includes all ASEAN countries, except the three countries. The China Customs Office publishes country-product-level trade using the Harmonized Commodity Description and Coding System (HS) at the 2-digit level (HS2) rather than SITC. To be consistent with Table 1, we convert HS2 to SITC1 by dominant values in China's trade values in 2019, however, HS2 sections 40, 41, 43, 50, and 55 cannot be converted due to similar values across potential SITC1 sectors.

Source: Authors' calculations.

Table 7.3b China's Imports by Trade Partner and Sector (YoY growth)

SITC Sector**	Q1 2020			Q2 2020			Q3 2020										
	US		EU	ASEAN*		Japan	Korea	US	EU	ASEAN*	Japan	Korea	US	EU	ASEAN*	Japan	Korea
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)		
0 Food and live animals	52.2	66.1	14.6	-16.3	13.2	111.4	45.5	32.1	10.3	14.8	87.1	36.0	2.9	-5.2	27.4		
1 Beverages and tobacco	13.3	-28.3	7.6	-9.8	12.3	24.9	-35.1	-6.1	-14.0	-27.2	-6.3	-19.7	-42.4	1.5	-26.6		
2 Crude materials, inedible	103.4	-16.2	-1.6	-47.6	-37.7	-33.1	-35.6	-28.6	-28.4	-22.8	-28.4	-17.8	14.1	-13.5	-9.0		
3 Mineral fuels	-58.2	-88.5	18.8	-15.6	-3.3	-6.2	-83.9	-8.8	-4.2	-20.1	120.6	-80.9	-18.5	-47.2	-5.0		
4 Animal and vegetable oils	-3.8	-38.7	-15.1	-17.0	0.1	52.2	19.2	-4.0	-3.8	106.2	68.6	77.7	5.6	9.1	94.6		
5 Chemicals	3.1	-4.5	-16.7	-7.2	-14.5	4.0	-2.9	-13.2	-2.3	-14.7	22.3	1.7	-6.9	3.1	-1.8		
6 Manufactured goods	-15.1	-8.3	20.4	-6.8	-3.7	-16.3	-18.1	8.7	-2.2	0.8	16.0	14.1	54.8	19.1	19.4		
7 Machinery and transport	-19.8	-19.8	20.1	-3.6	-1.0	-10.9	-27.7	11.0	-0.1	-2.5	-5.9	-3.3	4.0	6.3	11.0		
8 Miscellaneous manuf.	-10.9	-20.1	4.7	4.7	-20.2	-6.6	-10.4	-3.3	3.2	-17.1	-7.8	1.3	11.2	3.4	-4.3		
9 Commodities and trans.	538.3	62.6	-35.0	88.4	228.0	283.6	18.1	-34.0	115.8	227.0	450.6	64.3	-39.1	168.0	398.3		

Abbreviations: Commodities and trans. = Commodities and transactions; Miscellaneous manuf. = miscellaneous manufactured goods; Q1 = first quarter; Q2 = second quarter; Q3 = third quarter; SITC = Standard International Trade Classification

Note: This tables shows the year on year growth of China's imports by trade partner and SITC sector. \*The China Customs Office publishes only the sector level data for selected countries, which does not include Lao, PDR, Brunei, and Cambodia. So our 'ASEAN' group includes all ASEAN countries except the aforementioned three countries. The China Customs Office publishes country-product-level trade using the Harmonized Commodity Description and Coding System (HS) at the 2-digit level (HS2) rather than SITC. To be consistent with Table 1, we convert HS2 to SITC1 by dominant values in China's trade values in 2019, however, HS2 sections 40, 41, 43, 50, and 55 cannot be converted due to similar values across potential SITC1 sectors.

Source: Authors' calculations.

recovered in Q3 with growth rates of 6–10%. Sectoral level analysis (Table 7.3b) further suggest that this was mainly driven by the fall and rise of the machinery and transport equipment sector.

To summarise, our decomposition results show that ASEAN and the EU played important roles in driving both China's exports and imports amid the pandemic. Quarterly YoY growth of trade with the EU was always negative for both exports and imports, and thus largely contributed to the collapse of China's exports in Q1 and imports in Q1 and Q2. By contrast, the YoY growth for ASEAN was always positive for imports, and low and negative in Q1 and Q2 for exports. This implies that ASEAN has been very important in stabilising China's exports and imports during the pandemic. Our calculation reveals that, had ASEAN's quarterly YoY growth rates been the same as that of EU (Appendix Tables 7A.1a and 7A.1b), quarterly YoY growth of China's exports would have dropped further by around 4%, 5%, and 2.7%, in Q1, Q2, and Q3, respectively; and that of imports would have dropped by 3%, 2.9%, and 0.95%, in Q1, Q2, and Q3, respectively. Furthermore, the US played a dominant role in the fall and recovery of China's exports, whilst other resource-rich countries were important for driving the trend in China's imports amid the pandemic.

## **5. The COVID-19 Shock and China's Engagement in Global Supply Chains**

A well-known unique and important feature of China's foreign trade is the processing

trade regime (Kee and Tang, 2016; Manova and Yu, 2016; Wang and Yu, 2012). Since the late 1980s, China has provided exemptions from import duties for materials that are imported for further processing and re-exporting. Under this processing trade regime, Chinese firms can choose from two sub-categories. The first is the processing and assembly (PA) regime in which the Chinese producer receives foreign inputs at no cost from a foreign client, and then processes the materials using domestic labour and assembles them into final products to be exported to the foreign partner. The second is the processing with imports (PI) regime, also known as import-and-assembly, under which the Chinese firm pays for all imported materials, chooses where to source them from, and then processes them into final products to be exported to a foreign buyer. In both categories, Chinese firms are engaged in the global supply chain, simultaneously exporting and importing.

To investigate whether the effects of the pandemic depend on firms' engagements in the global supply chain, we look at trends in the monthly YoY growth of Chinese exports and imports by trade regime and foreign ownership. The results are shown in Figures 7.5ab (by regime) and Figure 7.6 (by ownership). The following very interesting patterns emerge.

First, all exporters, irrespective of trade regime and ownership, experienced a substantial decline in export sales during Q1 relative to the same period of the last year. As can be seen from Figure 7.5a and Figure 7.6, YoY growth was –10%

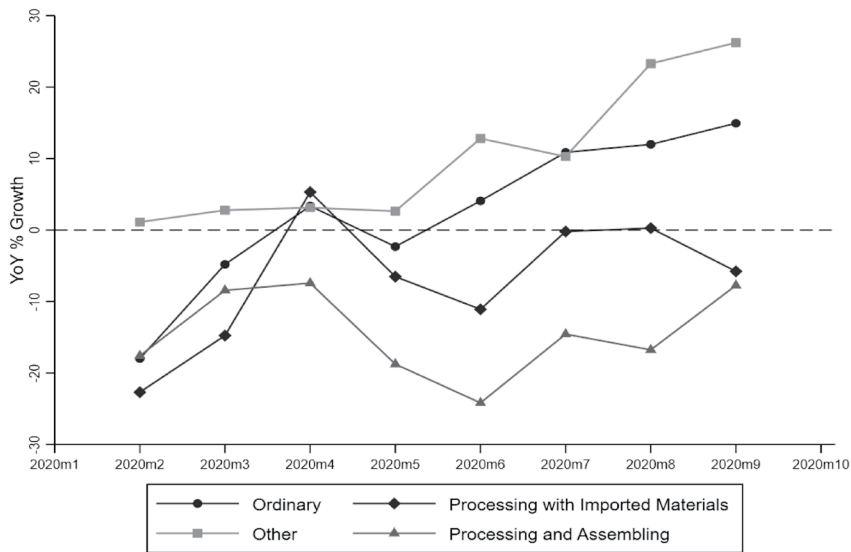


Figure 7.5a China's Exports by Trade Regime (YoY % growth by month)

Abbreviations: 2020m1 = January 2020; 2020m2 = February 2020; 2020m3 = March 2020; 2020m4 = April 2020; 2020m5 = May 2020; 2020m6 = June 2020; 2020m7 = July 2020; 2020m8 = August 2020; 2020m9 = September 2020; 2020m10 = October; YoY = year on year

Note: The graph plots the year on year growth of China's exports (in US\$) for the first three quarters of 2020 by month and by trade regime. For January and February, the Chinese Customs Office only reports trade statistics for both months as a whole period, rather than separately. So '2020m2' refers to January and February, rather than February only

Source: Authors' calculations

to -25% depending on the trade regime (ordinary or processing) and ownership (domestic or foreign). The only exception is the 'Other' regime, which saw mild and positive YoY growth but accounted for less than 10% of China's total exports. This pattern is consistent with the fact that China's lockdown in Q1 affected all firms irrespective of their supply chain engagement.

Second, domestic firms and ordinary trade exporters led the recovery of China's exports in Q2 and Q3, whilst foreign sales of foreign-owned and processing exporters remained sluggish.<sup>1</sup> As can be seen clearly from Figure 7.5a, the ordinary and other exports category saw a continuing upward trend since May 2020 and achieved nearly 15% YoY growth in September, whilst that of the processing exports remained negative during the same period. Growth rates were even more negative for the PA regime, which is more heavily reliant on the supply of materials from foreign trade partners. We therefore conclude that two-way exporters and importers, and multinationals more deeply engaged in the global supply chain were the most affected by the pandemic, whilst one-way exporters or

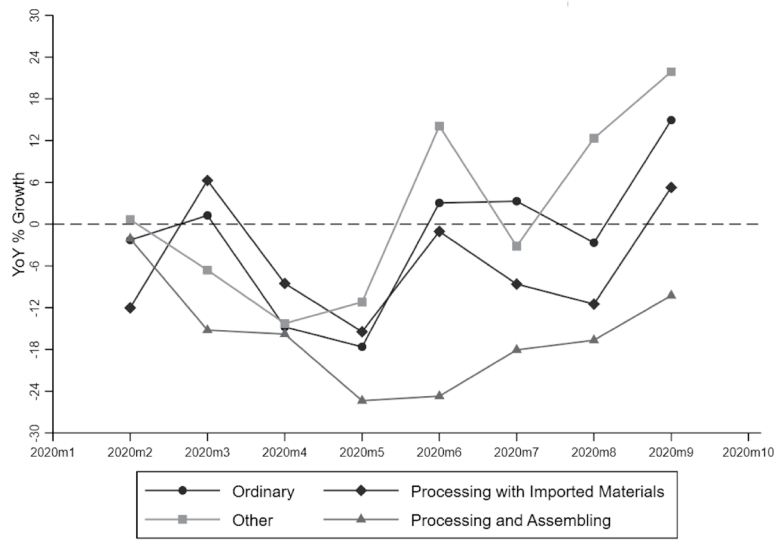


Figure 7.5b China's Imports by Trade Regime (YoY % growth by month)

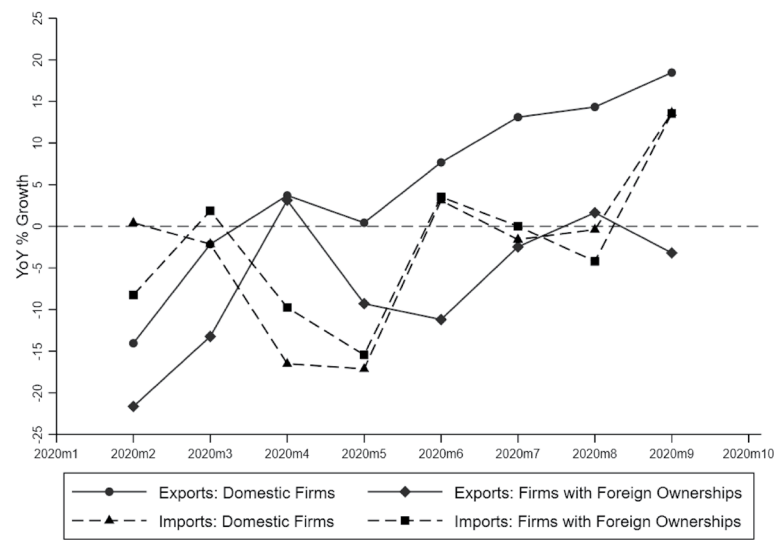


Figure 7.6 China's Exports and Imports by Ownership Type (YoY % growth by month)

Note: The graph plots the year on year growth of China's exports and imports (in US\$) for the first three quarters of 2020 by month and by type of firm ownership. For January and February, the Chinese Customs Office only reports trade statistics for both months as a whole period, rather than separately. So '2020m2' refers to January and February, rather than February only

Source: Authors' calculations

indigenous domestic Chinese exporters experienced speedy recoveries and were more resilient to the COVID-19 shock.

Third, ordinary trade was the main driver of China's import growth and recovery, whilst growth of processing trade remained negative until September. As can be seen from Figure 7.5b, China's imports dropped substantially between January and May, irrespective of trade regimes. Ordinary imports began to recover and exhibited a positive, albeit mild, YoY growth rate starting in June, and then achieved a relative high growth of nearly 12% in September. By contrast, under both PI and PA regime, imports continued declining relative to the same period of the previous year after June. It was not until September that imports under PI regime returned to positive YoY growth of 6%, whilst that of the PA remain negative. Again, this is consistent with the observation that firms engaged in global supply chains were hit the hardest during the pandemic.

Finally, we also need to note that unlike with exports, differences in import growth trajectories between domestic firms foreign-owned firms are very small, implying that the import structure between these two types of firms are similar, despite substantial differences in export structure.

## 6. Conclusion

The COVID-19 pandemic has already caused and may continue to result in tremendous economic loss and uncertainty globally. In this study, we provided an anatomy of China's foreign trade performance during the pandemic. We found that China's exports experienced a V-shaped recovery after its initial collapse at the beginning of the pandemic, which was mainly driven by rises in sales in the manufactured materials and machinery and transport equipment sector, by those to the US and ASEAN, and by firms that are less engaged in global supply chains. On the other hand, the recovery of China's imports was delayed until Q3 of 2020 due to the collapse of global energy trade in the mineral fuels sectors and negative trade growth with the EU. Meanwhile, China's trade with ASEAN, especially those in the machinery and transport equipment sector, has been very important in stabilising China's exports and imports during the pandemic.

Our findings may offer lessons for designing optimal trade policy in a post-pandemic world. As was pointed out by Javorcik (2020), the COVID-19 shock and the US – China trade war have exposed the vulnerability of the global supply chain model. Unlike previous 'bad shocks' such as the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003, which were seen as one-off, 'black swan' events, the COVID-19 shock could generate persistent and long-lasting negative consequences to globalisation. Inward and protectionist trade policies will only cause more uncertainty and exacerbate the process of anti-globalisation. Policymakers around the world should collaborate regionally and globally to discover new models of cooperation in meaningful ways, rather than retreat to isolationist policies (Brown, 2020). The positive role played by China – ASEAN trade in the recovery of China's exports and imports is encouraging. Stronger cooperation between China and ASEAN in international trade and investment may not only benefit both sides, but also set a good example for other countries in the post-COVID-19 era.

## Note

- 1 Using more disaggregated data until May 2020 and employing econometric analysis, Che et al. (2020) found that processing exports are more negatively affected by the pandemic.

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# Appendix

Table 7A.1a China's Exports (YoY growth, ASEAN=EU)

Trade Partner	Q1 2020			Q2 2020			Q3 2020					
	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
US	16.5	14.3	-25.1	-4.14	17.5	17.6	0.7	0.13	17.2	18.6	17.6	3.03
EU	17.7	14.7	-28.0	-4.96	16.9	16.4	-3.4	-0.57	17.4	15.1	-5.9	-1.02
ASEAN	14.0	16.2	-28.0	-3.93	14.1	14.0	-3.4	-0.48	13.8	14.5	-5.9	-0.82
Japan	6.4	6.2	-16.1	-1.03	5.5	6.1	10.0	0.56	5.6	5.1	-1.8	-0.10
Korea	4.7	4.8	-11.3	-0.54	4.7	4.7	0.0	0.00	4.1	4.0	7.1	0.29
Other	40.6	43.8	-6.6	-2.70	41.3	41.3	-0.1	-0.03	41.9	42.8	11.4	4.79
Total Growth				-17.30				-0.40				6.17
Simulated												
(ASEAN=EU)												
Total Growth				-13.39				0.08				8.89
Real												

Abbreviations: ASEAN = Association of Southeast Asian Nations; Contribution = Contribution of country k to the year on year growth rate of China's aggregate export growth for quarter 1, 2, or 3, which equals 1\*3; EU = European Union; Growth = year on year growth rate of country k in sector j for quarter 1, 2, or 3; Q1 = first quarter; Q2 = second quarter; Q3 = third quarter; Share\_19 = share of sector j in total exports during quarter 1, 2, or 3 in 2019; Share\_20 = share of country k in total exports during quarter 1, 2, or 3 in 2020; Total Growth Real = YoY growth rate of China's total exports as shown in Table 2a when Share\_19 is the share of country k in total exports during quarter 1, 2, or 3 in 2019; Total Growth Simulated (ASEAN=EU) = simulated YoY growth of China's total exports equating growth of ASEAN to that of EU; US = United States.

Note: In this table we set the YoY growth of ASEAN same as the EU in Columns 3, 7, and 11

Source: Authors' calculations

Table 7A.1b China's Imports (YoY growth, ASEAN=EU)

Trade Partner	Q1 2020			Q2 2020			Q3 2020					
	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution	Share_19	Share_20	Growth	Contribution
US	(1) 6.0	(2) 5.9	(3) -3.6	(4) -0.22	(5) 5.9	(6) 6.2	(7) -5.1	(8) -0.30	(9) 5.9	(10) 6.3	(11) 10.1	(12) 0.60
EU	13.6	11.9	-14.7	-2.01	13.7	12.2	-19.5	-2.68	13.2	12.6	-1.1	-0.15
ASEAN	12.6	14.0	-14.7	-1.85	13.2	14.8	-19.5	-2.57	14.3	14.6	-1.1	-0.16
Japan	8.2	8.0	-4.3	-0.35	8.3	9.1	-0.7	-0.06	8.2	8.4	6.0	0.49
Korea	8.6	8.3	-5.7	-0.49	8.5	8.8	-6.6	-0.56	8.2	8.5	7.2	0.59
Other	51.0	51.9	-0.6	-0.30	50.4	48.9	-11.9	-5.98	50.1	49.6	2.5	1.23
Total Growth				-5.21				-12.15				2.60
Simulated												
(ASEAN=EU)												
Total Growth				-2.26				-9.30				3.55
Real												

Abbreviations: ASEAN = Association of Southeast Asian Nations; Contribution = contribution of country k to the year on year growth rate of China's aggregate import growth for quarter 1, 2, or 3, which equals 1\*3; EU = European Union; Growth = year on year growth rate of country k in sector j for quarter 1, 2, or 3; Q1 = first quarter; Q2 = second quarter; Q3 = third quarter; Share\_19 = share of sector j in total imports during quarter 1, 2, or 3 in 2019; Share\_20 = share of country k in total imports during quarter 1, 2, or 3 in 2020; SITC = Standard International Trade Classification; Total Growth Real = YoY growth rate of China's total imports as shown in Table 2a when Share\_19 is the share of country k in total imports during quarter 1, 2, or 3 in 2019; Total Growth Simulated (ASEAN=EU) = simulated YoY growth of China's total imports equating growth of ASEAN to that of EU; US = United States

Note: In this table we set the YoY growth of ASEAN same as the EU in Columns 3, 7, and 11

Source: Authors' calculations

# 8 Policy Responses to the COVID-19 Pandemic

## The Case of Germany

*Günther G. Schulze*

### 1. Introduction

Since the coronavirus disease (COVID-19) first appeared in Wuhan in November/December 2019, it has spread quickly throughout the globe. At the time of writing (25 June 2021), it has claimed 3.9 million lives worldwide and infected over 180 million people (John Hopkins University, 2021).<sup>1</sup> Germany has been hit by the COVID-19 in three waves so far, and 3.7 million people out of 83.1 million inhabitants have been infected; the death toll currently stands at 90,687 lives claimed. Germany is the largest economy and most populous country in the European Union (EU); its 2019 gross domestic product (GDP) of €3.45 trillion accounts for 25% of the GDP of the EU-27, and its 83 million inhabitants account for 18.6% of the EU-27 population (Eurostat, 2021).

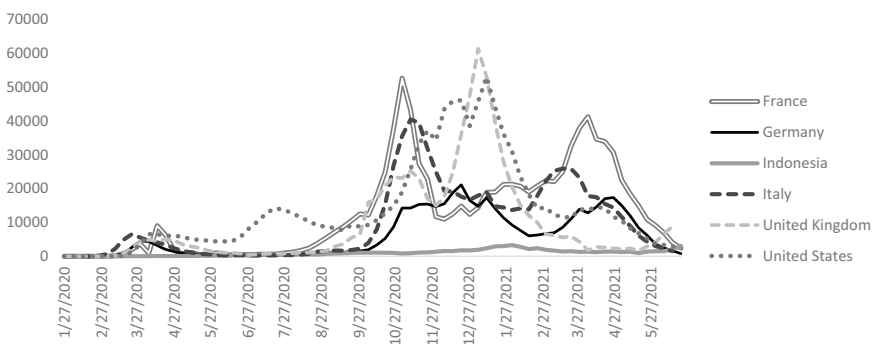
Germany's GDP shrank in 2020 by 4.9% (Destatis, 2021a) and is projected to increase by 3.1% in 2021; pre-pandemic levels will be reached only in 2022 (SVR, 2021). The accuracy of the forecast depends strongly on the uncertain development of the pandemic, which depends on the vaccination process and the properties of multiple mutations.

Even if the forecast turns out to be true and the economic decline falls short of that of the global financial crisis (GFC) (–5.7% in 2009), the COVID-19 crisis is the biggest catastrophe that Germany has experienced after the second world war because of the lives lost, the health burden on society, the interruption of schooling, the psychological burden, and the economic damage that the measures to contain the virus have inflicted (cf. e.g. Kortmann and Schulze, 2020).<sup>2</sup>

This chapter describes and assesses the policy response that the German government has initiated to alleviate the economic fallout of the crisis. As the necessary fiscal response depends on the severity of the pandemic and the measures to contain it, Section 2 describes the development of the pandemic, and Section 3 sketches the non-pharmaceutical interventions and the vaccination efforts. Section 4 reports on the fiscal policy measures taken by the German government. Section 5 describes the monetary and fiscal measures taken at the level of the EU. Section 6 concludes.

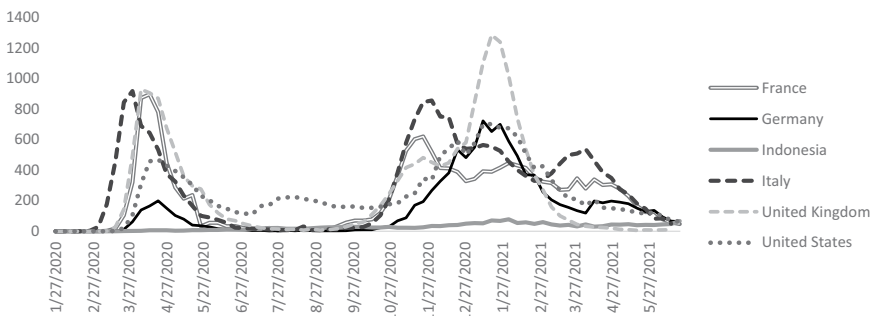
## 2. Development of the pandemic in Germany

COVID-19 may have broken out as early as mid-November 2019 in Wuhan, China (Roberts et al., 2021).<sup>3</sup> In December 2019, the virus, later named SARS-CoV-2, was reported by Chinese officials<sup>4</sup> and has spread ever since. In Germany, the first COVID-19 infection was registered on 27 January 2020 (Böhmer et al., 2020); it took until early March for the number of reported cases of currently infected people to exceed 100, and then the numbers increased quickly. The pandemic came in three waves so far – the first lasted from early March to mid-May 2020, whilst the significantly more severe second wave started at the end of September, reached its peak around the end of December 2020, and declined until mid-February 2021. In mid-March, numbers started to climb again before peaking in mid-April and declining sharply in May (cf. Figure 8.1).<sup>5</sup> Figures 8.1 and 8.2 show the development of infections and deaths per 100,000 population.



*Figure 8.1* New Weekly Cases of COVID-19 per 100,000 Population

Source: John Hopkins University (2021)



*Figure 8.2* Weekly Deaths from COVID-19 per 100,000 Population

Source: John Hopkins University (2021)

It is apparent that European countries fared very differently. Germany had relatively few deaths during the first wave compared to its large European neighbours but performed no better than France or the US during the second wave. The United Kingdom (UK) experienced a devastating first and second wave but has avoided a pronounced third wave so far. The differences can be explained, inter alia, by different arrival dates of the virus, housing conditions, attitudes and behaviour, healthcare facilities (Rhodes et al., 2012), and of course the non-pharmaceutical interventions and the availability of vaccines.

### **3. Measures to contain the virus**

#### ***3.1 Non-pharmaceutical interventions***

##### ***3.1.1 Face masks***

For many non-pharmaceutical interventions (NPI) there is an – at least perceived – trade-off between short-run economic costs and health costs. For instance, if non-food shops are closed to prevent infections, the retail sector suffers turnover losses; if schools are closed, human capital accumulation is interrupted with significant consequences on future earnings, etc.

As a rare exception, the requirement to wear face masks has little economic cost as no activity has to be discontinued, but the measure brings significant health returns. Face masks, whether simple cloth masks or medical masks, help reduce the spread of COVID-19 significantly. Mitze et al. (2020) find that the early obligation to wear face masks in the German city of Jena had reduced new infections by 75% twenty days after introduction.

For a relatively long time, the Robert Koch Institute (RKI), the equivalent of the Center for Disease Control and Prevention in the US, had advised against using face masks for the general population despite opposing recommendations from leading virologists and the German Association for Hospital Hygiene. The argument was that people would feel falsely protected and would be less careful in their behaviour.<sup>6</sup> A second consideration might have been that protective gear, including masks, was in short supply and that even medical personnel were lacking masks in sufficient quantities.<sup>7</sup> Only in early April did the RKI change its recommendations,<sup>8</sup> and many people used community masks made out of cloth, which were subsequently made obligatory for entering public transport, stores and other buildings (Mitze et al., 2020, Appendix A).

The initial RKI recommendation is amazing, in particular because there was evidence that masks had reduced infections in previous epidemics, such as during the severe acute respiratory syndrome (SARS) epidemic in 2003. In the light of incomplete knowledge, the precautionary principle would have commanded to it recommend community masks early on (Greenhalgh et al. [2020] and the literature cited).

Moreover, the scarcity of protective gear constitutes a double policy failure – the institutions of disaster control, both military and civil, did not have enough

gear in stock for a pandemic, and the political decision-makers did not react sufficiently quickly to counteract the looming shortage, even though they had 2.5 months until the virus hit Germany. The virus became known in December 2019, and it had been clear early on that it had the potential to turn into a pandemic.

After these early mistakes, the policy approach towards face masks has been rational. By the end of January 2021, all German states had introduced the requirement to wear medical masks in public spaces and the workplace and FFP2 masks in hospitals and nursing homes.<sup>9</sup>

### *3.1.2 Lockdowns*

Lockdowns reduce infections by inhibiting certain events and reducing contact. This decreases the death toll and the number of people being hospitalised and, thereby, eases the strain on medical capacities (personnel, hospital capacity, intensive care units, etc.). Triage is avoided, and thus a surge in the case mortality rate is prevented. Low infection rates also allow local health authorities to trace and contain the virus effectively.

In principle, there are three strategies regarding lockdowns. The first approach, taken by Sweden, protects the vulnerable parts of the population and lets the rest acquire herd immunity until the virus dies out. This approach does not work well as the vulnerable parts of society are too large,<sup>10</sup> and their isolation was found wanting, witnessed by multiple COVID-19 outbreaks in old people's homes and nursing homes, and because also younger people can suffer from severe cases of COVID-19, and also mild diseases may cause brain injuries (Paterson et al., 2020) and long-term symptoms. This strategy is therefore not a feasible option as it would take too long, cost too many lives, and cause too many health problems for the recovered (Pollán, 2020).<sup>11</sup>

The second strategy is to impose a lockdown that reduces the COVID-19 incidence to a level at which local health authorities can still trace all chains of infection, quarantine the infected and those possibly infected, and thereby keep the virus at bay. Whenever the incidence is below that threshold for some time, restrictions are eased, and more economic and other activities and contacts are allowed. This strategy seems to strike a balance between health and economic considerations. It is the strategy that the German government has followed.

This strategy, whilst being relatively successful during the first wave of the pandemic, failed in the second wave as cases spiralled out of control. The threshold beyond which infections are no longer traceable (35–50 new cases per 100,000 population within seven days) was quickly surpassed in fall 2020. On 12 October, the incidence rate was 27.5; a week later, it was 45.4 and then surged. On October 26 it had reached 80.9, and on 2 November it was already 120.1, climbing to almost 200 at the end of December (Figure 8.3). A 'lockdown light' took effect only on 2 November 2020, when the health authorities were no longer able to trace infections, and it was intensified on 16 December, however did not prevent the numbers from rising. Non-food retail stores, barbers, etc. had to close, but schools remained open until Christmas break. Meetings were restricted to two

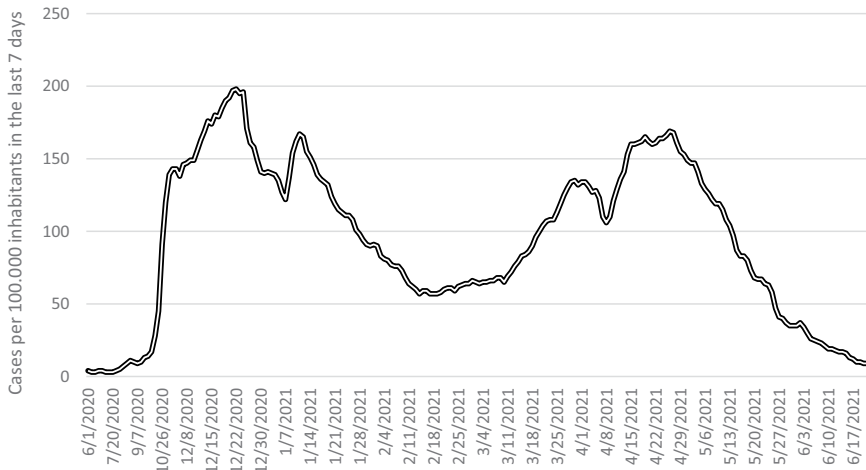


Figure 8.3 Seven-Day Incidence of COVID-19 Infections in Germany since June 2020 (per 100,000 population, as of 23 June 2021)

Source: Robert Koch Institut, Statista (2021)

households and five people at a maximum (not counting children under 14). Restaurants had to close already on 2 November.<sup>12</sup>

Clearly, that was too little too late. Had a strict lockdown been imposed 3–4 weeks earlier, in early October, likely, the surge in infections could have been prevented and the death toll would have been significantly lower. This begs the question of why policymakers did not act earlier and more decisively. Under the current Law on Protection against Infection (*Infektionsschutzgesetz*), health policy is under the authority of the 16 German states; the chancellor has only a coordinating function. Decisions are made by state prime ministers (PM) in consensus and often reflect the lowest common denominator. A few PMs blocked more far-reaching measures as interests and risk perceptions differed widely.

The third alternative is the ‘No COVID’ strategy (Priesemann et al., 2021). It seeks to reduce the incidence rates to close to zero because (i) infection rates are easier to stabilise at low levels, (ii) young people can also have severe cases of COVID-19, long-term consequences even of mild cases can be severe, and all groups are easier to protect at low incidence levels, (iii) a larger prevalence of COVID-19 makes mutations more likely, (iv) low incidence levels reduce uncertainty and thus make economic operations more calculable, and (v) the goal of close-to-zero incidence rates provides a vision, reduces the psychological burden, and makes ‘stop and go’ policies obsolete.

This goal shall be reached by a strict initial lockdown until incidence rates of ten (new infections per 100,000 population within a week) reached, and then successive but measured liberalisation steps until incidence rates are stabilised at

zero. This does not require complete discontinuation of economic activity. Elements of this strategy comprise the establishment of green zones with zero infections (precisely: no local infections without traceable origin), in which ‘normal’ life can resume, restriction to essential mobility between red and green zones, the gradual enlargement of green zones, and a determined test-trace-isolate strategy to reduce new infections and contain any outbreak quickly.

The economic costs may be initially higher, but lower in the medium term as there is a clear perspective to resume normal operations after shorter and more effective restrictions. Since lockdowns are very costly (Dorn et al., 2020a, 2020b), all other measures that reduce the duration or the severity of a lockdown will almost certainly be cost-efficient (testing, laboratories, home offices, hygiene measures, vaccination campaigns, etc.). There is, thus, no trade-off between the protection of health and economic prosperity (Baumann et al., 2021a, 2021b).

As blue print for this strategy serves the policy adopted by Melbourne which has also been implemented in Australia, New Zealand, and Taiwan. Even though these are island states that can therefore control their borders better than the EU, Portugal (in March and April 2021) and to some extent Denmark have shown that *strict and smart* lockdowns can bring down the incidence rates relatively quickly. The big political challenge is to withstand too early liberalisation measures. Therefore, good political communication is essential for a successful anti-COVID-19 strategy.

### 3.2 *Vaccination*

The approval dates for the first vaccine in the UK and US were only three and two weeks ahead of the EU (21 December 2020), respectively, but the vaccination campaigns had a very different drive, as shown by Figures 8.4 and 8.5. In mid-April, at the height of the third wave, 48% of the adult UK population had received their first shot, whilst the corresponding figure was around 20% for France and Germany. About 26% of the US population was fully vaccinated at that point, but in Germany only 7%. In contrast to the EU, vaccination success has spared the UK a significant third wave so far.

Key was the number of *available* vaccination doses. The US and the UK granted emergency approvals, which shifted the product liability to the buyer, whilst the EU decided for a regular, somewhat longer approval process.<sup>13</sup> More importantly, the UK and the US ordered earlier than the EU – the EU countries decided to purchase through the EU rather than individually and distribute within the EU on a per capita basis. This prolonged the procurement process, as contracts had to be agreed on collectively, particularly because member states had different interests. The poorer states in the east emphasised the importance of affordable vaccines (and indeed the UK and the US paid higher prices for some vaccines).<sup>14</sup> Moreover, the first contracts were signed with the British-Swedish pharmaceutical company AstraZeneca, which did not keep its obligations, and delayed its deliveries to the EU (but not to the UK) (The Guardian, 2021), and the French company Sanofi, which still does not have an approved vaccine.



huge external effects – the cost per course is an order of magnitude smaller than the benefits it creates (Castillo et al., 2021)<sup>15</sup> – but firms’ incentives and countries’ interests are not aligned. Firms’ incentives are to save costly capacity and to stretch out deliveries whilst obtaining the same revenue, whereas countries need vaccinations early. The International Monetary Fund (IMF) estimates that countries are spending \$1.5 trillion a month to support their economies during the pandemic (IMF, 2021). A solution would be to contract capacity rather than output:

The danger of signing a contract on courses is that the country may find itself at the end of a queue with a long wait for life-saving vaccines. Provisions to shorten this wait may harm other countries that are pushed back in the queue. Contracts that expand capacity can benefit both the signer and other countries by increasing the rate at which the queue is served.

(Castillo et al., 2021: 1108f)

Alternatively, prices could be made time-dependent, either as a premium for early deliveries (Fuest and Gros, 2021) or as a decaying function of time. Additional measures include intervening in the market for intermediate products as there may be supply constraints that delay the production of vaccines (Castillo et al., 2021: 1109).

Another important NPI is rigorous testing. In the early phases of the pandemic, there was too little testing, especially on inbound flights from China.

## 4. The economic assistance response

### 4.1 Overview

The economic policy response to the COVID-19 crisis consists of two dimensions. First, *built-in stabilisers*, created through a progressive tax system and income-dependent transfers react immediately and automatically. Progressive tax rates cause tax revenues to decline more quickly than GDP whilst income-dependent transfers, such as unemployment benefits, short-time allowances, and welfare payments, etc., increase. Built-in stabilisers are sizeable – Dolls, Fuest, and Peichl (2010, 2012) estimate that in the EU, they absorb more than a third of a – 5 percentage point decrease in gross incomes and lead to stabilisation of demand between 23% and 32%.

Second, *deliberate discretionary measures*, such as direct transfers, state-sponsored credits, loan guarantees, tax reductions, etc. reinforce the effect of built-in stabilisers. This is what we will focus on subsequently. The federal government initiated and the federal parliament adopted three COVID-19 stimulus packages, in March, June, and fall 2020.<sup>16</sup> By 26 June 2021, €108.4 billion in transfers, credits, and guarantee payments had been disbursed;<sup>17</sup> in addition, approximately €20 billion had been paid in short-time working allowances. Yet, the framework for support is much larger – the

first COVID-19 package alone provides up to €400 billion for guarantees. For the first time in 7 years, the (preliminary) federal budget ran a deficit in 2020, amounting to €130.5 billion.<sup>18</sup> The expenditures increased from €343 billion in 2019 to €442 billion in 2020 (equivalent to a 28.7% increase), and the revenues declined by 12.7% (BMF, 2021a). For 2021, the federal budget (including a supplementary budget proposed on 24 March 2021 by the government) has projected expenditures of €548 billion and a budget deficit of €240 billion, which is planned to decline to around €10 billion from 2023 onwards (BMF, 2021b). In total, the support facilities have a volume of €353.3 billion and guarantees of €819.7 billion currently, only a part of which has been used so far.<sup>19</sup>

Fiscal measures need to stabilise the economy efficiently and reduce the economy-wide adjustment costs. This implies well-targeted measures with low deadweight effects. Measures should be measured and not raise the burden for future generations more than necessary; they should stimulate mid-term growth, innovation, and sustainability.

## *4.2 Transfers, credit, and guarantees*

### *Transfers to the health sector*

A medical support package has been implemented to fight the pandemic (€55 billion capacity), to support hospitals and doctors in private practices, and to purchase protective gear and foster the development of vaccines (€3.5 billion). This is very sensible as the health sector needs support, in part because capacities need to be unutilised to accommodate rising COVID-19 case numbers; vaccine development needs support as it shifts the risk towards the state and allows bigger investments and quicker production.

### *Credit and guarantees for producers*

The state-owned development bank Kreditanstalt für Wiederaufbau (KfW) has launched various credit programmes for small, medium, and large enterprises and self-employed people. The KfW guarantees large shares of the liability (up to 100%). In a rapid credit programme for self-employed people and SMEs, the KfW assumes the entire liability for loans up to 25% of the 2019 turnover and certain ceilings (depending on the size of the enterprise), which facilitates loan contracts with the firm's bank.

Guarantees and generous credit facilities to producers help to stabilise expectations and to overcome liquidity constraints. They shift the risk from the lender to the public budget, which is justified in the case of a pandemic to keep lending activities and, thus, the real economy afloat. Businesses that successfully steer through the pandemic will have to pay back these loans and thus only the defaulting loans will increase public debt, whilst the non-defaulting loans increase private debt. So far, €52 billion has been disbursed through the KfW.

*Transfers to producers*

This includes a multitude of measures supporting firms of all sizes and self-employed people (described later) as well as a ‘package for the future’ with a volume of €50 billion focusing on measures to promote innovation, mainly in the areas of climate change prevention, digitalisation, and mobility, especially artificial intelligence, the hydrogen economy, and quantum technologies.

The general transfers include an economic stabilisation fund for the capital acquisition of large companies’ stocks (up to €100 billion), which can be used, for example, to purchase equity shares in Lufthansa and TUI (a major travel company) and up to €400 billion in guarantees and a €100 billion recapitalisation of the credit programmes of the state-owned KfW.

Other support schemes are targeted at firms, self-employed individuals, associations, and institutions affected by the temporary closures. They can receive up to 75% of their turnover in November and December 2019 (‘November/December support’) and grants to cover fixed costs of up to 100%, depending on the loss in turnover (minimum 30% loss, ‘Interim Aid I-III’). The ‘Interim Aid’ has increasingly been enlarged and simplified in procedures, and ‘Interim Aid III’ is targeted at firms with maximum turnover of €500 million and supports them if turnover losses exceed 30% by covering parts of their fixed costs up to €1.5 million per month per firm.<sup>20</sup> So far, €6.1 billion has been disbursed for November and €6.6 billion for December, and €12.1 billion for Interim Aid III.<sup>21</sup> Furthermore, ‘Restart Aid’ supports solo, self-employed individuals and small firms with low fixed costs up to 50% of a reference turnover in 2019 (with a ceiling); €1.2 billion has been disbursed so far.<sup>22</sup>

Equity injections through public investments in private companies can prevent the bankruptcy of firms that would be profitable under normal circumstances (and of their suppliers). This is a measure predominantly for large companies, as it requires significant administrative effort. As a matter of principle, these investments should be sold after the crisis, as an increase of public ownership in private firms is undesirable for many well-known reasons. This implies that part of the expenses can be recovered later on and that private owners will experience a devaluation of their share in the company.<sup>23</sup>

Contributions to the fixed costs (as in the Interim Aid or the November/December Aid) constitute a clear subsidy and socialise part of the COVID-19-related costs. This can be justified if otherwise the firm would go out of business, in particular for those sectors that are most affected by the NPI, such as hospitality firms or cultural institutions, which are clearly not responsible for the interruptions to their business activities. This support should, however, be measured; it should help keep profitable firms afloat but not socialise all losses. In particular, firms that pay out dividends or sizable bonuses should be barred from receiving transfers. After all, profitable firms will be able to recover losses after the pandemic.

*Transfers to individuals*

Apart from the prolongation of short-term working allowances (see Section 4.4) and transfers to solo, self-employed people, transfers to individuals have taken

the form of easier, less bureaucratic access to welfare payments, a one-time €300 benefit per child, and a doubling of the child tax allowance for single parents (the costs of the child benefits sum to €4.3 billion).

In general, transfers to individuals in times of crisis lead mostly to higher savings (or the retirement of debt). In the context of the current pandemic, Andersen et al. (2020) and Goolsbee and Syverson (2021) show that the pandemic as such, not the shutdown, has led to a significant drop in spending, casting doubt on the effectiveness of the stimulating effect of transfers to individuals in general. Evidence from the US shows that classical macroeconomic policies of stimulating aggregate demand were not very cost-effective. Transfers to low-income households, however, led to a sharp increase in consumer spending (yet not in the areas most affected by the pandemic, Chetty et al. 2020). Chetty et al. (2020) show that high-wage workers experienced a V-shaped recession, whilst low-wage workers suffered from job losses and much longer income reductions. This suggests that transfers targeted at the low-income households and social insurance measures are most effective.

The child bonus affects mostly small- and medium-income earners as it is offset by the child tax allowance, which is higher for larger income earners. The easier access to welfare benefits for the self-employed ('Grundsicherung') also affects mostly small- and medium-income earners. The latter is a classical social insurance measure and is, thus, highly sensible.

### *Transfers to municipalities*

Counties and incorporated towns and cities are supported by the federal government through measures such as 50% compensation of local business tax losses, a larger federal share of the housing costs for welfare recipients, and partial compensation for losses in local public transport. These transfers relieve the pressure on municipalities' budgets and create new pressures on the federal budget. They provide an indirect stimulus only to the extent that a reduction in revenue caused by the crisis would lead to a less-contractionary reaction at the federal level than at the municipality level. This would be the case if municipalities' budgets were tighter, and a fall in revenue would lead to a reduction in the services offered. For many municipalities, budgets are indeed tighter. Yet, many municipal expenditures are either statutory (welfare benefits or housing allowances) or not easy to cut back in the short run (expenditures for local public transport or support for theatres and orchestras).

## *4.3 Tax changes*

### *4.3.1 Value-added tax reduction*

Value-added tax (VAT) was temporarily reduced for the period 1 July–31 December 2020 from 19% to 16% and from 7% to 5% for the reduced rate. The reduced rate applies for most food and agricultural products (except for luxury food

products), some beverages such as milk and mineral water, feeding stuff, books and newspapers, and some other goods.

The intention was to stimulate consumption. During crises, the demand particularly for consumer durables typically slackens as uncertainty increases; the COVID-19 crisis is no exception. Consumers were hoped to bring forward their purchases, especially of durable consumer goods, in order to save 3 (or 2) percentage points of the sales price, since this measure was limited in time. The measure should also increase purchasing power and, thereby, counteract the reduction in income due to the pandemic and boost consumer spending.

In total, the measure was estimated to cost around €20 billion. To put this into perspective, the tax revenue in 2019 was around €800 billion; €243 billion thereof stemmed from VAT. The €20 billion reduction is around 2.5% of total revenue in normal years and comes on top of the estimated €22 billion decline in VAT receipts in 2020 due to the pandemic-induced decline in consumer spending.<sup>24</sup>

Did the measure fulfil its intended goal? This is not straightforward to measure as we observe only actual consumer behaviour, which is affected by the pandemic *and* the fiscal stimulus; the counterfactual of no fiscal stimulus is unobservable.<sup>25</sup>

Nevertheless, there are indications that this measure was not very effective. In order to increase spending, the tax rate cut must, first, reduce consumer prices and, second, the price reduction must stimulate demand. An almost complete pass-through was seen in the German supermarket retail sector, where prices dropped by nearly 2% (Fuest et al., 2020), but this was not seen in the hotel and restaurant sectors.<sup>26</sup> The pass-through for fuel at gas stations was immediate, but incomplete, ranging between 40% and 83% in the month after the introduction of the VAT cut (Montag et al., 2020). Yet, since the old tax rates were reintroduced on 1 January 2021,<sup>27</sup> the positive stimulus (if any) is to be followed by a decline in sales in Q1 2021 as probably the lion's share of the stimulus was generated through bringing planned purchases forward.<sup>28</sup> Q1 2021, however, coincided with the beginning of the third wave of the pandemic and, thus, a stimulus was needed as it was in the second half of 2020. Yet, it is not clear to what extent the VAT reduction actually increased demand. A representative survey in September 2020 indicated only a very limited stimulating effect of the VAT reduction (Infas, 2020: Tables 14 and 18), whilst the costs were substantial.

Overall, this measure was money not well spent.

#### *4.3.2 Other tax measures*

The other tax measures – early tax refunds, reduction of tax advance payments, deferment of tax payments, suspension of tax enforcement measures – basically postpone the tax payments and thereby create liquidity. They do not lower the tax burden as such, but provide breathing space for the companies in times of crisis. They are sensible as they make the transition easier but do not put a strain on the budget in the long run. The enlargement of the tax loss carry-backs for 2020 and 2021 of up to €5 million or €10 million in the case of joint assessment

reduces the effective tax burden for those companies that have been hard hit and is likewise sensible to alleviate the tax burden for a limited period of time.

#### 4.4. Labour market measures

The labour market in Germany has remained relatively stable during the pandemic (Figure 8.6). The unemployment rate increased after the first outbreak of the pandemic from 5.1% in March 2020 to 6.1% in July 2020 and has fluctuated between 5.9% and 6.4% since.

This is not a large increase and is mostly due to the large fiscal stimulus packages (see earlier), the temporary suspension of the insolvency rules (see later), flexible working hour arrangements, and specific labour market policies, especially the short-time working allowance. In the US, where such a safety net does not exist, at least not to the same extent, the unemployment rate soared to almost 15% (seasonally adjusted) in April 2020, and declined to 6% in March 2021, which is still more than 2 percentage points above its pre-pandemic level.<sup>29</sup>

The rationale for the short-time working allowance (*Kurzarbeitergeld*) is to reduce the number of lay-offs in case of a significant reduction of working hours that is inevitable (but not seasonable) – at least 30% of the workforce must have a reduction of at least 10% of their gross income. This preserves know-how for the firms, reduces costs for lay-offs and new hiring, saves jobs, and stabilises incomes. The Federal Labour Office pays 60% (for parents, 67%) of the difference between the normal wage<sup>30</sup> and the reduced net wage due to shorter working hours; this is limited to a 12-months duration.

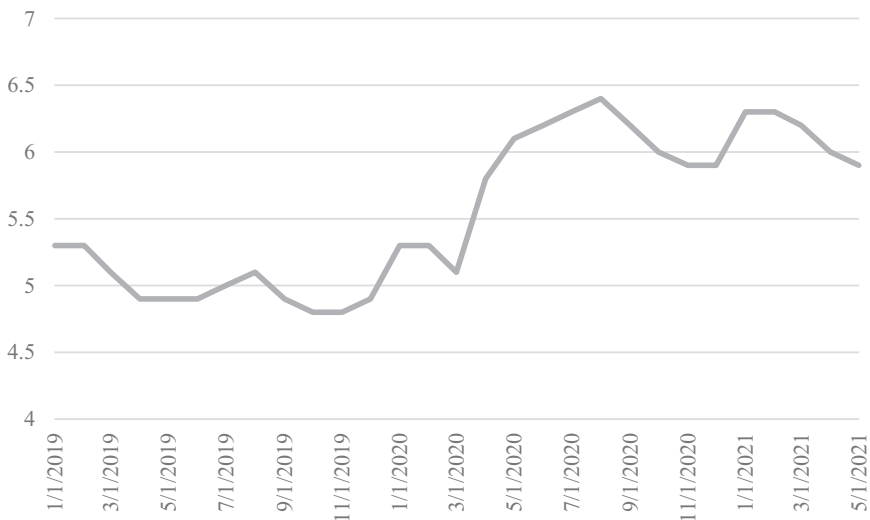


Figure 8.6 Unemployment Rate in Germany (%)

Source: Destati (2021d)

In the course of the COVID-19 pandemic, the amount of the short-time working allowance has been raised to 70% (77% for parents) after the third month and 80% (87% for parents) after the sixth month, if the loss of wage/salary exceeds 50%. The duration has been prolonged to up to 24 months until the end of 2021 if certain conditions are met. Firms can now apply for the short-term working allowance if 10% of the workforce has a reduction in wages by at least 10%.<sup>31</sup> Employers' social security contributions during short-time work are completely reimbursed up to 31 June 2021, and temporary workers are now included in the regulations.<sup>32</sup>

The uptake was very strong: in March 2020, at the beginning of the first wave, 2.6 million people were on short-time working allowances, and one month later the figure rose to 6.0 million; it declined afterwards. The latest figure, for November 2020, shows 2.4 million receiving short-time working allowances.<sup>33</sup> For comparison, at the height of the GFC, 1.1 million people were receiving short-time allowances (SVR, 2021: Ziff. 130).

The prolongation of the maximum duration is sensible given the length and depth of the pandemic. Short-time working allowances keep many people employed and prevent lay-offs that are costly to employers and employees. They also stabilise expectations during the pandemic and reduce transition costs. One of the reasons for limiting the duration of the benefit is that structural adjustments must not be prevented and private labour costs should not be shifted to the public for an extended period of time. In the case of the pandemic, these are secondary considerations.

The increase in the rates is a transfer to households intended to stimulate demand and, thereby, counteract the crisis-induced fall in demand, but not necessarily to stabilise employment (see Section 4.3). It is debatable whether the cap of the transfer could have been more stringent. For instance, receivers of high wages on, say, 100% short-time work would receive after their fourth month of short-time work already €4,970 per month and, after the sixth month, €5,680 in allowances whilst not working. The allowance could have been capped such that the net income including the allowance does not exceed €4,000, in particular because the consumption stimulus will be low (cf. Section 4.2) and well-off people might have enough savings to smoothen consumption.

#### *4.5 Changed insolvency rules*

The obligation to file for insolvency has been suspended for companies that became insolvent due to the pandemic and that receive support from one of the government programmes. These supporting measures should be expected to restore solvency. The law (COVInsAG) was passed on 1 March 2020, and the regulation had been continuously prolonged until the end of April 2021.<sup>34</sup>

This regulation has so far prevented a wave of insolvencies that could have easily snowballed into a large surge of insolvencies. Capital injections and subsidies increase the profits and thus can prevent insolvencies. Insolvencies may still be expected to increase after the suspension runs out, which is usual in large

recessions, especially since COVID-19 is expected to accelerate structural change (Schulze, 2020).<sup>35</sup> Yet, the number of insolvencies will be significantly smaller than in the absence of financial support and the temporary suspension of the obligation to file for insolvency (Wollmershäuser et al., 2020).

## **5. EU-wide response**

### ***5.1 Monetary policy reaction***

The European Central Bank (ECB) has reacted to the COVID-19 crisis by providing ample liquidity, keeping interest rates very low and relaxing the refinancing requirements of banks. The Expanded Asset Purchasing Programme (APP) was enlarged by 120 billion in March 2020. Importantly, in March 2020, the ECB initiated and subsequently expanded the Pandemic Emergency Purchase Programme to €1,850 billion and into June 2022 (ECB, 2020), under which the ECB purchases public sector securities and later also non-financial commercial papers under eased collateral standards, at least until March 2022.<sup>36</sup> This strong expansion of the money supply aims at providing liquidity, especially to member states, reducing price differentials between government bonds of member states, and to up inflation to 2%. Lower interest rates reduce the debt service payments of public budgets; yet, since interest rates had been very low already before the pandemic, there is little scope to reduce debt service further. The expansionary policy approach is in principle appropriate during a deep crisis like the COVID-19 pandemic; yet, shortly after the height of the crisis, monetary policy needs to revert back to a measured money supply in order not to finance state budgets long-term, as this will have the known detrimental effects of money-financed budget deficits and would be against the statutes of the ECB.

### ***5.2 Next Generation EU***

On 21 July 2020, the EU Council decided on a 7-year budget of €1.074 trillion, plus an EU recovery fund of €750 billion, coined as ‘Next Generation EU’ (NGEU). The lion’s share of the NGEU funds are designated for the Recovery and Resilience Facility, 70% of which shall be disbursed in 2021–2022, and the rest in the following 2 years. To finance the NGEU, the EU has – for the first time in any significant magnitude – issued EU bonds. They shall be retired through the EU budget and are thus financed indirectly through national taxes in proportion with member states’ GDPs. Member states are liable for a share of the bonds identical to their share in the ECB capital (Germany, 25%). The emergency fund is strongly redistributive from richer countries (measured in terms of GDP per capita) to less-rich member states. The net contributors are Luxembourg, Ireland, Denmark, Netherlands, Sweden, Austria, Finland, Germany, Belgium, and France, and the net recipients are Italy, Malta, Spain, Cyprus, Slovenia, Estonia, Czech Republic, Portugal, Greece, Slovakia, Lithuania, Latvia, Hungary, Poland, Croatia, Romania, and Bulgaria (Dorn and Fuest, 2020). The largest sums are received

by Italy and Spain, with the largest amounts as a share of GDP received by Greece, Croatia, and Bulgaria (Dorn and Fuest, 2021). The funds consist of €390 billion in grants and €360 billion in credits, and they are given subject to some degree of conditionality administered by the EU Commission and the EU Council.<sup>37</sup>

This construction raises concerns. Undoubtedly, it is a fiscal stimulus sensible for counteracting the deep recession the European countries are in, and it is an imperative of EU solidarity to help those countries that cannot afford such a fiscal stimulus. The central question, however, is whether this scheme called “Next Generation EU” is a singular measure in an extraordinary situation or – as the name suggests – a watershed event that marks a paradigm shift. If the latter is true, this will have negative effects for the future. If mainly the highly indebted and heavily affected countries are the beneficiaries of *non-refundable grants*, the incentives for catastrophe prevention and fiscal solidity are eroded. The very idea of sound budgetary management is that countries are in a position to finance large-scale fiscal measures in times of severe crises; an important aspect of an effective health care and catastrophe prevention system is that the effects of epidemics are substantially mitigated.

If, however, the EU fills in free of charge for countries that have not made sufficient provisions, these countries are effectively subsidised, whereas those countries that finance the additional EU programmes on a net basis, i.e. those countries that have sound budgets and sound health care systems, are burdened twice. As a consequence, incentives to make provisions are eroded: budgetary policies will be less sound and catastrophe prevention measures less stringent – the EU will become weaker overall. A system so designed that is intended to protect the vulnerable and weak would create greater weakness and vulnerability. It would be counterproductive. It would foster Euroscepticism, lead to more nationalism, and would increase tensions between EU member states. An incentive-compatible solidarity system would be clearly preferable; it could lead to more dynamic European integration, which would be met with the approval of the populations of the EU member states.

The inclination for sound budgetary policies is not very strong with heavily indebted EU countries to begin with; a further erosion through an ill-designed solidarity system that was based to a substantial degree on grants with very limited conditionality would be detrimental for any attempt to stabilise the EU and to induce sound fiscal policies (Schulze, 2020).

The pandemic will increase the budget deficits of all member states; a sound fiscal policy would reduce these heightened deficits in measured steps over the subsequent years in order not to jeopardise recovery but to eventually return to viable budget deficit levels. A precursor of the pandemic-induced recession in some sense demonstrates how different the budgetary adjustments to the shock were across countries. Figure 8.7 shows, for selected European countries, the gross debt as a percentage of GDP for the year 2008 when the global financial crisis (GFC) hit (first bar), for 2009 when many support measures became effective for public budgets (second bar), and 10 years later in 2019 prior to the pandemic. The fourth bar indicates the estimated budget deficit after the pandemic.

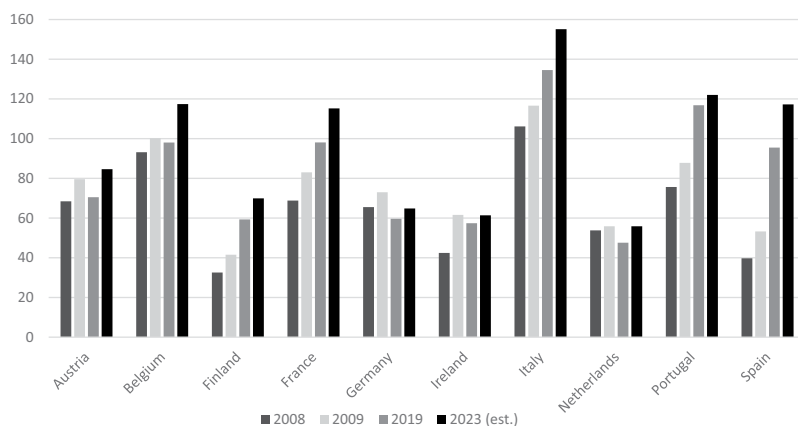


Figure 8.7 Gross Debt as a Share of GDP (%)

Source: IMF (2021), *World Economic Outlook*

A first group of countries saw their debt levels increase in the course of the GFC, but 10 years later, had reduced their debt approximately to the levels prevailing before the GFC or even lower (Austria, Germany, Netherlands). On the other end of the spectrum is the group of countries that increased their debt levels during the GFC and then increased them even further in the following decade (France, Portugal, Spain, and Italy). These are amongst the most highly indebted countries in the EU, and they are projected to see their debt levels increase most strongly during the pandemic. These countries will receive substantial parts of the NGEU funds; they are at the same time the countries that need budget solidity the most.

## 6. Conclusion: assessment of the approach against COVID-19

The German approach towards the pandemic has been rational from the beginning – unlike in the US or Brazil – but it was lacking determination and precaution. For instance, although it took almost 3 months until the virus hit Germany, there was not enough protective gear, neither in stock nor produced in the meantime. In the first wave, people arriving from high incidence areas did not get tested at airports. Whilst Germany weathered the first wave relatively well despite the late adoption of face masks, it did not use the calm summer to prepare sufficiently for the next onslaught of the virus, which had to be expected. Neither schooling had been sufficiently digitalised to allow for effective online teaching, nor were the local health authorities in a position to effectively trace infections beyond a low incident rate threshold with the help of digital technology.

The biggest mistake, however, was the reluctant imposition of a lockdown in October 2020, which came too late and was not stringent enough. As a

consequence, and due to the occurrence of a more infectious variant of the virus, infections spiralled out of control. This could have been avoided; from the flu pandemic in 1918 so-called ‘Spanish Flu’ (Hatchett et al., 2007) and other countries’ experiences with COVID-19, it was known that a hard lockdown would drive down infection numbers and the death toll. The alleged trade-off between the protection of health and the economy may be misperceived – a one-time hard lockdown and effective safeguard measures afterwards may keep infection rates low and allow for containment of the virus and opening up the economy again with lower health and economic costs overall. The conference of state prime ministers – the decisive body in the critical phase of the pandemic – was lacking imagination, political courage, and determination. They could have saved lives and public expenditures that will burden future generations. They could have opened up perspectives.

The economic assistance programme at the national level is largely sensible. Measures that stabilise expectations and provide additional interim liquidity, such as guarantee schemes, credit facilities, or restart funds, as well as extended short-time working allowances that keep people employed, are essential to make the transition to a post-COVID-19 economy less costly. This applies also to measured subsidies to strongly affected firms. The reduction in VAT rates, however, does not fall into this category.

An important consideration must be how to distribute the financial burden between present and future generations and between capital owners, employees, and taxpayers. It is important to strike a balance, exercise restraint in socialising firm losses, and avoid increasing future tax rates too much as that will tend to lower growth and slow down recovery.

At the European level, the procurement of vaccines could have been better and the initial delivery faster; the performance falls short of that of the US and the UK who however, contrary to the EU, did not export vaccines for a long time. The issuing of a significant amount of common EU bonds for the first time as well as the large grant component in the bond-financed EU emergency funds could mark a watershed. If participants had the expectation that this would be the beginning of common EU-wide debt and a large-scale redistribution rather than a singular measure in the light of a catastrophe, this would lead to serious moral hazard problems leading to less-prudent fiscal policies, in particular in countries with high debt ratios. This clearly has the potential to make the EU weaker and to foster scepticism against the European project.

Overall, Germany is not faring worse than its neighbours, and better in many respects than many. But it could have gotten through this pandemic much better if the policymaking had been more courageous, more forward-looking, more determined, and more receptive to advice from the sciences.

## Notes

- 1 Obviously, there are considerable uncertainties in these numbers. It is unclear how many people die *of* COVID-19 and how many die *with* COVID-19; since symptoms may not be very specific, COVID-19 may go undetected, and death

may not be reported as COVID-19-related. The number of reported infections depends on testing capabilities. For a pilot study in the state of New York, see [www.worldometers.info/coronavirus/coronavirus-death-rate/](http://www.worldometers.info/coronavirus/coronavirus-death-rate/). Moreover, infections may not be the most relevant figure as the severe cases matter the most. Thus, the share of intensive care beds occupied by COVID-19 patients may be a good additional indicator, cf. [www.intensivregister.de/#/aktuelle-lage/zeitreihen](http://www.intensivregister.de/#/aktuelle-lage/zeitreihen) (accessed 14 February 2021).

- 2 For the United States (US), the loss in GDP is less than half of the total costs of the disease, according to Cutler and Summers (2020).
- 3 [www.theguardian.com/world/2020/mar/13/first-covid-19-case-happened-in-november-china-government-records-show-report](http://www.theguardian.com/world/2020/mar/13/first-covid-19-case-happened-in-november-china-government-records-show-report) (accessed 12 April 2021).
- 4 [www.who.int/docs/default-source/coronaviruse/situation-reports/20200423-sitrep-94-covid-19.pdf](http://www.who.int/docs/default-source/coronaviruse/situation-reports/20200423-sitrep-94-covid-19.pdf) (accessed 12 April 2021).
- 5 [www.worldometers.info/coronavirus/country/germany/](http://www.worldometers.info/coronavirus/country/germany/); <https://berlinspectator.com/2020/12/20/chronology-germany-and-the-coronavirus-8/> (accessed 12 April 2021).
- 6 Westdeutsche Allgemeine Zeitung, 24 February 2020 ([www.wz.de/panorama/atemschutzmasken-werden-nicht-als-schutz-vor-coronavirus-empfohlen\\_aid-49146245](http://www.wz.de/panorama/atemschutzmasken-werden-nicht-als-schutz-vor-coronavirus-empfohlen_aid-49146245)).
- 7 [www.sueddeutsche.de/gesundheits/coronavirus-krankenhaeuser-ansteckung-1.4911294](http://www.sueddeutsche.de/gesundheits/coronavirus-krankenhaeuser-ansteckung-1.4911294) (19 May 2020); [www.rbb24.de/panorama/thema/2020/coronavirus/beitraege/niedergelassene-aerzte-mangelnde-ausruestung-kv.html](http://www.rbb24.de/panorama/thema/2020/coronavirus/beitraege/niedergelassene-aerzte-mangelnde-ausruestung-kv.html) (20 March 2020); [www.aerzteblatt.de/nachrichten/118559/Keine-Schutzausruestung-Urologen-in-Hessen-koennen-bald-nicht-mehr-arbeiten](http://www.aerzteblatt.de/nachrichten/118559/Keine-Schutzausruestung-Urologen-in-Hessen-koennen-bald-nicht-mehr-arbeiten) (20 November 2020).
- 8 [www.tagesschau.de/inland/schutzmasken-coronavirus-103.html](http://www.tagesschau.de/inland/schutzmasken-coronavirus-103.html); [www.welt.de/wissenschaft/article/206979269/Corona-Robert-Koch-Institut-aendert-Einschaetzung-zu-Mundschutz.html](http://www.welt.de/wissenschaft/article/206979269/Corona-Robert-Koch-Institut-aendert-Einschaetzung-zu-Mundschutz.html) (accessed 12 April 2021); RKI (2020).
- 9 [www.mdr.de/brisant/ffp-maskenpflicht-102.html](http://www.mdr.de/brisant/ffp-maskenpflicht-102.html) (accessed 14 April 2021).
- 10 An indication for the size of this group are the highest and second-highest priority categories for COVID-19 vaccination, which are more than 15 million out of 83 million inhabitants. These categories, however, comprise also people with high exposition risk, such as medical personnel (RKI, 2021).
- 11 Vgl. Frauenhofer Gesellschaft, Helmholtz, Leibnitz Gemeinschaft, Max Planck Gesellschaft, Adaptive Strategien zur Eindämmung der COVID-19-Epidemie, 28 April 2020, [www.mpg.de/14760439/28-04-2020\\_Stellungnahme\\_Teil\\_01.pdf](http://www.mpg.de/14760439/28-04-2020_Stellungnahme_Teil_01.pdf); [www.mpg.de/14760567/28-04-2020\\_Stellungnahme\\_Teil\\_02.pdf](http://www.mpg.de/14760567/28-04-2020_Stellungnahme_Teil_02.pdf) (accessed 20 July 2020).
- 12 [www.wiwo.de/politik/deutschland/corona-lockdowns-wie-verlief-der-zweite-lockdown/27076474.html](http://www.wiwo.de/politik/deutschland/corona-lockdowns-wie-verlief-der-zweite-lockdown/27076474.html)
- 13 <https://vaccination-info.eu/en/covid-19/covid-19-vaccines> (accessed 14 June 2021).
- 14 [www.wiwo.de/politik/europa/verschobene-impfungen-lieferengpaesse-intransparenz-verpatzter-impfstart-was-laeuft-bloss-falsch-in-deutschland/26840932.html](http://www.wiwo.de/politik/europa/verschobene-impfungen-lieferengpaesse-intransparenz-verpatzter-impfstart-was-laeuft-bloss-falsch-in-deutschland/26840932.html) (accessed 14 April 2021).
- 15 Vygen-Bonnet et al. (2021) demonstrate how vaccination reduces mortality, especially amongst the elderly.
- 16 The states also have support measures in place, which are not the subject of this analysis.
- 17 [www.bmwi.de/Redaktion/DE/Infografiken/Wirtschaft/corona-hilfen-fuer-unternehmen-marginalspalte-IG.html](http://www.bmwi.de/Redaktion/DE/Infografiken/Wirtschaft/corona-hilfen-fuer-unternehmen-marginalspalte-IG.html). This amounts to US\$129.4 billion (exchange rate as of 26 June 2021).
- 18 In normal times, the federal budget is subject to a ceiling for non-business cycle-related deficits of 0.35% of GDP. The total public budget (all tiers) amounts to €139.6 billion (Destatis, 2021b).

- 19 An overview of the measures are provided at [www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Schlaglichter/Corona-Schutzschild/2020-03-13-Milliarden-Schutzschild-fuer-Deutschland.html](http://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Schlaglichter/Corona-Schutzschild/2020-03-13-Milliarden-Schutzschild-fuer-Deutschland.html); [www.bmw.de/Redaktion/DE/Downloads/C-D/coronahilfen-foerderinstrumente-infografik\\_Stand-15.04.pdf?\\_\\_blob=publicationFile&v=4](http://www.bmw.de/Redaktion/DE/Downloads/C-D/coronahilfen-foerderinstrumente-infografik_Stand-15.04.pdf?__blob=publicationFile&v=4) (accessed 25 May 2021).
- 20 Firms that had a turnover reduction of 30–50% compared to the same month in 2019 receive up to 40% of their eligible fixed costs. For those with 50–70% reductions, the share is up to 60%, and beyond that is up to 100% of the fixed costs. [www.bmw.de/Redaktion/DE/Downloads/V/vereinfachung-und-aufstockung-der-ueberbrueckungshilfe-III.pdf?\\_\\_blob=publicationFile](http://www.bmw.de/Redaktion/DE/Downloads/V/vereinfachung-und-aufstockung-der-ueberbrueckungshilfe-III.pdf?__blob=publicationFile); [www.ueberbrueckungshilfe-unternehmen.de/UBH/Redaktion/DE/Artikel/ueberbrueckungshilfe-ii.html](http://www.ueberbrueckungshilfe-unternehmen.de/UBH/Redaktion/DE/Artikel/ueberbrueckungshilfe-ii.html).
- 21 [www.bmw.de/Redaktion/DE/Infografiken/Wirtschaft/corona-hilfen-fuer-unternehmen.html](http://www.bmw.de/Redaktion/DE/Infografiken/Wirtschaft/corona-hilfen-fuer-unternehmen.html) (accessed 26 June 2021).
- 22 Regulations have changed over time; for firms in the social, cultural, and restaurant sectors, they may differ. [www.bundesregierung.de/breg-de/themen/coronavirus/info-unternehmen-selbstaendige-1735010](http://www.bundesregierung.de/breg-de/themen/coronavirus/info-unternehmen-selbstaendige-1735010) (accessed 26 June 2021).
- 23 Other measures include a ceiling for social security contributions at 40% and a ceiling for the contribution to the renewable energy law at 6.5 cents per kWh for 2021 and 6 cents for 2022.
- 24 [www.bundesregierung.de/breg-de/themen/coronavirus/faq-mehrwertsteuersenkung-1764364](http://www.bundesregierung.de/breg-de/themen/coronavirus/faq-mehrwertsteuersenkung-1764364) (accessed 15 April 2021).
- 25 Yet, proxies may exist, for instance through comparison with other countries over time cf. D'Acunto et al. (2016); Crossley et al. (2014); Fuest et al. (2020).
- 26 Cf. [www.cicero.de/wirtschaft/corona-mehrwertsteuer-senkung-unternehmen-dienstleister-supermarkt-reform](http://www.cicero.de/wirtschaft/corona-mehrwertsteuer-senkung-unternehmen-dienstleister-supermarkt-reform).
- 27 The restaurant business is subject to longer tax reductions for on-site meals, but as they have been in lockdown for long, this exception has little effect.
- 28 D'Acunto et al. (2016) show that a 3 percentage point increase of VAT rates in Germany to comply with EU law, announced in 2005 and effective in 2007, increased durables purchases by a third in 2006. This, however, was in an off-crisis situation. The temporary VAT cut in 2008–2009 in the UK led to a substantial, but not complete, pass-through (Crossley et al., 2014) and stimulated demand for durable goods (Blundell, 2009), mostly through purchases that were brought forward.
- 29 The number of hours worked declined more strongly than the number of employed people.
- 30 This wage is capped at the social security contribution assessment ceiling, which is currently €7,100 per month (€6,700 in the East).
- 31 [www.arbeitsagentur.de/unternehmen/corona-virus-informationen-fuer-unternehmen-zum-kurzarbeitergeld](http://www.arbeitsagentur.de/unternehmen/corona-virus-informationen-fuer-unternehmen-zum-kurzarbeitergeld) (accessed 20 April 2021).
- 32 [www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Schlaglichter/Corona-Schutzschild/2020-03-19-Beschaeftigung-fuer-alle.html](http://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Schlaglichter/Corona-Schutzschild/2020-03-19-Beschaeftigung-fuer-alle.html) (accessed 20 April 2021).
- 33 <https://statistik.arbeitsagentur.de/DE/Navigation/Statistiken/Interaktive-Angebote/Kurzarbeitergeld/Kurzarbeitergeld-Nav.html;jsessionid=8FE661517BC5F6467F96ECE62EAD0F04> (accessed 26 June 2021).
- 34 [www.bundesregierung.de/breg-de/themen/coronavirus/insolvenzaussetzungsgesetz-1781394](http://www.bundesregierung.de/breg-de/themen/coronavirus/insolvenzaussetzungsgesetz-1781394) (accessed 24 April 2021).
- 35 In Q1 2021, firm insolvencies were 20% lower than in Q1 2020, but personal insolvency went up by 50% (Destatis, 2021c).
- 36 [www.bundesbank.de/de/aufgaben/geldpolitik/geldpolitische-wertpapierankaufe/pandemic-emergency-purchase-programme-pepp-830356](http://www.bundesbank.de/de/aufgaben/geldpolitik/geldpolitische-wertpapierankaufe/pandemic-emergency-purchase-programme-pepp-830356) (accessed 26 June 2021).
- 37 [www.tagesschau.de/ausland/eu-gipfel-faq-101.html](http://www.tagesschau.de/ausland/eu-gipfel-faq-101.html) (accessed 23 July 2020).

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# 9 COVID-19 Impacts and Recovery

## Lessons Learned from Singapore

*Siwage Dharma Negara*

### 1. Introduction

This chapter focuses on how Singapore has been affected by the coronavirus disease 2019 (COVID-19) pandemic, how it has responded, how it has kept its economy afloat, and how it has protected the livelihoods of its residents. As a small, open economy, the city-state is highly dependent on trade and cross-border flows of people. The COVID-19 pandemic has disrupted the flow of goods and people, which has in turn caused economic crises around the world. Singapore's economy contracted by a record 5.8% as a result of this pandemic, its worst recession since independence. Even before the pandemic struck, the economy had been struggling amid intensifying trade and technological tension between the United States (US) and China. For comparison, Singapore's gross domestic product (GDP) grew by only 0.7% in 2019. The COVID-19 pandemic has subsequently exacerbated pressure on the economy.

Despite the massive economic impact of the pandemic, Singapore's measured response to COVID-19 has been recognised internationally as one of the gold standards (Cook, 2020; Miller and Lu, 2020; Holder, 2021). As of 18 January 2022, Singapore has recorded 294,000 cases and 843 deaths. Several indicators determine national performance including the ability to detect and break COVID-19 transmission chains, maintain food and medicine supply chains, and protect the vulnerable. Overall, Singapore has been seen as one of the leading countries in implementing wide-scale testing, effective tracking, and robust treatment (Chong, 2020). This chapter argues that a country's ability to respond to the COVID-19 pandemic is not only about minimising the potential impact of the virus on human health but also reducing the large-scale impact on human lives, or in other words, the ability to preserve lives and livelihoods equitably.

State capacity, the efficiency of government institutions, and the quality of healthcare systems are key factors determining the success of containment measures in response to a pandemic. In the case of Singapore, effective pandemic control relied on strong public awareness and compliance (Wong and Jensen, 2020). Country characteristics also influence the outcome of pandemic control measures. For instance, small population size and geographical constraints as an

island nation make efforts to combat the spread of a virus more manageable than in larger countries like India and Indonesia.

Section 2 describes government early responses. Section 3 presents the economic impacts of COVID-19. Section 4 explains government's policies and action to cope with COVID-19 and mitigate the economic impacts of the pandemic. Section 5 concludes and provides policy recommendations.

## 2. Early reactions and government responses

As one of international hubs, Singapore is well-equipped to monitor people mobility in the Asian region. Singapore was amongst the first countries in Asia to report a COVID-19 case after China in December 2019 (Goh and Toh, 2020). On 4 February 2021, Singapore registered its first case of infection within the community when a 28-year-old Singaporean tested positive (Yong, 2020). On 7 February, the Ministry of Health (MOH) raised the Disease Outbreak Response System Condition (DORSCON) level from yellow to orange (one level below the maximum alert).<sup>1</sup> Soon after, people started to panic and a wave of panic buying followed with people stocking up on instant noodles and toilet paper (Lim, 2020). Panic buying continued despite authorities' calls for calm, stressing that Singapore had enough stocks of essential supplies and food. Authorities soon realised that lack of clarity and misunderstanding about the DORSCON level amongst the general population and shared over the Internet through social media had sparked the panic.

To calm the public, Prime Minister Lee Hsien Loong addressed the nation on 8 February 2020 (Lai, 2020). He assured the public that the government is prepared to deal with the pandemic given its experience tackling the Severe Acute Respiratory Syndrome (SARS) pandemic in 2003. He asked the public to cooperate by avoiding sharing wrong information on social media, refraining from hoarding face masks or food, and avoiding blaming certain groups for the outbreak.

In January 2020, the government established a Multi-Ministry Taskforce with representatives from health, manpower, finance, trade, and industry sectors (MOH, 2020). The Taskforce emphasised communications, transparency, and access to information to ensure public understanding of public health risks (Wong and Jensen, 2020). As such, it provided daily briefings on the COVID-19 situation. Given the importance of communications and information, the government also embarked on an information campaign via the internet and social media applications. The MOH set up a hotline and a website containing COVID-19 information, which is linked to the Ministry's official portal. Information on each confirmed case, including age, sex, occupation, and case history is shared publicly. Also, Singaporeans could receive daily WhatsApp or Telegram updates with reports of the latest numbers of cases, clusters, and other information (Sagar, 2020).

On 22 March, in response to the worsening global situation, Singapore closed its international borders – short-term visitors were not allowed to enter or transit (Toh, 2020). This happened a day after Singapore reported its first two COVID-19 deaths, that of a 75-year-old Singaporean woman and a 64-year-old Indonesian

man. Tightened social mobility was implemented in subsequent weeks and months. On 7 April 2020, Singapore implemented a partial domestic lockdown known as ‘circuit breaker’ measures. During this period, people had to comply with strict social distancing and isolation. All workplaces, shops, and schools were closed. Students in all schools and institutes of higher learning shifted to fully home-based learning. Businesses adopted work-from-home arrangements. People were allowed to interact only with those from the same household.

During the circuit breaker period, the operation of public transport such as buses and trains was significantly reduced as many non-essential workers were asked to work from home. Dining in at eateries was not allowed. These tough restrictions were implemented until 1 June 2020 and then removed after the government was assured that the number of unlinked COVID-19 cases had decreased.

In April 2020, Singapore saw community cases increased rapidly and reached a new record. The highest number of cases occurred in foreign workers’ dormitories. New dormitory cases peaked at 1,369 on 20 April, bringing the total daily infection cases to 1,426 (Yong et al., 2020). In response, the government instructed all foreign workers’ dormitories be placed on lockdown.

What happened in foreign workers’ dormitories revealed stark inequality in Singapore, which would have gone unnoticed if not for the pandemic. Singapore has more than 300,000 low-wage foreign workers from countries like India and Bangladesh who work mainly in construction and manufacturing industries, and who live in densely populated dormitories (Han, 2020). The spike of cases in foreign worker’s dormitories has forced the government and the public to pay attention and work on improving the living conditions of these migrant workers.

It should be noted that given insufficient knowledge about the new coronavirus, Singapore’s government has made decisions that later turned out to be incorrect. For instance, it initially instructed people to wear masks only if they are unwell. At that time, the government was concerned about the limited supply of masks and hence the need to prioritise its use for certain people such as healthcare workers. Later, as new information about the coronavirus was revealed, the government changed its policy and instructed the mandatory use of masks for everyone outside of their home. Those caught violating this rule faced a fine of S\$300. The government also regularly distributed free reusable masks nationwide.

On 2 June 2020, circuit breaker measures were gradually eased as Singapore started Phase One of reopening. Businesses and social activities were slowly allowed to resume. Selected services, including motor vehicle servicing and hair-dressing, were allowed to carry on. Schools reopened with a limited number of students attending daily lessons. Phase Two began on June 19 in which the government relaxed dining-in restrictions, households could receive up to five visitors, and train and bus schedules returned to regular frequency. Subsequently, Singapore gradually reopened its international borders. This decision was made as the government tried to balance between reviving the hard-hit travel and aviation industries and minimising the likelihood of importing new virus cases. Singapore thus actively pursued ‘reciprocal green lanes’ and safe travel corridors for

essential and business travel. China became the first country to have this so-called travel green lane with Singapore (Abdullah, 2020). Yet, due to the uncertain global pandemic situation, implementation has been hindered. For example, a planned air travel bubble with Hong Kong was suspended due to a new wave of infections in the country.<sup>2</sup>

After ensuring that the COVID-19 situation in Singapore had stabilised, the government decided to hold general elections on July 10 (Sim, 2020). The decision was made because the ruling party believed it needed a full five-year mandate to handle the coronavirus pandemic and save the economy and people's livelihoods. Elections were conducted with strict health protocols. The ruling party, the People's Action Party, won 61.2% of the votes or 83 out of 93 available seats (Mohan and Phua, 2020). This victory however saw the People's Action Party's share of votes drop by almost nine percentage points compared to its win during the 2015 general elections, when it acquired almost 70% of the votes. Overall, despite a weakened popular vote showing, the ruling party's political legitimacy remained high. Moreover, the election results reflected Singaporeans' trust in the government for its handling of the pandemic.

### 3. Economic impacts of COVID-19

As mentioned earlier, the COVID-19 pandemic has caused Singapore's economy to shrink by 5.8% in 2020, its worst economic contraction ever. Figure 9.1 shows that the 2020 fall in GDP growth was worse than during the 1997–1998 Asian Financial Crisis. The last time Singapore registered a full-year economic contraction was in 2001 during the dot-com bust when economic growth fell by 1%.

Lee et al. (2020) point out that the economic cost of COVID-19 is an outcome of the interactions between the pandemic per se and governments' responses to it. Containment and lockdown measures can dampen the economy severely. Its impact can be seen in the reduction in mobility in key areas such as in retail, tourism, and recreation, as well as in workplaces.

In Singapore, economic contraction has caused the unemployment rate to jump from 2.3% in 2019 to 3.1% in 2020 (Figure 9.1). As many businesses will continue to operate below their full capacity until the pandemic is fully resolved, it will take some time for the labour market to return to its pre-crisis level. To help workers and businesses, the government launched the Jobs Support Scheme (JSS) programme. This programme gives wage support to local employees and also additional wage support to employers (IRAS, 2020). Overall, the scheme was able to prevent unemployment from deteriorating further. For comparison, unemployment hit 4.8% during the SARS outbreak in September 2003 and 3.3% during the global financial crisis in September 2009.

Interestingly, the COVID-19 crisis has mixed impacts on different sectors of the economy. The services sector was badly hit, contracting by 6.8% in the fourth quarter of 2020 and 7.8% for the whole year (Table 9.1). Within the services sector, tourism-dependent industries such as aviation, hospitality, food and beverage, offline retail, and entertainment have been the hardest hit (Subhani, 2021a).

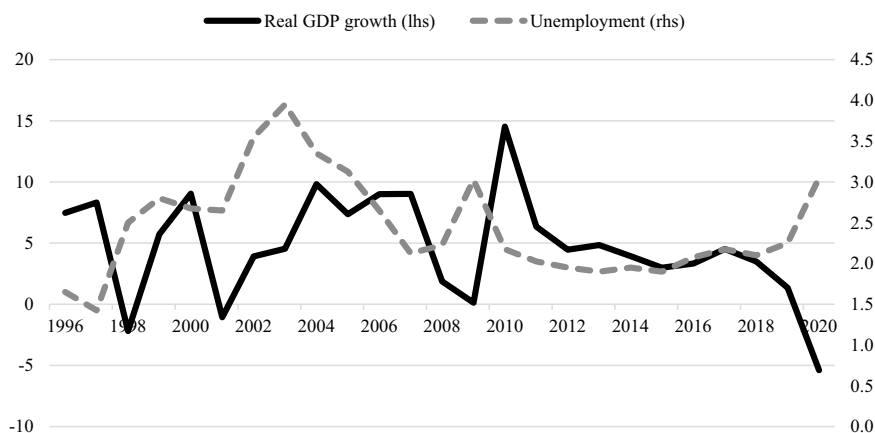


Figure 9.1 Singapore's GDP Growth and Unemployment Rate (%)

Abbreviations: Lhs = Left-hand side, Rhs = Right-hand side

Source: CEIC Database (2021)

Table 9.1 GDP Growth by Sector (%)

year-on-year growth

	Q4-2019	2019	Q1-2020	Q2-2020			2020
GDP	1.0%	0.7%	-0.2%	-13.4%	-5.6%	-3.8%	-5.8%
Manufacturing	-2.3%	-1.4%	8.3%	-0.5%	10.8%	9.5%	7.1%
Construction	4.3%	2.8%	-1.2%	-61.0%	-46.2%	-28.5%	-33.7%
Services	1.5%	1.1%	-2.3%	-13.4%	-8.4%	-6.8%	-7.8%

quarter-on-quarter growth, seasonally adjusted

	Q4-2019	Q1-2020	Q2-2020		
GDP	0.2%	-0.7%	-13.3%	9.5%	2.1%
Manufacturing	-1.5%	10.0%	-9.2%	12.6%	-2.6%
Construction	1.3%	-3.2%	-60.5%	39.0%	34.4%
Services	0.5%	-3.4%	-11.0%	6.0%	2.4%

Abbreviations: GDP = gross domestic product

Source: Ministry of Trade and Industry, MTI (2021)

The tourism sector, which accounts for around 4% of Singapore's GDP, has practically collapsed as the number of foreign visitors plummeted from around 1.6 million in late 2019 to less than 5,000 visitors by May 2020 (Figure 9.2). The construction sector was the worst performer, contracting by 33.7% in 2020 (Table 9.1).



*Figure 9.2* Foreign Visitors by Month (1,000 people)

Source: CEIC Database (2021)

Domestic-oriented industries, in particular, have been adversely impacted by the COVID-19 crisis and will likely take a longer time to recover. The Monetary Authority of Singapore (MAS) projects that sectors such as travel-related and contact-intensive domestic services may not return to pre-pandemic levels even by the end of 2021 (Subhani, 2021b). Moreover, given the risk of a new wave of COVID-19 infections around the world and deteriorating domestic labour market conditions, economic recovery remains uncertain.

Yet, sectors like communications, finance, insurance, and professional services grew. The manufacturing sector, which accounts for around 21% of Singapore's GDP (MTI, 2020) expanded by 9.5% in the fourth quarter of 2020 and by 7.1% for the entire year (Table 9.1). Growth in manufacturing was driven by strong demand for semiconductors and medical supplies, leading to expansion in the electronics, biomedical, and precision engineering clusters. This reflects resilience in the manufacturing sector amid the pandemic crisis.

Like in many other parts of the world, the COVID-19 crisis has led to changes in consumer behaviour and accelerated digitalisation of economies. Singapore has seen extensive use of digital technology in healthcare and education during implementation of COVID-19 lockdowns and social distancing measures. To enable businesses to go online, especially small and medium-sized enterprises (SMEs), the government launched several assistance schemes. A survey conducted in May 2020 found that three in four small businesses in Singapore are already making investments in technology to boost their performance during the pandemic (Koh, 2020). Figure 9.3 shows that due to circuit breaker measures, the proportion of online sales to total retail sales value jumped from 6% in January 2020 to 25% in May 2020. When circuit breaker measures ended in June, the proportion declined to around 11%. This trend seems to indicate that consumer behaviour has experienced post-pandemic structural change.

The COVID-19 pandemic has also adversely affected the trade sector. Even before the pandemic struck, the global trade environment had been under massive pressure from US – China trade and technological conflicts as well as from growing protectionism around the world. With many countries implementing various containment and lockdown measures to control the pandemic, trade in goods has been severely impacted. Singapore, as a trade-dependent economy, tries to protect its supply chains by ensuring a continuous flow of imports. Nevertheless, Singapore’s total merchandise trade decreased by 5.2% from US\$750 billion in 2019 to US\$703 billion in 2020. Exports fell by 4%, from US\$390 billion in 2019 to US\$ 374 billion in 2020, while imports fell by 8%, from US\$359 billion in 2019 to US\$329 billion in 2020 (Figure 9.4). The 5.2% decline in overall trade for 2020 was mainly due to a 31% reduction in oil trade, amid lower oil prices than a year ago.

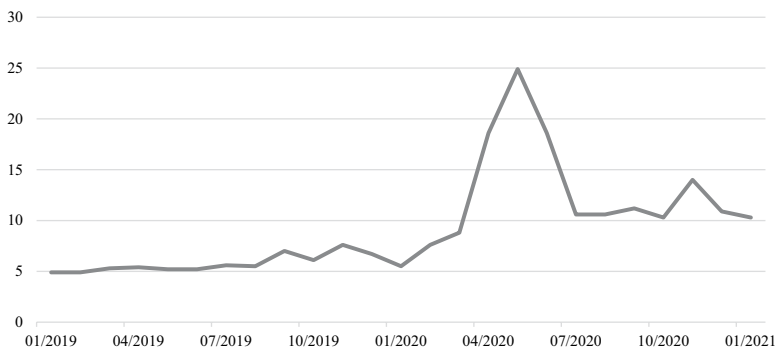


Figure 9.3 Proportion of Online Sales to Total Retail Sales Value (%)

Source: Singstat (2021)

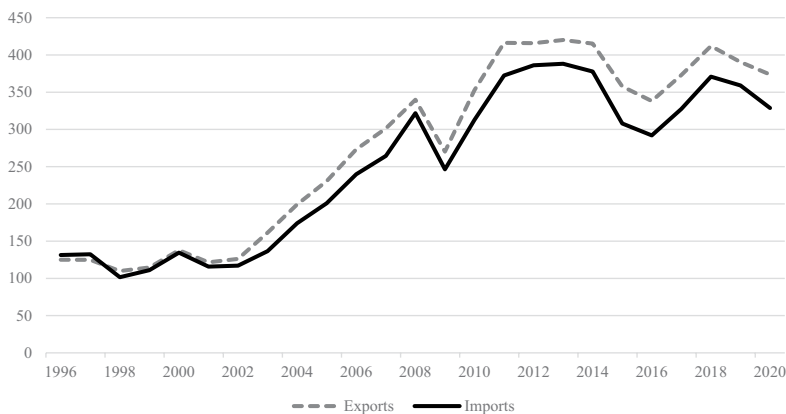
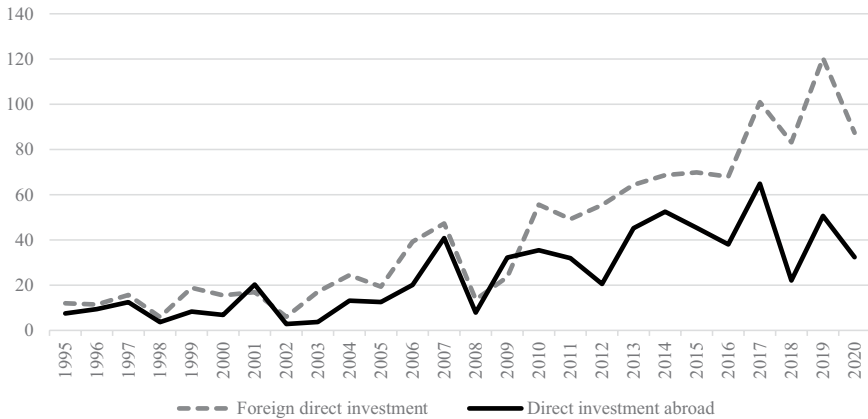


Figure 9.4 Value of Singapore’s Exports and Imports (US\$ billion)

Source: CEIC Database (2021)



*Figure 9.5* Foreign Direct Investment and Direct Investment Abroad (US\$ billion)

Source: CEIC Database (2021)

On the investment front, both inward foreign direct investment (FDI) and Singapore's direct investment abroad have declined by 27% and 36%, respectively. FDI fell by 27.5% from US\$120 billion in 2019 to US\$87 billion in 2020 (Figure 9.5). Similarly, direct investment abroad fell by 37.3% from US\$51 billion in 2019 to US\$32 billion in 2020. It should be noted, however, that global FDI has been on a downward trend since 2015 (UNCTAD, 2019). The COVID-19 pandemic has worsened this trend as many multinational companies experienced significant reductions in their earnings (UNCTAD, 2021). All in all, the COVID-19 pandemic has been a double blow for the trade and investment sector.

#### 4. Economic policy mix in action

The COVID-19 pandemic has adversely affected both aggregate supply and aggregate demand in many parts of the world, including in Singapore. Moreover, for a small, open economy like Singapore, a disruption in any one country will have direct and indirect effects through global supply and demand chains. On the supply side, due to mobility restrictions, many workers have been unable to work. Business closures and lockdown measures have caused significant supply disruptions. On the demand side, more people have been staying home and stopping spending. As businesses slow down, layoffs have become unavoidable. Companies and households lose their income and, as the economic situation worsens, households reduce or postpone their consumption while firms delay investments. Kozłowski, Veldkamp, and Venkateswaran (2020) argued that an extreme shock like COVID-19 may persistently dampen economic growth as consumers and firms may revise their beliefs about the future economic trajectory, thus reducing incentives to consume and invest.

To cushion the adverse impact of the pandemic, Singapore's government has used both monetary and fiscal policy instruments. Singapore's primary monetary policy instrument is its exchange rate;<sup>3</sup> its monetary policy is focused on managing a stable and low exchange rate against a trade-weighted basket of currencies. In addition, the MAS conducts micro- and macroprudential measures to ensure general price and financial stability in the economy.

Many economists believe that given the wide-scale impact of the COVID-19 pandemic on the economy, policymakers should do whatever it takes to maintain sufficient liquidity provision such as by implementing cash transfers and providing support for cash-strapped businesses and unemployed workers (Furman, 2020; Gourinchas, 2020; Lazear, 2020). Singapore is no exception in employing such global practices; its monetary policy has been accommodative to stabilise financial markets and ensure sufficient liquidity for corporations and households (MAS, 2020).

Monetary policy alone cannot stimulate economic recovery during the pandemic. The larger burden for maintaining macroeconomic stability lies in fiscal policy (Guerrieri et al., 2020; Woodford, 2020). Given the nature of the COVID-19 shock that has affected aggregate demand and aggregate supply simultaneously, finding the optimal fiscal policy can be difficult (Altig et al., 2020; Eichenbaum et al., 2020; Guerrieri et al., 2020; Woodford, 2020). Standard aggregate demand stimulus in the presence of aggregate supply constraints (caused by government-imposed measures) is ineffective at raising output and, worse, may even be inflationary (Guerrieri et al., 2020; Woodford, 2020). Therefore, some economists argue that instead of boosting aggregate spending (i.e. stimulus measures), fiscal support should be directed toward retaining the economy's productive capacity and preventing further demand shortages because of widespread firm and household defaults (Furman, 2020; Guerrieri et al., 2020; Lazear, 2020). In line with this prescription, Singapore's fiscal policy has been focused on facilitating credit to the broader economy and incentivising firms (through the JSS) to retain workers. Moreover, financial support has also been targeted at specific sectors that experience negative output gaps, such as the tourism and retail sectors. This is in line with findings from Baqaee and Farhi (2020) that showed how the impact of the aggregate demand shock has significantly exceeded the aggregate supply shock in some sectors.

To ease the impact of the containment and lockdown measures as well as to trigger economic recovery, many governments have implemented various economic stimulus programmes (Lee et al., 2020). Within the Southeast Asian region, there are significant variations in the size of the announced economic stimulus programmes, both in terms of the share of GDP and per capita terms. Comparing stimulus size as a share of GDP, Singapore (28.6%) spent the most followed by Malaysia (26.1%) and Thailand (16.0%) (Table 9.2).<sup>4</sup> These countries have also implemented containment and lockdown measures for an extended period.

Cross-country variations are even starker if we compare stimulus size in per capita terms. Singapore stands out at US\$17,921 per capita stimulus package while countries in the second tier spent significantly less at US\$2,904 for Malaysia and

Table 9.2 Size of Economic Stimulus in ASEAN Countries

<i>Country</i>	<i>% of GDP in 2019</i>	<i>Package Per capita (US\$)</i>
Singapore	28.6	17,921.0
Malaysia	26.1	2,904.2
Thailand	16.0	1,207.8
Indonesia	10.9	426.2
Viet Nam	10.3	279.6
Cambodia	8.3	134.1
Philippines	7.1	240.5
Brunei	2.7	734.2
Lao PDR	0.2	4.2
Myanmar	0.1	1.8

Note: For a detailed explanation regarding the combination of measures that capture a nation's total COVID-19 policy response, see Felipe and Fullwiler (2020)

Source: ADB (2020), ADB COVID-19 Database. <https://covid19policy.adb.org/policy-measures> (accessed 21 March 2021)

US\$1,208 for Thailand (Table 9.2). It is worth noting that the actual speed of the fiscal stimulus rollout matters. For example, the Indonesian government spent only 72.3% of its Rp695.2 trillion (US\$47.8 billion) allocation for health and economic stimulus expenditures by the end of 2020 (COVID Taskforce, 2020).

Singapore is one of few countries in Asia that have provided comprehensive financial support to businesses and employees. Japan, Singapore, and Malaysia provided debt relief, income support, and support for their informal workers. Thailand provided debt relief and income support but not for informal workers. Meanwhile, Indonesia provided only income support (AMRO, 2021).

As mentioned earlier, Singapore's government unveiled the JSS to help employers keep their workers. The scheme provided compensation (i.e. a cash grants) for employers to pay their local employees from October to December 2019, and from February 2020 to March 2021. In addition, the government also provided an enterprise financing scheme for SMEs. The scheme offered working capital loans to SMEs of up to S\$1million, with the government covering 90% of the risk share. SMEs could also request deferment of principal repayment for one year (KPMG, 2020).

Singapore's government has put together four budgets to respond to the impact of the COVID-19 crisis. These budgets contain wage subsidies, tax rebates, and rent relief to support companies and workers, and help them survive. The first, called the 'unity budget', was unveiled in February 2020. This S\$4 billion package was designed to provide stabilisation measures and support packages for local businesses and workers. The second, called the 'resilience budget', was launched in March 2020, worth S\$48.4 billion. It provided support for households, helped workers stay employed, and offered support for businesses to stay afloat and prepare for economic recovery. It also gave support to specific sectors such as aviation, tourism, food services, land transport, and arts and culture sectors. When

circuit breaker measures started on 7 April 2020, the Government announced a third package called the ‘solidarity budget’ worth S\$5.1 billion. It aimed to cushion the impact of circuit breaker measures on the local workforce. Finally, as restrictions were progressively lifted starting on 2 June 2020, the Government announced a fourth package known as the ‘fortitude budget’ worth S\$33 billion. This Budget focused on creating jobs and building skills for workers, boosting transformation for enterprises, and strengthening resilience for the community.

As mentioned earlier, Singapore’s stimulus size as a percentage of GDP is very high compared to the regional average (Table 9.2). Adding the four COVID-19 response budgets to regular government spending, the total annual budget in 2020 was S\$193 billion, more than double the size of the 2019 annual budget (MOF, 2020). Due to uncertainties caused by the pandemic, the 2020 budget consisted of an additional S\$13 billion contingency fund<sup>5</sup>. Use of the fund requires approval from the president and the parliament.

A unique feature of Singapore’s COVID-19 response budget is its use of Past Reserves. Singapore has built its national reserves for years; the exact amount of its reserves is not known. Some portion of the reserves, which is invested by the MAS and Temasek, is open to the public but the amount invested by GIC, Singapore’s sovereign wealth fund, is not known. The reserves function as a buffer during a crisis. It supplements the national budget, which has been put under pressure due to the sharp decline in state revenue and the obligation to boost government spending to support the economy (Figure 9.6). Singapore’s government used its reserves to fund more than half of its COVID-19 response budget.

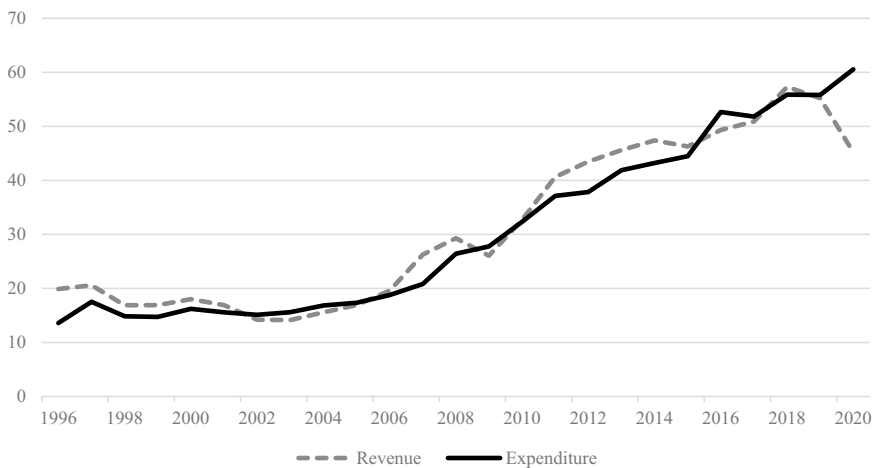


Figure 9.6 Government Revenue and Expenditure (US\$ billion)

Source: CEIC Database (2021)

Given the size of its past reserves, the government does not need to borrow to fund recurrent expenditure. The government perceives borrowing for recurrent spending as an unfair burden for future generations. As most of the debt burdens will be passed on to future generations, they will have to bear an increase in debt service repayment. Consequently, there will be less fiscal space for development funds, such as education, health, or infrastructure. Not many countries have access to huge reserve funds like Singapore. In fact, due to the pandemic crisis, many countries had to resort to borrowing to fund large stimulus packages. Such borrowing increases the risk of unsustainable debt financing, which will have serious long-term consequences for economies.

Going forward, Singapore's government projects that the post-pandemic economic outlook remains uncertain. Given the uncertainties and despite the current low-interest rates regime, Singapore chooses not to borrow for financing its COVID-19 response programmes. This does not mean Singapore's government does not have foreign debt. As of 2020, Singapore's national debt-to-GDP ratio was at 131.19% (tradingeconomics.com, 2021) according to the International Monetary Fund (IMF).<sup>6</sup> This makes Singapore the 6th largest debtor in the world in terms of debt-to-GDP percentage. IMF, however, based its figures on Singapore's gross national debt when, in fact, Singapore's net national debt (including its government's assets) outweighs its liabilities (MOF, 2019).

In Singapore, debt is used to generate long-term returns. The government issues debt securities to develop the domestic debt market. Borrowing proceeds are then invested and the debt servicing costs are covered through the investment returns.<sup>7</sup> Recently, the government has also been considering borrowing for major long-term infrastructure (Iwamoto, 2021). Long-term infrastructure requires substantial investments but when completed they benefit future generations. The cost of borrowing for such infrastructure developments can practically be spread across current and future generations. Borrowing for infrastructure development will avoid the need to sharply increase future taxes. Some examples of this type of borrowing for infrastructure investments are Changi Airport Terminal 1 and Singapore's first Mass Rapid Transit line.

In the 2021 budget, the government of Singapore continues to maintain an expansionary fiscal policy to support businesses and workers as well as to ensure sustainable economic recovery. Sector-specific support has been allocated. To support the aviation sector, for instance, the government allocated S\$870 million (US\$646 million), to be used amongst others, as cost relief to airlines, ground handlers and cargo business, and rental rebates for airline lounges and offices within Changi Airport (MOT, 2021). Likewise, the government provided S\$90 million to support the tourism sector. This will cover training for industry professionals and enhancing support for a pipeline of events and products. Additionally, the government allocated S\$320 million to grant tourism credits to Singaporeans to boost local spending for Singapore's eateries, shops, hotels and leisure attractions. Support through the JSS has been extended to 3 or 6 months in the 2021 budget for companies that remain heavily affected by the coronavirus pandemic (Lam, 2021).

## 5. Conclusions and policy recommendations

It is too early to tell whether or not the fight against COVID-19 will end soon. COVID-19 is a new virus that humans had never seen before; its nature is still relatively unknown to us. While research has accelerated, it will take some time for governments and the public to completely understand the virus and how to fully contain it. At the time of writing, some countries, including Singapore, have embarked on nationwide vaccination programmes. The administration of vaccines however does not mean an end is in sight. The efficacy and the rollout of vaccines have been uneven at best, with significant disparities amongst and within countries. Moreover, the emergence of new variants that are more contagious or resistant to vaccines adds new uncertainty to economic recovery prospects. As such, the risk of future waves of infections cannot be underestimated.

The COVID-19 pandemic and its implications for lives and livelihoods is one of many radical uncertainties facing modern society. Uncertainty stems from our incomplete knowledge about the world, our present actions, as well as future outcomes from our actions (Kay and King, 2020). Policymakers need to implement flexible policy choices in response to such uncertainties. Quick and extensive policy measures are best to minimise impacts on both human suffering and the economy (Furman, 2020).

Effective strategy to control local transmission of the coronavirus is one important factor that determines the speed of economic recovery. Many countries, including Singapore, have had to face a difficult trade-off between minimising the health risk of the pandemic and the worsening recession caused by various containment and control measures. One lesson learned is that early actions to restore public health are critical. Ignoring public health risks will lead to dire consequences and cause an enormous impact on the trajectory of the virus. As such, policymakers need to quickly understand the gravity of the situation and then implement extensive measures to flatten the infection curve, protect people's livelihood, and subsequently prepare the economy for recovery.

Arguably, what stands out about Singapore's response to the pandemic is its ability to balance between the need to minimise the impact of the virus on human health and to minimise the large-scale impact on people's livelihoods equitably. Singapore's government has effectively used digital technology to enhance mass communications, contact tracing, surveillance, and public service delivery, including telehealth, distance learning, and digital payments. For effective contact tracing measures, for instance, Singapore introduced TraceTogether, a Bluetooth-based contact tracing application, and SafeEntry, a national cloud-based digital visitor registration system that records an individual's identification and contact details when visiting public locations. These applications facilitate contact tracing and identification of COVID-19 clusters (Chee, 2021). The government also launched an online COVID-19 symptom checker together with telecare programmes at the primary care level.

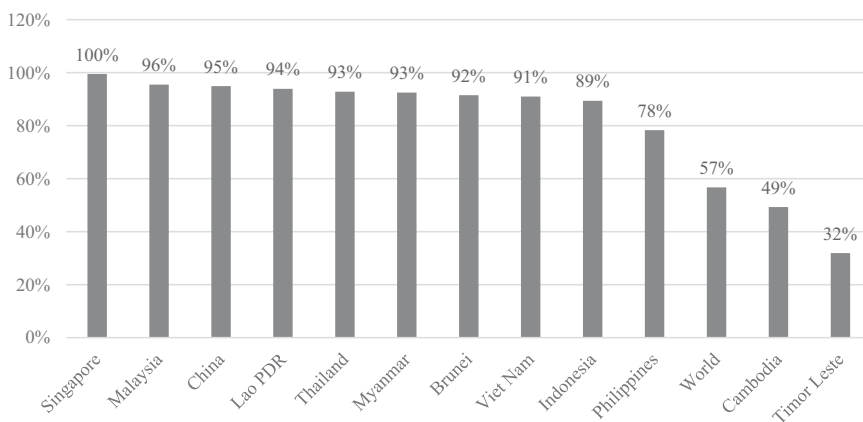
Those measures combined with an efficient healthcare system have proven to be important factors for quickly flattening the infection curve and keeping the

fatality rate low. It is important to note that Singapore's healthcare system does not rely on public spending. In per capita terms and as a percentage of GDP, its healthcare expenditure is the lowest of all the high-income countries globally at 4.5% of GDP compared to 12.5% amongst average OECD members (World Bank, 2021). Singapore's government uses market forces with government intervention to promote efficient and high-quality healthcare services (Ramesh and Bali, 2019).

While market forces determine the healthcare services in general, the government is authorised to intervene in some circumstances to correct or redirect the market. Singapore's government funds public hospitals and other care facilities and encourages the participation of private hospitals and clinics. It intervenes to prevent an oversupply of healthcare services, moderate demand, and create incentives to keep costs down. With such a market-calibrated approach, the population enjoys high-quality healthcare while public and total healthcare expenditure remains low.

Moreover, strong state capacity combined with efficient bureaucracy has been followed by strong public compliance. Those factors have helped Singapore to control the pandemic and to prepare for faster recovery (Figure 9.7).

Figure 9.7 shows that Singapore's COVID-19 recovery rate ranks the highest amongst key Southeast Asian countries, followed by Malaysia and China. The ability to control the pandemic and restore public health, in turn, determines the speed of a country's economic recovery. Based on IMF's projections, taking into consideration its ability to control the pandemic, Singapore's economy is expected to grow faster than other Southeast Asian economies after the COVID-19 crisis (IMF, 2021).



*Figure 9.7 COVID-19 Recovery Rate in Selected Countries*

Source: Centre for Strategic and International Studies (2021), *Southeast Asia COVID-19 Tracker*. [www.csis.org/programs/southeast-asia-program/southeast-asia-covid-19-tracker-0](http://www.csis.org/programs/southeast-asia-program/southeast-asia-covid-19-tracker-0) (accessed 21 March 2021)

The COVID-19 pandemic has simultaneously affected both aggregate supply and aggregate demand, thus posing challenges to a country's macroeconomic policy. In response to the pandemic-induced recession, many countries, including Singapore, have implemented accommodative monetary policy to ensure sufficient liquidity and maintain financial stability. At the same time, many governments have also deployed massive fiscal stimulus plans to help businesses, industries, and workers cope with the severity of the global economic recession in the short term. While many governments need to increase debt to finance their stimulus plans, Singapore uses its reserves to finance recurrent spending.

In the case of Singapore, support for businesses, in particular SMEs, has been quite effective in minimising the risk of bankruptcy and worsening unemployment. The JSS, particularly, has helped people keep their livelihoods, thus stabilising the unemployment rates. Nevertheless, given the wide-scale impact of the pandemic, it is important for policymakers to quickly deploy extensive support measures to allow businesses and individuals to have enough money to survive.

While COVID-19 has not been fully resolved yet, policymakers and other actors are now debating how to unwind policy support measures without putting economic recovery at risk. Premature withdrawal of policy support could potentially destabilise the economic recovery process (MAS, 2020). Governments should therefore think about balancing support measures with efforts to prepare workers and businesses to rebound and adapt to the new post-COVID-19 environment in which enormous technological innovations and structural changes in consumer behaviour and supply chains can be seen.

In the medium to long term, governments need to invest in the capabilities of workers and firms to adapt to a new environment to ensure a robust growth recovery. The twin goals of creating jobs and increasing capacity utilisation are crucial to economic recovery. Promoting supply-side policies would reduce the likelihood of a long-term loss of households and individual income.

The pandemic has revealed social and economic inequality in many countries, including Singapore. Gaps in healthcare systems that leave migrant workers vulnerable have been exposed. Wide digital gaps between different income groups, different age groups, and even between gender groups have become evident. Unless specific policies are implemented to mitigate the digital divide, inequality will only worsen.

COVID-19 has also exposed a new labour divide between those who can work from home and those who cannot. Most managerial, administrative, financial professionals, and those in the knowledge industry can continue working from home without suffering too much disruption. On the other hand, for construction workers, waiters, cleaners, cab drivers, and others, working from home means being out of a job. The financial impact of COVID-19 has been particularly devastating for low-income families, who struggle not just with economic poverty but multiple forms of insecurity as everyday life was disrupted in unforeseen ways. Recognising this situation, Singapore, like most governments, has poured billions of dollars in income support for these workers. These are necessary initiatives, but immediate monetary help can only do so much. A specific policy is needed

to alleviate the financial toll on low-income families and ensure better support for low-wage workers. Some policy recommendations include strengthening employment rights and social protection schemes for such workers, extending rent waivers for residents of public rental flats, and debt relief schemes (Chok, 2020).

Learning from Singapore's experience, we find that the government's efforts to mitigate the impact of the pandemic are only part of the equation. Key to Singapore's effective pandemic control is public awareness and trust in the government, which led to compliance with rules and restrictions on movement and public hygiene. Strong public compliance made efforts to control the spread of the coronavirus more effective.

Finally, for a small, open economy like Singapore, sustained economic recovery is also dependent on successful control of COVID-19 regionally and globally. Unfortunately, within the Association of Southeast Asian Nations (ASEAN) region, the rate of containment is mixed. Few ASEAN member states such as Singapore and Viet Nam have been able to contain the pandemic. Indonesia and the Philippines are still struggling to flatten their COVID infection curves. Meanwhile, Myanmar, Malaysia, and Thailand are dealing with new waves of infection. At the time of writing, a more infectious virus has triggered renewed lockdowns in major markets. Malaysia's second lockdown might have disrupted supply chains in the manufacturing and food sector. It also might have worsened foreign worker shortages (Rahman, 2021). Unless all these countries can bring the pandemic under control, the risk of trade and investment disruptions to Singapore cannot be underestimated.

## Notes

- 1 Disease Outbreak Response System Condition (DORSCON) is part of Singapore's pandemic preparedness plan. It provides up-to-date information on the disease situation and what has to be done. There are four statuses – green, yellow, orange, and red. Each level reflects the severity and spread of the disease. For each status, the government details how the community should prepare, measures to be taken in daily life (e.g., temperature screening, border measures), and advice to the public (e.g., to look out for travel advisories). For comparison, during the Severe Acute Respiratory Syndrome (SARS) outbreak, the DORSCON level was orange (i.e. the disease was severe and spread easily but was still contained).
- 2 Channel News Asia, 21 November 2020, [www.channelnewsasia.com/news/singapore/singapore-hong-kong-travel-bubble-covid-19-test-changi-airport-13608678](http://www.channelnewsasia.com/news/singapore/singapore-hong-kong-travel-bubble-covid-19-test-changi-airport-13608678).
- 3 Singapore is highly dependent on trade and capital flows. The country's total trade of goods and services is more than 300% of GDP and its domestic expenditure has a high import content. Therefore, the exchange rate has a much stronger influence on inflation than the interest rate.
- 4 The figures capture the financial positions taken by the central bank and the government in the course of their cumulative policy responses, e.g. lending to the private sector and state/local governments, contingent liabilities equity investments, foreign exchange intervention, lending in domestic markets in foreign currencies, lending domestic currencies to other central banks, and direct transfer of income. See Table 1 in Felipe and Fullwiler (2020: 4).

5 MOF (2020).

6 For comparison, Indonesia's debt to GDP ratio in 2020 was at 38.5% (IMF, 2021).

7 MOF (2019).

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# 10 COVID-19 in Viet Nam

*Duc Anh Dang*

## 1. Introduction

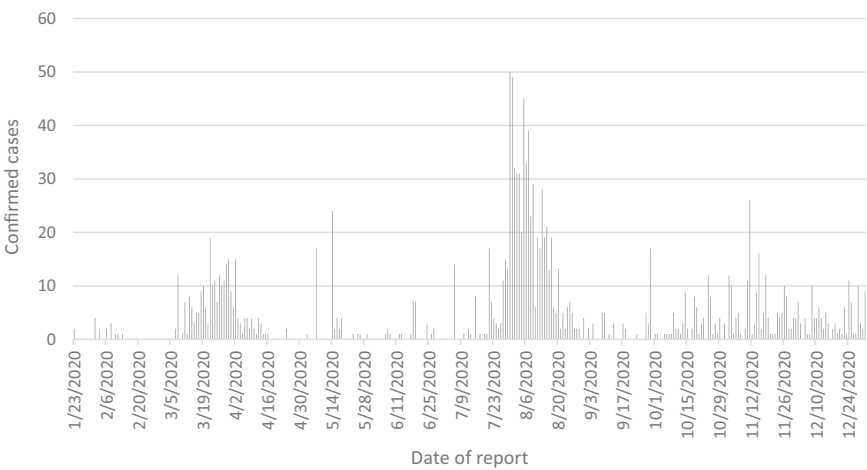
Viet Nam is one of the fastest growing countries recording an average economic growth of 5.7% in the last two decades. Following a sequence of economic reforms in the 2000s and a strong economic growth in 2019, Viet Nam began 2020 with high expectations for its economy in the following years. However, the outbreak of the COVID-19 pandemic forced Viet Nam, as well as other nations, to take unprecedented measures (such as border closures and limiting economic activities). These measures were necessary and have contributed significantly to Viet Nam's success in fighting the pandemic, but they have also had negative consequences for the economy. The government promptly enacted legislation to relieve difficulties faced by businesses and people. These initiatives were well received by businesses and individuals, who adapted to a new normal environment. However, debates have increased as to how to design the economic recovery programme, as well as the post-COVID-19 economic model in the long run.

This chapter aims to describe the response of the Vietnamese government in coping with the COVID-19 pandemic. It also identifies the impact of the COVID-19 pandemic on Viet Nam's economy and the main sources of resilience in both its domestic and external sectors. Who and what companies have been the hardest hit by the COVID-19 crisis? What macroeconomic policies have the authorities introduced to support the most distressed sectors and promote recovery? What lessons can be taken from the policies adopted in response to COVID-19?

The remainder of the chapter is structured as follows. Section 2 briefly describes the outbreak of COVID-19 in Viet Nam and the response of the Vietnamese government. Section 3 provides economic analyses of the impacts of COVID-19 on the Vietnamese economy. Section 4 discusses the policies and their effectiveness in mitigating the economic impacts of the pandemic. Section 5 mentions lessons learned, and section 6 concludes.

**2. The COVID-19 pandemic and the government’s response**

For a country with a long border with China, Viet Nam has been very cautious and responded immediately after the identification of COVID-19 in China. From the time that the first two COVID-19 cases were confirmed in Viet Nam in the second half of January 2020, the government started to put precautionary measures into effect by strengthening entry-screening measures and extending the Lunar New Year holiday for schools. When the number of cases climbed and had the potential to cause a further spread of the virus in Viet Nam, the country implemented a targeted 3-week quarantine and simultaneously developed its broader quarantine and isolation policy to control COVID-19. When the first wave of the epidemic started in early March (Figure 10.1), thanks to an imported case from the United Kingdom, the government realised it was critical to stop virus transmission as soon as possible to protect the country’s economy. In February, Viet Nam closed its borders and halted international flights from mainland China, gradually expanding this to the United Kingdom, Europe, the United States (US), and then the rest of the world in March – thus imposing a 14-day mandatory quarantine on all visitors, including Vietnamese nationals. This allowed authorities to keep track of imported COVID-19 cases and avoid further local transmission, which could have spread to the rest of the community. Testing, meals, and amenity services were provided by both the military and local governments to all quarantine facilities during this period. Although there was never a national lockdown, restrictive physical distancing measures were implemented throughout the country. People were advised to stay at home, non-essential businesses were asked to close, and public transportation was restricted



*Figure 10.1* Evolution of COVID-19 Confirmed Cases in Viet Nam

Abbreviations: COVID-19 = coronavirus disease

Source: Johns Hopkins University: COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) (accessed 3 May 2021)

on 1 April 2020 when the Prime Minister released a national two-week physical distancing order which was extended by a week in major cities and hotspots. Schools and companies were able to restart operations and people could return to their daily routines by early May, after 2 weeks without a locally reported case (Malhotra, 2020).

The government's policies shifted as the COVID-19 situation came under control in late April. Viet Nam gradually eased social distancing measures and entered a new normal period. The government established a dual goal of promoting production and business while preventing disease and ensuring that the pandemic did not recur. The government also proposed several scenarios in tandem with plans for an economic recovery following COVID-19 (ILO, 2020).

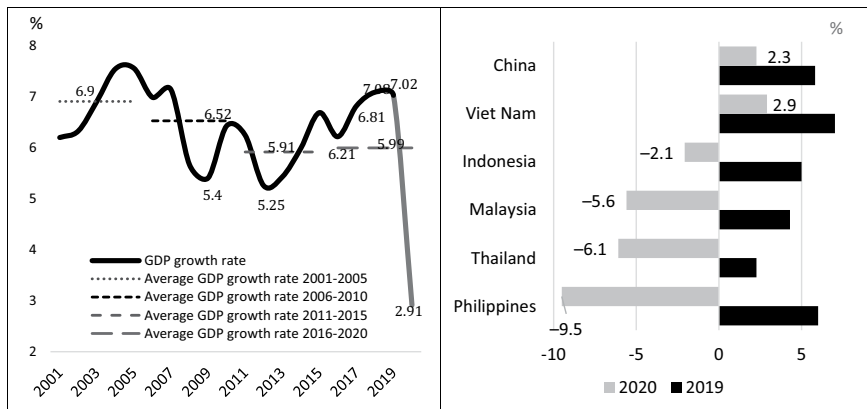
Viet Nam had gone more than 3 months without a new COVID-19 incident due to local transmission as of July 2020. When the Ministry of Health declared new cases in Da Nang, the country entered the second wave of infection. The city of Da Nang was immediately shut down for 15 days on 28 July. Hundreds of cases with epidemiological links to Da Nang were reported across the nation, with the first death occurring on 31 July. Viet Nam successfully controlled the disease for the second time within two months, using the same tactics as in the first outbreak, and resumed almost all economic activities. The cases in late 2020 were people who had been infected abroad and who were placed in government quarantine facilities after arriving in Viet Nam.

### **3. Economic analyses of the impacts of COVID-19 on the Vietnamese economy**

The COVID-19 pandemic is the largest reversal of global economic growth since the Great Depression in the 1930s. For Viet Nam, which has one of the world's most open economies, weak global demand, disruption to external trade in goods and services, and the imposition of social distancing measures have been the main channels through which the pandemic has influenced economic performance.

#### ***3.1 Economic growth***

COVID-19 interrupted the previous growth trend. Although the COVID-19 crisis did not have as severe an effect on Viet Nam's health as it did on many other countries, the actual evidence indicates that the COVID-19 crisis had a substantial impact on the economy. The gross domestic product (GDP) growth slowed dramatically from 3.68% in the first quarter (Q1) to 0.39% in Q2, 2.69% in Q3, and about 4.48% in Q4 (corresponding increases of 6.82%, 6.73%, 7.48%, and 6.97% in 2019) – taking the growth rate for 2020 to just 2.91%, the lowest number in the last decade. Figure 10.2 indicates that the upward trend in growth that had been in place since 2016 has been broken. The 2016–2020 growth goal has not been met; average GDP growth over this period is only around 5.99% (compared with the target of 6.5–7.0%).



*Figure 10.2* Economic Growth of Viet Nam and Other Regional Countries

Source: General Statistics Office of Vietnam (2020) and IMF *World Economic Outlook* (2021b)

In terms of its ability to sustain growth, however, Viet Nam is regarded as the region's most resilient economy. Figure 10.2 shows that most countries in the region have negative growth rates, except Viet Nam and China. Viet Nam is capable of a quicker economic recovery than the rest of the region, by striking a balance between sustaining economic activities and managing the spread of the disease. The resilience of the domestic economy could be explained by the rapid management of the health crisis, which allowed the authorities to ease most mobility restrictions. As a consequence, economic activities, especially in the manufacturing and services sectors, have rebounded. For example, manufacturing production – the main driver of economic growth over the past decade – increased by 8.6% in Q4 2020 compared with 3.4% in Q2 2020. Further, the rate of services was 4.3% in Q4 2020 compared with –1.93% in Q2 2020. Compared with other Association of Southeast Asian Nations (ASEAN) Member States, the industry and construction sectors in Viet Nam have contributed about 33.7%, much higher than the ratios in other countries such as Singapore, Thailand, and Malaysia. As mobility restrictions hurt the services sector the hardest, the Vietnamese economy could be more resilient and recover quicker than other countries in the region.

Figure 10.3 shows that the agriculture sector seems to be less affected by the pandemic than other sectors. It continued to develop at a rate of 2.6% (higher than the rate of 2% in 2019), contributing 13.5% to the overall growth rate of the whole economy. This increase resulted from higher production of perennial crops, major livestock products, and aquaculture such as shrimp processing (GSO, 2020). However, the growth slowed significantly in the construction and industry (from 8.9% in 2019 to 3.9% in 2020) and services (from 7.3% to 2.3% in 2020) sectors.

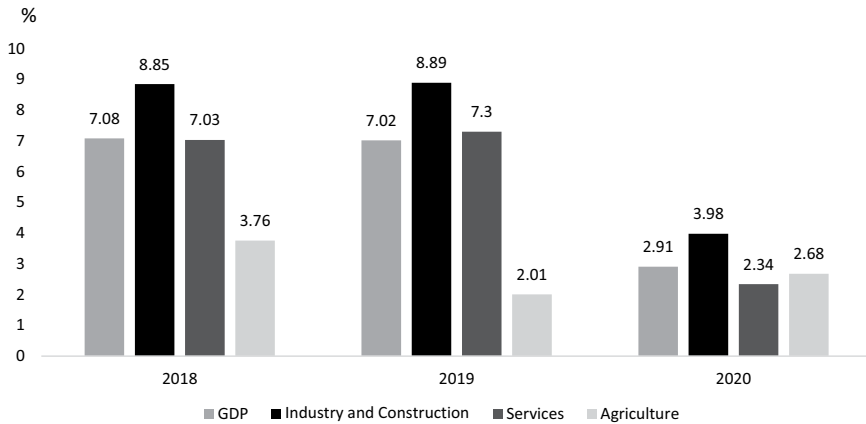


Figure 10.3 Growth Rates of Main Sectors

Source: General Statistics Office of Vietnam (2020)

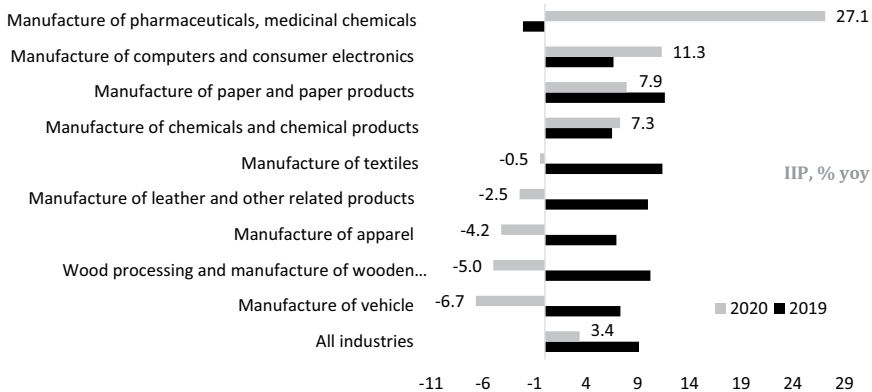


Figure 10.4 Growth Rates of Selected Manufacturing Industries

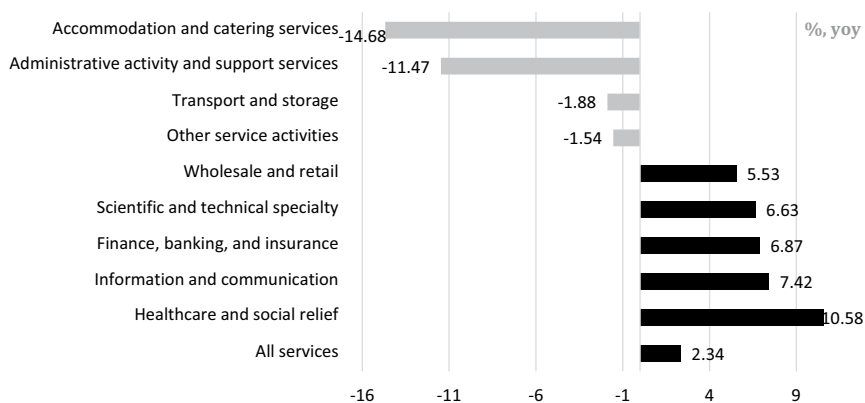
Abbreviations: IIP: Index of industrial production; YoY = year on year

Source: General Statistics Office of Vietnam (2020)

Supply chain disruptions and a drop in market demand caused the processing and manufacturing sectors to suffer. Figure 10.4 shows how the apparel, as well as the leather and footwear industries, have been severely impacted by the disruption in raw material supply and a sharp drop in demand – resulting in a significant drop in exports, especially in many major markets such as the US, the European Union (EU), Japan, the Republic of Korea (henceforth, Korea), and ASEAN. According to the General Statistics Office of Vietnam, the outbreak has affected 89% of leather and related products manufacturing businesses. Some 53.9% of

companies have lower inputs, 54.7% have trouble with domestic consumption, and 85.1% of exporting businesses have decreased due to lower orders and distribution problems. In March 2020, 70% of garment manufacturers started reducing shifts and rotating workers, with an additional 10% following in April or May. By June 2020, the loss to the industry was estimated at \$508 million (Nguyen and Le, 2020). Similarly, as exports are limited and domestic demand grows slowly, the crude oil extraction industry faces numerous challenges. The steel industry's production output fell by 9.1% (year on year), while demand fell by 10.7%, owing primarily to the effects of the epidemic, which restricted exports and activity in the construction industry (NCIF, 2020). The Vietnam Chamber of Commerce and Industry (VCCI) and the World Bank (VCCI and World Bank, 2021) also showed that COVID-19 affects domestic private firms mostly in the textile and garment industry, rubber, plastic, and motor vehicles. For foreign direct investment (FDI) enterprises, manufacturers of wood products, furniture, leather, and textiles report the largest cumulative impact.

The pandemic has wreaked havoc on the services sector. Figure 10.5 shows that accommodation and catering services have been hit the hardest, mainly due to social distancing and border closures that affected both domestic and foreign tourism. When domestic tourism showed signs of recovery in May and June but started to slow as the second wave of the pandemic broke out in July, the number of foreign tourists fell by 78.7% in 2020. Nearly 90% of travel-related companies had to close their activities. As compared to the previous year, tourism revenue fell by around 56% (in 2019, it increased by 10%). When visitors cancel trips and visiting sites must be closed for safety reasons, the stimulus programme for domestic tourism is difficult to enforce. In 2020, 91.9% of surveyed air transportation companies reported that the epidemic had harmed their business; 38.1% of businesses had to lay off workers and 80.9% had to reduce sales (NCIF, 2020).



*Figure 10.5* Growth Rate of Selected Service Industries in 2020

Abbreviations: YoY = year on year

Source: General Statistics Office of Vietnam (2020)

While most industries suffered negative effects, the information and communication industry benefited in the context of limited physical contact. With 68.17 million internet users and 145.8 million mobile phone connections (as of January 2020) (Vnetwork, 2020), many community support services were quickly deployed. Technology resources to facilitate working from home, online learning, and door-to-door delivery have expanded significantly in light of the epidemic. Market behaviour has shifted from conventional shopping outlets to e-commerce sites as a result of the epidemic. The use of digital financial services such as internet banking, e-wallets, and mobile money has also increased dramatically, putting Viet Nam amongst the top three countries in Southeast Asia for e-commerce growth (Le and Nguyen, 2021).

### 3.2 *Foreign investment*

Due to the negative effects of the COVID-19 pandemic, FDI inflows to Viet Nam decreased, but the fall was still less than the global and regional declines. The total registered FDI in 2020 was \$28.53 billion, down 25% from 2019. Disbursed capital was \$19.98 billion, down 2% from 2019, compared with a 30–40% drop in global FDI inflows and a decline of up to 45% to Asia's developing countries (UNCTAD, 2020a, 2020b).

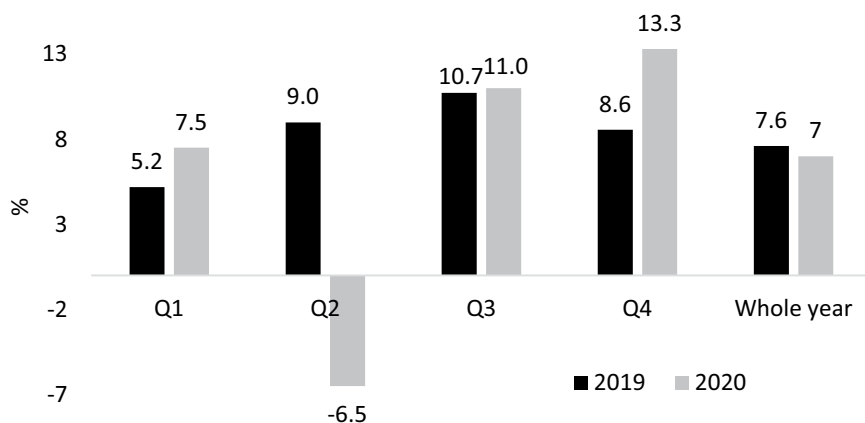
However, COVID-19 is a catalyst for higher FDI inflows to Viet Nam in light of the current trade war between the US and China. Since 2018, trade tensions between the US and China, as well as a global trend of protectionism, have resulted in a fall in global investment capital flows (over 10% in 2018 and 2019), as well as a dramatic change between regions and countries. As a result of this trend, ASEAN Member States, including Viet Nam, are emerging as potential destinations for capital reallocation, especially from China. China-originated FDI capital rose 17% in 2020, outpacing the overall rise of 7.2% in 2019 and ranking first amongst Viet Nam's major investment partners. The COVID-19 pandemic accelerated the trend of shifting some production to a new, more secure investment location in 2020, reducing the effect of production and supply chain disruptions. Many companies announced plans to relocate their assets to Viet Nam in 2020. According to *Nikkei Asia* (Ting-Fang and Li, 2020), Google plans to produce cheap smartphones (Pixel 4a) in Viet Nam while Microsoft plans to produce notebooks and desktop computers. Apple will also produce three to four million units of wireless headphones (AirPods), equivalent to 30% of AirPods, in Viet Nam instead of China. The Nintendo electronic game company also transferred part of the production of Switch Lite game consoles to Viet Nam (NCIF, 2020).

Viet Nam has been able to maintain its position as an attractive destination for China-originated FDI in Southeast Asia even during the pandemic because of several reasons. To begin with, Viet Nam has been profoundly and widely integrated into the global economy by signing trade agreements with major countries and regions around the world, including the Comprehensive and Progressive Agreement for Trans-Pacific Partnership and the EU – Vietnam Free Trade Agreement.

These agreements will open up a larger export market for all parties involved, including foreign investors. Second, Viet Nam is a large market with political stability, as well as one of the world's most promising pandemic containment countries. With a population of nearly 100 million people and a rapid increase in the middle-income class, tapping into Viet Nam's domestic market is also a viable business and investment strategy. When foreign countries are tightening trade conditions as a result of political shifts and the impact of epidemics, foreign investors can take advantage of the broad domestic market to offset the negative external effects. Third, a young and skillful labor force and cheap labor costs are considered to be competitive in the region. Lastly, because of its strategic position near China, the value chain disruptions caused by the pandemic may induce multinationals and even Chinese investors to accelerate their reallocation of production activities from China to Viet Nam in order to diversify risks.

### 3.3 *Foreign trade*

Despite the global impact of COVID-19, merchandise exports continued to rise at a positive rate. Exports of goods plummeted in Q2 2020 (a decrease of 6.5% from the same period in 2019) (Figure 10.6), as many countries implemented measures to prevent COVID-19 epidemics (social distancing and border closures) and demand was weak in importing countries. At the same time, domestic production underwent difficulties due to supply disruptions. However, beginning in Q3 2020, merchandise exports started to rise sharply – by 11.1% – equivalent to the growth rate in Q3 2019 (10.72%). In Q4 2020, exports continued to maintain a strong momentum, with an increase of 13.3% over the same period. For the whole year of 2020, the export growth rate increased by 7%. This is seen



*Figure 10.6* Growth of Merchandise Exports

Abbreviations: Q = quarter

Source: General Statistics Office of Vietnam (2020)

as an impressive result for Vietnamese exports in the context of the complicated COVID-19 pandemic, and the associated travel and mobility restrictions applied by many countries.

The impressive export growth resulted from a substantial growth in the US and China markets, despite low levels in most other markets. Although the COVID-19 epidemic was complicated and seriously affected the trade activities of many countries around the world, the structure of Viet Nam's export and import markets did not change significantly. However, the COVID-19 pandemic has different effects on import and export turnover in each market. As can be seen in Figure 10.7, exports of goods to the US and China increased sharply (24.5% and 17.0%, respectively). The significant increase in Vietnamese exports to the US could be due to disruptions to production caused by trade tensions between the US and China and social distancing in the US market, and its expansion of monetary and fiscal policies, which led to higher demand for imported consumer goods. This rise compensated for exports to other markets such as ASEAN and the EU, which decreased sharply (8.7% and 2.7%, respectively).

The rapid rise in FDI from Hong Kong and China has also resulted in a major increase in exports to the US. One example is the production and export of wood and wood products. In 2019, there were 99 new FDI projects in the wood industry, a 48% increase over 2018, with the total registered capital for new

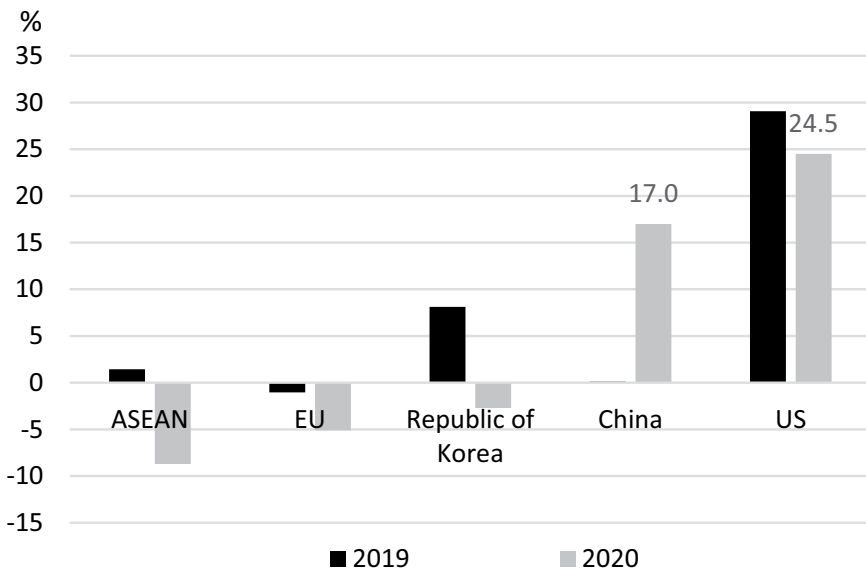
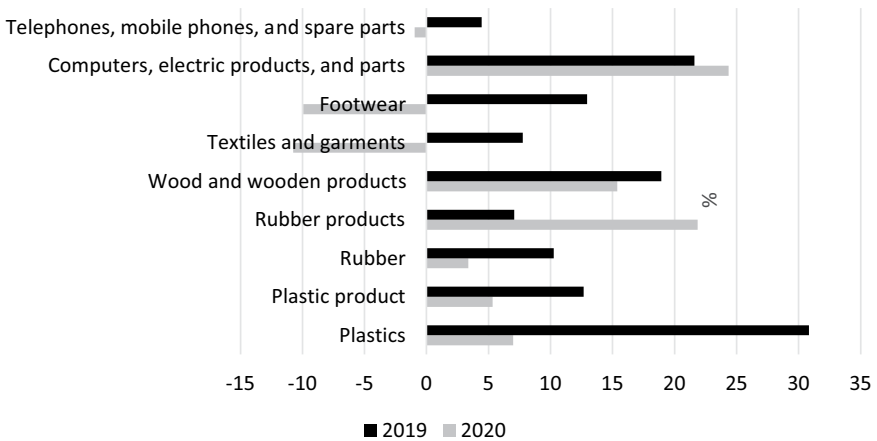


Figure 10.7 Growth Rate of Commodity Exports in Major Markets

Abbreviations: ASEAN = Association of Southeast Asian Nations, EU = European Union, US = United States

Source: General Statistics Office of Vietnam (2020)



*Figure 10.8* Growth Rate of Selected Merchandise Exports (%)

Source: General Statistics Office of Vietnam (2021)

projects exceeding \$726 million – an increase of nearly 170% from 2018. Of this, the number of Chinese FDI projects increased by 2.3 times and the number of Hong Kong FDI projects increased by 2.5 times. The number of projects and total registered capital from China, Korea, Taiwan, and Hong Kong accounted for more than 80% of the new FDI projects in the wood industry in 2019 (NCIF, 2020). Most projects focused on the wood processing industry and the production of artificial wood planks, which have been exported to several markets, especially the US. In 2020, exports of wood and wood products increased by 15.4% (Figure 10.8), of which exports to the US increased by 34.3% (Vietnam Customs, n.d.).

On the import side, most of the major imported goods have decreased, except computers, electronic products, and components. The overall trade balance therefore saw a record surplus of \$19.1 billion in 2020. However, the high trade surplus mainly due to the low rise in imports once again showed that domestic production was significantly affected by the impact of COVID-19. With materials and the machinery of production comprising 93% of the import structure, the halving of import growth partly reflects the difficulties in different aspects of domestic production and business such as (i) domestic production lacking raw materials due to interrupted supply chains, and (ii) many businesses being forced to narrow or suspend their production due to low market demand (NCIF, 2020).

The FDI sector still contributed mainly to export growth and the trade surplus. Although the exports of the FDI sector faced many difficulties due to the decline in the global economy and the low exports of large FDI enterprises such as Samsung, this sector continues to maintain export growth and a larger trade surplus than the domestic sector. The export turnover of the FDI sector reached \$203.3 billion in 2020, up 9.7% from 2019, accounting for 72.2% of the country's total export turnover. The exports of the domestic sector reached

\$78.2 billion, down 1.1% from 2019, accounting for 27.8% of the country's total import and export turnover. The FDI sector's trade surplus continued to compensate for the domestic sector deficit.

### 3.4 Employment

The widespread drop in economic activity had a massive effect on the Vietnamese labour market. The government's containment policies had a direct impact on millions of jobs. The widespread quarantine policy in April 2020 resulted in the closure of many companies of all sizes and industries. The number of workers in non-essential industries saw a drastic drop as workplaces were closed as a result of social distancing. Factories serving the domestic market reduced employees' working hours, lowered wages or suspended production, and let workers go. According to the General Statistics Office, COVID-19 affected 32.1 million people aged 15 and above in 2020, through unemployment, staggered working hours, wage loss, and shortened working hours, amongst other things (ILO, 2020). The worst affected industries were services, where more than 70% of workers were affected, followed by manufacturing and construction, where around two-thirds of workers were affected. Low-skilled workers and those working in the informal economy, which has minimal social security protection, were hit the hardest (IMF, 2021a). In Q4 2020, the Vietnamese labour market showed signs of improvement, but participation, jobs, and work quality were still far below pre-COVID levels (ILO, 2021).

Figure 10.9 shows that the number of employed workers declined by more than 2 million people in Q2 2020, the largest drop in the last 10 years. Female workers were most severely affected. Already before the COVID-19 crisis, women were more likely than men to be classified as unpaid family workers and receive lower wages when employed outside the home. The economic shock has

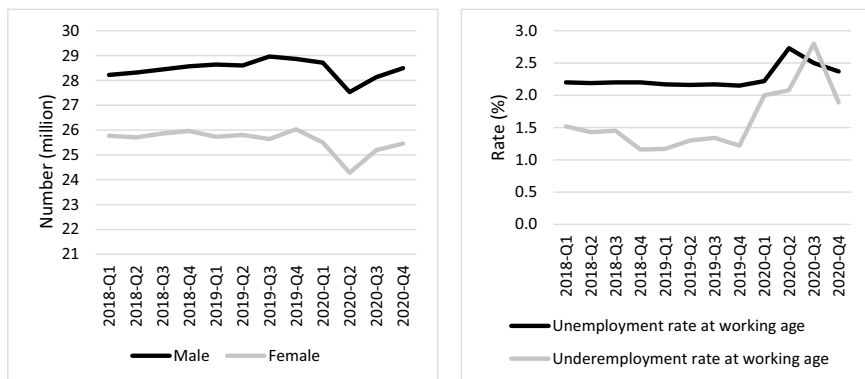


Figure 10.9 Employment and Unemployment Rates

Source: General Statistics Office of Vietnam (2020)

exacerbated these disparities (ILO, 2020). Dang and Nguyen (2020) found that the pandemic increased the unemployment rate and the temporary layoff rate, and decreased the quality of employment (such as having a wage job, or a job with a labour contract and social insurance). It also decreased the number of hours worked by employees, as well as their monthly earnings and salaries.

The COVID-19 pandemic has also increased the rate of labour underemployment, defined as the ratio of workers needing but not obtaining employment to the total labour force, as indicated in Figure 10.9. Young people under the age of 34 made up the largest community of job seekers. The unemployment rate amongst the urban, working-age population was 4.46% in 2020 – the highest figure in the last 10 years and 1.36 percentage points higher than in the same period of 2019. Nearly half of the underemployed, working-age people were in the agriculture, forestry, and fishery sectors. The underemployment rate in this sector was 5% or 2.2 times higher than in the industry and construction sector, and 2.4 times higher than in the services sector (UN, 2020).

Amongst domestic private enterprises, micro and small enterprises were the most likely to shed workers during the pandemic, with about 35% of firms having laid off staff. In the FDI sector, labour redundancies were observed in both medium-sized (26%) and large enterprises (32%), with significantly higher layoff rates than micro and small enterprises (VCCI and World Bank, 2021).

### ***3.5 Poverty and inequality***

More than half of the country's employees have seen a decrease in their earnings. Earnings fell in the services sector, which includes the arts, entertainment, and leisure subsector (down 19.2%); lodging and catering (down 18.3%); transportation and storage (down 12.8%); and wholesale and retail trade (down 9.1%). In comparison to 2019, the average monthly incomes of employees were down 17.3%, while self-employed workers' earnings fell 7.6%. Workers with higher education levels were more likely to retain their previous earnings. The average monthly income of employees with university degrees increased by 0.5%, while the incomes of employees with primary school qualifications fell by 8% (UN, 2020).

COVID-19 resulted in a dramatic drop in income for poor households and workers, resulting in a rise in transient income poverty and a deepening of poverty. Although the pandemic reduced wages and thus increased transient income poverty amongst all surveyed household groups, ethnic minority households and informal and migrant worker households were disproportionately affected. COVID-19 disproportionately impacted households as well as informal and migrant worker households, resulting in significant income declines relative to pre-pandemic levels.

## **4. Policies to mitigate economic impacts of the pandemic**

Since the start of the COVID-19 pandemic, the government has set out seven groups of measures and tasks (as indicated in Directive No. 11/CT-TTg dated 4 March 2020) to support enterprises and dismissed workers who were severely

affected by the pandemic and in economic difficulty – aiming to address difficulties for business and production activities and to ensure social security. Upon implementing these measures, relevant ministries and line ministries initiated specific measures such as lowering interest rates, debt restructuring, preferential programmes, and deferral and rescheduling of tax payments and land rental.<sup>1</sup>

#### 4.1 Fiscal responses

Since the government was in a sound fiscal position before the outbreak of COVID-19, it allowed the government to adopt an expansionary fiscal policy to respond to the crisis (Leung, 2020). Its fiscal policy was prudent, as the public debt – GDP ratio was reduced from 63.7% in 2016 to 55.1% in 2019 – well below the legal threshold of 65% set by the National Assembly. At the same time, the budget deficit was reduced from 6.28% in 2015 to 3.36% in 2019 (Figure 10.10). Because of the lengthening of maturities and a rebalancing towards more domestic debt, not only was the debt burden reduced but so was the debt service. Furthermore, from 2016 to 2019, the authorities had accumulated a sizeable cash surplus by underspending on the public investment programme. Although the government's low execution of public capital expenditures was partly due to administrative bottlenecks accompanying the implementation of the new Public Investment Law in 2014, it allowed it to maintain fiscal space that proved crucial during the crisis. Finally, the fiscal rule to set aside 5% of the approved national budget for contingency risks offered an additional cushion to deal with the unexpected COVID-19 shock (Morisset et al., 2020).

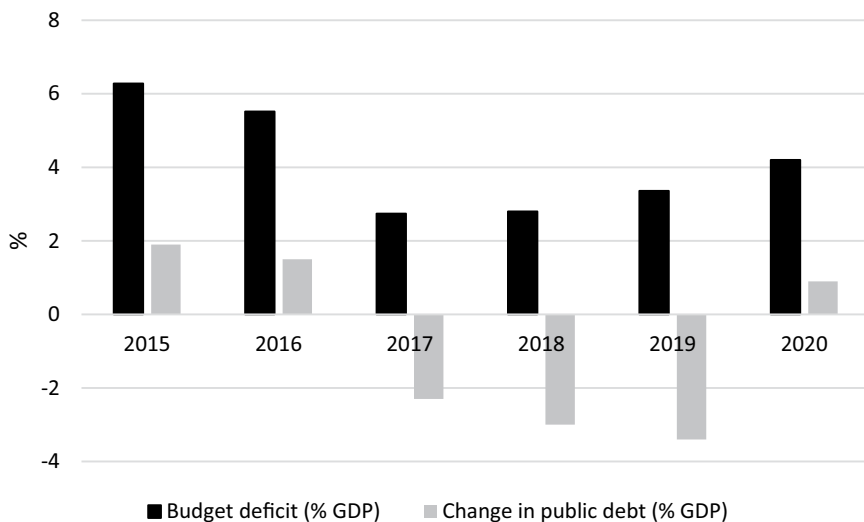


Figure 10.10 Budget Deficit and Change in Public Debt (as % of GDP)

Source: Ministry of Finance of Vietnam (2021)

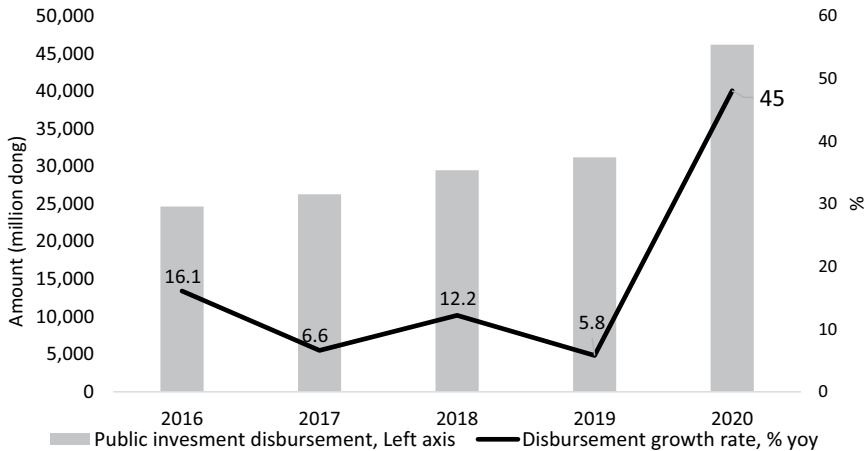
When faced with the COVID-19 crisis, and with these buffers in place, the government's response was to provide a fiscal package of 4.1% of GDP – comprising tax, land fees, and social insurance contribution deferrals for eligible firms, including small and medium-sized enterprises (SMEs) and self-employed businesses (IMF, 2021a). This package aimed to assist individuals, families, and businesses in overcoming the crisis. In that respect, the fiscal policy measures combined tax relief and financial assistance measures to support businesses and the most vulnerable.

On the revenue side, the authorities announced tax payment and social insurance deferrals to allow businesses to keep more cash on hand. On the expenditure side, the government provided workers and low-income families with direct financial assistance. The detailed financial support to vulnerable people and small firms in difficult circumstances is as follows:

- 1 A payment of D1,800,000 (about \$70) per month to employees who had to agree to their employers suspending their contracts or to taking unpaid leave for one month or more (where the employers do not have sources of income to pay salaries due to the COVID-19 pandemic). The support period is determined by the length of the contract suspension or the amount of unpaid leave taken, but may not exceed three months.
- 2 A payment of D1,000,000 (about \$43) per month to employees whose labour contracts are terminated and who are not eligible for unemployment insurance, and employees working without a labour contract who lose their jobs. Support will be given for a maximum of three months.
- 3 Extending the payment deadline for taxes and land rent fees. Enterprises, organisations, households, and individuals doing business in several economic sectors were allowed to extend the tax payment deadline and land rent for 6 months; extend the deadline for corporate income tax payment to five months; and the value-added and personal income taxes of business households and individuals were extended until 31 December 2020. There was a 30% reduction in the environmental protection tax on flying fuel, a 50% reduction in registration fees, and an extension of the special consumption tax for domestically manufactured or assembled cars until the end of 2020.
- 4 A 30% reduction in the corporate income tax of businesses with revenue up to D200 billion.

The second measure – to use public investment as the main driving force of GDP growth in the context of the COVID-19 pandemic – strongly impacted private sector investment. To limit the downward trend of economic growth, the government's main instrument has been speedier implementation of the public investment programme, which has been plagued by slow disbursement in the last few years. As a result, total public investment disbursements increased by 45%, which is much higher than the rates of previous years (Figure 10.11).

With higher rates of disbursement, public investment had a direct and indirect effect on Viet Nam's economic growth. First, the increase in public investment



*Figure 10.11* Public Investment Disbursement

Abbreviations: YoY = year on year

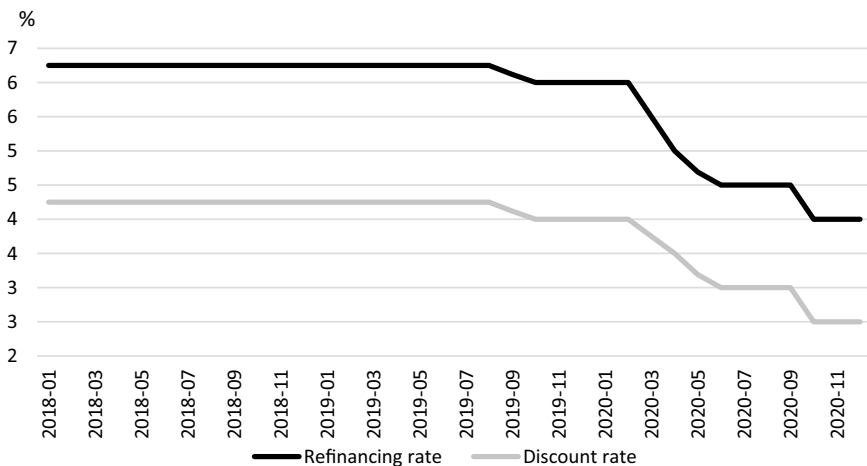
Source: Ministry of Finance of Vietnam (2021)

compensated directly for the decline in private sector investment and FDI due to COVID-19; and indirectly creates basic infrastructure, especially transportation, for long-term growth. The second goal was to help the economy recover by bolstering domestic demand. This has become the top priority for Vietnamese regulators, who, like their Chinese counterparts, have prioritised reactivating manufacturing facilities. Such initiatives, mainly by the central government, have resulted in an increase in investment expenditures from planned 4.8% of GDP to 6.5% of GDP in 2020, thus supporting aggregate demand through multiplier effects on suppliers and employment (NCIF, 2020).

## 4.2 Monetary responses

A series of monetary policies was implemented, including (i) lowering interest rates, (ii) restructuring loan terms, and exempting/reducing loan interest, (iii) prioritising lending to five economic sectors and accelerating consumer lending to meet the needs of individuals and households, and (iv) providing interest-free concessional loans from the Vietnam Bank for Social Policies to affected businesses to pay salaries for workers who were temporarily suspended.

To help the economy recover from the impact of the COVID-19 pandemic, the State Bank of Vietnam cut policy rates three times in 2020 (Figure 10.12) and injected liquidity into the banking system (IMF, 2021a). At the same time, to support credit institutions to reduce lending interest rates for businesses, the State Bank reduced by 0.85–1.00% the ceiling interest rate for deposits under six months, reducing the ceiling interest rate by 1.5% for short-term loans for



*Figure 10.12* Main Policy Rates

Source: State Bank of Vietnam (2021)

priority sectors. Regarding credit, the State Bank has allowed credit institutions to restructure debt repayment terms, interest exemption, and freeze loan classification, creating the conditions for customers to continue new borrowings. Employers facing financial difficulties that paid at least 50% of salaries in advance to their employees during their suspension of work for the period from April to June 2020 were given collateral-free, interest-free loans by the Vietnam Bank for Social Policies. The loans were equivalent to a maximum of 50% of the minimum regional wages applicable to each employee based on the actual time of salary payment, but not exceeding three months. The maximum term of the loans is 12 months (Kien, 2020).<sup>2</sup> In general, firms – especially SMEs, which have been hit the hardest – entered the crisis with relatively poor balance sheets. COVID-19 has worsened their liquidity and solvency positions, creating concerns about financial stability due to bank exposures. The debt restructuring and interest reduction, therefore, have helped to reduce the actual risk of an increase in corporate defaults and mass layoffs (Dabla-Norris and Zhang, 2021).

### *4.3 Evaluation of policy effectiveness*

The response policies are considered to be consistent with practices, fiscal capacity, and the ability to maintain macroeconomic stability. The prompt supporting policies help to preserve economic growth at an acceptable level. They also keep Viet Nam's balance of payments, budget deficit, and the financial sector – major transmission channels of external shocks to the domestic economy – relatively

positive. However, the scale and effectiveness of those support measures need to be improved.

By international and regional standards, the fiscal package was small in size – two to three times less than Thailand, Malaysia, or China – but it was ambitious in scope, promising to help over 20 million citizens (Morisset et al., 2020). The package of tax deferrals and reduction in charges has been well received by businesses, followed by the policy of interest/bank fee exemption and reduction, and the policy of reforming administrative processes and lowering business costs. However, most of the tax relief measures were temporary, as they were mainly deferrals of payments rather than permanent reductions. This may explain why many businesses chose to opt out of the package since they would have to pay their tax obligations just a few months later (NCIF, 2020).

In comparison to other countries in the region, the proportion of enterprises receiving support, especially small-scale enterprises, was very low. Only about 17.9% of the nearly 151,000 businesses surveyed in September 2020 received the government assistance package. Micro companies received less funding than other forms of businesses (NCIF, 2020). Similar to the survey results of the General Statistics Office, the United Nations Industrial Development Organization (UNIDO) report in July 2020 on the economic impact of the COVID-19 epidemic based on survey data on 1,000 enterprises in seven Asian countries from April to June 2020 showed that only 5% of Vietnamese small enterprises participating in the survey received support from the government; this figure was 13% for medium-sized enterprises and 10% for large enterprises. UNIDO argued that SMEs which received less support were of great concern, as SMEs are often less likely to have access to finance than large firms (UN, 2020). The three main reasons why most businesses did not receive support were (i) not meeting the requirements, (ii) not knowing about the policy, and (iii) difficult procedures. This shows that policy dissemination was not comprehensive, requirements were not suitable, and processes and procedures were complicated and impractical (NCIF, 2020).

Monetary policies that lowered interest rates, increased liquidity, and encouraged banks to lend to troubled businesses generally had a positive effect on reducing the cost of lending to businesses and encouraging the private sector to invest. However, in the context of declining demand and low private investment, the effectiveness of monetary policy has been limited. Furthermore, there were several defects in the implementation of support packages. The loan package worth D16,000 billion (nearly \$700 million) for salary support has not been disbursed because the terms were unsuitable, including complex and lengthy processes and procedures that have bothered many companies. After 5 months of implementation, only one company was able to secure a D16,000 billion credit package. Besides, the restructuring of debt repayment terms could create a risk of high non-performing rates in the future.

The social assistance programme – topping up existing social programmes and supporting new vulnerable groups – was estimated at about 1% of GDP. However, the new programmes supporting new groups were not easy to implement,

as the country lacks a basic social database to identify who is poor and working in the informal sector and how to transfer cash to them. After three months of implementation, only 12% of the package had been disbursed. This disbursement rate is considered to be low and ineffective as most workers have not received support. Just 10% of households applied for the COVID-19 relief programmes, according to a World Bank survey conducted in August 2020, and only one out of every 10 households that applied received any money from the government (13% of households in urban areas received relief compared with 10% of households in rural areas). The relief package was distributed fairly evenly across the income distribution, indicating that disadvantaged families were not generally prioritised in seeking assistance. The government later adjusted its support and enforcement policies to improve aid effectiveness. The new resolution in October 2020 expanded the beneficiaries of the support, but the disbursement of the support package remained complicated until the end of 2020, so to a certain extent, the effectiveness of the support policy has not been as expected.

## **5. Lessons learned**

In the face of the COVID-19 pandemic, Viet Nam has shown versatile and effective policy responses involving the entire political – social system. The macro-economic policy responses to some extent proved their effectiveness. Viet Nam's experience in dealing with COVID-19 will serve as an example to other countries battling the pandemic, as well as highlight key lessons that can be used to help the economy recover.

The first takeaway is that the best way to deal with an external shock is to plan ahead of time and respond quickly and boldly. Viet Nam's health sector was arguably prepared to face the pandemic, based on experience, as its preparedness level was above that of its peers and close to levels found in most upper middle-income economies at the end of 2019 (Morisset et al., 2020). For example, from 2004 to 2010, the country experienced the serious acute respiratory syndrome (SARS) epidemic and human cases of avian influenza. Following the SARS outbreak, Viet Nam expanded its public health infrastructure investments, establishing a national public health emergency operations center and a national public health surveillance system (WHO, 2017). As a result, Viet Nam had the experience and infrastructure to react appropriately. Many important containment decisions are made in days in Viet Nam, while other countries' governments may take weeks (Pollack et al., 2021). At the same time, the government responded rapidly and decisively at the start of the crisis, closing schools and borders, and implemented suitable policies of vigorous contact tracing, targeted testing, and isolation of suspected cases (IMF, 2021a).

The second lesson is to boost the trust of people and businesses in the fight against the pandemic, especially in policy responses, to achieve the dual goal of pandemic containment and economic recovery. Information on the COVID-19 pandemic, scenarios, and government policy interventions was disseminated in an open, diverse, and timely manner, followed by widespread policy consultation.

Viet Nam was credited with turning the tide of public mistrust into firm confidence by handling the pandemic transparently and effectively.

The authorities were able to mobilise the necessary financial and human resources, which is the third lesson. They were able to rapidly mobilise internal resources to combat the pandemic thanks to massive cash reserves and contingency funds set aside each year from the national budget. These funds were used to fund the consolidation of the health response as well as the fiscal package that was put in place to protect the most vulnerable individuals and businesses. An increasing portion of these reserves is being used to finance the rapid implementation of the public investment programme, which has emerged as the primary policy tool for boosting Viet Nam's recovery. During the crisis, the government took two approaches to increase human resources. First, it achieved economies of scale by clustering medical professionals in a few hotspots, effectively compensating for the country's scarcity of experts. Second, the authorities mobilised help from all over the society, including the military. Soldiers were encouraged to work as civil servants and to assist in the supervision of those returning from quarantine areas (Morisset et al., 2020).

The fourth lesson is that response policies need to be consistent with actual developments, fiscal capacity, and the ability to maintain macro stability. Viet Nam has considerable fiscal room to implement COVID-19 shock response measures. The prudent fiscal policy implemented (lower borrowings over the last few years) has resulted in significant funds being accumulated in the budget. As a result, the debt in domestic and international markets has not been excessive, which is in contrast to what is happening in many other countries around the world. The government does not need to borrow money from foreign markets or depend on traditional partners for funding. The public debt has risen, but it is still under control. Exemptions, postponements, reductions in taxes and fees, deferral of social benefit payments, funding for the social security package, and promotion of public spending are all considered acceptable ways to support growth by lowering the risk of corporate bankruptcy – increasing consumer demand and economic investment. Meanwhile, monetary measures to support businesses and the economy ensure macro stability.

## 6. Conclusion

Viet Nam's early and proactive response to the COVID-19 pandemic in 2020 saved thousands of lives and reduced the impact of the crisis on the national economy. The Vietnamese economy also recorded a modest positive rate of GDP growth in 2020. Nonetheless, COVID-19 represents a momentous economic challenge. Many industries, especially transportation and services, have been hit hard by measures to contain the spread of the virus. Manufacturing sectors have faced the double blow of disruption to supply chains and weaker international demand for output. Other industries have suffered to varying degrees, depending on their capacity to adjust to the new normal condition of social distancing and limited direct contact with the world. The costs of the pandemic have not been

distributed equally, given the differential impact on households, industries, and occupations.

Viet Nam's success in controlling and preventing the disease, and maintaining and promoting production was firstly attributed to systematic, determined, and flexible instructions and implementation. To cope with the COVID-19 pandemic, the government has implemented monetary and fiscal measures to support the economy. Policy measures were based on actual situations and regularly updated scenarios and forecasts. The government responded with a variety of fiscal and monetary policies to support affected industries and people. Interest rates were reduced, taxes and social security payments deferred, and direct assistance was provided to specific vulnerable groups. More importantly, Viet Nam has retained macroeconomic policy space to respond to adverse developments in the future. However, the scale and effectiveness of those support measures need to be improved. The proportion of people and enterprises that received support from the government is relatively low compared with other countries in the region, especially small enterprises.

Although prospects for economic recovery are good, especially over the medium to long term, there is a lot of uncertainty about a sustainable recovery of global production chains and demand. To address this situation, the government will need to take the lead in assisting the most affected sectors through a combination of targeted tax and financial measures as well as assistance to the most vulnerable firms and employees. They could also supplement these solutions by accelerating the implementation of the public investment programme, which could be more effective on the aggregate demand when most restrictions on travelling have been removed. Lastly, they must take advantage of the current crisis by promoting priority changes in the creation of a digital economy and the further incorporation of the Vietnamese economy into global value chains by capitalising on multinationals' diversification needs as they seek to diversify away from China.

## Notes

- 1 Important regulations include Decree No. 41/2020/ND-CP dated 8 April 2020 on the deferral of tax payment and land rental fees; Resolution No. 42/NQ-CP on assistance for people adversely affected by the COVID-19 pandemic; and Resolution No. 84/NQ-CP on tasks and measures to alleviate difficulties in production and business, promoting the disbursement of public investment and ensuring social safety and security.
- 2 By law, if an employee is suspended from work due to an epidemic, they are entitled to a wage for work suspension as agreed by the parties, but it must not be lower than the regional minimum wage stipulated by the government. In addition, if, due to the COVID-19 pandemic, an employer is forced to reduce its workforce by 50% or more (compared with its workforce at the time the pandemic was declared), both the employer and its employees will be permitted to suspend their contributions to the pension and survivor funds of the employees for a maximum of 12 months. A reduced workforce includes employees whose work has been suspended, whose labor contract performance has been postponed, or who take unpaid leave.

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