LPEM FEB UI
Universitas Indonesia

Kementerian PPN/
Bappenas

THINKING AHEAD

INDONESIA'S AGENDA ON SUSTAINABLE RECOVERY FROM COVID-19 PANDEMIC

Institute for Economic and Social Research
Faculty of Economics and Business, Universitas Indonesia (LPEM FEB UI)
and
Ministry of National Development Planning/
National Development Planning Agency (BAPPENAS)

Thinking Ahead:
Indonesia's Agenda on Sustainable Recovery from COVID-19 Pandemic

Editors:

Alin Halimatussadiah
Amalia Adininggar Widyasanti
Arie Damayanti
Kiki Verico
Riatu Mariatul Qibthiyyah
Robi Kurniawan
Jahen F. Rezki
Fandy Rahardi
Nia Kurnia Sholihah
Setyo Budiantoro

Authors:

Alin Halimatussadiah
Amalia Cesarina
Atiqah Amanda Siregar
Chairina Hanum
Dewa Wisana
Fandy Rahardi
Hamdan Bintara
Jahen F. Rezki
Meila Husna
M. Shauqie Azar
Nandaru Anabil
Nia Kurnia Sholihah
Puspa Amri
Rahmat Reksa Samudra
Robi Kurniawan
Sean Hambali
Syahda Sabrina
Teuku Riefky
Wildan Al Kautsar Anky
Yusuf Sofiyandi

Published by:

Institute for Economic and Social Research
Faculty of Economics and Business, Universitas Indonesia (LPEM FEB UI)
and
Ministry of National Development Planning/
National Development Planning Agency (BAPPENAS)
December 2020

Thinking Ahead:
Indonesia's Agenda on Sustainable Recovery from COVID-19 Pandemic

Authors:
Alin Halimatussadiah, Amalia Cesarina, Atiqah Amanda Siregar, Chairina Hanum, Dewa Wisana, Fandy Rahardi, Hamdan Bintara, Jahen F. Rezki, Meila Husna, M. Shauqie Azar, Nandaru Anabil, Nia Kurnia Sholihah, Puspa Amri, Rahmat Reksa Samudra, Robi Kurniawan, Sean Hambali, Syahda Sabrina, Teuku Riefky, Wildan Al Kautsar Anky, Yusuf Sofiyandi

ISBN: 978-623-95702-0-0

Editors:
Alin Halimatussadiah, Amalia Adininggar Widyasanti, Arie Damayanti, Kiki Verico, Riatu Mariatul Qibthiyyah, Robi Kurniawan, Jahen F. Rezki, Fandy Rahardi, Nia Kurnia Sholihah, Setyo Budiantoro

Cover Design and Layout:
Hamdan Bintara, Nia Kurnia Sholihah

Redaction:
LPEM FEB UI
Jl Salemba Raya No. 4, Central Jakarta, Indonesia 10430
Phone/ Fax : (+6221) 3143177/ 31934310
Email : lpem@lpem-feui.org/ info@lpem-feui.org
Website : https://www.lpem.org

Ministry of National Development Planning
Jalan Taman Suropati No. 2, Central Jakarta, Indonesia 10310
Phone/ Fax : (+6221) 31936207/ 3145374
Website : https://www.bappenas.go.id

Publisher:
Institute for Economic and Social Research
Faculty of Economics and Business, Universitas Indonesia (LPEM FEB UI)
and Ministry of National Development Planning/
National Development Planning Agency (BAPPENAS)

First Printing: December 2020

Table of Contents

List of Table, Figure, and Appendices

Foreword from the Director of LPEM FEB UI

In 2020, all countries in the world directly affected by the COVID-19 pandemic. Not only affecting the health sector, other sectors are also forced to adapt to this global health crisis, including the economy and other social conditions of society. This rapidly changing condition has become a challenge as well as a new opportunity for the country to review how planning and road map for the economy in the future should be implemented.

The role of the government, supported by the private sector and of course the community, is very important in overcoming the problem of the impact of the COVID-19 pandemic. An active, responsive, and inclusive policy is needed to be implemented which is expected to be beneficial not only in the short term but also in the long term.

Effective policies may avoid a free fall of unmanaged crisis that would be costly, especially for a large and diverse country like Indonesia. This book should be a useful reference in the Indonesian context, which maps how COVID-19 affects Indonesia. Besides, this book also provides an overview of how Indonesia responds to the challenge of adjusting policies that pay more attention to future generations and, at the same time, recover the impact of the pandemic today.

I thank the entire team—Alin Halimatussadiah as the team leader, Amalia Cesarina, Atiqah Amanda Siregar, Chairina Hanum, Dewa Wisana, Fandy Rahardi, Hamdan Bintara, Jahen F. Rezki, Melia Husna, M. Shauqie Azhar, Nandaru Anabil, Nia Kurnia Sholihah, Puspa Amri, Rahmat Reksa Samudra, Robi Kurniawan, Sean Hambali, Syahda Sabrina, Teuku Riefky, Wildan Al Kautsar Anky, and Yusuf Sofiyandi—for all the diligent work completing this study.

On behalf of the Institute of Economic and Social Research (LPEM FEB UI), I would like to give our gratitude to Ministry of National Development Planning (Bappenas) for the collaboration in preparing this book. This book is part of the addition of intellectual property that will bring benefits to stakeholders. In-depth analysis, as presented in this book, can encourage active discussion within the framework of knowledge and the policy context, which is also expected to provide broader benefits to the community.

Jakarta, 17 December 2020

Riatu M. Qibthiyyah, PhD
Director of LPEM FEB UI

Foreword from the Dean of Faculty of Economic and Business, Universitas Indonesia

The COVID-19 pandemic is still far from over, affecting all countries around the world simultaneously. In addition to the more obvious health effects, the pandemic has reversed years of socioeconomic gains in many countries, and its impact has been the most severe on vulnerable populations. Considering the scale of the problem, governments worldwide have taken various approaches to cope with the health crisis. Because the pandemic has affected most countries, it also offers a chance to reflect on measures that have been proposed, implemented, and planned. Such a reflective approach enables all countries to prepare for the future and improve conditions despite many uncertainties.

While public health measures seek to mitigate the spread of COVID-19 and provide health services, complementary economic policies also aim to lessen the pandemic's impact. Overall interventions seek to avoid a long-term health crisis and a prolonged economic downturn and social crisis, which could result if the pandemic is not carefully managed. Effective policies may avoid a free fall of unmanaged crisis that would be costly, especially for a large and diverse country like Indonesia.

In this context, the chapters in this book provide analysis and insight by mapping the type and scale of COVID-19 pandemic problems across countries while emphasizing Indonesia's case. In offering an overview of learning processes across and within countries as existing and new policies are adopted, it also aims to assess what may and may not work. Finally, the book discusses opportunities for policies to maximize net benefits in the short term and safeguard the longer-term objectives and strengthen the building blocks of a more inclusive and sustainably developed future.

On behalf of the Faculty of Economics and Business, University of Indonesia, I would like to congratulate LPEM FEB UI and the Ministry of National Development Planning (Bappenas) for preparing this book. I am eager to share this book and its benefits with the general public. I am confident that efforts, such as this, to understand the COVID-19 pandemic and its related impacts will enable us all to recover via a more sustainable pathway than we have today. This book can serve as one resource for economic and social policy discussions that aim to mitigate the effects of COVID-19 in Indonesia. I hope it will encourage researchers to conduct future policy studies.

Jakarta, 17 December 2020

Dr. Beta Yulianita Gitaharie
Dean of Faculty of Economic and Business, Universitas Indonesia

Foreword from the Deputy Minister for Natural Resources and Maritime Affairs, as the Head of Sustainable Development Goals (SDGs) National Implementation Team

The COVID-19 pandemic forces us to realize that we live in an incredibly vulnerable world. All countries are struggling to contain the virus's transmission and, at the same time, minimize its unprecedented impact on socioeconomic development and environmental health—impacts that threaten the achievement of sustainable development goals (SDGs). Since the pandemic cannot be overcome with "one size fits all" policies, each country has responded with different strategies.

The Government of Indonesia immediately responded to the pandemic by refocusing its development programs on health system reforms, social system reforms, disaster resilience reforms, and economic recovery. Furthermore, the government also enacted a long-run adjustment by emphasizing and reorienting policies related to sustainability issues. Sustainable recovery is becoming a government priority that will enable us to build forward better after COVID-19; sustainability is, in fact, an engine to create a more resilient economy and more equitable development. Furthermore, the Government of Indonesia has undertaken some steps to provide more adaptive and responsive planning strategies that can rapidly answer any future challenges and new situations ahead.

This book is a collaborative effort between the Ministry of National Development Planning/ National Development Planning Agency (Bappenas) and the Institute of Economic and Social Research (LPEM FEB UI). As such, it analyzes the impact of the COVID-19 pandemic on the Indonesian economy and SDGs. It also provides recommendations on ways the government can promote sustainable recovery and build forward better after COVID-19. The framework of sustainable recovery in the short, medium, and long term provides helpful guidance for the government and other stakeholders as they prepare evidence-based policies to fight the pandemic. As this book shows, we can also learn from other countries' experiences in managing this global pandemic, so that Indonesia can establish a strong foundation and build forward better.

I would like to thank all team members in LPEM UI and SDGs National Secretariate at the Ministry of National Development Planning (Bappenas) for their efforts to complete the study, as well as all parties who have contributed and supported the completion of this book. I believe the robust analysis and recommendations provided here will be beneficial for the government and all SDG stakeholders to produce and promote appropriate, efficient, and more inclusive policies and strategies towards sustainable recovery after COVID-19.

Jakarta, 17 December 2020

Dr. Ir. Arifin Rudiyanto, MSc

Deputy Minister for Maritime Affairs and Natural Resources
Ministry of National Development Planning of the Republic of Indonesia
National Development Planning Agency

Acknowledgement

This book *Thinking Ahead: Indonesia's Agenda on Sustainable Recovery from COVID-19 Pandemic* was jointly prepared by the Institute for Economic and Social Research, University of Indonesia (LPEM-FEB UI) and the Ministry of National Development Planning (Bappenas). The LPEM-FEB UI team is led by Alin Halimatussadiah, the head of the Environmental Economics Research Group at the Institute for Economic and Social Research, University of Indonesia (LPEM-FEB UI), while the Bappenas team is led by Amalia Adininggar Widyasanti, the Head of SDGs National Secretariat and Senior Advisor to the Minister for Economic Synergy and Financing. Productive inputs were provided by Riatu Mariatul Qibthiyyah, Kiki Verico, Arie Damayanti, Yohanna Magdalena Gultom, and Khoirunurrofik.

The team was composed of Alin Halimatussadiah, Amalia Cesarina, Atiqah Amanda Siregar, Chairina Hanum, Dewa Wisana, Fandy Rahardi, Hamdan Bintara, Jahen F. Rezki, Meila Husna, M. Shauqie Azar, Nandaru Anabil, Nia Kurnia Sholihah, Puspa Amri, Rahmat Reksa Samudra, Robi Kurniawan, Sean Hambali, Syahda Sabrina, Teuku Riefky, Wildan Al Kautsar Anky, and Yusuf Sofiyandi.

The team has benefited from consultation with experts: Amalia Adininggar Widyasanti, Arianto Patunru, Budy Resosoedarmo, Faisal Basri, Firman Witoelar, I Kadek Dian Sutrisna Artha, Nina Sardjunani, Riatu Mariatul Qibthiyyah, Vid Adrison, and Vivi Yulaswati.

The team would like to thank the following colleagues and organizations for their guidance during the preparation of the study: Bappenas, Katadata, LKTL, CLUA, and the Ford Foundation.

The team is grateful to Joko Arif and the Packard Foundation who provided significant support and invaluable guidance at all stages during this study.

Finally, the team apologizes to any organizations or individuals who contributed to this book but were omitted from these acknowledgements.

Executive Summary

The pandemic of the coronavirus disease (COVID-19) has shaken the global economy, and it will produce a much larger impact than the Global Financial Crisis (GFC) in 2008. This pandemic has created a disruption for both demand and supply sides, where it reduces both consumption and investment, while also affecting the supply chain. Thus, it affects firms' activities and the production network. The global economy is projected to exhibit negative growth in 2020 due to the pandemic; the World Bank and the International Monetary Fund (IMF) estimate the contraction of the global economy in 2020 at 5.2% and 4.4%, respectively. The coming months will, thus, be a long and difficult situation for the global economy with some downside risks ahead.

To respond to the crisis caused by the pandemic, all nations around the world have executed both health-related policies, e.g. attempting lockdown to control the spread of the virus and conducting intensive testing and tracing, and economic stimulus policies to dampen the adverse impact of the pandemic. The Government of Indonesia has implemented several policies to mitigate the impact of COVID-19. While these policies might be useful to accelerate the recovery process, it is worth noting that COVID-19 not only affected the economy but also revealed the shortcomings of the current system.

Nonetheless, the unprecedented crises due to COVID-19 present an opportunity for the Government of Indonesia (GoI) to implement several reforms related to environmental and sustainability issues. Climate change will remain a significant hurdle even after the government is able to minimize the outbreak of the virus. Therefore, the proper response to the economic crisis due to COVID-19 must also consider the impact of these policies on the climate and other sustainable development goals (SDGs).

In this book, we propose several suggestions and recommendations for government policies to promote Indonesia's sustainable recovery after COVID-19. This book consists of five chapters. Chapter 1 summarizes the impact of COVID-19 on the global and Indonesian economy. Using the Computable General Equilibrium (CGE) model with the Global Trade Analysis Project (GTAP) Database, the estimation suggests that the pandemic has lowered the global GDP of all countries by around 5.0% to 9.0% from the baseline condition.

Our study also estimates the impact of COVID-19 on the Indonesian economy. Using the CGE model with several shocks (e.g., PSBB/*Pembatasan Sosial Berskala Besar*, change in tourism activity, and change in trade volume), our estimation suggests Indonesia's national output has decreased by 6.3% from its baseline. We also measure the impact of COVID-19 on other macroeconomic indicators, such as welfare, household consumption, investment, employment, and inflation. In doing so, we arrive at the same conclusion: COVID-19 has caused the Indonesian economy to deteriorate.

Chapter 2 elaborates the government's response to COVID-19. In this chapter, we summarize the policies the Government of Indonesia has implemented. We specifically describe the government initiatives on the National Economy Recovery Program (PEN), which aims to alleviate the burden due to COVID-19.

Chapter 3 illustrates our analysis of the impact of COVID-19 on SDGs. Our analysis suggests that COVID-19 may affect several aspects of SDGs, including the environmental, economic, and social. In these ways, the COVID-19 pandemic has had—and, without interventions, will *continue* to have—an impact on the global sustainability agenda. Nevertheless, the current pandemic-imposed conditions provide an unprecedented opportunity to build a better world by implementing more sustainable policies.

Therefore, in Chapter 4, we propose several strategies for sustainable recovery to restart the economy quickly and build forward better. A more resilient economy depends on a shift to sustainable practices. A framework toward sustainable recovery consists of three main stages: short-term immediate crisis responses, mid-term economic recovery measures, and long-term sustainability pathways. The GoI could—and must—make use of this framework. Several instruments, such as tax breaks or government spending with large employment and investment multipliers, could enhance investment projects, which provide unemployed people with jobs while contributing to the production of valuable assets.

In this chapter, we also provide some analysis on sectors the government must prioritize in its efforts to build forward better. In terms of employment creation, this study proposes several issues and policies that could be implemented by the government on both the demand and supply sides. Moreover, we also discuss some potential improvements for current social protection programs, which could increase the programs' impacts and minimize exclusion issues. Finally, we present some additional innovative financing instruments (e.g., sovereign wealth fund, debt for swaps, direct green financing, issuance of social bonds, and effective management of the local budget) as alternative sources of finance for the government to utilize during the recovery period.

Lastly, Chapter 5 discusses the way forward and makes recommendations for responding to this unprecedented crisis. Future public projects should consider the environmental and social net benefits to promote long-term positive impacts on society. Furthermore, other countries' experiences in building forward better and recovering from crisis by building disaster management systems, developing more climate-resilient societies and protecting the environment, and even implementing the circular economy comprehensively will provide valuable lessons as well. Investing in a mitigation approach today can lower the cost of adaptation in the future. Planning for a more sustainable and resilient economy and society will not only protecting people and the planet but also produce economic benefits and prepare the community to overcome unexpected adverse events in the future.

1

Understanding the Impact of the COVID-19 Pandemic on the Global and Indonesian Economy

I. Understanding the Impact of the COVID-19 Pandemic on the Global and Indonesian Economy

In this part, we discuss the impact of COVID-19 on the global and Indonesian domestic economy. The first part of this chapter examines the potential economic loss caused by COVID-19 and underscores the importance of an effective recovery response to this unprecedented crisis. The next part estimates the impact of COVID-19 on the global economy. In Section 3, we calculate the impact of COVID-19 on the economy of Indonesia using the Computable General Equilibrium (CGE) model. In the final part of this chapter, we assess the impact of COVID-19 on specific sectors and regions. Lastly, we propose some scenarios regarding the impact of COVID-19 on other indicators (e.g., unemployment, poverty, and inequality).

1. Origins of the COVID-19 Economic Shock and Projections of a Recovery Phase

On December 31, 2019, China alerted the World Health Organization (WHO) of several flu-like cases in Wuhan. Less than eight months later, more than 23 million cases of what is now known as COVID-19 have been confirmed. Over 800,000 people have died as a result, and this number will continue to increase for the foreseeable future as new cases each day total 300,000 (WHO, 2020a).

Economic shock due to COVID-19 can be clarified into three stages. Firstly, the virus hit employees and their spending. In the informal sector, workers did not receive payment when they were sick. Secondly, to flatten the curve, governments implemented some restrictions, including temporary travel bans, limitation of public transportation, and even business closures. These public-health containment measures nevertheless impact the economy. Thus, and thirdly, limiting economic activity causes an economic downturn. Such a downturn occurred during the Global Financial Crisis (GFC) of 2008 when consumers and business all around the world crouched in a wait-and-see mode. A particular downturn is reflected by negative economic growth and declining purchasing manager indices (PMIs). The COVID-19 crisis has struck health and economic systems in several places at the same time. Consequently, all sectors have been affected, although the impact is not equally distributed throughout the system. Adapting the well-known circular money flow diagram, Baldwin (2020) points out that a flow disruption anywhere causes a slowdown everywhere because the economy continues running only when money continues to circulate through the system.

The COVID-19 pandemic has created an enormous shock to the global economy, possibly on a much larger scale than the GFC that happened more than 10 years ago. In the GFC, the shock originated from the subprime mortgage crisis, where it initially affected the demand side before disrupting the supply side. In the current crisis, however, the pandemic simultaneously impacted not only the demand side through lower consumption and investments but also the supply side through lockdown policies that have limited firms' production activities as well as labor mobility. In April 2020, the World Bank (2020b) predicted that the global economy would contract by 5.2% in 2020; this predicted contraction stands to be approximately three times worse than the 2009 contraction caused by the GFC. As the pandemic continues to worsen, moreover, economic activity faces potentially even greater pressures, which may lead to lower economic growth than what had been projected.

As they have sought to quantify these unprecedented potential impacts, recovery projections by international institutions have changed over the course of the pandemic. Early on, the recovery phase was projected to be relatively fast and smooth as the containment policy was expected to be temporary and

followed by a rebound. However, the growing number of cases has halted the recovery process and left it uncertain. Combined with the fact that pre-pandemic conditions, including rising trade tensions and protectionism (Gunnella & Quaglietti, 2019) and declining productivity growth (Azis, 2018), were quite inauspicious, the recovery process has become more difficult that what it could have been, and it becomes more so with each wave of the pandemic.

To respond to the crisis caused by the pandemic, all nations around the world have executed both health-related policies, e.g., attempting lockdown to control the spread of the virus and conducting intensive testing and tracing, and economic stimulus policies to limit the adverse financial impact of the pandemic. Although the recovery phase will likely vary across sectors or industries, in general, it will be highly dependent on two issues: public health policies to restrict the spread of the virus and, later, economic policies to diminish the adverse impact of the shock. Appropriate policy responses will not be sufficient to achieve quick recovery if the pandemic cannot be contained, as the pandemic itself will put some pressure on economic activity.

In Indonesia, the government has implemented some policies to mitigate the impact of COVID-19. For example, it has established a COVID-19 task force for rapid health responses while utilizing the military and police forces to assist in the logistical responses during lockdown (Djalante et al., 2020). Meanwhile, the government has used economic policies—from budget reallocation to the expansion of social protection programs (ILO, 2020a)—to reduce the negative impact of the pandemic on economic and social activities.

Although these policies could boost the recovery process, it is important to note that COVID-19 has not only imposed new pressures on the economy but also exposed the fragility of the current economic system. For instance, current economic activities continue to rely on fossil fuels, and this reliance leads to an increase in global greenhouse gas emissions and a greater potential for environmental crisis. At the same time, any environmental crisis would also heighten the likelihood and impact of future infectious diseases, including future waves of COVID-19 (OECD, 2020a). Thus, ensuring sustainable recovery is crucial not only to address the adverse impact caused by the COVID-19 pandemic but also to prevent any similar crisis from recurring in the future.

The unprecedented crises due to COVID-19 present an opportunity for the Government of Indonesia (GoI) to implement several reforms related to environmental and sustainability issues. Climate change will remain a significant hurdle even after the government minimizes the outbreak of the virus. Therefore, the proper response to the economic crisis due to COVID-19 must also consider the impact of these policies on climate change and other sustainable development goals (SDGs). Because the magnitude of this crisis and the response from the government could affect the future economy, it is crucial for the government to design and implement sound economic and social policies now. Moreover, it is also important for authorities to generate new approaches for more effective fiscal policies to help the economy recover.

In this chapter, we assess the impact of COVID-19 on the global economy. We also discuss and estimate the impact of COVID-19 on the Indonesian economy. Considering heterogeneous characteristics of regions in Indonesia, further analyses explore the impact of COVID-19 at the regional level. Finally, this chapter provides estimations of the impact of COVID-19 on several outcomes (e.g., poverty, inequality, etc.).

2. How COVID-19 Impacts the Global Economy

The unprecedented COVID-19 pandemic has harmed not only human health but also economic health as countries around the world apply massive restrictions. Travel restrictions and social distancing measures are globally applied and affect business activities in nearly all economic sectors. Since the virus is spreading all over the world, the impact of COVID-19 is expected to contract the global economy. To quantify the magnitude of the COVID-19 pandemic's impact on the global economy, we employ the Computable General Equilibrium (CGE) model with the Global Trade Analysis Project (GTAP) Database. The countries and regions in this study are selected based on their linkages with Indonesia in the global economy. We specifically measure the impact of COVID-19 in Indonesia and 18 other countries, which representing 82% of Indonesia's total exports and 84% of Indonesia's total imports. To capture the global economy as a whole, this study also develops one aggregate region of the remaining countries and regions in the GTAP database, namely Rest of World (RoW). The list of selected countries and regions can be seen in Figure I-1. Using the RunGTAP interface, the simulation illustrates the shocks that the pandemic injected into the economy. Those shocks are as follows:

- Change in international trade volume

  As massive activity restrictions are applied all over the world, global demand is also significantly decreased. At the same time, the implementation of social distancing slashed domestic demand. Hence, total production has declined. The number of exports and imports have decreased due to the massive reduction in production activity. In the GTAP database, this global international trade volume disruption is illustrated by the increase in international trade costs for all countries around the world.

- Change in tourism activity

  As the COVID-19 pandemic pushes countries to restrict travel in-and-out of their borders, disruption in tourism activity is inevitable. We illustrate the decreased demand for tourism activity as the final demand shock on the sectors related to tourism activities, such as accommodation and air transport services.

- Change in unemployment

  Another shock we employ is a decrease in the number of employees. As global demand decreases, massive lay-offs and decreased work hours are inevitable. The shock of higher unemployment is illustrated by each country's projection of higher unemployment rates due to the COVID-19 pandemic.

- Change in labor productivity due to social distancing

  Limited labor mobility during social distancing is expected to decrease workers' productivity. This shock is imposed to the simulation by assuming that productivity in all countries is lower with various magnitudes aligned with Google mobility data across sectors in each country.

The CGE-GTAP model simulation results show that the shocks of the COVID-19 pandemic produce a decline in GDP across all countries in the study. In Figure I-1, we see that each country's GDP contracted by approximately 5.0% to 9.0% of the baseline, or "business as usual" (BAU), condition due to the COVID-19

pandemic.[1] To illustrate the contraction's magnitude, let us take, for example, the 6.31% GDP contraction in Indonesia, and let us suppose Indonesia's natural GDP growth rate without COVID-19 is 5.30%. For simplicity, we will also assume Indonesia's GDP before COVID-19 was around USD1 trillion (USD1tn). Thus, the impact of the total disruption on GDP due to COVID-19 is 6.31% less than USD1.05tn (USD1tn plus 5.30%). Nevertheless, the magnitude of GDP contraction is higher for countries with severe virus infection, such as China and the United States. High independency with the global economy is also an essential factor which drives the magnitude of GDP contraction, producing, for example, the relatively higher negative impact of COVID-19 on Singapore's GDP compared to other countries. For Indonesia, the COVID-19 pandemic is expected to decrease GDP by 6.31% from the baseline condition. This contraction is, however, relatively benign compared to other countries and even lower than Singapore's due to the relatively lower international trade volume in Indonesia compared to Singapore's total exports and imports.

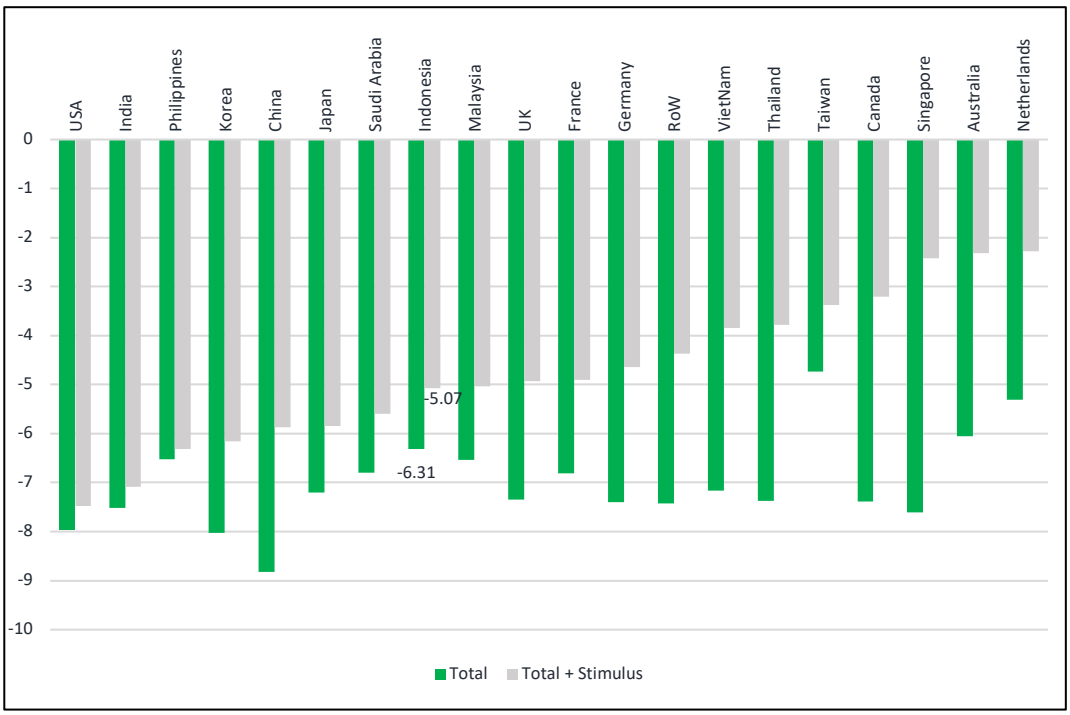


Figure I-1. Impact of COVID-19 on GDP (in % change from "Business as Usual," BAU)

Source: LPEM FEB UI (2020)

Despite the shocks above, the government of each country has implemented several responses to limit the disruption the COVID-19 pandemic has caused the economy. First, governments around the world

[1] In % change from "Business as Usual," BAU: Change (%) compared to conditions when economic activity is running as usual without any disruption (in this case, when there is no COVID-19 pandemic). For example: If Indonesia's GDP in 2019 was IDR 100 with BAU conditions and a long-term trend of around 5%, then GDP based on BAU conditions would be IDR 105. If a change of 10% from the BAU condition occurs, a 10% decrease in GDP from Rp105 to Rp94.5 will result.

have planned to increase their own expenditures to rescue and recover the economy. The amount of fiscal stimulus varies between countries (Figure I-2), but the results of our simulation shows that the impact of the COVID-19 pandemic on GDP contraction is lessened in all countries with a fiscal stimulus (Figure I-1). The difference between the impact before and after the fiscal stimulus is expected to follow the magnitude of the fiscal stimulus offered by the government. For Indonesia, a fiscal stimulus amounting to around 4.2% of the national GDP has reduced the GDP contraction from 6.31% (without stimulus) to 5.07% from the baseline condition. The impact of the fiscal stimulus in Indonesia is relatively more significant compared to other countries (e.g., Philippines). The limited impact of the stimulus in the Philippines is seen in the small improvement in the rate of GDP contraction from 6.52% without the stimulus to 6.32% with the stimulus. However, superior results in countries like Singapore show that the GoI still has some room to reduce the negative impact of the pandemic by implementing other effective interventions, such as increasing the fiscal stimulus or improving fiscal stimulus programs to produce a more significant effect in dampening the impact of the COVID-19 crisis on the economy.

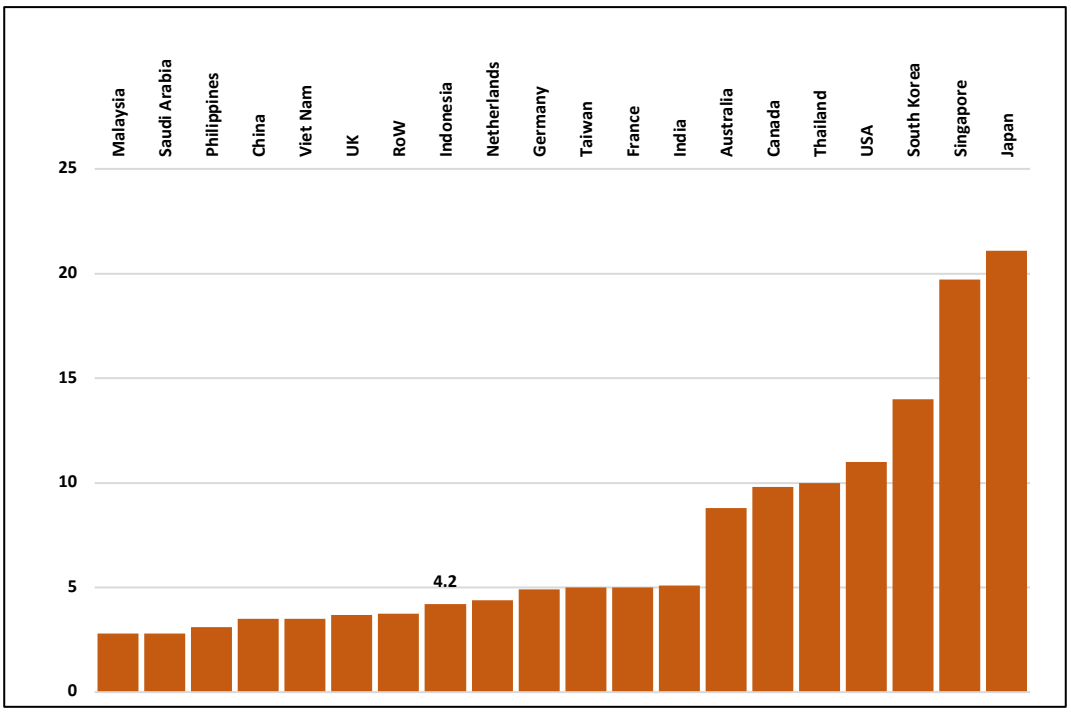


Figure I-2. Fiscal Responses to COVID-19 (as % GDP)

Source: IMF Policy Responses to COVID-19 Tracker (2020)

Central banks have also deployed unprecedented liquidity measures and loan restructuring schemes to prevent COVID-19 from producing a financial crisis. Central banks in developed countries have implemented unconventional monetary policies during this crisis since historically low interest rates, averaging 0.47%, have left limited space for conventional measures (Benmelech & Tzur-Ilan, 2020). These

unconventional tools include central bank guarantees, financial asset purchases, and the relaxation of macroprudential-based rules. On the other hand, relatively higher interest rates in developing countries before the crisis have provided sufficient room for pursuing conventional monetary policies.

3. The Impact of COVID-19 on the Indonesian Economy

To quantify the impact of the COVID-19 pandemic in Indonesia, we have designed a computable general equilibrium (CGE) simulation to measure the pandemic's impact on macroeconomic indicators. Using the IndoTERM CGE model, we illustrate three types of shocks the pandemic brought to the Indonesian economy. Those shocks are as follows:

- Large-scale social restrictions (Pembatasan Sosial Berskala Besar/PSBB)

Using Google mobility report data, we formulate large-scale social restriction measures as the change in workers' productivity after their mobility to travel to the workplace was limited. Our formulation of the resulting decrease in labor productivity varies by region and sector. Furthermore, the formulation of PSBB as a shock assumes the measure of PSBB applies for two months

- Change in tourism activity

Another shock we employ is the decrease in tourism activity as the pandemic forces the implementation of travel restriction by the government, both domestically and internationally.

- Change in international trade volume

With many factories closed, production is also significantly reduced. Declines in production, in turn, significantly reduced demand for input materials from abroad. Furthermore, as the same declines also affected foreign manufacturers who previously demanded input materials from Indonesia, Indonesian exports likewise declined. This reduction in international trade is captured in the change of volume in Indonesia's exports and imports.

We employ these three shocks to measure the impact of COVID-19 on the domestic economy, and the results are shown in Figure I-3. In general, PSBB caused the most severe impact to the economy, compared to the other two shocks. While the intensity of PSBB is varied across sectors and regions, the impact of this shock is far more severe compared to other shocks. In terms of GDP, PSBB decreased national output by 6.3% from its baseline. This means that PSBB measures implemented by the government decreased national GDP by 6.3% compared from its natural growth rate (without PSBB and COVID-19) or what is called its "business as usual" (BAU) condition. To give an illustration, let us suppose Indonesia's natural GDP growth rate without COVID-19 is 5.3% and, for simplicity, let us assume Indonesia's GDP before COVID-19 was around USD1 trillion (USD1tn). Thus, the impact of PSBB measures on GDP due to COVID-19 is 6.3% less than USD1.05tn (USD1tn plus 5.3%). On the other hand, based on our simulation, the impacts of reductions in tourism activity and international trade volume are rather small (-0.08% and -0.11%, respectively) as their contributions to domestic economic activity are also relatively small compared to those of large-scale social restriction (PSBB) measures.

Besides GDP, we also measure the impact of COVID-19 on other macroeconomic indicators, such as welfare, household consumption, investment, employment, and inflation. Specifically, we measure welfare indicators using Gross National Expenditure (GNE), which is the sum of household final consumption expenditures, government final consumption expenditures, and gross capital formation. Put simply, GNE

measures domestic economic activity. Similar to our GDP result, the shock of PSBB largely explains the decrease of national welfare, as PSBB decreases welfare by 4.36% from its baseline.

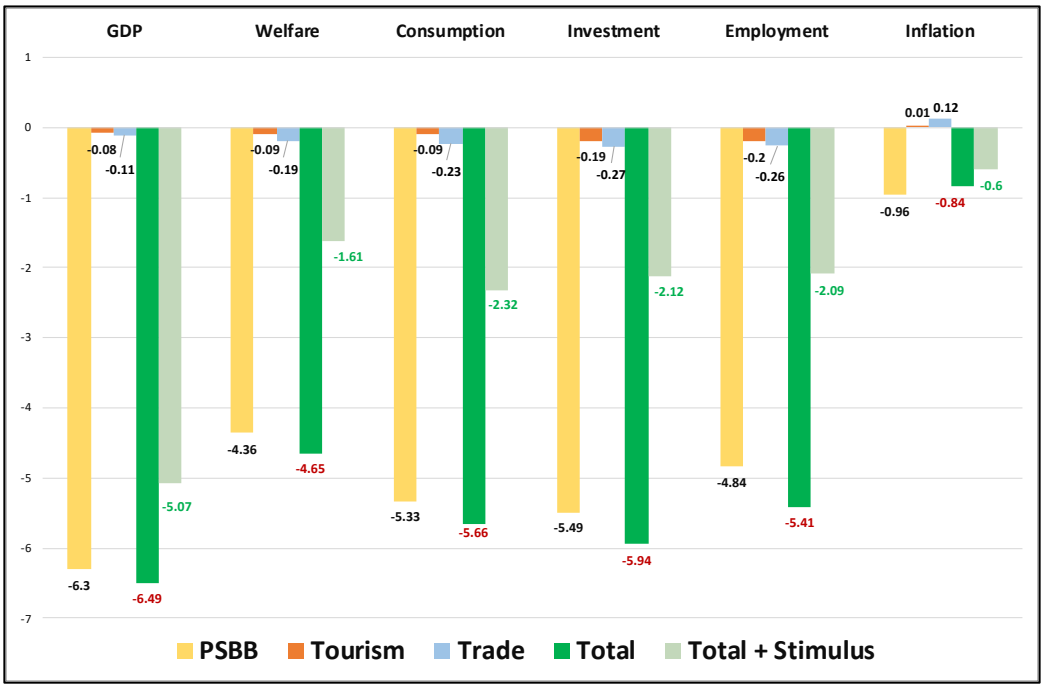


Figure I-3. Macroeconomic Impact of COVID-19 (in % change from "Business as Usual," (BAU)

Source: LPEM FEB UI (2020)

Our analysis also measures the effectiveness of government stimulus plans in reducing the negative shock of COVID-19. The amount of stimulus applied in this model follows the details on the Economic Recovery Plan, or "Program Pemulihan Ekonomi" (PEN) announced by the Ministry of Finance (MoF)[2]. Based on our simulation, the government's planned fiscal stimulus could substantially reduce the economic impact of COVID-19. With the stimulus, the negative shock to GDP could be lessened by around 1.42%, or from -6.49% without the stimulus to -5.07% with the stimulus. Furthermore, the impact of the stimulus is even more consequential on welfare and household consumption. This might be explained by the current stimulus package's focus on providing social assistance to the poorest and most vulnerable income groups. However, the ability of the government's stimulus package to limit the pandemic's economic damage will depend on the effectiveness of implementation efforts.

[2] The amount of stimulus employed in this model assumes all the stimulus packages are 100% realized and not based on the current realization.

4. The Most Impacted Sectors and Regions

Since its emergence in Wuhan, the COVID-19 virus—now officially recognized as a pandemic—has wreaked havoc on almost all aspects of life across the globe. Its rapid spread has substantially affected the health of the population and brought overarching consequences to society. Thus, the Indonesian government—like governments around the world—found it necessary to apply extraordinary measures, such as large-scale social restrictions, to contain the spread of COVID-19 and preserve lives. Unsurprisingly, as people are not able to go to the office and businesses cannot open their doors, ordinary economic activity has halted, and these changes are reflected in the sectoral output of the economy.

To analyze the economic impact of such policies on each sector, it is constructive to survey the Indonesian economic landscape. Q2-2020 data suggests that the top five sectors in the Indonesian economy are manufacturing (accounting for 19.87% of Indonesian GDP), wholesale and retail trade (13.29%), agriculture (15%), construction (10.14%), and mining and quarrying (7.73%). This composition has remained largely changed over the past few years, indicating the ongoing importance of these five sectors to the overall Indonesian economy. Furthermore, the dominance of these sectors can further be seen in the regional economic composition of Indonesian provinces; from 2017 to 2019, most provinces in Indonesia relied on one of the five dominant sectors. The only exception is Bali, where accommodation and food and beverages activity dominates the economy, contributing around 20% of its regional GDP. The exceptional case of Bali aside, any impact from COVID-19 on the five main sectors of the Indonesian economy will reverberate through the regional economies, and arguably, present a sizable impact on the national economy.

Figure I-4 summarizes the growth rates across sectors in Q2-2020 and their differentials with the second-quarter average growth rates of the preceding three years (in terms of percentage/basis points, hereafter referred to as bps). Such measures provide preliminary indications of these sectors' performances in the face of the COVID-19 pandemic. The figure suggests that almost every sector has experienced a growth decline in Q2-2020, compared to the second quarter of the preceding three years. At a broad sectoral level, transportation and storage is the poorest performing sector; that is, it exhibits the highest decline relative to the preceding three-year average. This performance drop can be explained by the widespread drop in the overall demand for commercial aviation and transportation products and services (Baqaee & Farhi, 2020) as the number of COVID-19 cases increase (World Bank, 2020) and social distancing measures are imposed. Other sectors with declining performances include accommodation and food and beverages activity (-27.61 bps), other services (-22.11 bps), and business services (-21.12 bps), among others.

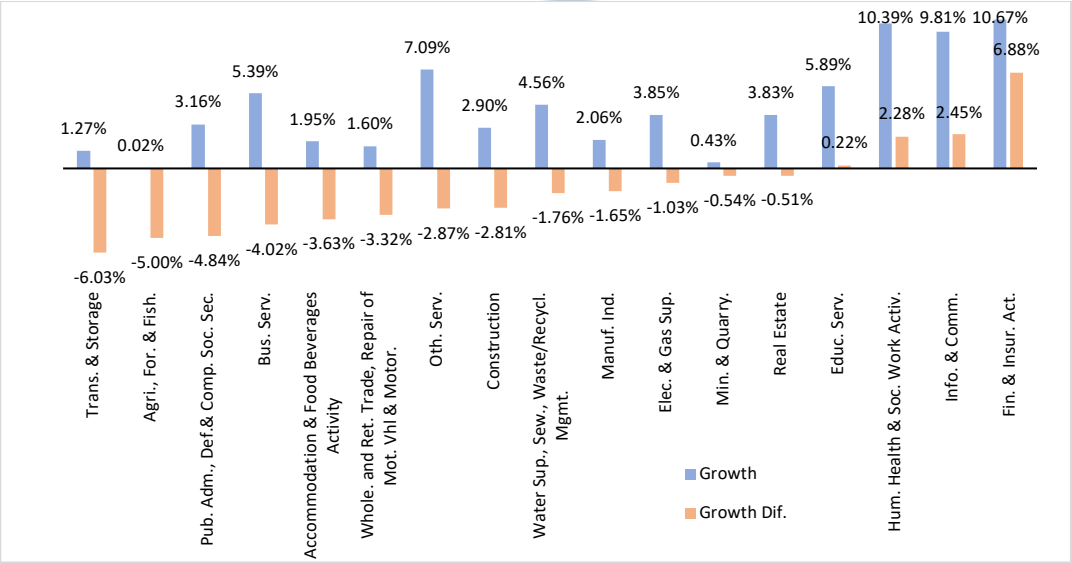


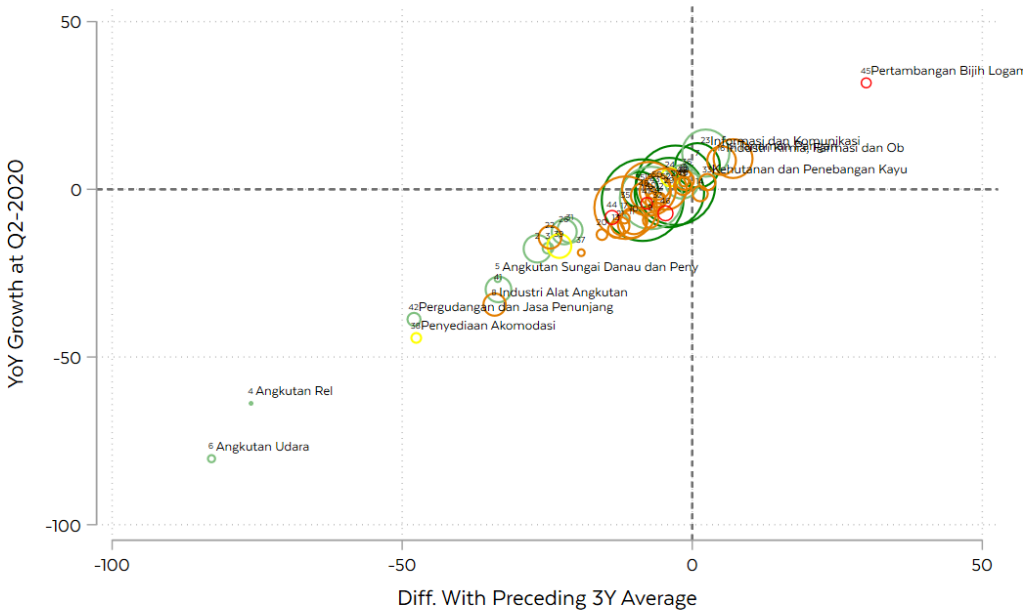
Figure I-4. Performances of GDP Sectors, Q2-2020

Source: BPS-CEIC Database, compiled by author(s)

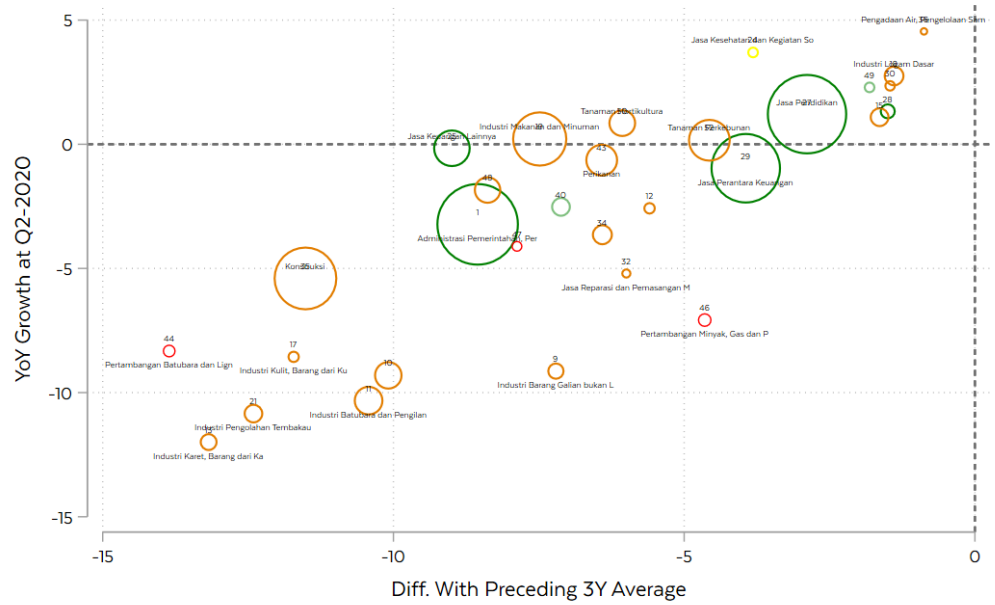
Still, several sectors have recorded positive year-over-year (YoY) growth rates, although their performance remains relatively lower when compared to the preceding years. These sectors include water supply, sewage, waste, and recycle management (4.56% YoY), human health and social work (10.39%), and real estate (3.83%). The only sector to record a positive performance (having Q2-2020 growth rates higher than its preceding three-year average) is the information and communications (ICT) sector, which experienced a YoY growth rate of 9.81%. Such positive performance can be attributed to widespread social distancing measures, which have shifted activities and transactions to digital means and made investment in digital infrastructure particularly crucial.

Figure I-5 breaks down, more granularly, these 17 broadly categorized sectors into 52 sectors while providing a descriptive summary of their performances. The graph suggests a largely similar conclusion to the one drawn in Figure I-4. A bulk of the sectors are situated in the third quadrant of the graph, indicating that most sectors are experiencing negative growth rates and reporting relative performance declines with respect to the preceding years. However, the metal ore mining sector (indicated by number 45) is observed to have both high YoY growth values and positive growth differentials in Q2-2020.

The bubble colors presented in Figure I.5 indicate each sector's overall environmental and social risk level, taken from the European Bank for Reconstruction and Development (EBRD) sectors' sustainability risk correspondence. The figure suggests that most sectors with the highest levels of overall risk experienced a performance decline in Q2-2020. Such findings are intuitive, particularly if one considers the fact that sectors, like manufacturing and mining and quarrying, with the highest level of sustainability risks, experienced a decline in performance during Q2-2020, as suggested by Figure I-4. On the other hand, sectors with low levels of overall sustainability risks, such as the financial and insurance sector and the ICT sector, recorded improved growth performances. An important implication of these findings is that the pandemic actually presents an opportunity to diversify the development of the Indonesian economy toward more sustainable sectors.



Source: CEIC. Bubble size indicates GDP value at Q2-2020. Bubble color gradients indicate the overall sustainability risks posed by each sectors, according to the EBRD. Green indicates sectors with the lowest risk, while red indicates those posing the highest risk



Source: CEIC. Bubble size indicates GDP value at Q2-2020. Bubble color gradients indicate the overall sustainability risks posed by each sectors, according to the EBRD. Green indicates sectors with the lowest risk, while red indicates those posing the highest risk

Figure I-5. Sectoral Performances of 52 GDP Sectors

Source: BPS-CEIC Database, compiled by author(s)

In addition to the descriptive indications presented above, we also conducted a macro-simulation to assess the magnitude of the impacts accrued in the broad 17 economic sectors. The overall simulation results suggest a sectoral impact pattern similar to our descriptive indications. While the pandemic hit all 17 sectors of the economy, the impact is rather unequal across sectors. Similar to the conclusions derived from Figure I.5, our macro-simulation indicates that sectors that rely heavily on human interactions and close proximity between people, such as the restaurant and hotel industry, recreation and tourism, and manufacturing and transportation, are among those facing the greatest output loss.

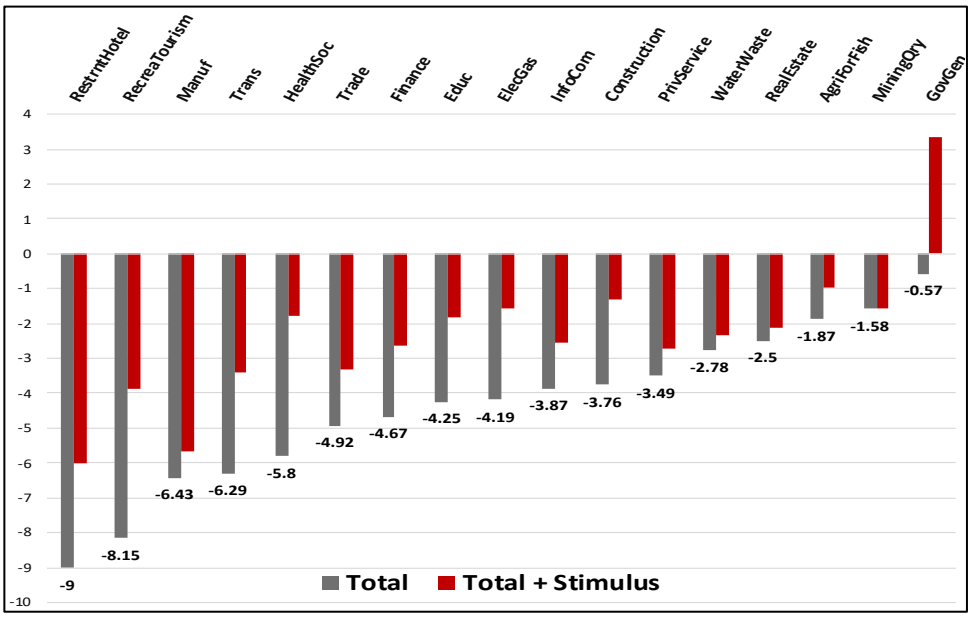


Figure I-6. Macroeconomic Impact of COVID-19 (in % change from "Business as Usual," BAU)

Source: Authors' calculation

Based on our simulation, the restaurant and hotel industry could lose 9% of its output compared to its business as usual condition, followed by recreation and tourism with an 8.15% output loss and manufacturing with a 6.43% output loss (Figure I-6). On the other hand, sectors such as agriculture and forestry and fishery, which do not rely on close proximity between workers, have a relatively lower output loss as large-scale social restrictions do not significantly affect their activity. Fortunately, the government's fiscal stimulus efforts could potentially limit the negative economic impact, especially in sectors that are hit the hardest.

We also simulate the impact of COVID-19 on a regional level. As COVID-19 spreads more quickly in areas with higher density, each region in Indonesia has enacted different measures of differing intensity to contain its spread. Regions with high density, such as DKI Jakarta and West Java, have implemented stricter social restrictions compared to regions with lower density, such as Central Kalimantan. These different intensities of social distance measures are reflected in a decrease of economic activity by region. As shown in

Figure I-7, Banten, West Java, and DKI Jakarta are the three provinces with the greatest decline in regional output due to the pandemic. Furthermore, all regions in Java fall within the top 10 of the most impacted regions in Indonesia. Other regions that rely heavily on human interactions and tourism activity, such as Bali, are also among those top 10 regions. This result is rather unsurprising, as Java accounts for around 60% of domestic economic activity.

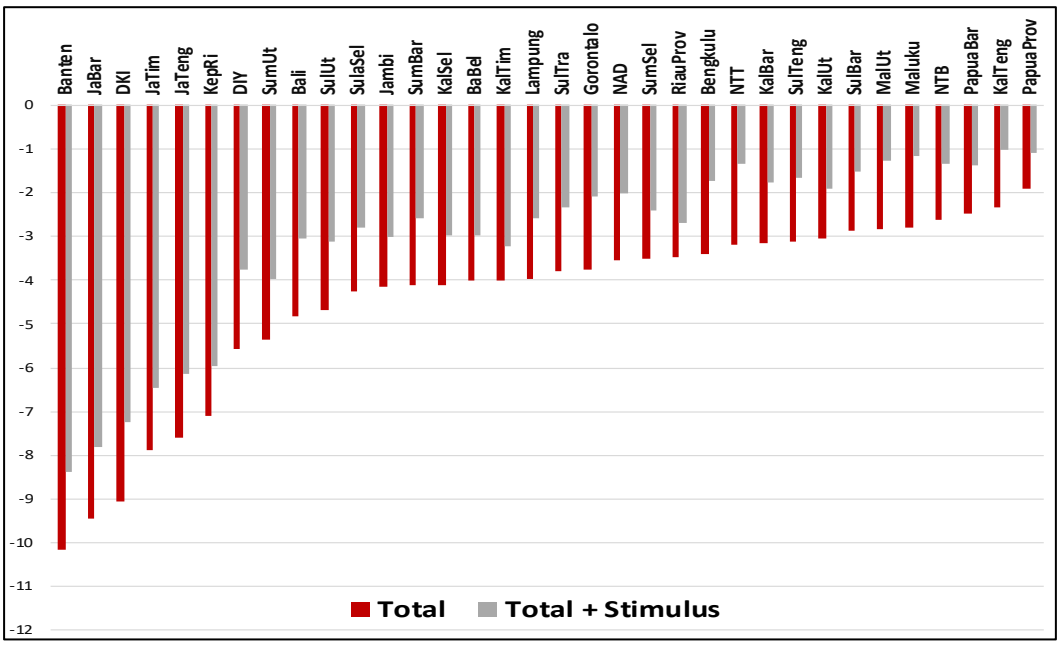


Figure I-7. Macroeconomic Impact of COVID-19 (in % change from "Business as Usual" (BAU)

Source: Authors' calculation

Two aspects that remain crucial in efforts to revitalize the economy are the environmental risks and the sustainability of recovery projects. Figure I-8 indicates the environmental and sustainability risks of GDP sectors using marker colors, where a greener color indicates a more sustainable sector[3]. The figure suggests that sectors scoring high on sustainability risks, such as the manufacturing and mining and quarrying sectors, have experienced a performance decline in the first quarter of 2020, while those that score lower on sustainability risks reported better performances in the same period. This implies an opportunity for Indonesia to promote greener sectors in its COVID-19 recovery trajectory, an especially crucial move if one considers the high sustainability risks posed by the current dominant sectors across all provinces in Indonesia (Figure I-8).

[3] Each sector's sustainability score is taken from the EU's EBRD database.

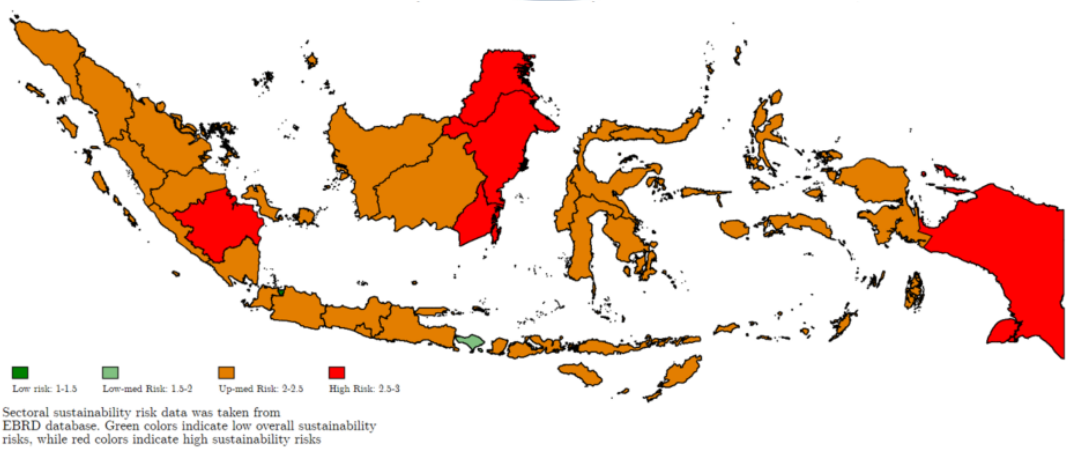


Figure I-8. Overall Sustainability Risks of Primary Sectors in Indonesia

Source: BPS-CEIC Database, compiled by author(s)

5. Linking to Employment, Poverty, and Inequality

Economic growth impacts employment and poverty rates. As such, any shock to the economy will translate into worsening employment conditions and poverty rates. Initially, the pandemic-imposed economic shock only affected China as the manufacturing industry in Hubei, China dwindled due to slower economic activity. However, since Hubei itself is a major manufacturing center, especially for motor vehicles, it caused a disruption of the global value chain. As a result, the disruption in China has produced employment repercussions elsewhere via the regional and global value chains, and these repercussions are noticeable even without taking into account the impact of the virus's spread, which further affects poverty.

Some studies investigating the impact of COVID-19 have shown the pandemic causing a major disruption to employment as well as poverty all over the world. In the U.S., COVID-19 has produced massive job loss throughout the nation. Still, the impact is not equal across all groups of the population. Workers in jobs or industries incompatible with remote working are hit hardest by adverse employment effects (Montenovo et al., 2020). Since minorities and those with lower incomes tend to hold these types of jobs, they are most significantly affected (Borjas & Cassidy, 2020; Fairlie, Couch, & Xu, 2020). Other than job loss, issues of downskilling (Campello, Kankanhalli, & Muthukrishnan, 2020) and job reallocation (Barrero, Bloom, & Davis, 2020) have also arisen as the pandemic continues to impact the labor market. Labor market condition in Norway show a similar pattern to those in the U.S.; in Norway, those with lower education levels, income levels, and social class backgrounds experienced the most severe effects from the pandemic (Alstadsæter et al., 2020). Meanwhile, the World Bank (2020e) predicts that over 11 million people in East Asia will fall into poverty in 2020. Adverse impacts could also be disproportionate in terms of gender, affecting women to a greater extent since they make up the majority of the part-time and informal workforce (Horváth et al., 2020).

Similar conditions also appear in Indonesia. Based on the latest BPS publication, poverty and inequality in Indonesia have been worsening. In March 2020, the poverty rate increased to 9.78% (BPS, 2020d), which was higher than in September 2019 (9.22%) and March 2020 (9.41%). Meanwhile, inequality, measured by the Gini Ratio, has been increasing as well, from 0.380 in September 2019 to 0.381 in March 2020 (BPS, 2020b). Although this increase seems small, it is important to interpret the figure by looking at the

context. When the pandemic in Indonesia "officially" began in March 2020 (with the discovery of the first case), figures of poverty and inequality were already rising. This means that the situation can only worsen under full-scale pandemic conditions.

By the end of May 2020, according to the Ministry of Manpower, three million workers were terminated or furloughed (CNBC Indonesia, 2020b). This number shows that the impact of COVID-19 has been severe at the national level. At the regional level, though, the impact varies.

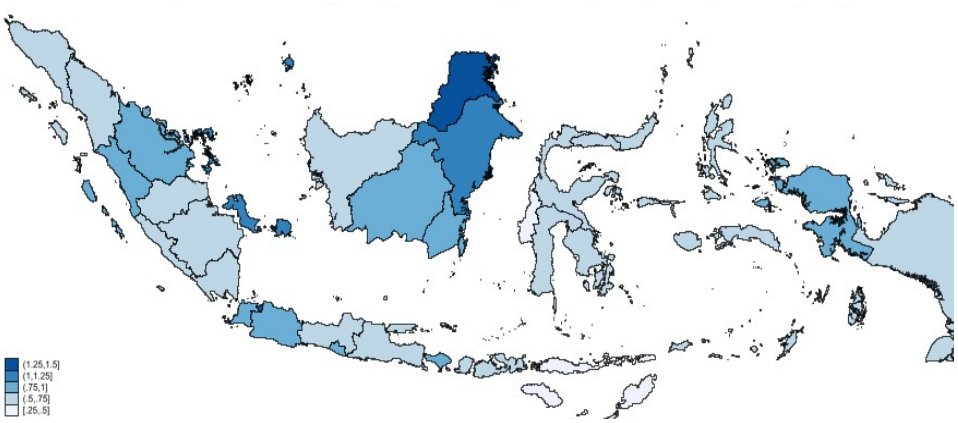
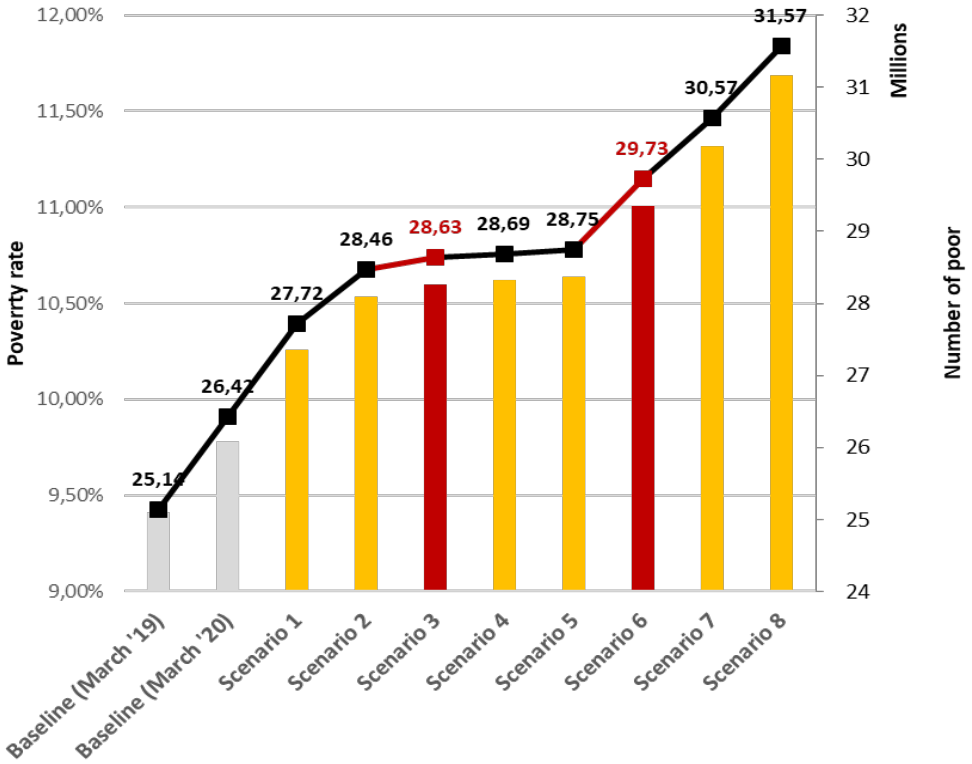


Figure I-9. Impact of 1% Change in Regional GDP Growth to per Capita Expenditure (in %)

Source: SUSENAS, calculated by author(s)

Historically, the impact of changes in economic growth toward per capita expenditures is different between regions. Some regions will see their poverty rates increase more than others due to larger elasticity to regional economic growth as well as varying macroeconomic impacts across regions. Employing SUSENAS data from 2009-2018, our estimation identifies Kalimantan Utara and DKI Jakarta as the regions that will be impacted the most by any changes in regional economic growth.

By using growth projections from various institutions, we simulate several possible scenarios for the ways economic shock (at the national or regional level) could affect the poverty rate in Indonesia. In our model, shocks at the regional level are translated into a reduction in per capita expenditures, where the elasticity is different between regions (Figure I-9). Per capita expenditures before and after a shock are compared with the poverty line in each region, while the former is used to calculate the poverty rate before the shock and the latter is used to calculate the poverty rate after the economic shock. In our simulation of the regional impact of COVID-19 (Figure I-7), we estimate that the poverty rate could rise to between 10.59% and 11.00%, depending on whether fiscal stimulus is given (Scenario 3) or not (Scenario 6). This poverty rate is equivalent to 28.63 to 29.73 million people living in poverty, which is two million higher than the official poverty headcount published by BPS in March 2020.



Note: Scenario 1: Based on MoF (upper-range) projection of 1% growth; Scenario 2; World Bank, 0%; Scenario 4: IMF, -0.3%; Scenario 5: MoF (lower-range), -0.4%; Scenario 7: OECD (upper-range), -2.8%; Scenario 8: OECD (lower-range),-3.9%

Figure I-10. Poverty Rate under Different Scenarios of Growth

Source: Authors' calculation

Similar to our estimation on the macroeconomic impact of COVID-19 on each region (Figure I-7 in Section 1.4), we found that provinces in Java, which suffered the largest economic impact, will also experience the highest increase in poverty. Regions such as Jawa Barat, DKI Jakarta, Jawa Timur, and Banten are some of the provinces in Indonesia with the largest populations as well, which partially explains why the increase in the number of poor is the highest among these regions.

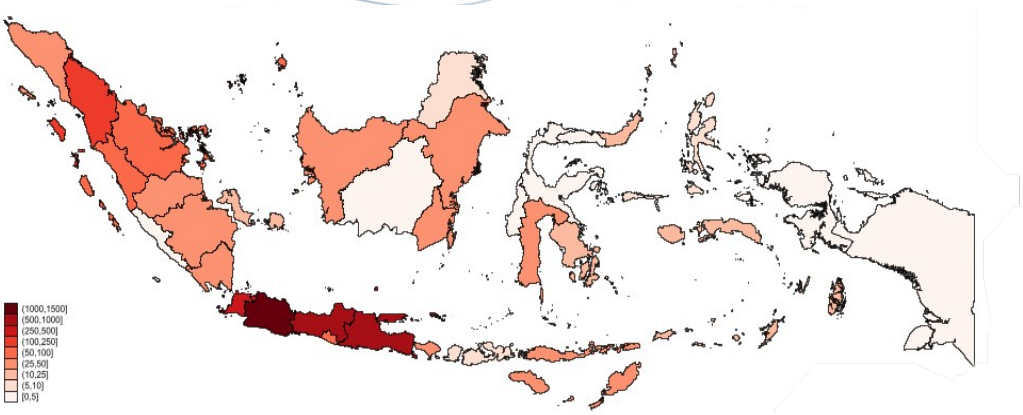


Figure I-11. Poverty Impact at Regional Level without Fiscal Stimulus (in thousand people)

Source: SUSENAS, calculated by author(s)

2

Government Responses

II. Government Responses

This chapter focuses on government responses to this crisis by first summarizing some of the globally implemented government responses. We also provide some specific countries' actions and the recovery response's effectiveness on the pandemic outbreak. Furthermore, we encapsulate some of the Indonesian government's responses during this crisis.

The COVID-19 pandemic is not only affecting the health of the population, it is also causing disorder in many aspects of their lives. In addition to the risk to millions of people's lives, COVID-19 brings individual, national, and global economic turmoil. Furthermore, the economic crisis we are facing is like no other crisis we have seen, at least in the last century. Thus, the current condition requires the government and policymakers to put their best effort into weathering the shocks and minimizing the damage. Policymakers worldwide have been taking extraordinary measures to manage the crisis by flooding the world with massive fiscal and monetary stimuli such as funds for the health sector, social safety nets, economic recovery programs, quantitative easing, and credit relaxations.

1. The Caveat of Responses

Despite their own policymakers' efforts, each country's phase on the spectrum of progress toward recovery varies. Luohan Academy's proposed phases for pandemic economic tracking and measuring are as follows:

1. Early Warning and Preparation

   With the signs of an outbreak within a country, some economies trigger early warning systems and immediately introduce pre-emptive measures. At this point, the measures aim to contain the virus's spread by constructing risk perception for individuals to improve citizens' responsibility for their protection. Perhaps this perception provides the basis for protective action decision-making, which combines with situational facilitators and impediments to produce a behavioral response (Donahue, Eckel, & Wilson, 2014). The response can be characterized as mitigation that includes information searches and the protective response of obeying health protocols. Therefore, the construction of risk perception in the preparation phase encourages households to make risk-reduction decisions through mitigation actions (Lindell & Perry, 2012).

   Another common policy measure is travel bans. If implemented in a strict and timely manner, travel bans can effectively and economically contain the virus during the early phase and prevent loss of life. In the case of China, new cases of COVID-19 and fatality rates have both declined significantly. However, the measures taken to stem the public health crisis may still lead to a domestic economic meltdown that could affect international trade, global production networks, and value chains (Huang, Lin, Wang, & Xu, 2020).

2. Emergency Response

   In the midst of the pandemic, countries across the globe have been refocusing their national budget allocation on mitigation programs that aim to minimize the damage of COVID-19. International financial institutions are also involved in responding to the catastrophe by providing funding to particular countries. As reported on May 30th, a loan of approximately USD250 million was provided by the World Bank to support Indonesia's COVID-19 response. The funds will strengthen the country's emergency

response to the pandemic, including improving intensive care capacity, providing more personal protective equipment (PPE), and improving laboratory network and surveillance systems (WHO, 2020a).

3. Trough

A delay in implementing containment measures results in the continued spread of the virus. Mobility needs to reach the point where the effective reproduction number4 drops significantly below 1. Some countries, such as Australia, Austria, Norway, Germany, and Denmark, have managed to reach this goal within a short time (1–3 weeks), thanks to decisive and swift actions (Vally, 2020). However, most economies have taken more time to respond. In the trough phase, both mobility and economic activity remain substantially subdued.

4. Recovery

In this phase, after the epidemic is effectively contained, an economy starts to recover gradually, first in sectors and regions where necessary conditions are met, and distancing is gradually reduced. If viral spread intensifies due to increased economic activity, the economy will return to the second phase. At present, no economy has completed the fourth phase. As long as the pandemic is raging, there can be no return to the "old normal" (Olivia, Gibson, & Nasrudin, 2020). Most countries are clearly worried about the further danger of subsequent waves of infection. With the appearance of ineffective controls of the virus in some countries, there may be no return to normality for at least a year (Baldwin & Mauro, 2020).

All economies are proceeding cautiously and exploring solutions in consideration of the situations above. Consumers and investors need time for their confidence to be restored. Many countries and regions may stay in the recovery phase for months, or even years, until an effective vaccine is found and deployed.

5. Vaccination

This phase is marked by the successful development, production, and deployment of vaccines to all populations. This is the real herd immunity, and it signals the end of the pandemic economy. However, it should be noted that the economy will not decouple from the pandemic. Due to limitations in production capacities and costs as well as differences in needs and legislation across countries, the length

[4] The effective reproductive number (R) is the average number of secondary cases per infectious case in a population made up of both susceptible and non-susceptible hosts. If R>1, the number of cases will increase, such as at the start of an epidemic. Where R=1, the disease is endemic, and where R<1 there will be a decline in the number of cases.
The effective reproduction number can be estimated by the product of the basic reproductive number and the fraction of the host population that is susceptible (x). So:
$R = R_0x$
For example, if R_0 for influenza is 12 in a population where half of the population is immune, the effective reproductive number for influenza is 12 x 0.5 = 6. Under these circumstances, a single case of influenza would produce an average of 6 new secondary cases.[1]
To successfully eliminate a disease from a population, R needs to be less than 1.
Source: https://www.healthknowledge.org.uk/

The effective reproduction number data for Indonesia and its 34 provinces is updated daily and can be accessed through: *http://covid.bappenas.go.id*

of this period at the global level may be much longer than what is perceived and expected by the general public. Variation in the length of time in this phase may also occur across countries.

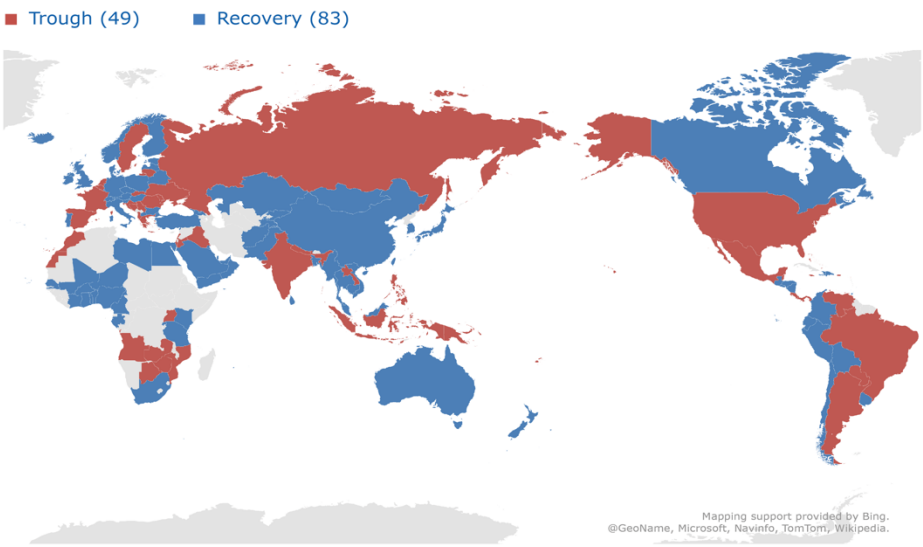


Figure II-1. Global Recovery Response (as of Novemberi 2020)

Source: Luohan Academy

As shown by Figure II-1, most countries are in the "recovery" phase. However, most developing countries and countries that are not managing the crisis well are stuck in the "trough" phase, which is the phase with the most severe economic contraction. Additionally, the phases are not necessarily linear; a country can regress. For example, a country that is in the recovery phase can fall back into the trough phase. Therefore, as there is no concrete "safe" state in the recovery process, countries need to remain vigilant and maintain their focus in fighting this pandemic to lessen the economic impact. Looking in details on Figure II-1, Indonesia is among the countries struggling in the "trough" phase. This might be unsurprising as the number of positive cases in Indonesia is still growing, and new epicenters are emerging across Indonesia.

Considering the situations above, Indonesia's government is working to rectify the imbalance that policymakers say exists between containing the COVID-19 virus and protecting the economy. Controlling the pandemic aims to flatten the epidemiologic curve, which is mostly done through social distancing policy. The social distancing policy limiting person-to-person contact has a substantial impact on economic output and leads to an economic slowdown. Therefore, there is an unavoidable trade-off in which efforts to flatten the infection rate reduce economic activity (Baldwin & Mauro, 2020). However, the experiences of other countries such as China, Singapore, and Thailand show that a strict virus containment policy will hamper the economic output in the short term but that the economy will recover quickly. In contrast, a less strict virus containment policy will lengthen the economic recovery process because more time is needed to return to normal after a poorly managed viral spread.

An estimation from Louhan Academy (2020) revealed a positive correlation between economic loss and life loss, indicating that countries suffering greater losses of life incurred greater economic losses as well

(see Figure II-). The life loss of the pandemic is simply measured by quantifying total COVID-19 cases and deaths. The pandemic's economic impact can mostly be classified into micro-, sector-, and macro-level, as explained in the previous section of this report. Economic loss is not measured only in deaths, sickness, and time spent caring for the ill but also in fear, stigma, and discrimination, significant drivers of economic development (Gong, Zhang, Yuan, & Chen, 2020). Yet, balancing viral transmission reduction and economic loss remains a challenge of epidemic control. In the interim, loosening epidemic control to protect the economy is probably not a sustainable option.

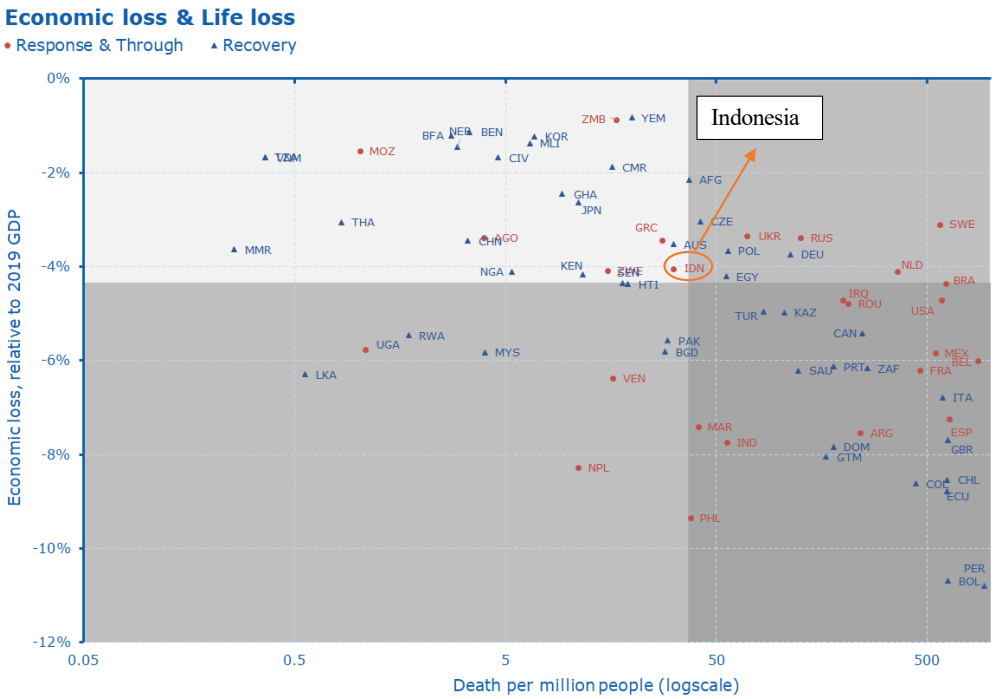


Figure II-2. Economic Loss & Life Loss (as of November 2020)

Source: Luohan Academy

As shown in Figure II-, although Indonesia appears near the desirable upper-left quadrant, it is positioned on the borderline of severe economic loss and life loss. Indonesia's economic projection is relatively low compared with its 2019 GDP, and deaths are high compared with other countries. Indonesia currently struggles in the trough phase; its delays in implementing containment measures have resulted in rising COVID-19 cases that have yet to peak.

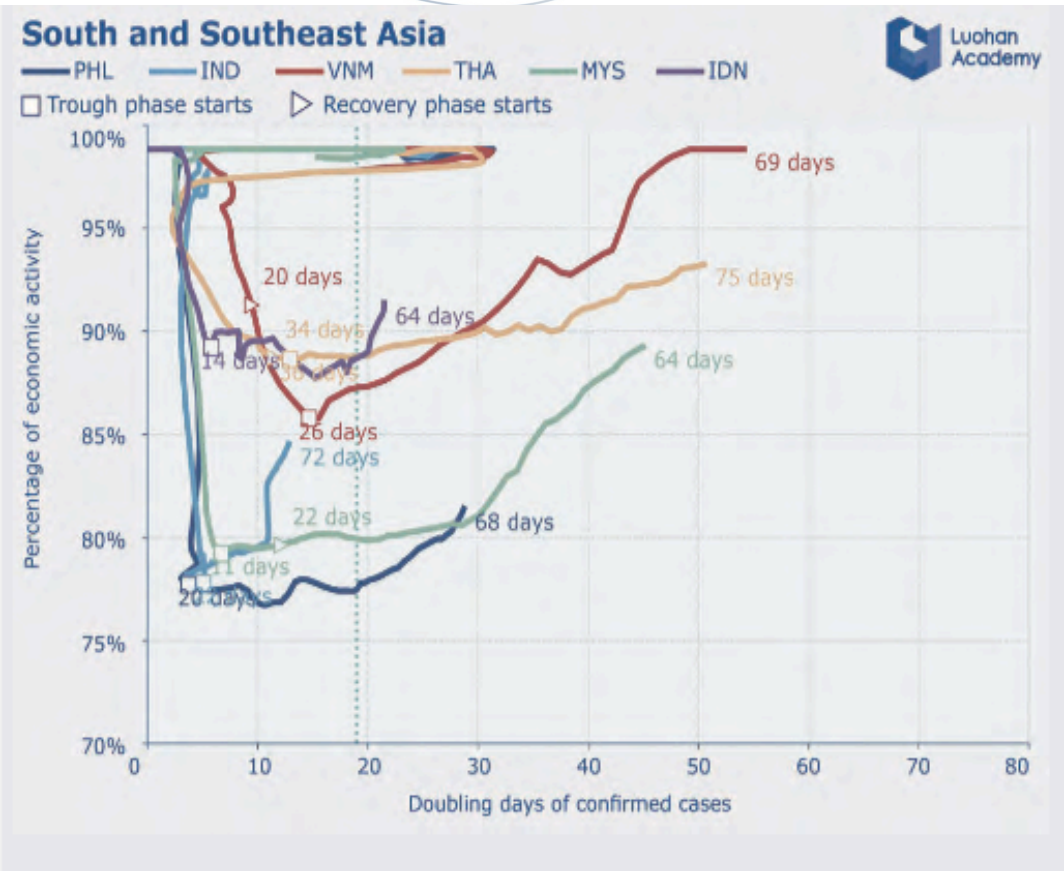


Figure II-3. Selected South and Southeast Asia Countries in the COVID-19 Circumstances

Source: Luohan Academy

Figure II- shows that Indonesia's doubling days number, or the number of days needed for total deaths to double, slightly exceeds the threshold. In the meantime, Indonesia's economy has recovered more than 90%. The situation is worse than in neighboring countries Vietnam and Thailand, which have made impressive progress.

Indonesia may move to the undesirable lower-right corner (see Figure II-) if the government cannot bring the epidemic under control in a timely manner. As of the writing of this report, Indonesia's COVID-19 case count is one of the worst in Southeast Asia, and it is feared that its doubling days rate will worsen. Effective pandemic control must accompany the government initiative to restart the economy. Government response will play a vital role in preventing Indonesia from being trapped in the lower-right quadrant.

2. Various Government Responses in the Recovery Phase

In order to limit the human and economic impact of the COVID-19 pandemic, governments are responding in ways that are socially and economically key. Countries are campaigning for social and physical distancing, mass testing, clean and healthy lifestyles, and other measures to flatten the confirmed case curve. Some others also adjust medical capacity by building emergency hospitals and utilizing hotels and public

accommodations for quarantine and in-hospital treatment. The role of digitalization and technologies is substantial in preventing the spread of the virus: A tracing application launched by Singapore as well as robot and telehealth technologies by Australia, India, and the United States are used to reduce the burden on hospitals and doctors. Efforts to enlarge healthcare system capacity include increasing healthcare staff (calling back retired staff and early graduation for senior medical students), relaxing specific regulations (test tools, drugs, ventilator imports, etc.), and providing incentives for vaccine development. Governments should be flexible with their budgets to effectively respond to the pandemic with, for example, compensation for salary loss due to compulsory quarantine (Singapore) and monetary incentives for self-reporting (Singapore and particular provinces and cities of the Republic of Korea and China). Now, progress on reopening the economy varies across the country based on readiness stage and case updates. Therefore, strengthening healthcare capacity is critical to supporting economic recovery.

On the other hand, tackling severe economic impact is unavoidable for almost all countries affected by COVID-19. Government instruments on fiscal and monetary policy are adjusted in a reasonably short time to limit economic loss both in the short and long term. Fiscal measures to support jobs and living standards are needed on two fronts: (i) fiscal support for employers to retain jobs, and (ii) direct support for individuals and households to guarantee minimum living standards (UNESCAP, 2020). The former includes targeted tax exemptions and fiscal subsidies to SMEs, the informal sector, and the most affected businesses for business and employment continuity. The latter includes emergency measures to extend medical and employment insurance to those not sufficiently covered or direct cash transfers for consumption smoothening. There are various examples of such policies already being implemented in the region: China has focused on supporting SMEs by waiving or delaying their social security contributions and deferring land-use rents and property taxes; Japan is supporting SMEs by providing wage support and consultative services; and Hong Kong, China, and Singapore have rolled out specific funds to support low-income households and subsidize sectors including retail, food, transport, and tourism.

Some countries focus on reducing the impact through unemployment enhancement. The United States applied direct deposit emergency relief funds for all taxpayers below certain income thresholds. This program is expected before the end of April. Meanwhile, South Korea disbursed emergency cash payments of up to KRW1 million (USD$820) for all families except those in the top 30% of income earners. Another example is Canada's provision of CAD500 a week for up to 16 weeks to individuals eligible for employment insurance through the Canada Emergency Response Benefit (CERB) (Deloitte, 2020).

Moreover, Australia, Canada, and the United Kingdom are subsidizing wages through different schemes. Employers applying for subsidy schemes must retain employees and ensure complete pass-throughs of the benefit. Australia is also providing cash flow support of up to AUD100,000 each for small- and medium-sized businesses and nonprofit organizations. Meanwhile, the Danish government is covering up to 75% of wages for salaried workers, and New Zealand is sending a one-time subsidy of about NZD7,000 to full-time employees.

In addition, fiscal responses to overcome the economic impact have varied between countries. Thailand initiated a fiscal package of at least 9.6% of GDP for health-related spending; assistance for workers, farmers, and entrepreneurs affected by COVID-19; support for individuals and businesses through soft loans and tax relief; lower water and electricity bills; social security contributions; and measures to support local tourism. Meanwhile, the four phases of Malaysia's fiscal stimulus package focus on increased health spending, temporary tax and social security relief, cash transfers to affected sectors, rural infrastructure spending, cash

transfers to low-income households, wage subsidies to help employers retain workers, and grants for micro SMEs (IMF, 2020a)

South Korea also established three phases of a supplementary budget. The first focuses on disease prevention and treatment, loans and guarantees for affected businesses, support for affected households, and support for affected local economies. Expansion of employment financial support for companies, employment and social safety, and disease control continue to be implemented in the second and third phases of the supplementary budget. Furthermore, South Korea promotes spending on digital and green industries through a new policy package (Korean New Deal). The package aims to transform the economy from a fast follower to a leader and from carbon-dependent to green, with a more inclusive society (IMF, 2020a).

On the other hand, monetary policy should support the health and stability of the financial sector, which can be done by supplying sufficient liquidity to the banking system. Implementing this measure would require a reduction in interest rates by central banks. Targeted financial support through subsidized loans can also be directed to SMEs in affected sectors that are most vulnerable to financial stress. Other financial measures can include targeted credit support for companies that directly participate in pandemic control and emergency loans and credit guarantees to address supply chain disruptions. There are various examples of such policies in the region. is China's implementation of targeted cuts in the reserve requirement ratio and the re-lending program to guide funds into small companies, the private sector, and manufacturing (UNESCAP, 2020). China's central bank provides targeted credit support for companies that directly participate in pandemic control, such as those in the healthcare sector. Japan has introduced emergency loans and credit guarantees for SMEs to address supply chain disruptions, particularly those in the tourism sector. India's central bank has introduced measures to pump liquidity to increase credit access for the pharmaceutical, construction, and tourism industries.

Besides fiscal and monetary policies, governments also enforce trade policies as the pandemic's recovery measures through many forms. First, governments remove tariffs and unnecessary non-tariff measures on the imports of essential medicines, medical equipment, and related inputs. Governments in the region and beyond should urgently review existing trade regulations, both tariff and non-tariff, to ensure timely access to affordable and trustworthy medicinal and related products. Some countries in the region have already scrutinized their inbound trade regulations on health products. For example, Thailand's government recently removed an excise tax on medicinal alcohol for use in hand sanitizers. Second, governments avoid beggar-thy-neighbor policies to help countries fight the pandemic. Since the beginning of 2020, many governments have taken steps to ban or limit the export of medical equipment and medicines. The key argument has always been that countries have to prioritize the welfare of their citizens. While understandable, such measures deny the most vulnerable countries access to vital supplies to fight the pandemic. It is recommended that countries realistically assess their need for critical supplies and work collaboratively to serve those in need and those without productive capacity (UNESCAP, 2020).

As mentioned before, many countries are in the recovery phase of the COVID-19 crisis. The stage and result of responses vary depending on the nature of the shock and country-specific circumstances. In line with the effort to get the pandemic under control, broad-based fiscal stimulus is indispensable to support the economic recovery. The policy could focus on public investment, including physical and digital infrastructure, health care systems, and the transition to a low-carbon economy. For some countries with limited fiscal space, revenue must be reoriented, spending increased, and productive investment incentivized. Making some

adjustments (for example, relaxing eligibility) to social protection programs more long-lasting can enhance automatic stabilizers and help tackle rising poverty and inequality. All measures should be embedded in a medium-term fiscal framework and transparently managed and recorded to mitigate fiscal risks, including loans and guarantees that do not have an immediate effect on government debt and deficits (IMF, 2020b).

3. How the Government of Indonesia Response to COVID-19

In order to reduce the impact of the COVID-19 pandemic on the economy, the Indonesian government initiated the National Economy Recovery Program (PEN). This is a government response to the significant economic impact of social activity limitations, particularly for informal sectors and MSMEs. In total, the Indonesian government has allocated a budget amount of IDR695.2 trillion, which shared into several budget post.

MSMEs have the largest share of the budget because PEN's main objective is to increase MSMEs' productivity and retain their economic contribution. MSMEs is one of the leading sectors in Indonesia, employing many people. With the decreasing demand due to the COVID-19 pandemic, many MSMEs stopped production. The government allocated IDR244.07tn for this sector, or 35.11% from the allocated budget. There are several programs created to support the MSMEs in the form of financing incentives and corporate tax incentives. Figure II- shows the incentives and allocated budgets.

Decreasing income leads to an increase in poverty and vulnerability. Thus, to keep poverty under two digits, the government allocated 29.33% of the allocated budget to support social protection and consumption through social assistance. The total allocated budget is IDR203.9tn. This budget is not only to finance the new programs but also to scale up the benefit and coverage of existing programs for the poor, the vulnerable, and those impacted by the pandemic. In the existing program, the government increased the benefit of the PKH program from IDR300,000 to IDR600,000. PKH is the largest conditional cash transfer program in Indonesia. In addition, the government allocates IDR43.6tn for Kartu Sembako, the program that enables the poor to pay for basic needs, especially meals. This kind of social protection is also given to the vulnerable (decile 5) in the Jabodetabek area.

The government also creates several new programs in the form of cash transfers, such as Bansos Tunai (non-Jabodetabek) and BLT Dana Desa. The targets of these programs are those in deciles 4–5, the poor who are not covered by any other social protection, or those who have been impacted by the pandemic. The government has also provided a discount on electricity beginning in April 2020. Households in the 450 VA category receive free electricity for three months. Meanwhile, those in the 900 VA category receive a 50% discount for three months

The government also initiated a new program called Kartu Pra Kerja. This program provides a kind of conditional cash transfer to those who have lost their job or are looking for a job and willing to learn a new skill. The training program is offered by the government but conducted by several providers. The beneficiaries use the money received to pay the training tuition and the rest is replacement for their lost income.

Additionally, 15.26% of the allocated budget is used to support the local government's economic recovery and sectoral groups. The government also allocates this budget to support impacted sectors such as tourism (IDR3.8 trillion) and labor-intensive sectors (IDR18.44 trillion). In terms of infrastructure, the government also allocated IDR1.3 trillion to finance housing for the poor.

In the health sector, the government allocates 12.59% of the budget to finance all expenditures related to COVID-19, including incentives for medical workers. This budget is also used to support the premium of BPJS Health. The government also allocate 7.71% of the budget to support state-owned enterprises.

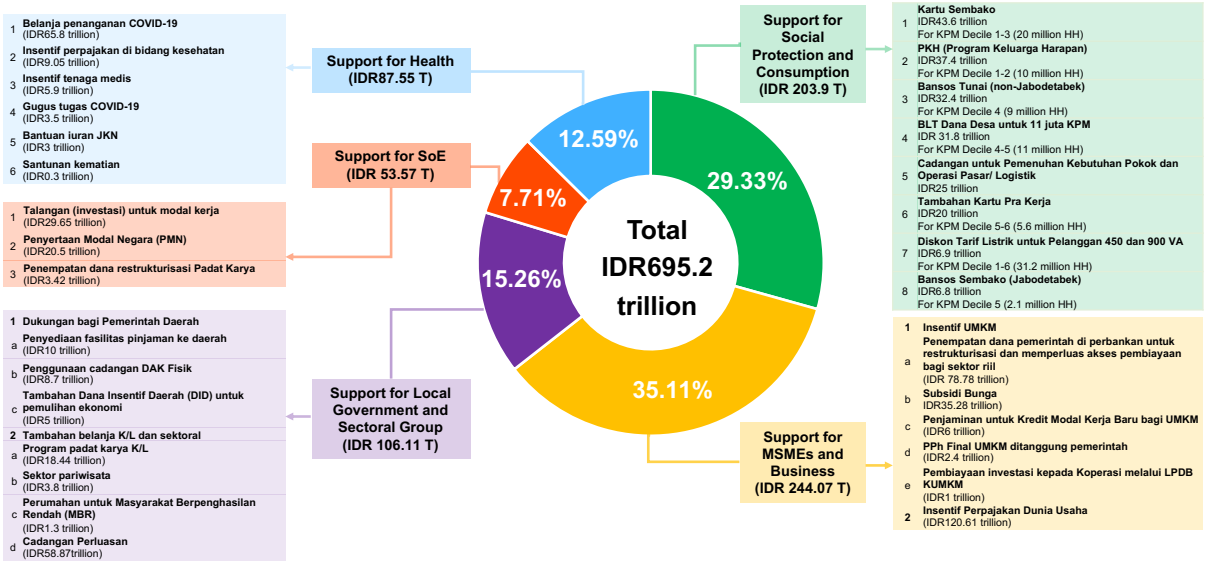


Figure II-4. Fiscal Response through Program Pemulihan Ekonomi Nasional

Source: Ministry of Finance

Furthermore, according to the 2021 State Budget Plan, the government continued the PEN program by allocating IDR356.5tr. The biggest share (38.3%), IDR136.7tr, is allocated to support ministries and local government. This budget will redevelop the tourism sector, provide food security, expand internet access, support local government loans, support labor-intensive companies, and provide expenditure reserves for the program. The social protection program also continues to cover more beneficiaries. The government allocated IDR110.2tr to support this program. The cash transfer program continued for six months and was given to 10 million beneficiaries. To support the MSMEs, the government allocated 13.7% of its budget. Meanwhile, for the health sector, the government allocated 7.1%. This budget will be used to provide the COVID-19 vaccine, more lab testing, and support for the JKN program.

3

COVID-19 Pandemic and the SDG Targets

III. COVID-19 Pandemic and the SDG Targets

As a global platform for achieving a better and more sustainable future for all, the Sustainable Development Goals (SDGs) feature 17 goals to be achieved by 2030 so that no one is left behind. The SGDs address global challenges related to poverty, inequality, climate change, environmental degradation, and peace and justice (UN, n.d.). All countries are struggling with the SDGs addressing their specific challenges. Making changes in economic practices already represented a huge effort for most countries pre-COVID-19, particularly those still lagging behind, including those with emerging economies such as Indonesia. The COVID-19 pandemic has made it necessary to re-assess the current situation, or baseline condition, and the suitability of the existing targets in terms of resolving the severe impact of the pandemic. It may be necessary to find new ways to achieve (new) targets.

The next section will discuss how the pandemic has impacted the SDG targets. It will begin by discussing the environmental and social risks of the current economic practices and some insights into how COVID-19 increases the magnitude of these risks. The discussion is followed by an examination of which SDG goals might not be achieved due to the impact of COVID-19. The final part of this chapter will address alternative policies that need to be considered to achieve the SDG targets in the future.

COVID-19 has, and will continue to, affect SDG target achievement. An evaluation of the pre-COVID-19 situation points to the lack of progress on several goals. The number of people suffering from hunger was on the rise, climate change was occurring much faster than anticipated, and inequality continued to increase within and among countries (UN Economic and Social Council, 2020). While COVD-19 is severely undermining prospects for achieving SDG 3 due to the crisis in the global health system, it is also having far-reaching effects on all other SDGs (Solberg & Akufo-Addo, 2020).

1. How COVID-19 is Escalating Environmental and Social Risks

More effort has to be put into mitigating the environmental and social risks of current economic practices, and the pandemic has been increasing these risks. Table III-1 below identifies the environmental and social risks that must be addressed.

Table III-1. Potential Increases in Environmental and Social Risks due to the COVID-19 Pandemic

Environmental Risks	Social Risks
Disruption in the food supply chain	Increasing poverty
Waste and medical waste problems	Escalating unemployment
Air pollution	Worsening inequality
Water shortages	Increasing mental health problems
Increasing intensity and severity of climate-related disasters	

Disruption in the food supply chain. In addition to the damage it is inflicting on health and the economy, the novel coronavirus is also impacting social aspects, including food security. In the midst of the pandemic, it is imperative that food and nutritional assistance be provided to strengthen the immune systems of those who are the most vulnerable to the consequences of this pandemic, i.e., individuals with severely limited or no capacity to cope with either the health or socioeconomic aspects of the shock.

Food security is highly linked to food availability and accessibility. Regarding food availability, which is directly connected to the supply side, the harvest has been an issue since extreme weather has created uncertainty in food production. Moreover, the restrictions in movement used to contain the spread of the virus have disrupted the transport and processing of food and other critical goods, increasing delivery times and reducing the availability of even the most basic food items. Hence, disrupted global supply chains and protectionist measures could worsen food insecurity, particularly in developing countries.

For example, if particular net exporters of staple foods, such as Vietnam, limit, say, rice exports and prioritize domestic needs,[5] then importers, such as Indonesia, will be impacted. Even though food production is estimated to be secure, disrupted global supply chains could lead to shortages.

In addition, protectionism measurements, such as export bans, will potentially increase food prices. In the short term, prices globally traded food commodities could rise if major importers respond to the situation with panic buying. Furthermore, countries that rely on food imports will experience additional increases in food prices if their currencies depreciate further relative to the US dollar. Any situations affecting a country's food accessibility will decrease the food security in that country.

Waste and medical waste. As a result of the Large-Scale Social Restrictions (PSBBs), people are supposed to spend most of their time at home and limit their outside activities. During the quarantine, daily digital transactions have increased 26%. Consequently, the generation of household waste (particularly from digital transactions) has increased. In addition, the government has prohibited dine-in transactions in restaurants and mandated that customers take away their orders, generating more waste.

Leaving aside the issue of household waste, what is more concerning is the medical waste generated during the pandemic. During the COVID-19 outbreak in China, infectious medical waste increased by 600%, i.e., from 40 tons per day to 240 tons per day.[6] In Jakarta, the epicenter of the pandemic in Indonesia, the additional medical waste has been estimated to be 212 metric tons per day.[7] In just 60 days, the total possible production could be 12,750 tons.

The pandemic is exposing how fragile Indonesia's waste, especially medical waste, management practices are. During the pandemic, only 96 hospitals have been able to use their incinerators to get rid of their trash.[8] Meanwhile, there had been an increase of 30%, or 380 tons per day, in medical waste across Indonesia. The remaining hospitals have relied on third-party waste management companies, which often operate without accountability and transparency, to remove their waste. Therefore, it could not be surprising that 43% of Indonesia's medical waste has not been not managed properly.

[5] https://tirto.id/mendag-thailand-vietnam-batasi-ekspor-pasokan-beras-ri-terancam-eLib
[6] https://www.hsdl.org/?abstract&did=841573
[7] https://databoks.katadata.co.id/datapublish/2020/09/25/pandemi-memicu-lonjakan-limbah-medis-di-asia-tenggara
[8] https://kanalkalimantan.com/awas-limbah-medis-covid-19-bisa-menjadi-problem-baru-yang-mengancam-masyarakat/

Medical waste can be significant source of the spread of infections. Given that medical waste is not only generated by businesses, including health facilities, but also by households via the disposal of after-use health equipment, such as masks, the situation is quite serious. Low awareness of the proper treatment of medical waste at the household level (e.g., unsorted waste) increases the risk of the spread of the virus.

Air pollution. At first, the unprecedented PSBB measures had short-term advantageous effects on the environment. The policy that encouraged people to minimize their commuting and travel activities reduced air pollution significantly. During the PSBB, the nitrogen dioxide concentration in Jakarta's air dropped by 40% compared to 2019. At the global level, emissions are predicted to fall by 8% in 2020 compared to 2019.

Besides the well-documented general health risks, there is a risk of underinvestment in the green agenda as economic recovery is prioritized "at all costs." Once the PSBB policy and the restrictions on movement were lifted, the air quality worsened. In the case of Jakarta, the air quality in the second week of June was recorded as the worst in the world, with an AQI index reading of 177 (not healthy).

The COVID-19 outbreak has made people fearful of using public transportation. People currently prefer to use private transportation, which is mostly carbon intensive and contributes significantly to worsening the air quality. In addition, to increase industrial activity, the government has relaxed particular environmental protections. These conditions could result in a severe setback in the long run if the original protections are not duly put back into force after the state of emergency is over.

The aftermath of 2009 economic recession could be used as a warning regarding the environmental risks associated with the COVID-19 pandemic. During the 2009 crisis, global emissions rose by 5% as economic stimulus measures kicked in. Failing to embed sustainable policies in the COVID-19 recovery policy might result in environmental risk, including worsening air quality. Oil prices remaining historically low for a sustained period could add to this risk as well. Therefore, the ways in which the government restarts the economic engines do matter in terms of environmental risk, more precisely, the air quality.

Water shortages. COVID-19 has had an adverse impact on several environmental conditions, including water. In many parts of the world, there have been significant improvements in air and water quality thanks to the restrictions that ground industrial activities and travel to a halt across the globe. However, several precautionary measures have been needed to prevent infection, including a massive handwashing campaign, which has led to high demand for clean water. According to UNICEF, up to 40% of the global population or around 3 billion people, does not have access to water and soap for handwashing at home (UNICEF, 2020b) making them vulnerable to exposure to the disease. The situation is particularly acute for low-income individuals. Government intervention has become critical, not only to control the pandemic but also to create a more resilience community.

Moreover, climate change may be placing people in further jeopardy. In 2020, El Nino in Indonesia may be prolonged, with up to 30% of Indonesian regions predicted to be drier than average, which will lead increased vulnerability in terms of water shortages. The issue will not only affect households and communities combating the virus but will also increase the risk of crop failure at this critical time. According to the Indonesian National Disaster Management Authority (BNPB), there were 218 cases of drought in 2011,which rose to 1,529 cases in 2019, although there have been great fluctuations in case numbers in the last ten years (BNPB, 2020). Nonetheless, the drought situation will eventually worsen disruptions in the food supply chain and increase food insecurity at the global level.

Increasing intensity and severity of climate-related disasters. Although COVID-19 and natural disasters follow different paths, they may converge in complicated and destructive ways. In the last ten years, the number of yearly disasters has continued to rise from 1,629 cases in 2011 to 9,375 cases, an almost five-fold increase, in 2019 (BNPB, 2020). According to the Center for Volcanology and Geological Disaster Mitigation (PVMBG), 13 volcanoes in Indonesia were currently active on April 30, 2020 (BBC, 2020b). In early August 2020, Mount Sinabung in North Sumatera spewed volcanic ash, which was then followed by tectonic earthquakes (Gunawan, 2020). On Monday, July 13, 2020, flash floods hit the North Luwu district in South Sulawesi, killing at least 30 people. In addition, 40 people went missing, and thousands of households were affected in the midst of the pandemic (BBC, 2020a). The runway at a local airport was swamped by mud and debris, making it inaccessible for rescue operations and aid delivery.

Maintaining COVID-19 precautionary measures during a disaster is not a simple task. Medical facilities and evacuation centers need to accept victims while trying to maintain capacity at certain level to comply with physical distancing rules. Even more daunting, health facilities must attempt to maintain standards when even in normal times many hospitals have been struggling to obtain proper medical masks and personal protective equipment (PPE).

Increasing poverty. The COVID-19 pandemic not only hit the economy but also impacted poverty, unemployment, and inequality. The limitations imposed on economic activities significantly impacted the poverty rate due to decreasing incomes. Many formal workers were dismissed from work or had their salaries reduced; meanwhile, the informal workers had to stop their activities. This situation directly impacted many poor and vulnerable people.

Based on our calculations, in terms of poverty, the most impacted sector has been the green sector, which includes forestry, agriculture, animal husbandry, and plantations. The numbers of vulnerable people also exceeds the number of poor people, which means that extra attention should be paid to the vulnerable to keep them from falling below the poverty line. The forestry and agricultural sector has the highest poverty rate. It reaches 20%, whereas the percentage of vulnerable people in this sector is 27%. The wages paid in this sector are also the lowest among sectors. Animal husbandry has the second- highest poverty rate, at 16%, but its percentage of vulnerable people is even higher than that for forestry and agriculture, reaching 27%. In the plantation sector, the poverty rate is 14%, and the percentage of vulnerable people is 24%. Furthermore, as many infrastructure development projects were delayed or halted due to the pandemic, many construction workers have lost their jobs. Thus, the poverty rate this sector is all that different from that of plantation sector; it is currently 9%. Meanwhile, 23% of construction workers are vulnerable. The conditions in the other sectors could be seen in Figure III-1.

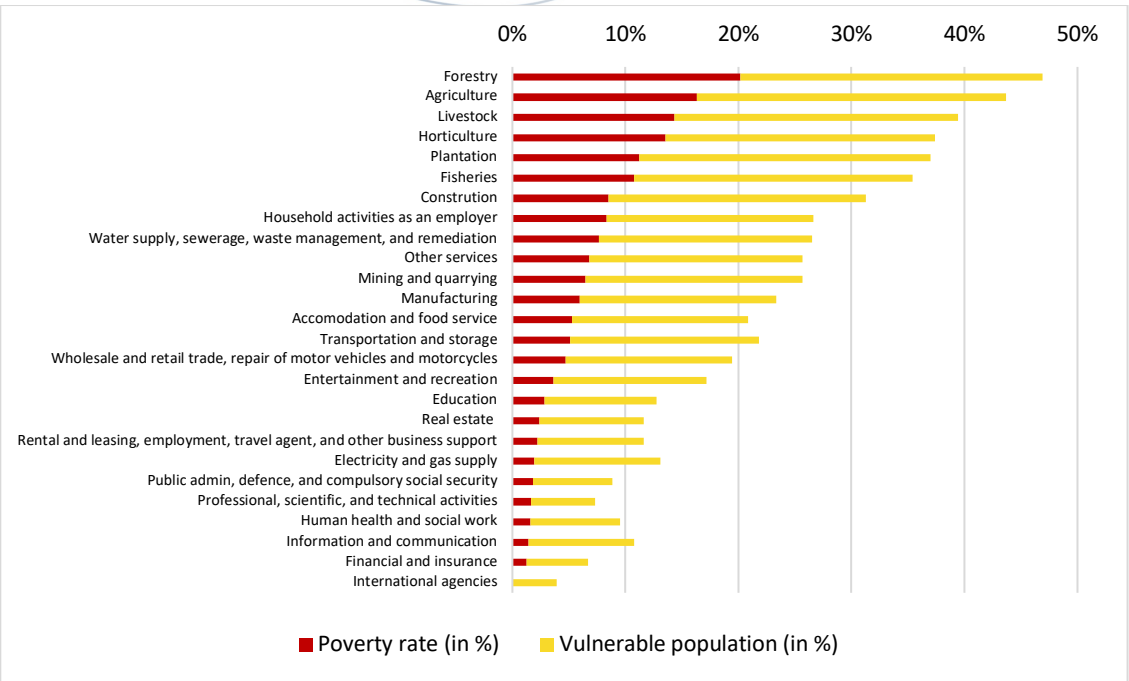


Figure III-1. The Percentages of Poor and Vulnerable Workers in Each Sector

Source: SUSENAS, calculated by authors

Furthermore, by comparing conditions before and after the COVID-19 pandemic, it can be seen that forestry had the highest poverty rate before the COVID-19 pandemic (20.2% in March 2019). The number of poor, however, was relatively small, which explains the incremental change in the number of poor. Agriculture, on the other hand, is the sector which has the largest change in the number of poor (an increase of more than 370,000 people). At the same time, it ranked second in terms of poverty before the COVID-19 pandemic, plausibly making it the priority sector from the perspective of poverty. Some other sectors have also shown dramatic increases in poor people, specifically trade, manufacturing, and construction, all of which involve many workers. Even though the poverty rates for these sectors are not as high as they are for the forestry and agricultural sectors, the number of poor people is relatively high., i.e., they all have more than 150,000 poor workers, see Figure III-2.

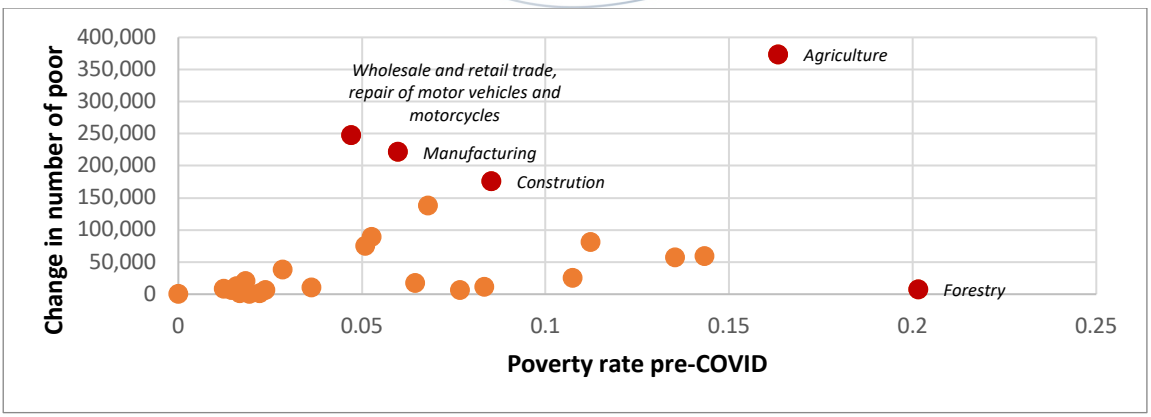


Figure III-2. Poverty Rates and Changes in the Number of Poor

Source: Authors' calculation

The changes in the number of poor in these sectors have transformed the composition of the total poverty headcount. As the sector with the highest number of workers and the biggest proportion of poor and vulnerable people (Figure III-1), agriculture made the largest contribution to the total poverty headcount (11.56%) before the pandemic. Our estimates show that agriculture will constitute 12% of total number of poor post-pandemic. Other than agriculture, sectors such as retail and trade, manufacturing, and construction have experienced some of the most difficult conditions.

Escalating unemployment. COVID-19 has had negative impacts on global employment. The International Labour Organization (2020b) estimates that there will additional unemployed people ranging from 5.3 million to 24.7 million due to COVID-19 from a base level of 188 million unemployed people in 2019. The number of underemployed workers, i.e., workers who work less than full-time, and informal workers is also expected to increase for at least two reasons: (1) many people, especially those in the lower wealth quintile, cannot afford to be unemployed for long periods and will therefore work in the informal sector or accept being underemployed; and (2) the unavailability of job openings in the formal sector. The pandemic has also disproportionately impacted workers with underlying health conditions; women, who are overrepresented in the most heavily affected sectors; workers with disabilities; and unprotected self-employed and casual workers.[9] COVID-19 has also put many workers in a more vulnerable position, as they have been unable to procure necessary protections against the disease as well as against decreased earnings.

The pandemic has had an undoubtedly negative impact on employment in Indonesia. A recent LD-LIPI survey (2020) found that unemployment rate in April-May 2020 increased by 17%, which breaks down into15% laid off without severance pay and 2% laid off with severance pay. BPS (2020c) found that, during the COVID-19 pandemic, 22.74% of the respondents were not working, and 2.52% of the respondents had been laid off. The same trend was also found by Hanna and Olken (2020), and their recent survey pointed out that 67% of male and female respondents were currently not working. The Government of Indonesia (GoI) through the Ministry of National Development Planning/Bappenas also projects that the unemployed rate in

[9] Samudra, R. R. and Setyonaluri, D. (Forthcoming). Inequitable Impact of COVID-19 in Indonesia: Evidence and Policy Response. UNESCO Report.

2020 could reach 8.1% to 9.2% due to the pandemic, meaning that labor market progress in Indonesia is being set back ten years (Thomas, 2020).

Worsening inequality. The COVID-19 pandemic has also impacted inequality. According to Baldwin and Mauro (2020), the impacts on inequality are worrisome. The gap between those who can work remotely and those that require face-to-face interactions will increase. Kudos to the Microsoft and Googles of the world who are paying the contractors who provide services at their now closed offices during the shutdown. However, like the small business owners who without support will be decimated by a multiple-month loss in foot traffic, these workers need a stake in the new economy.

In Indonesia itself, other than increasing the vulnerable population, inequality also presents some additional social risks. According to BPS, as of March 2020, 40% of the poorest population in Indonesia only contributed to 17.73% of total spending (BPS, 2020b). As the pandemic hit the economy, the impact on the poorest population 3sd the most severe. Based on the economic shock of 2005-06, which was large enough to increase the poverty rate, Suryahadi, Izzati, and Suryadarma (2020) found that the average change in per capita household expenditure was -6.1%. The impact, however, was more severe for those who were poorer. Sixty percent of the poorest was felt by the poorest 10% of the population (9% - 12% decline in expenditures). If this phenomenon also applies in the current crisis, this crisis poses massive social risks, as poor and vulnerable people will be threatened the most, potentially increasing inequality even further.

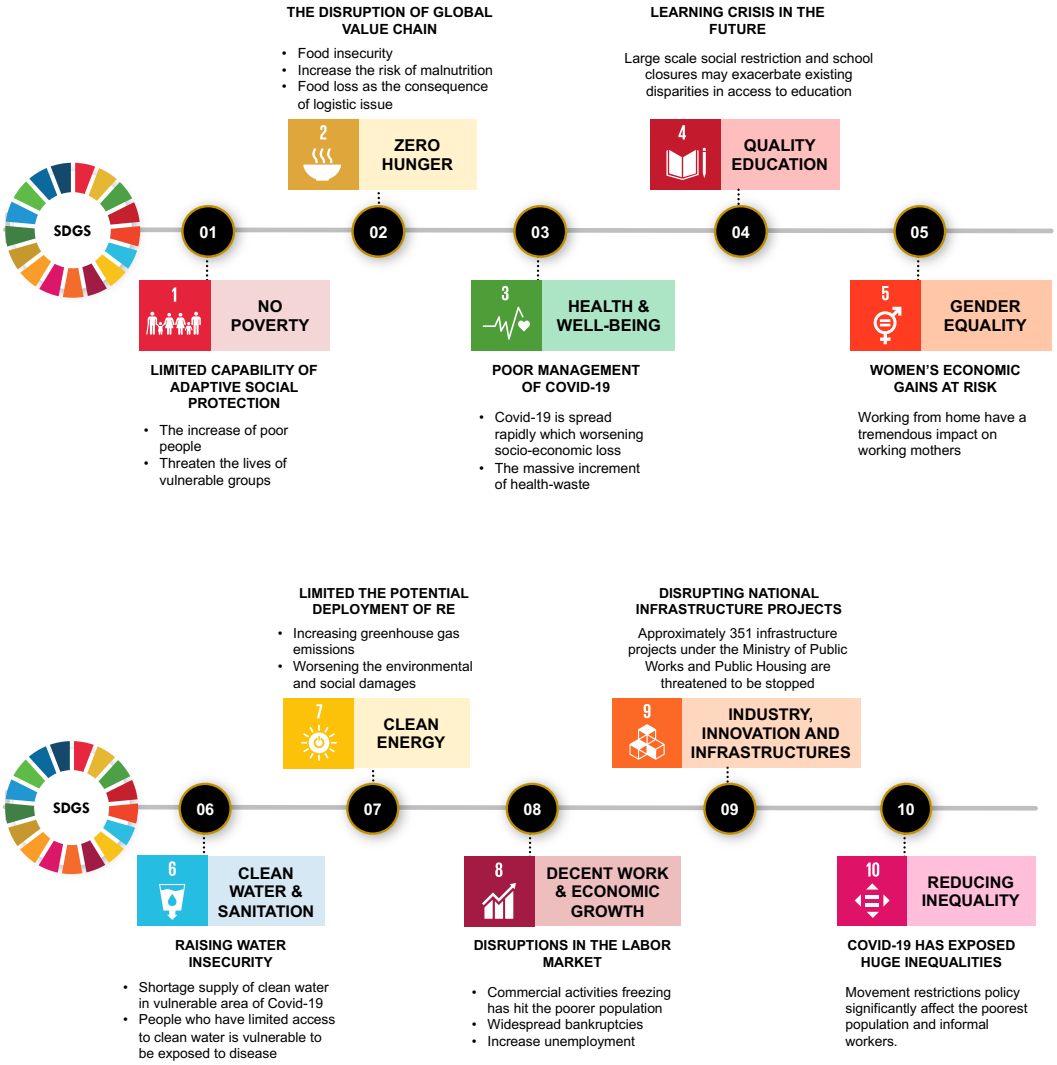
Many adjustments were made due to the outbreak of COVID-19. The government responded to the outbreak by increasing health services and realigning the national budget to finance these increases in the health sector, add social protections, help the economy through the down-turn, and extend support to communities. Health workers have had to work extra hours and are at high risk of being exposed to the virus. Furthermore, many people have had to limit their mobility due to physical distancing. Epidemics and pandemics have long been known to impact mental health in what has been described as a “parallel epidemic” (Vigo et al., 2020). This parallel epidemic can be broken down into four subtypes based on the subpopulations affected: general population, people with pre-existing mental or substance use disorders, people who provide essential services and are at increased risk of infection, and people who are infected by the pathogen.

A study conducted by Vindegaard and Benros (2020) using a systematic review found that patients have high levels of post-traumatic stress symptoms and significantly higher levels of depressive symptoms. A study of health workers also showed increases in depression, anxiety, psychological distress, and poor sleep quality. Rajkumar (2020) used a systematic analysis in Iran to show the contributions of the unpredictability and uncertain seriousness of the disease, misinformation, and social isolation to stress and morbidity. Meanwhile, in Japan, it had increased the levels of fear and panic, resulting in the hoarding and stockpiling of resources. Furthermore, Pierce et al. (2020), using waves 6 – 9 of the UKHLS, showed that the prevalence of clinically significant levels of mental distress rose from 18.9% in 2018 – 2019 to 27.3% in April 2020, a month after the UK lockdown began.

Thus, mental health is another big issue that needs to be addressed. It will affect people’s productivity and long-term health, especially children with parents exposed to these issues. Several actions are needed, including improving treatments, developing preventive measures and planning, and implementing policies that emphasize the needs of the vulnerable population (women, the elderly, parents with pre-school children).

2. How COVID-19 has Impacted the SDG Targets

The COVID-19 pandemic is affecting Indonesia's SDG targets significantly. This sub-chapter aims to explain the impact of the COVID-19 pandemic on the SDG targets in depth. In general, COVID-19 has affected several SDG targets, as shown in Figure III-3 below.



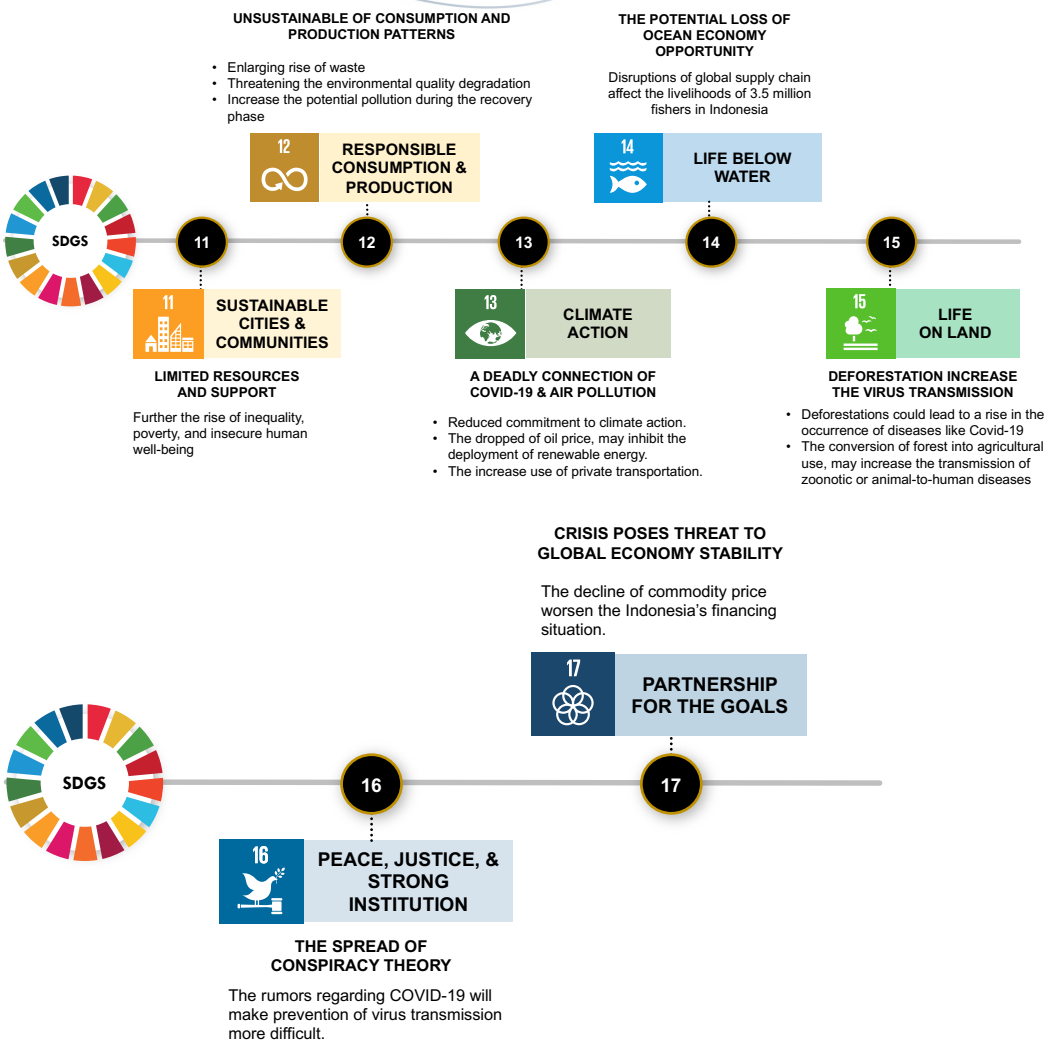


Figure III-3. Covid-19's Impact on SDG Targets

Source: Authors' compilation

SDG #1: No Poverty. One-hundred fifteen million Indonesians are in the "aspiring middle" income class and particularly vulnerable. Around 27% of the aspiring middle class is expected to face severe income problems. Furthermore, the Indonesian employment structure is quite fragile, with 60% of Indonesian workers engaged in informal economic activities and who may experience income losses with businesses closed. It is predicted that people who live under the poverty line (10.86%) and the vulnerable population (30.77%) have been hit most by the pandemic.

SDG #2: Zero Hunger. The large-scale social restrictions have hampered the transportation and logistics system in Indonesia. Meanwhile, the global food situation is relatively insecure due to climate change. It is

predicted that world rice production decrease around 0.6%, perhaps worsening household food insecurity and causing maternal undernutrition, which leads to increases in stunted children (currently, more than 7 million Indonesian children under the age of five are stunted (UNICEF, 2020a), and Indonesia ranks 5th highest in the world), and increases in overweight and obesity across all age groups.

SDG #3: Good Health and Well-Being. The COVID-19 outbreak spread rapidly, worsening the socio-economic loss. The government imposed social restrictions to reduce the spread of the virus at the expense of economic productivity, directly impacting income. People then reduced their spending on health-related items, such as regular check-ups, nutritious food, and vitamins. Meanwhile, on the other side, a key factor in surviving this pandemic is keeping up our immunity. Furthermore, this outbreak also affected the health sector. The health service workers face high risks of being infected by the virus. Meanwhile, many people have postponed health treatments due to the limited capacity of health facilities.

Medical waste is another concern during this outbreak, as the volumes of discarded material from health protection activities, medical diagnoses, medical treatments, and laboratory work have increased. It is critical to have safe and efficient medical waste management. Unfortunately, Indonesia still faces some challenges in medical waste management with regard to the availability and use of waste treatment amenities in healthcare facilities. According to the WHO (2020b), only 82 out of 2889 hospitals have licensed incinerators. Currently, the government plans to construct a provincial-based healthcare waste management facility.

SDG #4: Quality Education. The COVID-19 pandemic could lead to a learning crisis which will affect Indonesia now and in the future. Large-scale social restrictions leading to school closures may exacerbate existing disparities in the access to education. It is disproportionately affecting poor and vulnerable students and will prevent many students from achieving grade-level knowledge and skills. Many poor students and teachers who live in remote areas have limited internet access, which could affect the learning process. To cope with this situation, sometimes teachers have to visit their students one by one, providing the simplest learning tools, such as learning materials/books and assignments, periodically. Although data shows that nearly 47 million households (66%) have access to the internet (BPS, 2019), many adolescents, especially girls, felt that they lacked digital skills only 2 years previously (UNICEF, 2017). The effectiveness of online learning has not yet been measured precisely, making proper and rapid adjustments difficult to make.

SDG# 5: Gender Equality. Compared to prior recessions (i.e., the global financial crises of 2008), which affect men more severe than women in terms of employment, the current crisis has significantly impacted sectors with a high number of female workers. Working from Home (WFH) practices have had a tremendous impact on working mothers. The switchover to online learning and the closure of day-care centers have made it necessary for parents to allocate their working time to taking care of their children, with most mothers taking on more responsibilities than fathers. Single mothers with double roles as breadwinners and parents have had a particularly difficult time.

In addition, most men have skills that they can easily adapt in the event they need to switch or move to different sectors. For the most part, women do not have transferable skill sets, which makes them vulnerable to losing their jobs.

SDG# 6: Clean Water and Sanitation. During the COVID-19 outbreak, the need for clean water is increasing. The health protocols require people to wash their hands frequently. In contrast, nearly three-quarters of people in the least developed countries, such as Indonesia, lack handwashing facilities in their homes. At the global level, 40% of the world's population, or 3 billion people, do not have handwashing facilities with water

and soap available at home.[10] Should 30% of the areas or districts in Indonesia be drier than average, as predicted,[11] the risk of the spread of disease as well low water supplies will increase. We expect that low-income individuals will experience greater exposure to water scarcity than higher income groups.

SDG# 7: Affordable and Clean Energy. For the first time ever, oil prices went down sharply and have remained low for a quite long period. The lockdown and quarantine measurements have lowered the demand for oil. The demand is expected to have declined by as much as 8.6 million barrels per day (mbd) in 2020.[12] Meanwhile, the market has excess supply. This overall situation contributed to the drop in oil prices.

The drop in oil prices has created a favorable situation for the use of conventional energy sources. Non-renewable energy production has become cheaper and relatively more competitive compared to renewable energy sources, perhaps reducing efforts to transition to renewable energy. On the other hand, there are opportunities here for the government to encourage sustainable investment and businesses to commit to climate action. Therefore, the COVID-19 pandemic is a lesson to the world, as it has raised awareness in terms of mitigating the vicious cycle of climate degradation, biodiversity loss, and future infectious disease outbreaks.

SDG# 8: Decent Work and Economic Growth. The business sector was also hit by the COVID-19 pandemic. Due to the limitations placed on economic activities, many business owners shut down their companies, leading to disruptions in the labor market and increasing unemployment, particularly among the poor.

SDG# 9: Industry, Innovation, and Infrastructure. Investment in infrastructure plays a pivotal role in achieving sustainable development and support communities in many countries. Growth in productivity and incomes, as well as improvements in basic services, requires sustainable infrastructure investments. When developing sustainable infrastructures, there is a need for technological progress to achieve environmental objectives, including increased resource and energy efficiencies. In the absence of technology, developing a sustainable infrastructure is not possible, and without a sustainable infrastructure, development will not be achieved.

There is a strong commitment from the national and local governments, and a well-targeted policy package exists, but the COVID-19 pandemic has disrupted work in this area. In the midst of pandemic, the government has concentrated on the healthcare system. The increased budget allocations for healthcare system and social assistance have reduced the government's ability to focus in improving infrastructure.

As of June 2020, approximately 351 infrastructure projects under the Ministry of Public Works and Public Housing were threatened with stoppages.[13] Moreover, the Ministry of Finance has withheld funds for non-priority infrastructure. Thus, the COVID-19 pandemic has directly inhibited government efforts to provide resilient infrastructure.

SDG# 10: Reducing Inequality. Due to the large-scale social restrictions, many informal sector workers lost their incomes, automatically increasing inequality. Business owners were also impacted by the COVID-19 pandemic. Many of them shut down their companies or reduced production, significantly impacting their

[10] https://www.unicef.org/eap/press-releases/handwashing-soap-critical-fight-against-coronavirus-out-reach-billions-unicef
[11] https://wartakota.tribunnews.com/2020/05/06/30-persen-wilayah-masuk-zona-musim-kemarau-lebih-kering-dari-biasanya-ini-yang-dilakukan-jokowi
[12] https://energy.economictimes.indiatimes.com/news/oil-and-gas/iea-projects-gradual-relaxation-of-restrictions-to-help-oil-demand-recover-in-2020/75738298
[13] https://investor.id/business/351-proyek-pupr-terancam-dihentikan

incomes and widening inequality. The poorest people also tend to suffer the most from economic shock, as their expenditures are hit the most (Suryahadi et al., 2020), thus increasing their poverty and exacerbating inequality.

SDG# 11: Sustainable Cities and Communities. Local governments' lower priorities regarding strengthening communities before the crisis hit led to the lack of needed resources and support due to the fact that the local authorities form the front line in a global pandemic response. Along with the government and health communities, the critical role of local authorities is to ensure that public services in cities function well throughout the pandemic.

In practical terms, local governments have been struggling to survive and sustainably provide basic services during the COVID-19 pandemic. Local governments must deal with massive disruptions in individuals' lives. The local governments' efforts in mitigating the spread of COVID-19 through PSBB needed to be accompanied by complimentary social assistance to secure people's socioeconomic security. Yet, local fiscal capabilities are strictly limited.

As local economies struggle to overcome the shock of COVID-19 outbreaks, inequality, poverty, and human well-being (i.e., mental health) will continue to worsen. Thus, it would be necessary to take a step back to pursue sustainable cities and communities under the SDG targets.

SDG# 12: Responsible Consumption and Production. The lockdowns were more restrictive on the production side and interrupted the value chain. In some cases, Indonesia's farmers have wasted a massive amount of food. Inhibited logistics forced farmers to waste their crops to stem further financial losses.

In addition, the regulations forcing food outlets to offer delivery only brought about large amounts of disposable waste. The extensive use of the linear economy throughout the production process poses a potential risk and threat to environmental sustainability. Further environmental degradation becomes more likely when the increase in disposable waste is coming from multiple sources.

Furthermore, COVID-19 is potentially changing consumer habits. There is an upward trend in consumer preferences for origin-certified and ethical products. In addition, most consumers engaged in panic buying in the early days of the movement restrictions. Thus, the demand for essential goods increased significantly and drove up the prices, potentially deepening inequality.

SDG# 13: Climate Action. The pandemic has caused the government to take containment measures to prevent the spreading of COVID-19. As a consequence, the government has tended to ignore climate mitigation and adaptation. Furthermore, industry will push the economic recovery, resulting in increased carbon emissions. During the global financial crisis of 2008, the growth in carbon emissions in the recovery phase surpassed the 1.4% emissions drop recorded in 2009 (Peters et al., 2012).

The COVID-19 pandemic is faster moving than climate change, but the long-term effects of climate change are actually far more threatening (IPCC, 2018). Climate hazards are likely to increase poverty, worsen inequalities, exacerbate food insecurity, and cause health problems. Tackling climate change will be more costly compared to maintaining the business as usual approach. However, taking a more climate-friendly approach in every aspect of our lives is expected to reduce the likelihood of extreme weather events and future zoonosis outbreaks in the future.

SDG# 14: Life below Water. The OECD has estimated that by 2030, the ocean economy will provide full-time employment for up to 40 million people and double in size up to USD 3 trillion compared to the 2010 level

(World Ocean Initiative, 2020). In Indonesia, the marine sector contributes about 6.06% of income and employs about 4.12% of the labor force (Nurkholis et al., 2016). Furthermore, the pandemic has offered the opportunity to save our ocean because several activities, including tourism, overfishing, habitat loss or conversion, and pollution, have been reduced. However, increasing waste, particularly medical waste, may cancel out these gains. Moreover, the marine and fisheries sectors have been hit hard by the pandemic due to declining demand and disruptions in the global supply chain related to border restrictions, affecting the livelihoods of at least 3.5 million fishermen in Indonesia (Baihaki & Muawanah, 2020). The fish supply chain has also been severely affected, which may lead to food security issues.

SDG# 15: Life on Land. The unprecedented destruction of wildlife habitat has increased the likelihood of direct animal-human interactions, which leads to increases in the occurrence of zoonotic diseases, such as MERS, SARS, and COVID-19, as well. In 2018, the government of Indonesia imposed a moratorium on forest and peatland clearances for several activities, such as creating palm oil plantations and logging activities. However, the weakened monitoring system on the ground level has led to escalations in deforestation, forest degradation, and land conversion. Moreover, extreme weather exacerbates the likelihood of natural disasters, such as flood and fires. The National Development Planning Agency (Bappenas) estimated that the latest Jakarta flood cost up to IDR 5.2 trillion, including damage and loss in productivity, infrastructure, housing, and social facilities (IDNFinancials, 2020). The damage from Indonesian forest fires in 2015 was estimated to be around IDR221 trillion or USD 16.1 billion (World Bank, 2016). If we fail to transform our way of life, humankind will have to deal with systemic threats and incur higher cost in the future.

SDG# 16: Peace, Justice, and Strong Institutions. In the midst of the struggle against COVID-19, certain parties spread conspiracy theories about the virus that some people believed, making the prevention of virus transmission more difficult because these parties will not carry out the containment measures that have been recommended by experts, such as wearing mask and maintaining physical distancing. Some irresponsible people have even bullied medical workers struggling to care for COVID-19 patients. Easy information access should encourage us to be careful about misinformation and stay alert regarding cyber security to prevent misuse of personal and corporate data. The issues should be managed properly and require the involvement of stakeholders to avoid potential conflicts or other problems in the midst of uncertain conditions.

SDG# 17: Partnership for the Goals. WHO characterized COVID-19 as a global pandemic as of March 11, 2020 to encourage global partnerships to collaborate and work together in reducing virus transmission and discovering an effective vaccine against the disease. Working together in this manner requires good will without distinctions based on race, religion, political beliefs, economics or social conditions. However, developed countries have greater fiscal resources and better monetary policies for financing stimulus packages than developing countries. The President of Indonesia, Joko Widodo, signed the second revision of State Budget 2020 as Presidential Decree (Perpres) No. 72/2020. This decree set the budget deficit at IDR 1,039 trillion or 6.37% of Indonesia's GDP (Agustiyanti, 2020). However, this amount is still insufficient. The rapid decline in commodity prices worsened the current financial situation, as Indonesia is overdependent on export commodities, and made external financing critical. In the end, we will need external financing to flatten the pandemic and recession curves while keeping the debt level sustainable in the long term.

3. Refocusing the SDG Targets on the Recovery Agenda

Clearly, the COVID-19 pandemic has had a severe impact on the global sustainability agenda. The current risk from the pandemic will jeopardize the countries' efforts in achieving the SDCs. The pandemic is perhaps a reminder of the need to proactively shape the desired new normal rather than accept whatever might develop

if emerging risks are not dealt with. Therefore, the current situation proposes a unique opportunity to shift into a better world. In the economic restart, there is an opportunity to embed greater societal equality and sustainability, accelerating rather than delaying progress towards the 2030 SDGs and unleashing a new era of prosperity.

Build Back Better could be used by regulators to recover from the impact of the COVID-19 outbreak. The terms of Build Back Better has been discussed extensively by policymakers across the globe in the context of economic recovery from COVID-19. The concept emphasize that governments should make preventative investments that aim to improve resiliency and reduce the costs of future disasters. A core dimension of Build Back Better is make individuals central to the recovery by focusing on well-being, inclusiveness, and reducing inequality. Moreover, for a sustainable recovery, there is a need for a dimension that incorporates a longer-term perspective. Therefore, the recovery agenda must embed environmental aspects. While we intend to maintain the spirit of Build Back Better, in the Indonesian context, we prefer to use "Build Forward Better." Build Forward Better aspires more to a better future. Because we understand that the "new normal" we experience today is the result of the "old normal" in the past, in many cases, we recognize that the "old normal or old habit" needs be changed drastically for a better future. Consequently, rather than use "back," we prefer to use "forward" to our strong aspiration for a sustainable future.

Prior studies reveal the actual advantages of implementing a sustainable recovery. The OECD (2020b) mentions that beyond preventing severe economic and health disasters, the sustainable recovery process should also consider the aspect of sustainability, as any environmental crisis can heighten the likelihood and impact of future infectious diseases. Without a sustainability agenda, the unsustainable changes in land use and other traditional high-carbon growth fields will induce more rapid urban growth and zoonoses, i.e., jumps from other species to humans (OECD, 2020b). Moreover, shifting from unsustainable resources would reduce environmental impacts and supply risks and introduce new job opportunities (Agrawala, Dussaux, & Monti, 2020). Another advantage of a sustainable agenda is the capability of ensuring inclusive growth for better resilience against future crises (UNDP, 2020).

Taking the points above into account, countries across the globe should make efforts to embed sustainable aspects in their recovery agenda. When it comes to environmental aspects, the recovery agenda items, such as a green stimulus program, must make a fundamental change in economies and industrial activities, particularly as individuals' behavior shifts may spur the design of more sustainable consumption and mobility. Regarding the socio-economic aspect, the impacts of COVID-19 offer a unique opportunity for regulators to invest in building more cohesive, inclusive, and equal societies.

Therefore, to ensure that this opportunity is not squandered, the immediate and longer-term emerging risks of COVID-19 must be managed. Embedding sustainability principles into crisis responses is believed to help countries achieve their SDGs. In fact, not doing so would risk derailing efforts towards meeting these goals (Dikau, Robins, & Volz, 2020). Ideally, we want to avoid what happened in the aftermath of the 2008-09 global crisis, where China's fiscal stimulus measures alone boosted GHG emissions (Hook & Wisniewska, 2020), and global carbon emissions rose by 6% in one year (World Bank, 2020a).

4

The New Way for Sustainable Recovery: Restart and Build Forward Better

IV. The New Way for Sustainable Recovery: Restart and Build Forward Better

In this chapter, we propose some frameworks and several alternative approaches that could be adopted during this sustainable recovery period. In the following sections, we introduce some of the sectors that need to be prioritized during the recovery period. We also focus on the kind of policies that can be implemented to enhance employment opportunities. Furthermore, we recommend some strategies on how to increase the beneficiaries of the social protection program and to ensure several loan programs could be more impactful and effective. To answer some issues with budget sustainability, we also recommend alternative ways to manage government spending and revenue. In the last part of this chapter, we offer some phasing strategies during this recovery period, concerning what should be prioritized in both the short and long terms.

Sustainable recovery is needed because a more resilient economy depends on a shift to sustainable practices. The COVID-19 pandemic has highlighted several current threats and interlinked future vulnerabilities (OECD, 2020a). Temporary reduction of greenhouse gases (GHG), air pollutants, and water pollution due to lower economic activity during the pandemic will have almost no long-term impact (Le Quéré et al., 2020). Thus an actual intervention is needed to suppress emissions in the medium and long run. The COVID-19 pandemic has exposed social inequalities, rapidly exacerbated by the massive but uneven loss of employment, with the equivalent of more than 300 million jobs potentially at risk (ILO, 2020c). A new social contract focused on reduced inequality and strengthened mechanisms can enhance resilience to shocks (Horváth et al., 2020). Shifting away from unsustainable resources would not only reduce environmental impacts and supply risks but also introduce new job opportunities (Agrawala et al., 2020). Learning from the past global financial crisis, a green recovery stimulus not only created new jobs and recovering economies, but it also helped the growth of renewable energy (Barbier, 2020). As part of their recovery during the Great Recession of 2008–2009, the G20 economies devoted nearly 16% of their total fiscal stimulus to “green investments,” including low-carbon energy, energy efficiency, pollution abatement, and materials recycling.

In the case of Indonesia, a sustainable recovery is needed to return the country to a sustainable growth pathway, since past economic growth in the country does not necessarily indicate sustainability (Kurniawan & Managi, 2018). The National Development Planning Agency (Bappenas) predicted that Indonesia’s economy in the next decade could have higher-quality growth by implementing low-carbon development (Bappenas, 2019). It is also in keeping with Indonesia’s target to increase the renewable energy mix, as well as the Paris Agreement to lower emissions.

Figure IV-1 presents a framework for sustainable recovery, which consists of three main stages, a short-term timeframe for immediate crisis responses, mid-term economic recovery, and long-term sustainability pathway. Entering the recovery phase, indeed, the initial focus must be on the health front lines. It includes supporting doctors and nurses, providing affordable food, and ensuring the supply of electricity, water, and other basic needs. The short-term horizon should also consider job creation, boosting economic activity, a timeline and the risk. Attention must also focus on the households affected by drastically reduced incomes, especially those with occupations that expose them to the coronavirus or those with unstable incomes, as well as the poorest households with little savings. In Indonesia, the high share of informal employment (57% in 2018, according to the Center of Reform on Economics) should be an important consideration. Several aspects of job creation need to be considered, such as the number of jobs created and the fit with local skills, resources requirement, and duration of the jobs created.

For development policy that can boost economic activity, timeliness and risk should be considered, including whether projects generate economic stimulus and employment benefits in the very short term and whether they are durable even in the face of a possible re-imposition of local quarantine measures. A program aimed at boosting economic activity should consider the economic multiplier effect that each intervention can deliver, the ability of a project to replace missing demand directly, and the impact on import levels or the national trade balance.

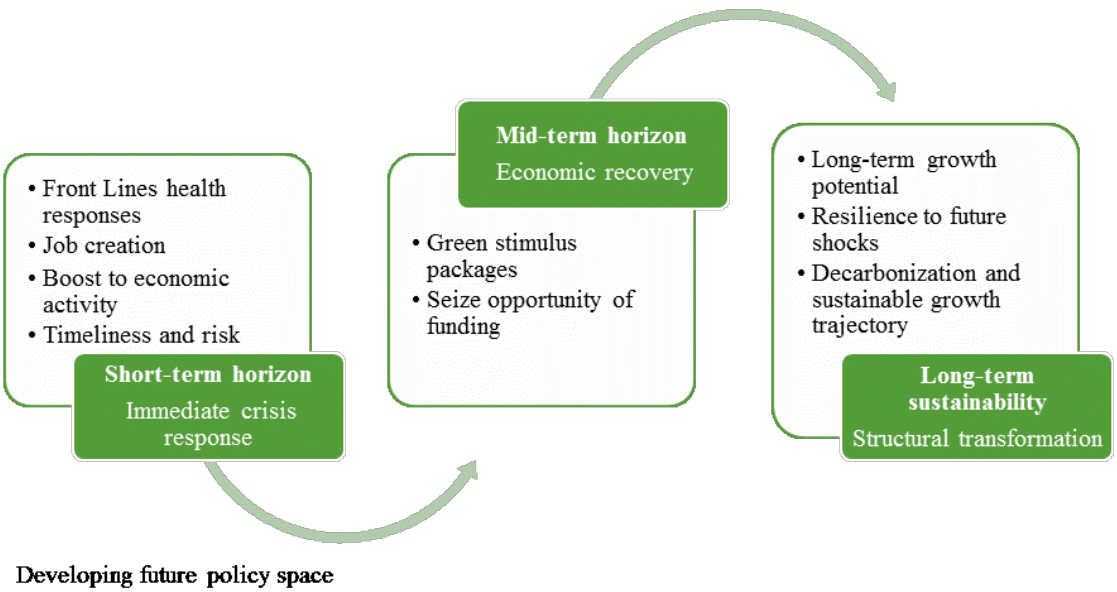


Figure IV-1. Sustainable recovery framework

Source: Authors' compilation

As the immediate health crisis subsides, many households will have depleted savings or large debt and will need to save more and consume less. This will be the time for a stimulus aimed at achieving financial and economic recovery. Choices concerning stimulus packages will affect Indonesia's ability to achieve this objective, creating risks but also opportunities. Public works programs in a stimulus package can help poor people manage the direct effect of the COVID-19 crisis on their livelihoods. In the past, Indonesia deployed the Program Nasional Pemberdayaan Mandiri, which covered 10 million employees in the country.

For long-term benefit, the country could adopt the "Build Back Better" concept, first defined and used officially in the United Nations Sendai Framework for Disaster Risk Reduction. The concept includes efforts to prevent re-creating or exacerbating pre-disaster vulnerabilities in the process of reconstruction. It can be conducted by strategically embracing and optimizing institutional, financial, political, and human opportunities, and positive externalities. Doing so, it is believed, will enable recovery from disasters as well as build more resilient communities. Particular action is necessary for developing capacity for societies and economies to cope with and recover from future external shocks. Thus, over the long term, potential growth, resilience to future shocks, decarbonization, and a sustainable growth trajectory should be considered.

A recent study conducted by economic Nobel winner Joseph Stiglitz points out policies that are well-placed in the context of COVID-19 recovery to contribute to achieving economic and climate goals. These policies include clean physical infrastructure investment, building efficiency retrofits, investment in education and training to address immediate unemployment from the pandemic, and natural capital investment for ecosystem resilience. Indonesia could adopt these concepts with adjustments to fit the local context and spirit. Therefore, Indonesia intends to adopt and implement the framework of **Build Forward Better**.

1. Framework and Available Instruments for Sustainable Recovery

As stated earlier, the design of sustainable crisis responses—how to anchor the rebuilding of the global economy with long-term resilience to environmental disasters—has emerged as an important policy discourse and it has also attracted public attention.[14] Top officials from a variety of international organizations have on several occasions stated that the COVID-19 recovery phase should be used as an opportunity to strengthen sustainable development commitments. For example, the managing director of the International Monetary Fund (IMF), Kristalina Georgieva, expressed that "if this recovery is to be sustainable … **we must do everything in our power to promote a "green recovery"** (IMF, 2020b)**.** With policymakers around the world deploying extraordinary policy measures, a natural concern that emerges is how to incorporate sustainability principles into the design of monetary, fiscal, and financial policies that have been deployed to tackle the COVID-19 pandemic.

Although embedding long-term environmental and climate priorities into macroeconomic frameworks was already being widely discussed even before the pandemic, certainly calls for such proposals have intensified recently (Mukhi, Rana, Mills-Knapp, & Gessesse, 2020). Indeed, governments could leverage the existing global framework of climate goals such as the Paris Agreement, and prioritize shovel-ready projects that are already identified in the Nationally Determined Contributions (NDCs) of the respective countries (e.g., Indonesia's Low Carbon Development Initiative aims to identify such development projects that meet sustainable development goals).

In terms of high-level principles, it is recommended that governments use fiscal incentives (tax breaks or government spending) with large employment and investment multipliers (Bowen, Fankhauser, Stern, & Zenghelis, 2009; Hepburn, O'Callaghan, Stern, Stiglitz, & Zenghelis, 2020). Ideally, policies should support investment projects that put newly unemployed people to work quickly (short-term multiplier), while contributing to the production of valuable assets that meet the needs of the future (long-term multiplier) and identifying co-benefits[15] that best meet the needs of the respective constituents (Hepburn et al., 2020). Governments should prioritize shovel-ready projects that are already identified in each country's NDCs. These include government support for investments in clean energy and renewable energy infrastructure,[16] which are huge undertakings, but also more day-to-day examples such as green construction. This refers to retrofitting existing buildings to make them more weather-resilient (Hepburn et al., 2020). Similarly, the IMF and the European Commission have both recommended an equitable transition to low-carbon (for example,

[14] A survey fielded by McKinsey in April 2020 found that 65% of respondents agree that government actions for economic recovery after COVID-19 should prioritize climate change.
[15] Such examples of capturing co-benefits include new renewable energy for rural electrification in India, which also provides support for citizens working to escape the poverty trap (Aklin, Bayer, Harish, & Urpelainen, 2018).
[16] According to calculations by Garrett-Peltier (2017) the short-run gains for renewable energy investment are that for every $1m in spending, an estimated 7.49 full-time jobs are generated in renewables infrastructure, 7.72 in energy efficiency, but only 2.65 in fossil fuels.

paying to close coal mines, early retirement, and training for coal-mining workers, which are still important industries in Germany and Poland).

Kartu Prakerja as a Sustainability Instrument

Indonesian labor market conditions still show a high open unemployment rate, and it is soaring further during the COVID-19 pandemic. To reduce the unemployment rate, the government has a pre-employment card (*Kartu Pra-Kerja*) program that aims to help job seekers improve their skills according to the skills needed in today's job market. The government launched the *Kartu Pra-Kerja* program amidst the pandemic, but it was found to be problematic, and significant criticisms of the implementation were raised. The lessons learned from the program are imperative to clarify several concepts. Mainly, it is important to clarify several aspects related to the main target of *Kartu Pra-Kerja* recipients and the systematic application of the program.

Part of workers' life cycle is moving from being unemployed to being employed as they transition from school to work and enter the labor market. The *Kartu Pra-Kerja* can fill this gap in the workers' life cycle, as well as fill in the gap during changes in labor market conditions, including technological changes, changes in the nature of jobs, and economic structural transformation. A fundamental aspect of determining the main target of *Kartu Pra-Kerja* recipients is that unemployment status is a condition that is self-reported by the individual workers. There are at least three factors that can explain why someone is unemployed. First, the young are unemployed because they have just graduated or left school but have not yet found a job. Second, some people are unemployed who worked but were dismissed from work for various reasons. Third, there are unemployed people who have voluntarily stopped working because they want to change their job or place of work.

Of the three aspects of unemployment, an ideal target for the initial stage of implementing the *Kartu Pra-Kerja* program is the young who are unemployed. The essential reasons for selecting them as the main target of the *Kartu Pra-Kerja* program are due to the following factors:

1) Young people tend to make the transition from education to the labor market between the ages of 15 and 29. Currently, unemployed people are mostly from this age group. Demographically, workers in this age group will become more prominent and more significant in the future as a result of the demographic dividend. Besides, when viewed from the level of education of those who are unemployed, most of them are in the secondary education group, especially graduates from vocational high schools (SMK).

2) Young workers tend to delay their entry into the labor market because they try to find a job that suits them or has an adequate reservation wage. They also tend to frequently leave the workforce and become inactive, so that some of them fall into the categories of not attending school or not attending training and not working (i.e., not in employment, education or training—NEET).

Part of efforts to improve clean energy infrastructure is a more sustainable transportation system—fittingly so, as the transport sector is a large contributor to global GHG emissions. According to Climate Watch

(2019) and IEA (2019), this sector makes up about 16% of global GHG emissions in 2016 (Climate Watch, 2019). Together with energy, transportation makes up about 22% of Indonesia's carbon profile,[17] although the largest contributor to GHG emissions in Indonesia is actually from forestry and land-use at roughly 63% (Tacconi & Muttaqin, 2019). Focusing on climate-smart transport "could be a powerful way to rekindle economic growth." For example, the World Bank is co-financing Ecuador's metro line, which is expected to save an estimated 65,000 tons of GHG emissions every year (World Bank, 2020a). Smart transportation also involves better management of traffic, such as reallocating road traffic to railways or waterways. These efforts would reduce not only emissions but also logistics costs. Examples of such projects are India's conversion of parts of the Ganges river into a modern waterway and South Korea's revitalization of major rivers and waterways in the aftermath of the 2008–2009 global financial crisis (Robins, Clover, & Singh, 2009).

If specific commitments to supporting green sectors are not feasible (presumably, high-income countries are in a better position to support green infrastructure investment compared to middle- and lower-income countries), a second-best solution is to make efforts to lower the carbon footprint of heavy industries (Hepburn et al., 2020). For example, governments could make support for brown activities conditional on emissions reduction targets. This includes making support for airlines and auto manufacturers conditional on setting a target for emissions reduction.[18] Such conditional aid could also be applied to income support and rural support policies under the umbrella of social protection policies, an important part of Indonesia's own fiscal stimulus measures this year. The IMF and World Bank both recommend targeting income support for the poor with a view to projects that support climate adaptation. In Pakistan, rural support programs include a cash transfer program that is conditioned on reforestation (World Bank, 2020). Indeed, Hepburn et al. (2020) recommend that for low- and middle-income countries, priorities could be given to rural support scheme spending, particularly that associated with sustainable agriculture and ecosystem regeneration.

Increasingly, the policy community has expressed the view that sustainable responses to crises involve not only fiscal but also financial and monetary policy, which implies an important role for central banks. This idea is reinforced as many people in the finance community have come to realize that climate change *is a source of risk for the financial sector* (IMF, 2020d). Given that environmental risks (such as a drought and extreme forest fires, which could affect food production) can expose financial institutions to shocks (i.e., large borrowers unable to repay their loans due to climate events), inadequate risk management could hurt the balance sheet of major financial institutions (Hong, Li, & Xu, 2019). The IMF has recommended (as part of its principles for Greening the Recovery) that policymakers mandate coverage for climatic disaster risks for some assets (such as those used as loan collateral) and to subsidize climatic disaster insurance. Another related instrument would be to require banks that receive public support to disclose the climate readiness of their portfolio. For central banks that are using asset purchase programs to support recovery from COVID-19, Dikau and Volz (2019) recommend that central banks adjust their collateral frameworks for sustainability risks. For example, asset purchase programs should exclude carbon-intensive assets.

[17] https://www.climatelinks.org/resources/greenhouse-gas-emissions-factsheet-indonesia
[18] Remarks by Bernice van Bronkhorst, World Bank Webinar, "How can we ensure a sustainable recovery," May 19, 2020. https://www.youtube.com/watch?v=JRMwP1qgjlo&t=548s

2. What Sectors Should Be Prioritized?

One aspect that must be considered to guarantee that sustainable recovery can be achieved is to ensure inclusiveness. As mentioned in Chapter III, COVID-19 has led to an increase in the number of poor people across all sectors. If the recovery is oriented only toward improving the output from each sector, any crisis in the future will only repeat the current problem, as the poor will remain vulnerable. Therefore, the recovery process in each sector should focus not only on boosting the value chain but also on making it inclusive. An inclusive value chain that focuses on both upstream and downstream sectors will speed up the recovery process while at the same time reducing the number of poor people through their increased participation in the value chain, potentially increasing their resilience to a similar crisis in the future.

Based on Figure III-2 in Chapter III, the impact of an economic shock on poverty varies across sectors. Due to the high increase in the number of poor people, agriculture and trade might be two sectors that need to be prioritized because the recovery in these sectors theoretically should lead to the largest reduction in the poverty headcount. However, considering differences in industry characteristics, the decision as to priority sector should be analyzed at the more detailed level, that is, at the province level.

Provinces differed in the sectors most affected by the COVID-19 pandemic. The agricultural sector was the most affected sector in all provinces on Java island. Most of Indonesia's agricultural area is located on Java island. Thus, it is reasonable to prioritize the recovery of the agricultural sector in Java as this will generate the biggest improvement in the poverty rate. Outside Java, however, the patterns differ slightly. For the regions directly adjacent to the ocean, such as in Papua and North Sulawesi, the sector most affected is fishery. In Bali, which is famous for its tourism sector, the sector most affected is actually the manufacturing sector. As a supporting sector, manufacturing in Bali is dominated by small and medium enterprises that produce souvenir products that might be the most vulnerable when an economic shock occurs. The tourism sector itself is most strongly affected in West Nusa Tenggara. Before the pandemic, this sector contributed more than 20% of GDP in West Nusa Tenggara. Meanwhile, in Sumatra, the wholesale and retail sectors were the hardest hit. Thus, to obtain an inclusive value chain, the issues of poverty in each sector should be considered in deciding which sector needs to be prioritized.

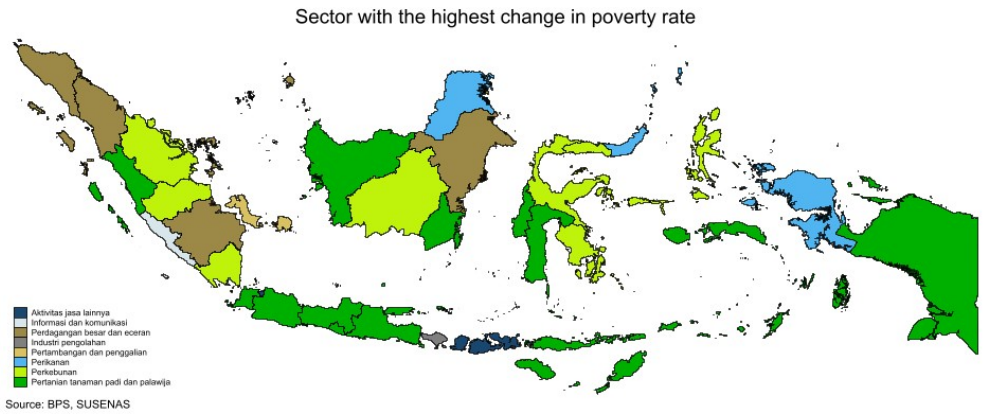


Figure IV-2. Sector with the highest change in poverty rate

Source: Authors' calculation

Nevertheless, for Indonesia, a long-term policy commitment to the transition to a sustainable, low-carbon economy makes sense as an industrial strategy. The pandemic has affected the industrial sector significantly. Data for quarter one of 2020 suggests that manufacturing is among the top five sectors in the Indonesian economy (accounting for 22% of its GDP). The efficient use of resources in the sector is one important key to sustaining businesses affected by the pandemic. As argued by Fankhauser et al. (2013), there are several strategic sectors whose transformation is central to the development of a green economy. The strategies cover cleaner industrial processes, the supply chain for electricity generation and other industrial processes (turbine, steam, motor, and transformer), and the demand sector which requires energy efficiency. Thus, for structural transformation toward sustainable pathways, policies, including stimulus to promote green industries, play an indispensable role. Fiscal stimulus planned by the government is also relatively effective in hampering the negative impact, especially in the sectors hardest hit, as presented in Chapter I.4.

Table IV-1. Sectors to be Prioritized

Sectors	IMPACT ON										
	SHORT-TERM			LONG-TERM							
	Employment	Economic Activity	Timeliness and Risk	Human/Social Capital	Technologies	Natural/Cultural Capital	Physical Capital	Fundamental Market Failures	Increasing Resiliency/ Adaptative Capacity	Decarbonization/ Sustainable Growth	Environmental Risk
Sustainable agriculture to support food security issue and env. risk (crops)											LOW
Sustainable agriculture to support energy security issue and env. risk (oil palm)											MEDIUM
Low tech medical equipment and pharmaceutical products, including herbal											MEDIUM
Social forestry and sustainable forest management (timber and non-timber products)											LOW
Promoting cleaner energy mix and efficiency energy incl. rooftop solar photovoltaic systems											LOW
Promoting a sustainable ocean economy											LOW

Source: Authors' construction

Sustainable Agricultural Practices for Crops and Oil Palm

The oil palm sector has a long history in Indonesia and plays a huge role in the Indonesian economy, particularly since the transmigration program in the New Order Era. According to the Indonesian Central Bureau of Statistics (BPS), palm oil is the second most important non-oil and gas commodity export next to coal. As of May 2020, palm oil exports had increased by 9.81% year-over-year (BPS, 2020a). The oil palm has an important role in local employment creation because of its labor-intensive nature, dominated by independent smallholders. In 2019, the total area of oil palm cultivation recorded by the Ministry of

Agriculture reached 16.38 million hectares and, according to the BPS, almost half of the oil palm plantation area, about 45.54%, is managed by smallholders (BPS, 2020e). In addition, oil palm plantations also make a major contribution to producing provinces, such as Riau, Central Kalimantan, North Sumatra, South Sumatra, and West Kalimantan.

Unfortunately, issues persist in the industry. There are still many unresolved problems along the supply chain for the palm oil industry, especially at the upstream level that involves smallholders. These issues, which include social and environmental issues, have been discussed frequently by various parties, particularly the international community. Oil palm plantation areas are very vulnerable to social conflicts with local communities; some areas involve indigenous peoples. Moreover, the fair distribution of value added along the supply chain is rarely found. Smallholder farmers mostly have low bargaining positions and receive low prices for the fresh fruit bunches (FFB) they sell. From an environmental perspective, the practice of unsustainable land clearing methods—slash and burn—has caused forest fires in 2015 and 2019, exacerbated by the El Niño conditions. These fires occurred even in the conservation areas, such as peatlands and forests.

Undertaking constant improvements, including addressing institutional and governance issues, along the supply chain will balance the benefits received by all stakeholders involved. Improving farmers' databases and institutions will promote farmers' bargaining power in the market and even better program implementation, such as replanting. For instance, it might be possible to create an investment scheme that also involves farmers so that FFB processing factories are not owned only by large companies, which are generally vertically integrated, but also by smallholders. Also, the oil palm plantation replanting program—as an approach to reduce the potential for land clearing—was initiated by the government but has never reached the target. The targeted area for replanting in 2017 was up to 20,078 ha, but the replanted area only reached 14,790 ha or 71% of the target. Then in 2018, only around 33,842 ha (18%) of the target of 185,000 ha were replanted. During the period January to October 2019, oil palm plantation replanting only reached 68,427 ha (38%) of the target of 180,000 ha, which had been revised downward from 200,000 ha (Katadata, 2020) in the previous year. As a result, the oil palm plantation replanting program has been low for three consecutive years, due to the complexity of the submission process for farmers, as well as practical issues that occur in the field, such as the price and availability of high-quality seeds and fertilizers and the limited capacity of smallholder farmers to undertake good agricultural practices (GAP).

Therefore, investment in training for farmers is relevant, particularly to deliver a better understanding of the benefits of GAP. Any approach should ensure that changing behavior to implement GAP is not costly to the farmers. In addition, the monitoring and evaluation process must continue to ensure the program is constantly improved. In the end, a sustainable palm oil industry involves more than just considering the environmental aspects, but also fairness among stakeholders, and economic sustainability for the years to come.

Low Technology Medical Equipment and Pharmaceutical Products

The importance of the critical, life-sustaining medical commodities and personal protective equipment (PPE) in the time of COVID-19 cannot be overstated, particularly for health workers and hospital staff. Limited supply and its immediate consequences on availability would conceivably cause upward movement in the prices of these commodities. Such increases in prices will, in turn, substantially hamper the ability of the health sector to battle the COVID-19 pandemic. It is very important, therefore, that the government ensure access to these health products, which can be achieved through either: 1) liberalizing the trade for these products; or 2) improving the domestic supply chain so as to boost national production of the health products.

Fortifying supply for these products through both means can help build resiliency and mitigate against the risks of the current crisis (as well as likely future ones).

Improving the domestic supply chain can also be helpful should main trading partners turn inward to prioritize their domestic needs, thereby reducing the volume of trade for these products. Development of a domestic supply chain can potentially increase domestic labor absorption, partly due to the labor-intensive nature of the manufacturing industry. In addition, there also remains the potential for Indonesia to promote its domestically produced health products to meet global needs in the time of COVID-19. However, the current state of affairs indicates that Indonesia's health sector still plays a relatively minor role in the overall economic landscape. Its development should also be conducted with great caution, particularly with regards to environmental and sustainability aspects, as massive production of medical and PPE products has been linked to increased waste, which could cause further damage to the already troubled Indonesia environmental landscape.

Sustainable Forestry and Sustainable Forest Management

Another sector that can potentially be prioritized in the effort to rebuild the economy is the agricultural and forestry sector, which stands among the pillars of the Indonesian economy. The sector's importance is reflected in the terms of trade performances of its products. The 2018 trade data suggests that Indonesia's revealed comparative advantage (RCA) still lies among the primary or raw materials commodities. One of the highest-ranking export products, in terms of RCA, is the well-known palm oil and its fractions (HS 1511). Another product that performs well in terms of RCA figures is natural rubber products. These commodities have played a pivotal role in Indonesian trade, as the broader agriculture, forestry, and fisheries sector encapsulates a substantial part of the Indonesian GDP and its labor force.

However, we argue that much remains to be improved in the sector's development. Notably, the highest poverty rates can be found in the agricultural sectors, particularly forestry, rice paddies, farming, and horticulture. This finding casts doubts on the equitable nature of these sectors' rapid development. In addition, environmental effects and sustainability have been highlighted as the major issues in the development of the agricultural sector. Wildfires have been linked to the opening up of new agricultural fields, and forestry export products have been banned from entering foreign markets due to sustainability concerns, a notable example of which is the palm oil ban from the European Union. Against this backdrop, the government needs to step up to the challenge of modernizing production to ensure that sustainability and environmental standards (that is, those of the developed countries) are being met.

Promoting a Cleaner Energy Mix and Energy Efficiency

Prioritizing the promotion of a cleaner energy mix and energy efficiency also matters to build a "Forward Better" Indonesian economy. The deployment of cleaner energy through investment in renewable energy provides a greater economic impact on GDP. According to IRENA (2016), multiplying the share of renewables in the final global energy mix up to 36% would accelerate global GDP by 0.6% in 2030, equivalent to US$706 billion. In some cases—Australia, Brazil, and Germany—the scale of GDP impacts from doubling the share of renewable energy deployment would boost national GDP to more than 1%. In the case of Indonesia, Bappenas estimates that a low carbon growth path can deliver an average GDP growth rate of 6% annually until 2045 (LCDI, 2019).

Besides the economic benefit, cleaner energy deployment would also unlock an array of social benefits, including generating additional, better-paid jobs. Renewable energy is typically a labor-intensive sector that creates job opportunities four to five times more than conventional energy. In terms of investment, the fossil fuel industry creates 5.3 jobs per US$1 million, whereas renewable energy creates 16.7 jobs per US$1 million (Ochs & Gioutsos, 2017). These benefits would accelerate Indonesia to be among the group of high human development countries. Moreover, the sector of renewable energy also plays a role in reducing extreme poverty. In 2045, the acceleration of renewable energy could reduce extreme poverty up to 4.2% and per capita income could be 42 times higher, reaching a level of well-being comparable to that of Germany, Denmark, and the Netherlands today (LCDI, 2019).

Concerning environmental improvement, investment in renewable energy is currently the main thrust of efforts in most countries to cope with climate change by improving socioeconomic resilience to future risk of climate change. The energy system is Indonesia's second-largest NDC after the land system, contributing 9% of the country's NDC target. Refocusing investment to the low-energy sector would reduce GHG emissions nearly 43% by 2030. Furthermore, the resulting improvement in air quality would prevents deaths due to air pollution.

Promoting a Sustainable Ocean Economy

According to the World Bank, more than 350 million jobs around the globe are directly linked to marine resources, such as fisheries, with 90% of these jobs in the developing countries. The marine sector contributes up to 6.06% of livelihoods and 4.12% percent of the workforce. The Organisation for Economic Co-operation and Development (OECD) estimates that the gross value added of the global ocean economy could grow to about US$3 trillion and employment to more than 40 million people by 2030 based on the business-as-usual scenario (OECD, 2016).

As an archipelago state, Indonesia has a huge potential in marine resources. Supporting a sustainable ocean economy would protect local communities from storm and wave damage, maintain food security, mitigate the effects of climate change, improve water quality, and promote a safe and secure working environment for workers. However, the current policy trajectory has not significantly addressed the issue of illegal, unreported, and unregulated (IUU) fishing, which intensifies overexploitation in the ocean. Considering that up to 80% of the Indonesia population lives in coastal areas (Ministry of Environment and Forestry of Indonesia, 2014), a more favorable policy for the ocean economy would not only improve local economies, but also significantly contribute to achieving the Sustainable Development Goal (SDG) 15 (life below water) by 2030.

Refocusing of Infrastructure Projects

During Joko Widodo's presidency, there has been a massive build-up of infrastructure. By 2019, approximately 81 infrastructure projects were due to be constructed. In total, 103 infrastructure projects are estimated to be well established by the end of 2020. Although the national strategic project (PSN) only achieved 46% of target, the government budget for infrastructure grew significantly in the second term for Joko Widodo (2019–2024). Comparatively, under Yudhoyono's regime, improving infrastructure was not a priority, according to the World Bank's infrastructure assessment. At that time, the funding for infrastructure projects relied heavily on bilateral and multilateral aid. Hence, the government was careful in making decisions regarding infrastructure, leading to a slow growth in number of infrastructure projects.

Although infrastructure development under Widodo is impressive, it has been heavily criticized because of its poor assessment. The World Bank's Infrastructure Sector Assessment Program highlights that Indonesia's infrastructure quality is relatively low and not well planned. In addition, the projects relied heavily on state-owned enterprise funding. The initial purpose of stimulating investor interest in infrastructure development was not achieved because the projects were not very attractive to investors. Also, the infrastructure projects lacked feasibility studies on sustainability.

During a pandemic, these conditions become an additional threat to sustainable life. We recognize that COVID-19 is an extreme shock that warns humanity that disasters caused by climate change can have a very devastating impact globally, particularly in developing countries. The unpredictable climate conditions are increasing the risk of disasters, both natural and unnatural, which affects many things, including infrastructure. Even during this pandemic, the adequacy of Indonesia's current infrastructure capacity is being tested, both directly, such as in the availability of hospital facilities to accommodate the COVID-19 patients, and indirectly, such as in the information and communications technology (ICT) infrastructure to support an e-learning system for students.

Most of the country's infrastructure, particularly the long-lived ones, is classified as climate sensitive, highly vulnerable to destruction from a natural disaster, thus requiring careful planning (UNDP, 2011). Climate-resilient infrastructure development adapted to unpredictable climatic conditions in the future can reduce the risk of costly impacts that may occur due to climate change (OECD, 2018). For instance, Bappenas estimates that the losses caused by floods in Jakarta reach IDR5.2 trillion.[19] A study projects that losses from flooding will continue to increase up to 400 percent by 2050.[20] Furthermore, the potential for land fires in Indonesia remains, where losses in 2015 reached US$16.1 billion (World Bank, 2016). Other potential risks of natural disasters in Indonesia include seismic disasters and volcanic eruptions because Indonesia's volcanoes are among the most active in the Pacific Ring of Fire. Therefore, the development of climate-resilient infrastructure is critical to be incorporated in the long-term development planning because it can prevent loss of lives and physical damage to infrastructure, as well as provide socioeconomic and environmental benefits, including avoiding welfare loss to society, reducing carbon emissions, and conserving biodiversity (UNDP, 2011).

[19] https://www.idnfinancials.com/news/31030/bappenas-estimates-losses-jakarta-floods
[20] https://theconversation.com/jakartas-flood-costs-will-increase-by-up-to-400-by-2050-research-shows-129698

Table IV-2. Public Project: Refocusing of Infrastructure Projects

Sector/Products	IMPACT ON										
	SHORT-TERM			LONG-TERM							Environmental Risk
	Employment	Economic Activity	Timeliness and Risk	Human/ Social Capital	Technologies	Natural/Cultural Capital	Physical Capital	Fundamental Market Failures	Increasing Resiliency/ Adaptative Capacity	Decarbonization/ Sustainable Growth	
Sustainable waste management (WTE, recycling; hazardous and medical waste, electronic waste)											Low
Water and sanitation											Low
ICT infrastructure for equitable education and promoting local economic growth											Low
Public transportation											Low
Open public spaces and other sharing spaces											Low
Peatland restoration											Low
Polluted river restoration											Low
Infrastructure project to mitigate disaster risk											Low

Source: Author's construction

Sustainable Waste Management

The consequence of policies restricting movement leads to changing consumer behavior, including increasing waste from consumption. For instance, during the pandemic, the government has restricted dine-in consumption at restaurants, potentially increasing the amount of disposable packaging. Also, there has been a considerable increase in medical waste. Before the pandemic Indonesia was struggling to manage its waste sector sustainably. In early 2017, Indonesia was the second-worst country in terms of food loss and waste. Indonesia's performance in managing the conversion of waste to energy is also considered a challenge. Hence, the pandemic is significantly worsening Indonesia's waste issues.

Inadequate waste management creates environmental and social problems, yet sustainable waste management would create advantages in many respects. The sector is linked to massive job creation resulting from the fast-growing recycling business. Currently, 5 to 20 million people across the globe work in the small-scale entrepreneurial, "informal" waste sector. One estimate predicts that the movement from linear to circular economics—using and reusing natural capital as efficiently as possible and finding value throughout—to manage waste sustainably could create another 9 to 25 million new jobs (UNEP, 2016).

In European countries, a sustainable waste management approach could improve resource productivity by 3% in 2030, generating cost savings of 600 billion euros a year and an additional 1.8 trillion euros in other economic benefits (Ellen McArthur Foundation, 2015). A circular economy could also produce higher GDP. The estimation suggests that the disposable income of European households could be relatively higher by 11 percentage points compared to the current development path, or equivalent to 7 percentage points more in GDP.

When it comes to environmental benefits, recycling activity will reduce the burden on the environment and avoid negative externalities, particularly in Indonesia, where most waste is thrown in landfills. Investment in this sector could also promote more sustainable consumption and production activities (circular economy), which reduce potential waste generated in the whole supply chain. Moreover, without further action to tackle climate change, GHG emissions attributable to urban buildings, transport, and waste could reach 17.3 billion tonnes of carbon dioxide equivalent (tCO2e) in 2050 (Coalition for Urban Transitions, 2019). Systems to manage waste sustainably could reduce GHG emissions by 20% a year (UNEP, 2016).

Water and Sanitation

Water is an important resource for sustaining life and a fundamental part of ecosystems. Investing in water is a long-term prospect in both developed and emerging markets. Investing in water and sanitation infrastructure leads to various direct and indirect economic benefits.

Directly, water and sanitation provision could lead to a large increase in productivity, household incomes, and economic growth. Water resources are an important productive asset for various economic sectors: agriculture, energy production, manufacturing processes, small-scale business, tourism, transport, and logistics. All these sectors can suffer economic harm due to water pollution.

Indirectly, clean water and hygiene sanitation help in reducing health costs. Clean water and hygiene sanitation are the basics for implementing cost-effective public health interventions. Many diseases are associated with the inadequate provision of water and sanitation. Increasing access to water and sanitation leads to significant health benefits, and by so doing, reduces the financial burden on national health expenditures in a country.

Water and sanitation are two issues that have a strong connection at the core of the environment, and both constitute one of the top drivers of development. Clean drinking water, hygiene, and sanitation play an important part in maintaining health. Managing water supplies to prevent pollution and providing good sanitation are central to the health of communities and the environment on which they depend. The decline in water quality endangers the health of humans as well as the ecosystem.

Poor water and sanitation provision can affect entire communities. For example, if the piped systems are poorly managed, problems can be concentrated downstream, such as pollution in rivers, lakes, and seas. Further, poor water and sanitation provision degrades human quality of living, especially causing health problems. When water and sanitation deficiencies are severe, there will be a higher chance of more serious public health hazards.

Water is at the heart of impacts from climate change. If climate change is an environmental challenge to be addressed, then the first step is to ensure the sustainability and safety of water resources.

Healthy natural water sources also help restore the environment to a more natural flow regime and nourish entire ecosystems.

Refocusing the investment on water and sanitation projects would be a strategic decision to be made, not only because it has a low environmental risk, but also it meets the sustainability criteria in all aspects, both in the short- and long terms.

ICT Infrastructure for Equitable Education and to Promote Local Economic Growth

The development of the ICT sector can have beneficial effects on the economy, especially from the supply side. ICT development has been linked to improvements in productivity across sectors (Stiroh, 2002), which arises due to ICT's nature as a general purpose technology (GPT). More intensive use of ICT can also improve value added in the production process, which helps shift exports away from low value added commodities to the higher value added goods such as electronic parts. Further, the importance of the ICT sector and the broader digital infrastructure have been made apparent during the COVID-19 pandemic, as more people are conducting transactions online and are depending on ICT for their livelihoods (e.g., Andersen, Hansen, Johannesen, & Sheridan, 2020; Carvalho, Garcia, Hansen, Ortiz, & Rodrigo, 2020) due to the widespread social distancing measures being implemented.

Currently, the overall economic and employment contribution of the ICT sector in Indonesia is still low. The ICT sector only comprises 6.46% of Indonesia's GDP at quarter 2 of 2020, and the multiplier of ICT manufacturing, the primary component of Indonesia's ICT sector as well as the major contributor of employment in the sector, has been on the decline since 2006. The ICT sector needs to play a bigger role in the Indonesian economy, particularly if one considers the sector's role in absorbing female workers. Data from *Statistik Industri* 2015 suggests that ICT manufacturing firms employ a substantially higher portion of female workers, having a median female workers' share of 60%, compared to 40% in non-ICT manufacturing firms. In addition, it is imperative that human capital be accumulated or improved alongside the development of the ICT sector for the benefits derived from the ICT sector to be materialized and widely distributed. Studies have shown evidence of the complementarity between ICT and human capital (e.g., Akerman, Gaarder, & Mogstad, 2015).

Technology upgrading, which is enabled by more intensive use of ICT, has the potential to support long-term decarbonization goals by helping accelerate either of the following: 1) the adoption of a new, green technology within the production process; or 2) the upgrading of existing machines/technologies to reduce carbon emissions and energy/fuel consumption. However, developing and implementing both means of supporting decarbonization goals require additional costs and, therefore, we argue that the government should implement necessary measures that incentivize players to upgrade their production processes by either providing tax breaks for research and development activities or subsidies for the fixed costs of the new or upgraded technologies.

Public Transportation

From an economic perspective, developing public transport infrastructure will benefit the regional economy with greater productivity and competitiveness. More broadly, it will increase business efficiency in domestic and international trade as well as support global mobile activity. Moreover, it is still the most powerful instrument in stimulating national economic activities, especially during the recovery phase of the COVID-19 crisis.

From the social aspect, developing public transport infrastructure can be a key factor to establish stronger social inclusion and social equality. It enables and facilitates better access to vital goods and services, such as education, health care, recreational facilities, and other social services. If the public transport infrastructure can generate the agglomeration effect, it would create advantages to technological development through knowledge interactions, specialization, and sharing of inputs and outputs.

From the employment aspect, public transport infrastructure gives people better accesse to more well-paid jobs. Investment in the public transport sector will create a larger labor pool for employers. From the environmental aspect, it is argued that public transport can be used to tackle climate change issues that impact the high-level objective of protecting the environment.

Beyond that, public transport brings significant benefits. It helps to remove privately owned vehicles from the streets and thus dramatically reduces the negative impacts of carbon emission and other specific air pollutants due to traffic congestion, which in turn results in greater public health benefit. During peak periods, public transport produces less emission than private vehicles. However, in the short term, most public transport infrastructure projects may not meet the sustainability criteria in terms of timeliness and risk as public transport infrastructure is economically expensive because it requires substantial capital that takes a considerable share of public expenditure.

Open Public Spaces

Open public space is an element used not only for shaping the physical features of cities but also the way the population experiences public places. In that sense, open public spaces projects are made to establish the relationship between people and their surrounding environment, for example, to provide parks, pedestrian paths, equipped green areas, and so on.

There are economic benefits of open public space projects. By building parks and preserved lands, the government can attract residents and businesses and thus is able to boost land values and local property taxes. Many businesses nowadays are not searching for a location near specific raw materials but often select locations that offer high quality of life, such as those with open space and outdoor access. Providing high quality open public spaces will encourage local economic development and also the development of surrounding areas.

Although a modern life style is usually associated with mental stress, lack of physical activity, and exposure to environmental risks, the presence of open public spaces can promote mental and physical health among residents by providing psychological relaxation, supporting physical activity, and stimulating social cohesion.

Improving the open public spaces of cities also provides an opportunity for ICT to penetrate to create connectable, real-time responsive, sharing, and integrating public places as an important added value to the quality of life and attractiveness of the city. In turn, the application of technology in public spaces can help create cities that are both smart and sociable.

Due to the rapid growth of road pavement made from asphalt and concrete, urban areas are hotter than their rural counterparts. This negative externality can negatively affect the health and welfare of humans, particularly the vulnerable population (e.g., infants, the elderly, and poor people who are affected by high temperatures). Open public spaces can provide environmental benefits and social well-being as they are

essential for making cities liveable and sustainable. For example, conserving a natural open public space can affect climate by reduction of air temperature and heat, improving air quality, and decreasing air pollution.

Although the infrastructure development of open public space has been associated with low environmental risk, in the short term, the project does not meet the sustainability criteria. Specifically, it would not generate significant employment and hence various potential labor skills that already exist in the local population may be underutilized. Most jobs related to the project for open public space infrastructure demand different skills than jobs affected during the COVID-19 crisis.

Peatland Restoration

Peatland restoration is critical in reducing GHG, as this ecosystem stores 30% to 40% of global carbon, which is twice as much carbon as all of the world's forests, although peatland covers only about 3% of the world's land surface (Hergoualc'h et al., 2018). Conserving a healthy peatland ecosystem will bring numerous benefits, such as providing food and clean water, preventing floods and droughts, and improving local resiliency in facing future potential fires. Peatland is also home to endangered species.

As part of meeting the NDCs, by 2030, Indonesia has committed to restoring two million hectares of peatland ecosystem. The Indonesian government, through the Peatland Restoration Agency (BRG), is committed to restoring the damaged peat ecosystem, which was legalized by Presidential Regulation No. 1/2016. Since 2011, the government has also imposed a moratorium on land expansion, particularly for palm oil and logging activities in primary forest and peatland areas. BRG has three approaches for restoring peatland ecosystems, namely rewetting, revegetation, and revitalization. However, the issue of transparency has caused potential asymmetric information on the progress of the effort.

The involvement of smallholders is critical in peatland restoration efforts. The diversity of Indonesian smallholders' livelihoods has promoted the overexploitation of available resources in peatland areas, including agriculture, forestry, fisheries, and mining (Hergoualc'h et al., 2018). Peatland is a fire-prone ecosystem, and its conversion to agricultural use caused severe fires in the dry season, exacerbated by the El Niño. In 2015, these fires released more than a thousand million tons of CO_2e, at a cost of at least US$16 billion, according to the World Bank (2016), and cases of acute respiratory infections increased significantly. This is not even the true cost of forest fires, which remains unknown to date. Thus, promoting more sustainable livelihood options in the peatland ecosystem is critical to prevent irreversible negative environmental consequences in the future.

Polluted Water Restoration

The linkage between water and the economy implies that investing in water management is absolutely essential and it is a necessary condition for enabling sustained economic growth in the long term. Good management of water resources brings more efficiency in productivity across economic sectors.

Providing better access to clean water is a progressive strategy for sustained economic growth because often the economic benefits of improved water supply far outweigh the investment costs. Investing in water resources management and water supply contributes significantly to increased production and productivity within economic sectors, and reduces investment risk. It is clear that reliable access to water resources is a competitive advantage to attract business opportunities. Also, when water storage capacity is improved, national economies are more resilient to a water crisis.

Providing better access to clean water is a progressive strategy for reducing poverty. Gains from improved water supply benefit poor people the most. Poor people's livelihood systems are directly dependent on environmental and natural resources. More efficient management of common property resources, such as groundwaters, rivers, and lakes, translates directly into more food and income for the poor. The production capacity and productivity of economic sectors depend on people's health and reliable access to water. In addition, the poor gain direct benefits from improved access to basic water services through improved health and hence lower health care costs.

Water is a key factor in the creation of jobs. Investments in water conservation have a beneficial effect on employment. According to the UN World Water Development Report in 2016, three out of four jobs that make up the global workforce are heavily or moderately dependent on water. Half of the world's workers are employed in eight water- and natural resource-dependent industries. This means that water shortages and problems of access to water could limit job creation in the coming decades. Furthermore, water will play a key role in the transition to a green economy.

Restoration of polluted water will greatly benefit the improvement of environmental quality. The ecological processes that determine the health of the ecosystem depend on water. By restoring water to the environment, ecological functions can be maintained. Although a low environmental risk has been attached to the project of polluted water restoration, in the short term the project itself does not meet the sustainability criteria. The overall public and private investment needs for improved water supply and water resources management are considerable.

Building Disaster-Resilient Infrastructure

Managing Risk of Mega Project

Moreover, our study also concerns in analyzing the current government's mega projects, such as mega rice projects and biodiesel program, that may pose high risk unless managed sustainably.

Table IV-3. Managing Risk of Mega Project

Sector/Products	IMPACT ON…										
	SHORT-TERM			LONG-TERM							Environmental Risk
	Employment	Economic Activity	Timeliness and Risk	Human/ Social Capital	Technologies	Natural/Cultural Capital	Physical Capital	Fundamental Market Failures	Increasing Resiliency/ Adaptative	Decarbonization/ Sustainable Growth	
Mega-rice Project											HIGH
Biodiesel Program											HIGH

Source: Authors' construction

Mega Rice Project

Concerning the mega rice project, during the pandemic, food security was threatened because the pandemic disrupted the global food supply chain. In responding to that issue, the Indonesian government launched a program to create 1 million ha of rice fields aiming for national food security. In spite of the criticism from experts and a history of similar failed projects, it must be admitted that the sector has a crucial role in Indonesia's economy. That strategic role of the agriculture sector can be shown by its contribution in capital information, food supply, industrial raw materials, fee and bioenergy, and source of foreign exchange (Rivai & Anugrah, 2011). Moreover, agriculture has become one of the sectors that contributes to increasing GDP from year to year.

When it comes to employment, with more than 30 million people employed in the sector, agriculture is one of the greatest sources of national employment, accounting for 28% of national employment. Yet, the income of households in the agricultural sector is below the average household income nationally. Considered as one of the lowest productive sectors (Bappenas), it counts only Rp1.98 million which is lower than the service and industry sectors, with average income ranging from Rp2.83 million up to Rp2.92 million a month. This sector is also considered as one of the least productive sectors in Indonesia (SAKERNAS 2018).

Considering the importance of rice as a commodity, as mentioned above, getting rice policy right is essential for food security, sustainable income, and employment growth. Historically, rice policy has gone through three phases since the early 1970s (McCulloch and Timmer, 2008), and most policies aimed to achieve Indonesia's rice self-sufficiency. In 1984, the Food and Agricultural Organization recognized Indonesia's successful efforts to increase rice production. Indonesia became self-sufficient in rice during the mid-1980s. Subsequently, a series of mega rice projects in Indonesia were initiated, including in Kalimantan in 1995, the Ketapang Food Estate and Merauke Integrated Food and Energy Estate (MIFEE). However, since then Indonesia's rice production growth has slowed. The government measures to pursue rice self-sufficiency are not aligned with the improvement of technical efficiency and dominantly focus on cropping intensity which makes the policy unsustainable. Moreover, current activities that convert arable land to nonagricultural uses are worsening the stagnation of Indonesia's rice production.

The recent government initiative in pursuing food security through mega rice projects needs to be approached with care to avoid becoming unsustainable. The previous mega rice project initiative led to massive deforestation and damaged Indonesia's cultural heritage. Massive land conversion activities generate carbon emissions which would worsen the climate change issue. Learning from past experience, it should be noted that although the aim of food security should be kept, the negative environmental impact must be mitigated. Failing to mitigate the environmental damage, the previous project potentially destroyed almost a million hectares of carbon-rich peatland and failed drastically to produce rice. Instead, it left behind a landscape of fire-prone wasteland. Therefore, the simultaneous activities of pursuing food security and maintaining environmental safeguards needs to be conducted very carefully.

Biodiesel Policy

As stated in the Minister of Energy and Mineral Resources Regulation No. 12/2015, Indonesia has a target to achieve a biodiesel policy with blending of 30% FAME[21] between 2020 and 2025. This policy has been implemented on schedule, in early 2020. However, the government has plans to increase the blending target progressively to 40 percent by mid-2021. Pertamina has even started to develop an alternative biofuel, from crude palm oil (CPO), which will become RBDPO,[22] a more advanced variety of biofuel. Based on its roadmap of biorefinery development, Pertamina is in production trial to produce green diesel and green gasoline, and is planning to perform co-processing of green aviation turbine fuel (avtur).[23] With no amendment from previous regulation, the unclear target could pose new risks in the future, such as land expansion due to the higher demand for CPO. Land expansion raises the potential for social conflicts, the possibility of insignificant impact on smallholder farmers' welfare, the potential of fiscal burden in the long run due to unsustainable cash flow of BPDP-KS, and the future utilization of produced FAME if the government turns to using RBDPO instead. In addition, global innovation has also encouraged electric vehicles to be implemented in Indonesia, which means the position of biofuel policies needs to be clarified.

Another objective of accelerating this policy is to reduce the gap in the Indonesian current account deficit, where the increase in the blending target is expected to reduce diesel imports—and the subsidy as well—and increase domestic biodiesel consumption. However, the domestic biodiesel consumption will also increase spending on biodiesel incentives. According to the World Bank Commodity Price Forecast in April 2020, the price of diesel is projected to be constantly below the world CPO price in the next several years (World Bank, 2020d), so that spending on biodiesel incentives will not decline in the near future.[24] This will have a great impact on the budget of *Badan Pengelola Dana Perkebunan Kelapa Sawit* (BPDP-KS) as the institution that manages the biodiesel incentives.

Furthermore, the management of BPDP-KS' fund is considered unsustainable. In terms of revenue, BPDP-KS does not have a sustainable source of income because it depends heavily on the export levy paid by the palm oil companies.[25] In the end, the government has allocated IDR2.78 trillion from the state budget (APBN), particularly from the National Economic Recovery Program (PEN), for the biodiesel industry (APROBI, 2020). However, these funds are only allocated for the biodiesel industry and do not cover farmers. According to the Financial Statement of BPDP-KS in 2017, there was misallocation of funds, where more than 95% was allocated for biodiesel incentives, whereas the farmers as the main beneficiaries got the rest.

[21] FAME, stands for fatty acid methyl ester, the material used for biodiesel in Indonesia. Thirty percent blending (also commonly known as B30) means biodiesel consists of 30% of FAME and 70% diesel.
[22] Refined, bleached and deodorized palm oil, known as a better material for biodiesel compared to FAME.
[23] https://www.pertamina.com/id/news-room/news-release/setelah-d-100-pertamina-targetkan-uji-coba-produksi-green-avtur-akhir-tahun-2020
[24] The market price index (HIP) of diesel and biofuel (BBN) have been used as the basis of the biodiesel subsidy in Indonesia. If the HIP of biofuel (in this case biodiesel) is higher than the HIP of diesel, than the BPDP-KS should pay the gap. The price of biofuel HIP also depends on the world CPO price, thus a larger gap of biofuel HIP and diesel HIP will increase the proportion of biodiesel subsidy as well.
[25] The palm oil companies that export CPO must pay an export levy of US$55 per tonne of CPO based on Minister of Finance Regulation (PMK) No. 57/PKM.05/2020 about *Tarif Layanan BLU BPDP-KS pada Kementerian Keuangan*

Although the biodiesel program has a critical role in supporting the national energy security and achieving the renewable energy mix target, the risks of policies and program sustainability should be managed so that the program is on target, without sacrificing social and environmental sustainability in the future.

3. How to Promote Employment?

COVID-19 has an undeniably negative impact on employment. Workers are losing their jobs due to disruption in both demand and supply sides of production, leading to rampant unemployment. Such an event then makes workers and their families more vulnerable to poverty.

Despite the spike in unemployment during the COVID-19 pandemic, not all people (or workers) can afford to be unemployed. There are at least two factors that can explain why some people cannot afford to be unemployed (Basri, 2020). First, people who have higher non-labor income can afford to be unemployed or to work at home when the government orders a lockdown. Second, people who have a higher reservation wage, i.e. a minimum salary to be paid to workers as an incentive to work, can afford to be unemployed for longer. With the current labor market condition in Indonesia characterized by informal, low-paid workers working in low-productivity sectors, there is a chance that many workers in Indonesia cannot afford to be unemployed for very long.

People who cannot tolerate long-term unemployment are seeking new employment, although it will be informal, and they must risk their own health during the pandemic. This implies that the share of informal workers in the economy will be on the rise during COVID-19, characterized by jobs without proper social protections (such as health and accident insurance), a formal employment agreement (either permanent or temporary agreement), or a safe workplace (such as a workplace that does not have standard health measures to prevent or slow the spread of COVID-19).

In the short term, this strategy is effective in creating employment opportunities and in increasing the livelihood of workers and their families. However, in the long term, working in the informal sector is not a sustainable strategy to recover from the crisis: as stated in Sustainable Development Goals (SDGs) (Goal number eight), the goal is to achieve good employment and economic growth.

To promote more sustainable employment during the pandemic, policies can address both the demand and supply side of the labor market. On the demand side, policies should focus on keeping firms from exiting, maintaining current levels of employment as well as creating employment opportunities and ensuring workers are protected. On the supply side, policies should focus on enhancing the skills and adaptability of workers in the labor market in response to changes during the pandemic and in the future: e.g., structural transformation of the economy and changing nature of work.

Promoting Employment from the Demand Side

Employment promotion from the demand side of the labor market should be focused on keeping firms from exiting, maintaining current levels of employment (and increasing employment opportunities), and ensuring inclusiveness of worker protections. The policies could be in the form of (1) tax incentives, loan interest subsidies, and credit restructuring to the firms (including micro, small, and medium enterprises) to jumpstart their activities; (2) employment and income provision for the furloughed (unpaid leave) workers to make sure

that the workers have a decent livelihood and to prevent them to falling into poverty; and (3) inclusive protection for the workers, both in terms of social protection and employment agreement.

(1) Keeping the firms from existing and maintaining and enhancing the economic activities of businesses

As of July 2020, the Government of Indonesia (GoI) has rolled out an economic recovery program or *Program Pemulihan Ekonomi Nasional* (PEN), through Presidential Decree no. 23, year 2020 (PP 23/2020). This program mainly targets the demand side of the economy, including the demand for labor, where its main purpose is to protect, maintain, and increase the economic capability of business owners in running their production activity during the COVID-19 pandemic. This program specifically targets three types of businesses: micro, small, and medium enterprises (MSMEs); corporations; and state-owned enterprises (SOEs).

Through PEN, MSMEs will get IDR34.15 trillion in loan-interest subsidies, IDR28.06 trillion for tax incentives, and IDR6 trillion for new working capital loans. Corporations will get IDR34.95 trillion for tax incentives and IDR35 trillion for MSMEs credit restructuring, mainly for the "partner banks." Further, SOEs will get *Penyertaan Modal Negara* (PMN) or government capital support, working capital investment, payment of compensation, and other support from the government.

PEN is ultimately important for the MSMEs, since the program covers 60.66 million MSMEs (Ministry of Finance Republic of Indonesia, 2020) through loan-interest subsidies to jumpstart their business activities. Among MSMEs, this program is particularly important for ultra-micro and micro enterprises, MSMEs that only rely on physical (offline) stores, and MSMEs in educational service, information and communication, and transportation and storage services sectors (since they are impacted the most by COVID-19) (LIPI, 2020). The program is expected to have a huge impact on employment and economic activity overall, since 43 percent of workers (54.7 million) are working in MSMEs, and specifically 23 percent of workers are working in micro enterprises in 2019 (Mandiri Institute, 2020).

(2) Employment Retention and Income Provision for Furloughed Workers

Instead of laying off workers due to the pandemic, the government can also help businesses and workers by retaining staff through certain income provisions. In a normal situation, employment retention and income provision programs are useful to reduce the cost for finding and training new employees. During the COVID-19 pandemic, this program is useful for maintaining workers' livelihoods, as well as for helping businesses reduce costs and stay solvent.

The United Kingdom and Malaysia provide great examples of how this program could work during the pandemic. The United Kingdom, through "Coronavirus Job Retention Scheme" (CJRS), allows businesses to claim a certain amount of money from the government to subsidize employees' monthly salaries (Government of the United Kingdom, 2020). The amount of salary subsidy given to the businesses decreases as the economy recovers. The main requirement for the business to be able to take part in this scheme is that it has furloughed employee(s) from March 1 to June 30, 2020 for the current period (before July 1). Workers with all categories of visa (including immigrants and expatriates) could also be covered under this scheme. The government could cover up to 80 percent of the workers' monthly salaries for the initial months the employee is furloughed (temporary unpaid leave). When the economy starts to recover, the share of the salary subsidy given by the government to the businesses would eventually decrease.

Malaysia also has a similar program called "The Employment Retention Program" or ERP (BDO, 2020). This program provides income provisions to workers who have agreed to take unpaid leave as a result

of downturns due to COVID-19. In this program, only private sector employees can claim this benefit, including temporary workers. Employees who are eligible to this scheme are also limited to those whose monthly income is equal to or less than MYR4,000 and those who got notice of unpaid leave for at least thirty days from March 1, 2020, for a period of one to six months.

During the COVID-19 pandemic, the Government of Indonesia, through Ministry of Manpower (MoM), could use the existing program to protect workers impacted by the pandemic from loss of wages during unemployment and can give them a decent livelihood. For instance, existing programs such as pension plans/insurance could be used to implement employment retention programs in Indonesia until COVID-19 is no longer considered an emergency or non-natural disaster. The duration and the amount of salary subsidies given to affected businesses can vary—from one to six months—depending on the overall budget and condition of the economy, i.e. whether it is stagnating or recovering. In the future, as a sustainable instrument to provide a livelihood for these workers, the government could design an unemployment insurance scheme that allows recently unemployed workers to receive enough money to cover their monthly expenses during their period of unemployment.

(3) Inclusive Protection for the Workers

Before the COVID-19 pandemic, the coverage of social protection programs is already low among workers in Indonesia. In 2019, only 49.1 percent of employees and casual workers were covered by health insurance, only 43.5 percent were covered by work accident insurance, and only 33.9 percent were covered by death insurance.[26] For the employees, less than one in three employees are covered by old-age insurance or pension insurance. This is in addition to the fact that the best insurance is only for workers with permanent (PKWTT) or temporary (PWKT) employment agreements. Those with informal (verbal) or no employment agreement are less likely to have insurance, as only one out of twenty workers with informal (verbal) employment agreement has health insurance or work accident insurance. The coverage is only less than 5 percent for other types of insurance among workers with informal (verbal) informal employment agreements. Less than half of the workers have formal employment agreements: only 18.6 percent of workers have permanent employment agreements (PKWTT), and 27.4 percent have temporary employment agreements (PKWT). These imply that more than half of workers in Indonesia are not covered by proper protection, from legal protections related to minimum wage and decent work policies to insurance and social protections.

During COVID-19, the number of workers who are not adequately covered by health and employment protection increases as job losses mount. To make workers' protection more inclusive, the government has rolled out many social protection programs during the pandemic, including increases in the coverage of the programs such as staple food (Sembako), conditional cash transfer (PKH), and direct cash assistance through a village fund (BLT-DD) for those who live in rural areas (Gentilini et al., 2020). Ministry of Finance has allocated IDR 3 trillion to subsidize national health insurance premiums for over 14 million nonsalaried workers (*Pekerja Bukan Penerima Upah*) who enrolled in Class III (the lowest class of healthcare service) in response to the pandemic in which the subsidy will be paid to BPJS Kesehatan (Tempo, 2020). Ministry of Manpower and Coordinating Ministry of the Economy have also implemented Pre-Work Card (*Kartu Prakerja*) as a means for unemployed workers and first-time job seekers to receive training.

[26] According to Sakernas 2019 (August), calculated by authors.

Nevertheless, the pre-work card program is currently on hold due to administrative and eligibility issues (CNBC Indonesia, 2020a).

Kartu Pra-Kerja During Pandemic: A Dilemma

The pandemic forced the premature debut of *kartu pra-kerja* and stretched this cash assistance program beyond the limits of its design. The critical question is whether the *kartu pra-kerja* is able to serve as cash assistance. There are at least three aspects that can be observed to better understand the dilemma. The first aspect relates to the regulatory side of things. Looking at the existing legal umbrella, it does not seem easy to do. Presidential Decree (*Peraturan Presiden*) Number 36/2020 regulates specifically the matter of Job Competency Development. Therefore, it is purely to provide cash social assistance for laid-off workers, then separate programs and regulations should be drawn up. It could be disastrous if *Kartu Pra-Kerja* were later turned into full cash assistance without a clear legal umbrella. Considering this threat, it makes sense to choose a hybrid scheme to deal with emergency situations that require immediate action.

Second is the technical aspect with regard to data availability. Ideally, the distribution of social assistance funds must be targeted based on Integrated Social Welfare Data (*Data Terpadu Kesejahteraan Sosial*). The availability of data for the poorest groups has been obtained thanks to the collective registration of bank accounts for the distribution of Non-Cash Food Assistance (BPNT) funds. They are the ones who have received social assistance in the form of the *Program Keluarga Harapan* (PKH) and the Basic Food Card (*Kartu Sembako*). The problem is that the Ministry of Social Affairs is still expanding and updating the data to cover the poorest families.

The third aspect is the availability of the funds. Even though a twofold increase has been observed in *Kartu Pra-Kerja* funds, the amount is still inadequate. The registration and training mechanism, in this case, is a selection tool to get around this limitation, including in the priority selection of *Kartu Pra-Kerja* recipients.

Given all of these complexities, it is not easy to find ideal policies amid time constraints. The *Kartu Pra-Kerja* has become a policy option despite various shortcomings. Therefore, evaluation and improvement need to be carried out immediately, in line with the implementation of the program and proportionate to the wave of layoffs. Various inputs and criticisms about the weaknesses of the pre-job card training format can be used as initial evaluation material. For example, online training is not sufficient; it needs to be completed face to face. It is imperative to broaden the means of receiving the training.

In the future, the government could intensify and extend existing social and employment protection programs for workers. A good start would be increasing the coverage of health, work accident, and death insurance for both salaried and non-salaried workers and for workers with both formal and informal employment agreements. To reinforce legal protections for workers, the government could also design a mechanism in which any type of worker can get a proper, formal employment agreement. This is to ensure that the workers do not lose their rights and that they perform their responsibilities accordingly.

Promoting Employment from Supply Side

Employment promotion from the supply side involves the workers themselves. In general, the goal of supply-side employment promotion is to enhance the quality and adaptability of workers in the labor market. While labor force participation of the fifteen-year-old and older demographic has stagnated at around 65 percent to 70 percent in the past twenty years,[27] the majority of workers still only have six years of education or less, indicating that the quality of workers available in the labor market is still low. There are three recommendations for promotion of employment through workers: (1) increase access to secondary and tertiary education; (2) enhance the quality of education; and (3) provide training and education for workers and everyone over the lifecycle.

(1) Increase Access to Secondary and Tertiary Education

Indonesia has reached universal access to primary education, where the gross enrollment rate (GER) for primary education has reached more than 100 percent, e.g. 108.8 percent in 2000 and 106.8 percent in 2018.[28] This is partly thanks to the INPRES school program implemented by President Suharto in the 1970s, when the program had a profoundly positive impact on labor market outcomes for its recipients compared to nonrecipients (Duflo, 2001). While GER for secondary education has been improving in the past twenty years partly thanks to the mandatory nine years of education implemented by the Ministry of Education since 2003[29] (from 55.1 percent in 2000 to 88.9 percent in 2018), GER for tertiary education has not improved much. In 2000, GER for tertiary education was only 14.9 percent and increased 21.4 percentage points in eighteen years to 36.3 percent in 2018. Therefore, access to education, mainly for secondary and tertiary education, needs to be increased in order to have more educated workers in the labor market in the future.

In order to achieve this goal, the government first needs to identify whether the low GER for secondary and tertiary education is caused by the lack of school or teacher availability (supply side) or the willingness of the people or students to pursue higher levels of education (demand side). The identification of this problem is important in coming up with the right policy to increase access to education and improve GER for secondary and tertiary education.

If the problem lies on the supply side, then the government could reinforce the existing policy to increase school and/or teacher availability. If the problem lies on the demand side, then the government could expand the existing program that relates to education access expansion, such as school operational assistance (*Bantuan Operasional Sekolah* [BOS]) or the Indonesia smart program (*Program Indonesia Pintar* [PIP]) that helps students to attend school by giving them necessary equipment (such as school bags and supplies). Or there could be mandatory schooling for school-age children from the poorest households through a conditional cash transfer (PKH) program to prevent them from becoming child laborers to help their household make ends meet (World Bank, 2017).

As the return of investment in the education sector takes years to be realized, investment in the form of increasing access to secondary and tertiary education needs to be implemented as early as possible.

[27] World Bank database: National estimates of LFPR 15+ (Total) for Indonesia.
[28] World Bank database: Gross enrollment rate of primary school for Indonesia.
[29] UU No. 23 Tahun 2003 (Constitution 23/2003) about National Education System. This constitution also discussed mandatory allocation of 20 percent of the state budget (APBN) to the education sector.

Indonesia could have more educated and more productive workers available in the labor market and thus create sustainable growth in the future.

(2) Enhance the Quality of Education

As Indonesia is realizing the potential of its education sector in recent years, now that more educated workers are available in the labor market, the policy to increase quality and enhance the adaptability of workers continues. Despite the "quantity" of students enrolled, education from primary to tertiary level has been improving over the years; however, the "quality" of education in Indonesia is still lacking compared to other countries.

According to Programme for International Student Assessments (PISA) 2018, Indonesian students scored lower in mathematics, reading, and science compared to the OECD average (OECD, 2019). Only 30 percent of students have level-2 proficiency or higher in reading (OECD average: 77 percent), 28 percent have level-2 proficiency or higher in mathematics (OECD average: 76 percent), and 40 percent have level-2 proficiency or higher in science (OECD average: 78 percent). Furthermore, Filmer *et al.* (2020) finds that Indonesian students lost three to four years of schooling on average in the context of learning. For example, people with nine years of schooling in Indonesia have the same capability as people with five or six years of schooling in overall students surveyed in PISA (Filmer et al., 2020). Furthermore, Beatty *et al.* (2018) finds that there has been no significant learning progress between Indonesian children cohorts in the past fifteen years despite improved school enrollment.

The government has implemented education policies that address this issue. In 2005, the government implemented teacher reform in order to improve the national education system in Indonesia.[30] One of the policy packages is to make teacher certification mandatory. And when the teacher has achieved a certain certification, the government will double the teacher's salary in order to inspire the teacher to perform better and thus increase the quality of education delivered in the class. However, De Ree *et al.* (2018) finds that doubling teachers' salaries is not effective in increasing education quality, which was measured by student test scores over three years of the study, but it increases the teacher's overall satisfaction and makes him or her less likely to hold more than one teaching job.

In order to enhance the quality of education in Indonesia, the government through the Ministry of Education should also shift the focus from "quantity" to "quality" of education through education system reforms. Some of the policy ideas could imitate the ones that have been implemented in developed countries by decreasing the teacher-to-pupil ratio, creating an education curriculum not only emphasized student test scores but also encouraged the use of logic for problem solving instead of memorizing and depending only on standard textbooks. This approach also emphasized the well-being, interest, and talent of the students.

(3) Training and Education for Workers (and Everyone) Over the Lifecycle

Education is not only important for those who are school age but also for those who have already graduated from formal educational institutions. The journey of formal education is begun in elementary school and goes to high school or higher. People usually spend twelve years of schooling before graduating from high school or spend sixteen years of schooling to graduate from university with a bachelor's degree. Some people even pursue master's degrees and doctoral degrees, where they dedicate up to twenty-two years of their lives to

[30] Undang-Undang Nomor 14 Tahun 2005 (Constitution 14/2005) about Teacher and Lecturer.

formal education. Nevertheless, the presence of formal education is not enough to enhance the quality and adaptability of workers in the labor market. Informal education, in the form of regular or irregular training, conducted by private party or the government from the cradle to the grave, needs to be prioritized in the sustainability agenda, as this can facilitate skilling, upskilling, and reskilling of workers over their lifecycle in response to fluctuating labor market and the economy in general.

COVID-19 has certainly changed how jobs are being done. With lockdowns and social restrictions in place, many workers were ordered to work from home. Some of the jobs available in the labor market could be done remotely. World Bank (2020c) estimates that only 21 percent of jobs could be done remotely in Indonesia, while 37 percent in the United States could be done remotely. General government and financial sectors in Indonesia have the highest percentage of jobs that can be done remotely. By contrast, agriculture, construction, and tourism-related sectors in Indonesia have the lowest percentage of jobs that can be done remotely. Moreover, workers with "employee" status and in the highest income bracket have a higher percentage of the jobs that can be done remotely.

The demand for flexible and highly adaptable workers will not only apply in the context of COVID-19 but also in the context of future structural transformation in the economy as well as in the changing nature of work itself. As the economy shifts from a low-productivity traditional sector to high-productivity modern sector, workers are encouraged to have information and technology literacy: they should be able to do simple tasks that require use of the computer and internet, as well as complex problem-solving skills. Furthermore, workers are also expected to have alternative working arrangements now: for example, they might have not only one permanent job but also two or more jobs that can be done as temporary "gig" jobs. In the United States, the trend of "gig" jobs, covering on-call workers, temporary help agency workers, contract workers, and independent workers are increasing over the past years, and these jobs also characterized by the intensive utilization of internet (Katz & Krueger, 2019).

Training and education outside formal schooling needs to be provided for workers in all age groups in order to increase the capacity and capability of workers in the future and to anticipate the changing nature of work. Massive Online Open Course (MOOC) platforms, such as edX, Coursera, and Udacity have paved the way to lifelong learning for everyone. Everyone can take courses for self-improvement without any formal registration to a formal education entity. In Indonesia, the pre-work card (*Kartu Prakerja*) has the potential to facilitate skilling, reskilling, and upskilling needed by the workers over their lifecycle. If lifelong learning is facilitated, workers can have more flexible choices and can adapt easily to the fluctuating labor market situation that they will face in their lifetimes.

Kartu Pra-Kerja in the Ideal State

The foremost opportunity for the successful implementation of the *Kartu Pra-Kerja* program is to ensure that the technical criteria of the primary target recipients are in line. In other words, the program needs to refine the eligibility criteria of recipients. Another aspect crucial for improving the implementation of this program is refining the definition and scope of unemployment. Technically, *Kartu Pra-Kerja* could ideally serve several prospective recipients who have the following criteria:

(1) Indonesian Smart Card (KIP – *Kartu Indonesia Pintar*) recipient

By targeting workers from low-income families, especially KIP recipients, the *Kartu Pra-Kerja* can also act as a liaison for the education sector to the labor market (transition from school to work) in poverty alleviation programs. Also, the verification mechanism for potential *Kartu Pra-Kerja* recipients is more detailed and accurate because KIP recipients have gone through the verification process from the related poverty alleviation program.

(2) Unemployed people who have just graduated/quit school

In addition to KIP recipients, unemployed people who have just finished their education can be more accurate in terms of verifying their unemployment status because they can use other program verification documents such as diplomas, certificates of end of education, RT/RW/Kelurahan certificates, and so on.

(3) Unemployed people who have worked but come from low-income families

As with KIP recipients, unemployed people from low-income families have generally gone through the verification stage of existing poverty alleviation programs. Therefore, *Kartu Pra-Kerja* only requires a potential recipient's last employer to verify the right target recipients.

(4) Workers experiencing Termination of Employment (PHK).

It is necessary to develop a system for identification and verification of previous employment status, for example, by using a dismissal certificate or work contract from the previous workplace. This particular unemployed group needs to be targeted first by the system so they are not unemployed for too long and can join training programs dedicated to reskilling or upskilling.

Several essential factors need to be analyzed further so that the *Kartu Pra-Kerja* program can successfully determine its primary targets:

1) The need for a data verification system and mechanism, especially a data system that contains information on low-income families/KIP recipients who have worked or the length/duration of unemployment. This information is a vital tool to determine the eligibility of *Kartu Pra-Kerja* recipients.
2) The need for a data collection system and mechanism for self-reporting of the unemployed. As mentioned above, unemployment status is obtained from self-reporting by the unemployed. Hence it

is necessary to develop sophisticated systems and mechanisms to record these statuses on an ongoing basis.

3) Especially for workers who have been laid off, the data collection system and mechanism for self-reporting as unemployed must adhere to the conditions if they do not have a termination letter or a work contract (e.g., those who work part-time or participate in informal activities) as well as systems and mechanisms. To test the validity of these certificates.

Following the aspects and steps that have been discussed above, several things become fundamental challenges in implementing the *Kartu Pra-Kerja* program:

(5) Workers and Unemployed Database

The measure of the success of this program is the ability to determine the right targets. For that, we need an accurate and up-to-date database (update) regarding the status of workers. Currently, this database does not exist.

(6) Workers and Unemployed Database

The measure of this program's success is the ability to determine the right targets. For that, we need an accurate and up-to-date database (update) regarding the status of workers. Currently, this database does not exist.

(7) Externalities from the "allowances" that will be given to unemployed people in the Kartu Pra-Kerja program

There is an indication that the provision of "allowances" in the *Kartu Pra-Kerja* program that the unemployed will receive can increase overall unemployment because job seekers have the option of being unemployed on the pretext of attending training (preferably unemployed and participating in training because they earn money). Also there is no assurance that the industry/job market will directly absorb all *Kartu Pra-Kerja* recipients who take part in the training. Hence there will still be a phenomenon of "waiting" (unemployed) until the recipients of the *Kartu Pra-Kerja* finally find work.

(8) Broaden the means of getting the training

During the pandemic, the *Kartu Pra-Kerja* program is only accepting training mode via online platform. However, given the potential long-term benefits of this program, there is a move to extend the training mode not only via online but also offline. There are several training centers (*Balai Latihan Kerja* – BLK) that already exist across the country that could succeed in this role. Therefore, there is a need to revitalize and optimize the role of training centers, not only under the management of Ministry of Manpower but also under the management of Ministry of Education and Culture.

4. Multiplying the Benefit of Cash Transfer

According to ODI (2005) there are two main findings on emergency relief. The first is that cash and voucher programs remain largely underused in the humanitarian sector. The second is that cash and voucher approaches are becoming more popular, while the dominance of commodity-based approaches is waning. Examples include a recent cash grant distribution in Somalia; ongoing cash relief in Ethiopia; cash for work in DRC and Afghanistan; cash for flood relief in Mozambique; cash payments in Bam, Iran; CRS's pioneering seed fairs and vouchers; cash for shelter in Ingushetia; and an urban voucher program in the West Bank.

The poor tend to spend their money on consumables instead of on health, education, or other sectors newly opened to them through relief. Thus, the cash transfer would be better if it were given using a conditionality. The conditionality will help the beneficiaries to achieve other objectives such as

- reducing inequality, since recipients' income would go up but also other aspects of their lives such as health and education would improve (if the conditionality aims to increase these indicators);
- reducing unnecessary spending on consumable goods and direct them to more positive consumption such as for paying tuition fees, health checkups, or buying staple foods;
- in terms of multidimensional poverty, possibly decrease poverty in several indicators, which would also relate to achieving the SDGs goals; and
- market development, especially on products and services

The conditionality should be related to goals of the program itself, or other things that will give a multiplier effect to the beneficiaries' living conditions and the economy as a whole. Indonesia has implemented the PKH program, a CCT given to poor families who have infants/toddlers, school-age children, a pregnant household member, or have an elderly member. Several studies show that this program has a significant impact on increasing school enrollment, reducing the birth through traditional birth attendance, and increasing access to health services for the elderly. Feraro and Simorangkir (2020) also showed that PKH has a positive impact in reducing the deforestation in Indonesia by 30 percent.

Currently, the government has allocated IDR 37.4 T to PKH program for 10 million households in decile 1–2 and also 31.8 T for the BLT Dana Desa program, which disbursed to households in decile 4–5. The government's current budget is sufficient enough to cover the economic impact COVID-19. But if another outbreak hits, it might affect the budget allocation in the sense that more funds will be shifted to cover the social protection program. Other budgets, such as for environmental preservation or disaster management could possibly be reduced. Thus, it would be better for the government to attach a conditionality to the current cash transfer. This would not only be preparing the beneficiaries to graduate from the program but would also take full advantage of the budget that had been shifted. The conditionality should relate to the effort of environment or social risk mitigation, especially in line with achieving the SDGs.

ODI study in 2016 also shows that supplementing the cash transfer with appropriate training opportunities or other services can strengthen intended impacts of a cash transfer program. The Government of Indonesia has implemented the Kartu Pra Kerja program, which asks beneficiaries to join training programs based on their interests. Through the training program, the GoI hopes the people of productive age, especially the poor, could offer the skills needed by the labor market. This conditionality not only positively impacts the beneficiaries but also is good for the labor market and the Indonesian economy as a whole.

5. Making Impactful Loan Support

Fiscal instruments not only provide assistance to the most adversely affected individuals and households but also allow for a foundation for economic recovery by supporting businesses to maintain optimum performance and even expand further. Fiscal stimulus to the business sector can leverage the economy through the multiplier effect and liven up forward and backward linkage sectors. In Indonesia, giving support to MSMEs should be prioritized since it could achieve multiple objectives: for example, helping the local economy to recover, reducing poverty, as well as stimulating employment. According to Badan Pusat Statistik (2020), there were 64.2 million MSMEs as of 2018. MSMEs play a vital economic role, as they account for 97 percent of total labor and 99 percent of employment in Indonesia.

Many countries prioritize strategies to support MSMEs in economic recovery. In the short term, most countries focus on supporting enterprises with policies such as deferral measures of tax duties and interest payment, direct financial assistance, providing information and guidance regarding how enterprises can adjust operations and obtain support schemes during the crisis, as well as wage and layoffs support (OECD, 2020). In the long term, the policies provided have a fairly diverse focus including formalization, workforce training, digitalization, and new market access. On the other hand, there are also public policies in the form of sector-specific measures, especially for the tourism and hospitality, manufacturing, garment and footwear, aviation, and agro-food sectors.

Direct financial assistance facilities for enterprises that usually take the form of loan and guarantee schemes were largely rolled out by national MSME agencies in each country. This kind of assistance is designed to ease financing conditions for enterprises. Australia, Belgium, and France have been implementing a grant scheme for targeted eligible businesses (based on how much turnover or sales figures, profit/nonprofit enterprise, or number of employees). They provide a certain period of tax-free payments and cut interest rates on certain types of credit, grants for business that shut down or adjust their opening hours during lockdown situations, or cash compensation. Malaysia, Singapore, and Thailand addressed the specific crisis-related needs of enterprises and tailored the grants to the size of each business. They provided guarantees to financial institutions to extend working capital, as well as declared a moratorium on MSMEs loans by restructuring and rescheduling. Meanwhile, Myanmar and Cambodia have targeted specific sectors. Myanmar targeted the country's textile sector, while Cambodia targeted the country's agricultural sector. On the other hand, Brunei Darussalam and Indonesia focused on giving grants and loans to vulnerable sectors or smaller companies in order to encourage workforce retention (OECD, 2020).

Various forms of assistance are provided to the business sector, especially to small and medium enterprises. This is because in the case of Indonesia, these businesses are responsible for increasing value added in supply chain and employment creation. Therefore, assistance in this area can be key to countering the impact of COVID-19. The fiscal stimulus provided by the Indonesian government for MSMEs is divided into several schemes, namely interest subsidy, fund placement guarantee returns, working capital guarantee (stop loss), government-borne final income tax, and investment financing to cooperatives.

Assistance to MSMEs is not only a powerful instrument for economic recovery but also for the achievement of the SDGs. The assistance can be adopted from best practices from other countries, with several adjustments that fit Indonesia's specific case. Currently the government provides the Kredit Usaha

Rakyat (KUR)[31] scheme that gives a subsidized interest rate to MSMEs so they can benefit from a rate as low as 6 percent. The plan is to reduce the interest rate to 0 percent until December 2020, before it returns to 6 percent afterward. This incentive will be provided for housewives and workers affected by layoffs with several conditions that need to be met (Sekretariat Kabinet Republik Indonesia, 2020).

While the loan support program can be considered a great initiative, still several challenges and risks appear at the implementation stage that might hinder the effectiveness of the program. First. The loan support program should pay attention to the sectors that need to be prioritized. Criteria should be developed to determine which sectors have priority. As discussed in the previous chapter, one criteria should consider the most affected sectors where the lowest-income families can be found, such as agriculture, plantation, forestry, and livestock. The focus of providing protection schemes in these sectors will help increase job creation, especially in rural areas where the majority of these sectors are located.

Prioritizing this sector for the loan support program will create benefits in terms of the more inclusive value chain, which will directly affect local economic recovery. Empowering this sector by providing access to low-interest financing can be used to improve streamline production and business operations. This is expected to increase the value added of the primary sector particularly at the upstream supply chain and help create domestic sufficiency.

Inclusive value chain has to be encouraged along the supply chain, from the upstream distribution until it stops at the final consumers. Inclusiveness is achieved when many parties can join the supply chain and enjoy the value added equitably. This is also related to market structure rebuilding in the supply chain. Suppose that in agriculture sector, the availability of strong, exploitative intermediaries such as monopsony cause farmers (the main party in primary sector or upstream) to not get a fair price that could be used to increase farmers' welfare. Inclusiveness needs to be supported by physical infrastructure and market infrastructure provision for local and vulnerable actors in order to have adequate access and capacity to enter the supply chain. On top of that, another important support is to enhance the capacity of the small actor from upstream to downstream.

The effort for inclusiveness can be expanded to other related sectors. In the upstream, support for GAP (Good Agricultural Practice) can be given to farmers so it results in increased productivity and decreased environmental risks. It is also important to train MSMEs on social and environmental risk management from their business operations and to encourage MSMEs to enter to Green sectors (either switching from Brown to Green or Greening the sectors such as GAP support in agricultural). This commitment can be attached to loan support in the form of the loan portion target to Green MSMEs or in the form of conditional loan support that asked MSMEs to manage business operations impact well: for example, managing waste from the production process.

Conditionality may use two indicators that are social and environmental indicators. Businesses that can treat waste well and are committed long term will get larger loans or have a longer loan repayment term. In addition, an adapted loan scheme also provides certain rewards for businesses that support the achievement of the SDGs agenda, for example for businesses that minimize environmental risks in the extraction of natural resources. This can be given to fishermen who implement sustainable fishing practices

[31] Kredit Usaha Rakyat (KUR) is a credit / finance firm of working capital and / or investment to individual / individual debtors, business entities, and / or business groups that are productive and feasible but do not have additional collateral or additional collateral is insufficient.

by not using explosives that damage coral reefs or farmers who use organic fertilizers and maintain clean water sources. Conditionality may also come in the form of social aspects such as supporting inclusiveness, such as diversity in hiring practices or in considering those in economically disadvantaged groups (example: BLT receiver or Kartu Prakerja participants). Providing assistance to businesses that empower marginalized groups as part of their workforce will help improve the financial conditions of these workers. With a good mechanism, the inclusiveness of the provision of assistance is not only in terms of the value chain but also that of the community groups being helped.

Implementation of providing assistance through a loan scheme with additional conditionalities is certainly not easy to do. This can be done gradually and can also imitate the implementation of aid schemes with conditionalities that are currently provided by the government, for example the PKH program, which has succeeded in providing assistance with conditionalities related to health and education that recipients of assistance need to meet. This can be developed for a loan scheme to the business sector especially for small and medium enterprises. Supervision in the implementation of this scheme can be carried out by the Dinas Sosial (Social Officials) in collaboration with the Dinas Perdagangan dan Industri (Trade and Industry Officials) at the subnational level. Supervision can also be done by increasing the role of SMEs facilitators who can act like PKH facilitators in overseeing the fulfillment of conditionalities.

If specific commitments to supporting Green sectors are not feasible (presumably, high-income countries are in a better position to support Green infrastructure investment compared to middle- and lower-income countries), a secondary solution is to make efforts to lower the carbon footprint of heavy industries (Hepburn et al., 2020). For example, governments could make support for *Brown* activities conditional on emissions reduction targets. This includes making support for airlines and auto manufacturers conditional on setting targets for emissions reduction.[32] Because of the rapid growth of Brown industries and loss of ambition to enter the Green sector, loan support and bailout schemes could be directed to reduce environmental and social risk in business practices. These schemes could be in the form of supporting Green sectors (or more inclusive sectors) or put conditionalities on risky sectors (example: commitment to environmental performance to reduce emission through good management plans. The loan support schemes will be differentiated by the producers that are MSMEs and company. For companies, the government will give loan support to Green sectors such as agriculture, plantation, forestry, livestock, and animal husbandry. On the other hand, companies in Brown sectors (mining and infrastructure) will receive loan support when they show efforts to assess and reduce environmental risk, such as managing waste well and preventing deforestation. Considering social aspects, those companies that hire marginalized groups can have more favorable loan repayment terms. If the producers are MSMEs, those who treat the waste appropriately so that it does not result in negative consequences for the environment will receive loan support. However, MSMEs who do not process their waste and become polluters will not eligible to receive loan support. On top of that, the MSMEs who prioritized hiring of the marginalized groups may have less favorable, longer loan repayment terms.

To ensure a green recovery, clear guidelines are needed. Canada has initiated the following seven "green strings" that should be attached to COVID-19 recovery measures. "Green strings" are those key principles, criteria, and conditionalities that are critical for our ongoing economic stimulus and recovery efforts (IISD, 2020). First, financial support to industries must include conditions for a zero-emission transition.

[32] Remarks by Bernice van Bronkhorst, World Bank Webinar "How can we ensure a sustainable recovery" , May 19, 2020. https://www.youtube.com/watch?v=JRMwP1qgjlo&t=548s

It is crucial that support aligns with the goal of net-zero GHG emissions by 2050, thereby keeps us from getting locked into unsustainable paths. Second, strict financial conditions should be applied to increase financial stability, secure jobs, and incentivize low-carbon transitions. This includes measures such as ensuring climate risk disclosure and prohibiting both buybacks and shareholder dividend pay-out. Then, the third is to ensure recovery that is worker-focused and facilitates a just transition. With massive layoffs resulting from COVID-19, linking support to worker conditions must be a priority. We must also ensure a just transition for those who must make the transition from high-carbon sectors to low-carbon sectors.

Next, support should be given to the evolution and creation of the sectors and infrastructure of tomorrow. Government support should prioritize low-carbon sectors while striving for tangible social and economic benefits for communities. The fifth is protect, follow, and strengthen environmental regulations and climate policy frameworks during recovery. The country must not backtrack on environmental commitments and should pursue sensible sustainable policies. Sixthly, we should ensure transparency and accountability. Details of federal spending should be publicly available, and the conditionality of funds provided should be enforced. Lastly, support must contribute to increased equity and well-being, leaving no one behind. We must address the inequities in our society if we are to truly move forward as a global community.

6. Managing Budget Sustainability

The COVID-19 outbreak has pushed the state budget (APBN) into a difficult situation. While the government allocated most of its spending to health, the social safety net, and other kinds of stimulus measures, revenue slumped due to the economic contraction and several tax-related benefits during the pandemic. Thus, the pandemic has finally dragged the 2020 budget to a 6.34% deficit. In light of the unprecedented COVID-19 situation, the government budget should be strengthened by reforming revenue sides and improving quality of spending in order to broaden the fiscal space and increase the impact of fiscal stimulus. The larger the fiscal capacity, the more flexible government is to overcome the impact of the pandemic or other economic contractions in the near future. Furthermore, the government also has to pursue innovative financing instruments and mobilize the role of non-state actors to finance the Sustainable Development Goals (SDGs). In addition to the issue of managing the state budget, the role of local government in managing their local budget sustainably is important. The role of local government budgets should be not only financing operational costs of local government but also being the main driver of sustainable economic recovery at the local level.

(1) Government Revenue

From the revenue side, we might increase the fiscal capacity and manage a more sustainable budget by exploring new sources of earnings. Referring to the revenue composition in the 2020 state budget (APBN), 83% of earnings are coming from tax-related revenue. Looking deeper, the hefty amount from tax revenue is coming from income tax followed by VAT. The potential additional revenue may be generated by increasing the proportion or tax rate beyond the income tax or VAT, already the biggest source of tax revenue. The government may kill two birds with one stone by imposing environment-related taxes. Several potential scenarios include raising the property tax rate for plantation, forestry, oil and gas, and mining industries. The government may also introduce other new taxes, such as a carbon tax and fisheries tax. Furthermore, the

enforcement of sin tax by rising the excise for cigarettes and alcoholic drinks may also become another potential revenue for the government.

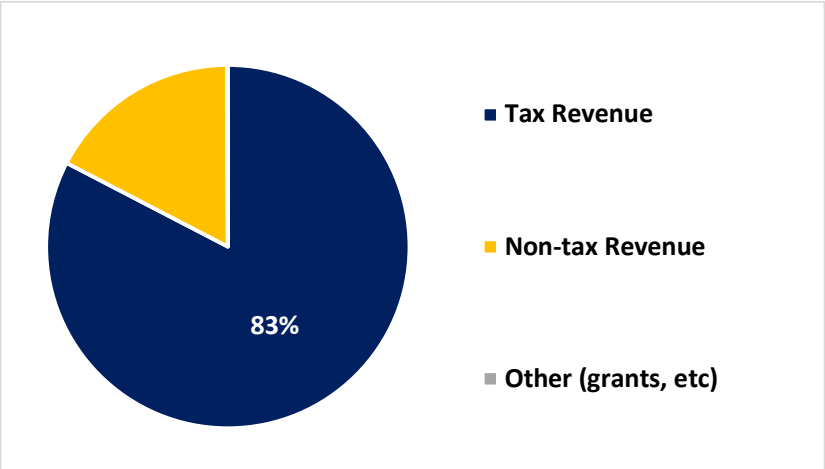


Figure IV-3. Revenue Composition in 2020 Budget

Source: APBN 2020 based on Perpres No. 72/2020

Following the scenario above, we try to estimate the amount of potential revenue generation for the state budget (APBN). Using the EU environmental tax of 3.3% and average excise rates for cigarettes and alcoholic drinks in South American countries, the estimated result shows that the Government of Indonesia has the opportunity to have additional revenue of 6.2% from the total current tax revenue, equivalent to Rp86 trillion. This substantial amount may increase if the rate imposed by the government also increases. Moreover, the government may increase the amount by imposing environment-related taxes, in other words, enlarging the tax base. Aside from generating revenue, the government would also be participating in a greener economy, gradually minimizing brown sector activities.

(2) Government Spending

In the energy sector, the Building Forward Better Initiative is aligned with a low carbon development program. The recent drop in global oil prices offers an opportunity to revisit the subsidies currently in place in many countries and redirect these resources to more efficient ways to reduce poverty or boost growth while advancing a transition away from fossil fuels.

Certain types of investments can boost shorter-term job creation and incomes and generate long-term sustainability and growth benefits in entering the new normal recovery. Investment in cleaner energy can be an option for sustainable recovery. Many projects can score high on the dimensions. Cleaner energy projects, such as energy efficiency for existing buildings and production of renewable energy, also generate more jobs compared to fossil energy-related. Shifting from brown to green energy will create a net increase in jobs, with the same amount of investment spending in fossil fuels (Garrett-Peltier, 2017). Furthermore, retrofitting buildings to make them more energy efficient, more comfortable and healthier, as well as better adapted to higher temperatures in the future, is among the sample. From this backdrop, the government can

incentivize the private sector to allocate their budget to cleaner energy projects. This can include solar panel rooftops for certain buildings, such as an off-grid remote airport, cold storage powered by photovoltaics (PV), and energy-efficient building projects.

In order to manage a sustainable budget, the Government of Indonesia could implement a "spending better" agenda, where unnecessary and ineffective spending is phased out. More than 50% of spending on subsidies is allocated to the energy sector, especially in non-renewable energies such as fossil fuel, diesel fuel, and LPG. Energy subsidies accounted for 10.6% of the state budget, which is even higher than the budget for the health sector.

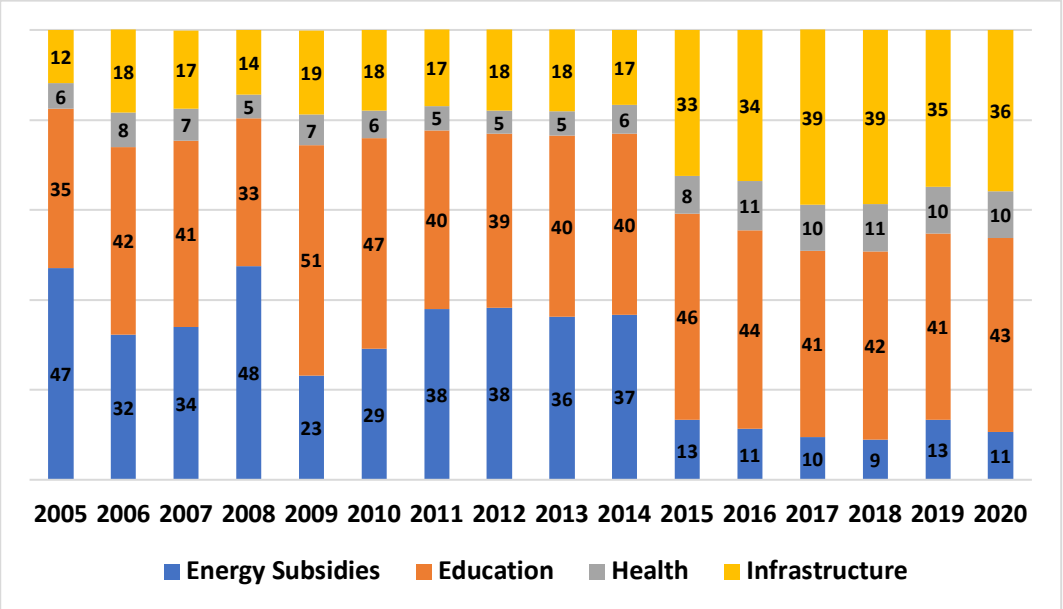


Figure IV-4. Budget Allocation for Energy Subsidies and Expenditure in Education, Health, and Infrastructure

Source: APBN Kita, Ministry of Finance Republic of Indonesia

In terms of spending realization, there was a downward trend in 2015–2017. However, there was an increase again in 2018 that caused the Rupiah's depreciation, an increase in the price of Indonesian crude oil (ICP), some adjustments to the number of subsidies in 2018, and payment of subsidized debt in previous years. Therefore, we tried to run a simple simulation where, if the government reduces oil and gas subsidies by 20%, there would be budget savings of Rp8.2 trillion from its total budget of Rp2,739 trillion, resulting in the ability to almost double health expenditure.

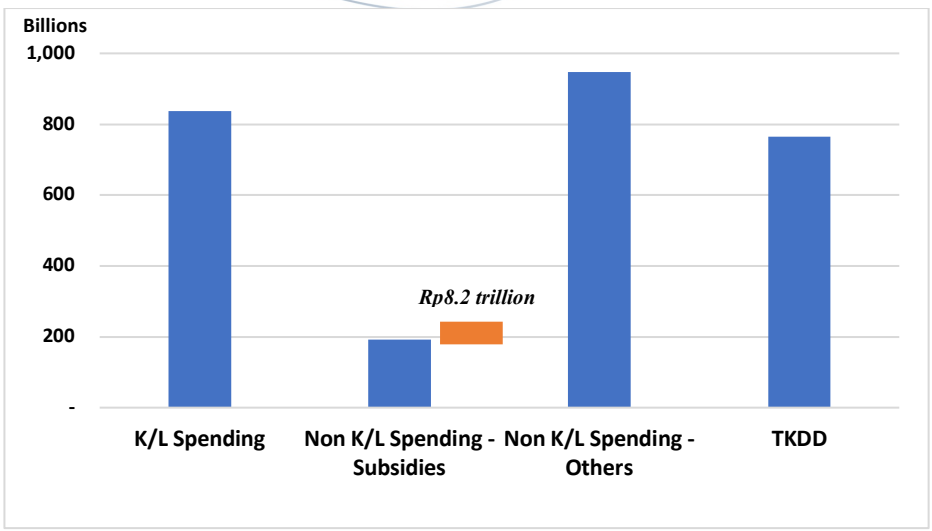


Figure IV-5. Government Spending based on Perpres 72/2020

Source: Perpres 72/2020, Ministry of Finance Republic of Indonesia

Government businesses during and after COVID-19 will be permanently shifting to a new trend, such as more online meetings, reducing business travel, and implementing working-from-home arrangements. These new trends reduce spending and can therefore provide some reallocation of the government budget to support the green recovery program.

(3) Moving Towards Innovative Financing Instruments

Apart from the green bonds and green sukuk that have been initiated by the Government of Indonesia, there are also several alternative financing instruments, namely:

Sovereign Wealth Fund

A sovereign wealth fund (SWF) is a state-owned investment fund or entity which comprises of pools of money derived from a country's reserves. It sets aside investments to benefit the country's economy and its citizens. A SWF is composed of financial assets such as stocks, bonds, property, or other financial instruments. The main function of SWFs is to stabilize the economy, especially to increase investment and public savings. There are five categories of SWFs, which are stabilization of funds, savings for future generation funds, pension reserve funds, reserve investment funds, and strategic development sovereign wealth funds.

Some countries may also have more than one SWF for their financing instruments. Countries with SWF institutions are Norway with their Government Pension Fund, which is considered the largest SWF with USD1,186.7 billion and Russia with their Russian National Wealth Fund. Both countries have funds devoted to investing in oil and natural gas exports. In Indonesia, the establishment of a SWF as a source of funding is planned to be included in the omnibus law package.

Debt-for-Environment Swaps

Debt-for-environment swaps enable countries to exempt debts owed to them in return for the debtors' commitment to make certain investments related to environmental programs. One of the regions that implemented debt-for-environment swaps schemes is the Caribbean. As one of the most heavily indebted per capita developing regions in the world, the Caribbean is also highly vulnerable to the impacts of climate change. Their fiscal capacity to build resilience to climate change is very limited due to the large public debt. Debt-for-environment swaps, as an alternative or innovative source of green financing, may provide a solution to address debt challenges while also increasing resilience to climate change.

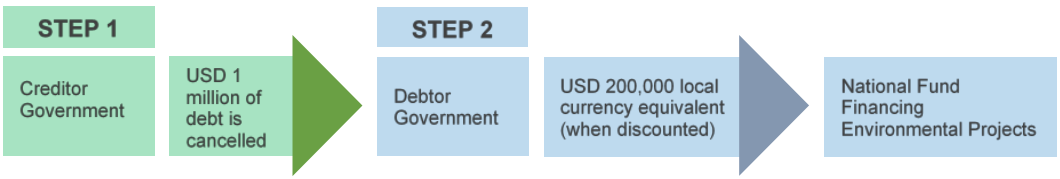


Figure IV-6. Debt-for-Environment Swap Basic Model

Source: Debt for Climate Swaps, Caribbean Outlook

This instrument was discussed at the Pittsburgh Climate Dialogue, which discussed the progress of the Paris Agreement, and is considered as one of the innovations that can help countries deal with foreign debt problems that are exacerbated by the COVID-19 pandemic, as well as the current climate crisis.

Climate and Disaster Risk Insurance

Indonesia is vulnerable to climate and disaster risks, which are increasing in likelihood and severity over time. Their impact not only affect humans in terms of fatalities but also economic cost including downturn of economic activity and loss of public and private assets. Both fast response and recovery processes need money. One solution that may address this situation is climate and disaster risk insurance. The pandemic has brought about an unexpected period of crisis with unprecedented magnitude, creating a deep loss carried by society. It has, however, taught us the importance of early mitigation and preparation. The implementation of climate and disaster risk insurance may hamper the negative impact caused by such a tragedy. This insurance can be at individual or household and business unit level to recover private assets and at a regional level to recover public goods and infrastructure.

Direct Green Financing

One of the options to improve green financing in Indonesia is through new schemes that request micro, small, and medium enterprises (MSMEs) and large businesses to pursue sustainable business activities. This scheme can be implemented by the government through the banking systems that channel financing for MSMEs and local businesses through credit application schemes. MSMEs and large businesses that can show their sustainable business plans can be prioritized to receive funds. Banks can also issue special financing products for "green business" where the interest rates and margins can be adjusted to the types of borrowers, subject to their commitments on sustainable and environmentally-friendly business practices.

Issuance of Social Bonds

Last but not least is the issuance of social bonds. This can be implemented both by the central and local governments by issuing special bonds for certain financing as their source of funding. Many countries have implemented the issuance of social bonds as a source of financing in response to the crisis due to COVID-19 pandemic. Some of them are intended to provide support and financing to businesses and for healthcare financing.

Table IV-4. Social Bonds Issuance in Response to the COVID-19 Pandemic

Date of Issuance	Issuer	The COVID-19 Response Bonds	Amount	Funding Purposes
20-Mar-20	International Financing Corporation (IFC)	Coronavirus Social Bond	USD 1 billion	Funds Covid-19 relief measures
27-Mar-20	African Development Bank (AfDB)	Fight COVID-19 Social Bond	USD 3 billion	Provides support and financing to African countries and businesses
30-Mar-20	Nordic Investment Bank (NIB)	Response Bonds	EUR 1 billion	Finances healthcare systems and labor market solutions to alleviate the social consequences of the crisis (due April 2023)
02-Apr-20	European Investment Bank (EIB)	Sustainability Awareness Bond	EUR 1 billion	Supports European companies, health interventions, and the economy as a whole in areas directly related to the fight against COVID-19 (due May 2028)
15-Apr-20	Cassa depositi e prestiti (CDP)	Social Response Bond	EUR 1 billion	Finances initiatives providing immediate short-term relief
24-Apr-20	Bpifrance, France	Response Bonds	EUR 1.5 billion	Finances COVID-19 response loans supporting French companies overcome the economic difficulties linked to Coronavirus
28-Apr-20	CAFFI, France	Social COVID-19 Covered Bond	EUR 1 billion	Aims to directly or indirectly fund sectors affected by the pandemic
06-May-20	Instituto de Credito Oficial (ICO)	COVID-19 Social Bond	EUR 500 million	Specifically targets the effects of the Coronavirus pandemic

Source: BNP Paribas

Managing the Local Budget (APBD) Sustainability

It is not only the central government but also local government facing the struggle to manage budget sustainability. Since the decentralization implemented in 2001, local government has received grants from the central government in the form of a general and special allocation budget (DAU/DAK) and several other transfers. Therefore, aside from local revenue, local government also received an annual allocation from the central government in order to execute the decentralization system. However, since the COVID-19 outbreak appeared in early 2020, the central government has allocated more budget on spending related to COVID-19. Therefore, the annual transfer to local government might be delayed or lower due to the pandemic. On the other side, local revenue also diminished as the outbreak has halted business activity. Yet, local spending is

also increasing as local government should also ensure people's health and well-being. For local government, the outbreak might push the budget as fiscal capacity is limited. What makes this situation harder is because the option for alternative financing for local government is limited compared to the central government.

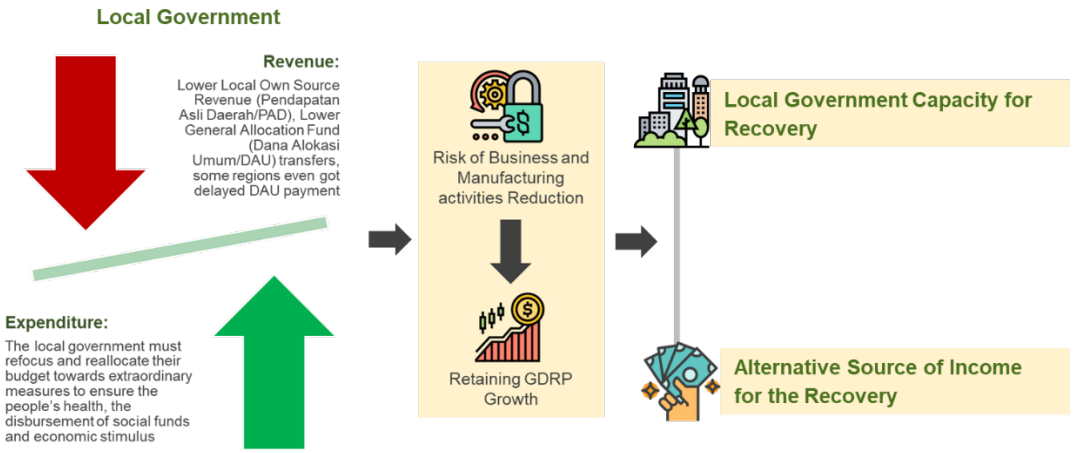


Figure IV-7. Managing the Local Budget Illustration

Source: LPEM FEB UI (2020)

To broaden their fiscal capacity, local government may execute some reform and reallocation plans. Since the confirmation of the first COVID-19 case in the beginning of 2020, the central government has given local government the flexibility to adjust the local budget in order to strengthen and broaden the local fiscal capacity. Several spending areas may be eliminated from the local budget, especially those that are related to business travel spending. Beyond that, we see that local government may use this time to reform the overall budget by permanently decreasing personnel-related spending which currently devours 70% of total spending. Similarly, with central government, local government may also unleash their higher local revenue potential by imposing environment-related taxes, such as motor vehicle or fuel tax. Moreover, local government should also reshape economic development by prioritizing specific sectors or industries through the fiscal incentive-disincentive mechanism.

Regarding the unprecedented event and given the limited budget, local government may generate new sources of revenue other than local revenue and central government transfer. Proposed plans include purchasing or taking the loans from state-owned enterprises (BUMN) in the form of green bonds or municipal bonds to finance local project spending. Local government may also take the advantage of CSR from private entities by aligning the program and local government's goals. Proposing grants from international entities such as the World Bank and IMF with a specific recovery agenda may also be one of the favourable practices after the pandemic. Lastly, for long-term spending plans, local government can work together with private companies in managing projects through the public private partnerships (PPP) scheme.

7. Delivering Smart and Efficient Programs

Until the end of August 2020, the realization of the National Economic Recovery (PEN) Program issued by the government had only reached 31.35% of the total budget of Rp695.2 trillion. Based on the data from the Ministry of Finance, the realization of the PEN program budget in detail, namely for the health budget, is Rp15.14 trillion, equal to 17.3% of its total budget of Rp87.55tn. Followed by the support for social protection and consumption with Rp114.01 trillion, equivalent to 55.9% of the total budget of Rp203.9 trillion. Next is the spending realization for local government and sectoral groups of Rp17.86 trillion, which equals 16.8%. Fourth is the realization of business incentives of Rp18.85 trillion, around 15.6% of Rp120.61 trillion. Fifth is the support for Micro, Small and Medium Enterprises (UMKM) of Rp52.09 trillion, equivalent to 42.2% of the total budget of Rp123.46 trillion. Lastly is the financing support for state-owned enterprises (SoE) that has not been fully spent from the budget of Rp53.57 trillion. For this budget distribution, the Ministry of Finance said that it would wait for the right time.

Table IV-5. Budget Realization of PEN Program

No	Stimulus	Total Budget (Rp trillion)	Budget Realization (%)
1	Health	87.55	17.3%
2	Social Protection	203.9	55.9%
3	Local Government and Sectoral Group	106.11	16.8%
4	Support for MSMEs	123.46	42.2%
5	Business Incentives	120.61	15.6%
6	Support for State-Owned Enterprises	53.57	-
	Total	**695.2**	**31.35%**

In general, this low budget realization is caused by poor real-time and accurate data to support the program's implementation. Moreover, it is also caused by the lack of coordination between the stakeholders, for instance between the central and local government. To resolve the issue, there are at least three strategies that can be implemented by the government, such as:

1) providing real time and accurate data that can be used for a better targeting and planning
2) improving the system by escalating the role of potential contributors, i.e. PKH and P3MD facilitators, developing a self-report system, using big data for tracking economic recovery, and engaging private and community to contribute in data updating
3) making investments in a monitoring and evaluation program. A comprehensive monitoring and evaluation mechanism can promote fast modification or adaptation of program delivery and at the same time, could help in creating job opportunities for medium-skilled workers.

According to the IMF, there are several main issues in delivering a social protection program. The first issue is targeting. This is related to the accuracy of poverty data which determines the eligibility of the beneficiaries. The more accurate the data, the more accurate the beneficiaries, leading to no inclusion and exclusion errors. The second issue is about mechanisms, which is how the program could be delivered to the beneficiaries on time and in a secure way. The last is about the governance, which is how the program could

be monitored, controlled and reported. These three issues are the main concerns in delivering social protection programs in Indonesia.

Targeting

As aforementioned, the Government of Indonesia is creating new social protection programs and adding benefits for several social protection programs to protect the poor and prevent the vulnerable from falling into poverty. Currently, there are two types of data used by the Government of Indonesia (GoI) to determine the beneficiaries, DTKS (Data Terpadu Kesejahteraan Sosial) and non-DTKS. DTKS is the data used to determine the beneficiaries of the existing program. The source of this data is from BDT (Basis Data Terpadu), a unified database managed by TNP2K. Currently, this data is managed by The Ministry of Social Affairs and covers those who are poorest. Another type of data is non-DTKS, which covers the vulnerable that are impacted by COVID-19 but not covered by any social assistance. This data is managed by local government. The source of this data is local government reports (from RT level) and The Ministry of Villages, Development of Disadvantaged Regions, and Transmigration. Unfortunately, this data is not well integrated to the DTKS and creates problems in delivering the social protection program, especially for the vulnerable.

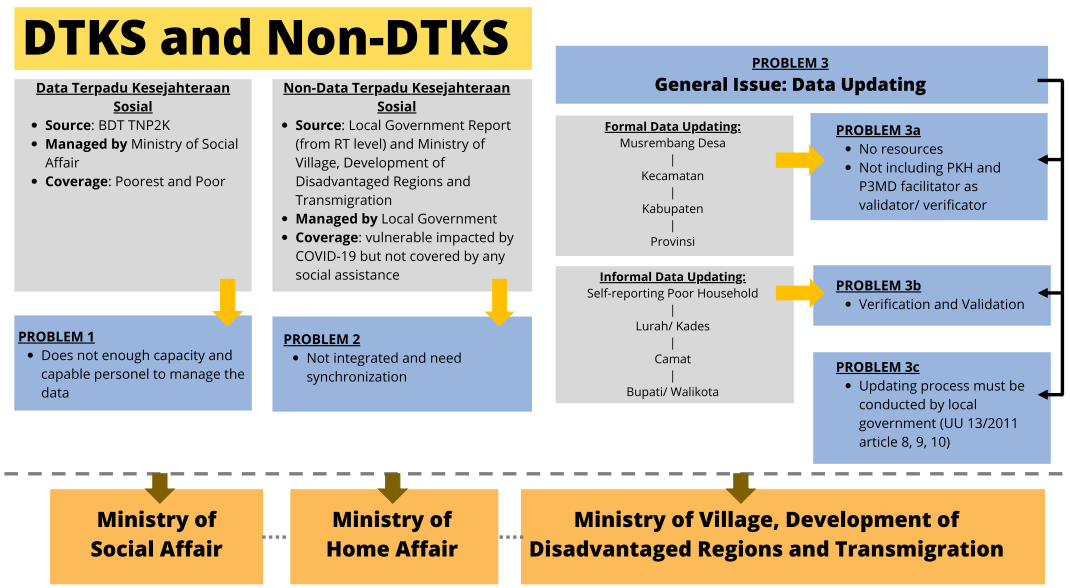


Figure IV-8. Data Updating Mechanism

Source: LPEM FEB UI (2020)

In general, according to article 8, 9 and 10 of Act No. 12 in 2011, the data updating process must be conducted by local government in city or regency level. Thus, it must be supervised by The Ministry of Local Affairs, even though the database is managed by The Ministry of Social Affairs. The data can be updated through formal and informal mechanisms. The formal mechanism is using the Musrenbang Desa event, a large meeting at the village level which is for discussing the village plan, including who is eligible and should receive the social protection program. The decision from the Musrenbang Desa is then brought to sub-district level

then to city/regency level then provincial level for the validation and verification process. The valid and verified data then brought to the national level. Meanwhile, the informal data updating is conducted through self-reporting mechanisms.

Unfortunately, not many local governments have adequate capacity to conduct the identification, verifying, and validating process. Thus, many poor people are still left out of being counted. It also creates an inclusion and exclusion error. Furthermore, lack of coordination between the ministries also creates another problem in covering the vulnerable who have been impacted by COVID-19.

Mechanism

Currently, the cash transfer is done by bank transfer through Himbara Bank Networking and PT. Pos Indonesia. Since there is a low level of financial literacy and a high number of unbanked people in Indonesia, the program delivery has also become a large problem for social protection systems in Indonesia, especially for people living in remote areas. Furthermore, there are people at the village level who corrupt the process, especially during the cash transfer. This problem can be solved, if all the beneficiaries have a bank account or easy access to a bank or post office.

Governance

All of the social protection program delivery mechanisms are fully monitored by the National Police and Corruption Eradication Commission (KPK). Their mandates are to ensure that all programs are delivered to the right beneficiaries using a proper mechanism. All the disbursed funds are also recorded in a national account. Funds are transferred from The Ministry of Finance to the ministries in charge of the programs, for example, the Ministry of Social is responsible for social assistance programs, the Ministry of Health for health-related assistance, and the Ministry of MSMEs Development for social protection to support MSMEs. Governance issues arise when delivering the Kartu Prakerja Program, since there is no clear explanation of how training service providers are selected and how credible they are in sharing skills and knowledge to the beneficiaries.

In future, the GoI needs improvement in order to ensure more effective programs and more efficient delivery. The most important is how to get real-time and accurate data. The GoI, especially the Ministry of Social Affairs, could escalate the role of PKH and P3MD facilitators. Since they are at a grassroots level, they engage with the PKH and P3MD beneficiaries. They work in village level and not only observe the beneficiaries' condition, but also their neighborhood. Thus, the facilitators could have the extra role of identifying other people who are eligible for the program. They also could perform the verifying and validation process. It could reduce local government's obligation to collect data at the village level.

Furthermore, since the data is managed by The Ministry of Social Affairs and also The Ministry of Villages, Development of Disadvantaged Regions, and Transmigration, and the data updating must be conducted by local government under the supervision of The Ministry of Home Affairs, these three ministries should create a strong collaborative system, especially in data synchronization. The National Statistic Agency (BPS) could lead this collaboration, especially in developing the database system.

Another thing that can be done to improve updating, validating and verifying the database is using a well-developed self-reporting system. West Java Province has developed this system since 2018, although there is no further information about the effectiveness of this program. The city of Balikpapan has also been conducting this initiative since 2017. Those who are poor but do not receive any social protection can perform

the self-report directly to Posko. Self-reporting is a good idea, especially for local government, who does not have the adequate capacity for identifying, verifying, and validating the database. The main challenge is how to attract people to do the self-report. In Balikpapan, the poor are reluctant to do the reporting.

With the growth of start-up and tech companies that utilize and manage big data, the cooperation between the GoI with start-ups could be another option to get real-time and accurate data. According to the IMF report (2020a), since the low-income developing countries (LIDCs) and emerging market economies (EMEs) often have large informal sectors, digital solutions can help governments deliver cash transfers efficiently and quickly to their intended beneficiaries, including those in the informal sector. There are several suggestions, such as:

(i) using digital technologies to identify and validate recipients of direct cash payments;

(ii) using mechanisms to deliver cash payments efficiently; and

(iii) streamlining public financial management (PFM) procedures to deliver benefits/transfers fast, while ensuring transparent reporting and adequate control to prevent serious financial irregularities.

Most companies also utilize GPS tracking systems which enable us to know the exact coordinates of where poor people are living, making the program delivery easier. Big data could also be used to track the economic recovery. Start-ups could also help to deliver programs, for example, by engaging with other start-ups providing the training program not only for individuals but also for MSMEs, delivering the cash transfer such as using KitaBisa or helping the MSMEs in making financial records through apps that provided.

As the main problem in data updating, validating, and verifying is the lack of local government officer capacity, the contribution from the local community could be helpful. The government could engage with the youth community or religious community, since they are also close to and trusted by the poor. Several initiatives have also been raised by the communities, such as a community charity. In Indonesia, there are many religious organizations who regularly support and donate to the poor, such as Tzu Chi (Buddhist) and Baznas (Islam). These organizations already have the data that can be used by the government if they were to cooperate with them, thereby helping the government deliver cash transfers to the poor.

The goal of the government is making the beneficiaries graduate from the social protection program, especially the cash transfer program. Thus, besides providing the adequate amount of assistance, monitoring and evaluation also important. Indonesia needs to make investments in monitoring and evaluating the system for the social protection program in order to have a comprehensive mechanism. This can promote fast modification or adaptation of program delivery. The investment is not only for the asset, such as data servers, but also in human resources, as this activity can create employment for medium-skilled workers. They can be mobilized as a monitoring and evaluation officer who observes the delivery process from the beginning until it is received by the beneficiaries. This kind of investment has been done in the PNPM program.

8. The Caveat of Phasing Strategies

There are several aspects of sustainable recovery, as learned from the previous crisis (Barbier, 2020). First, a key distinction between short-term stimulus and a longer transition toward a more sustainable economy should be made. Second, in addition to the long-term strategy, a long-term recovery and structural transformation is required. Third, the transformation should also be integrated with industrial strategy. Fourth, affordability should become a main consideration for the transition.

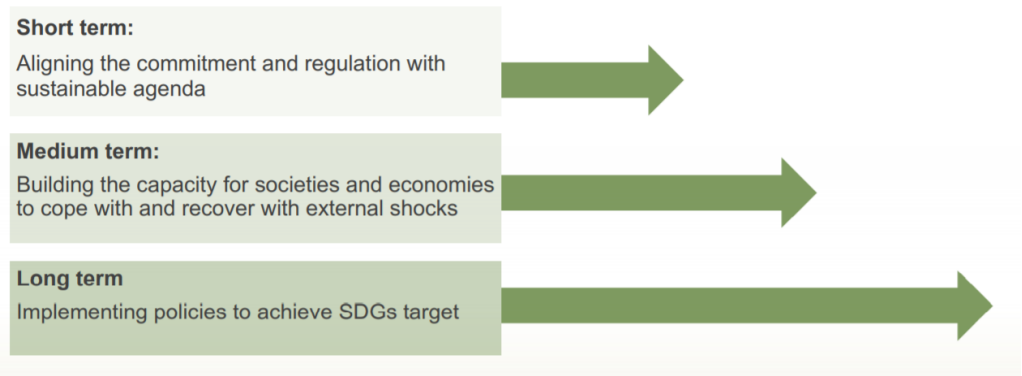


Figure IV-9. Phasing Strategies Framework

Source: LPEM FEB UI (2020)

The COVID-19 pandemic is considered to be a pause on "business-as-usual" activities. The response and recovery process might lead countries to search for the most realistic and time-efficient ways to overcome the impacts. However, others might focus their efforts on improving human development and quality of life, as reflected in the SDGs, which require adjustments in light of the COVID-19 crisis. In order to benefit from the COVID-19 momentum, the Building Forward Better Initiative, recognized as one of the most comprehensive frameworks, needs to be implemented.

However, due to the enormous impact of the Covid-19 pandemic on the Indonesian economy, the recovery strategies cannot be implemented at the same time. This is a significant restart for the world economy, especially for Indonesia. In order to ensure the restart process runs well, recovery strategies must be conducted in several phase based on priority. The pandemic caused different impacts to each economic sector and each pillar of the SDGs. The ability to recover is also different for each economic sector, which impacts the timeline to achieving the SDGs targets. In general, the main goal of phasing the strategies is to reduce the negative impact of Covid-19 at all costs and to ensure that all sectors can follow the recovery process on the right track, thus achieving the SDGs targets.

The main objective in the short term is aligning commitments and regulations with a sustainable agenda. Currently, the SDGs achievement target has shifted due to the shock from COVID-19 pandemic. The decrease in economic growth, the increase in the number of poor and vulnerable, the widening of inequality and other targets could not be achieved at least during the first semester of this year. Since the Indonesian economic begin to recover by July 2020, it is important for the GoI to revisit Indonesian SDGs targets, which

ones are still on the right track and which ones need extra effort to recover. As mentioned in 4.7, the biggest challenge for Indonesia, especially in its poverty alleviation program and delivering the social protection program is databases. The GoI needs to look deeply in to the coordination between the ministries and also the regulation, especially about the database updating, verifying, and validating mechanism. The role of each ministry should be revisited since it will impact the delivery mechanism. Furthermore, in other aspects such as environmental issues, the enactment of the regulation must be revisited. This revisit is needed to adjust further strategies.

In the medium term, the focus is on building the capacity for societies and economies to cope with and recover from external shocks. It assumes that in the short term, the GoI has finished revisiting the regulation and adjusting the strategy to achieve the SDGs target, thus the next target is preparing the societal and economic capacity, since it is the main capital to achieve the target. Due to future instability, the GoI should prepare a strategy to face other external shocks that might come anytime. Some of the policies to achieve the SDGs should be adjusted to accommodate the possibility of other similar and/or different crises. The COVID-19 pandemic provides a valuable lesson that we can learn from in how to mitigate the risks in achieving long-term goals.

In a longer term, the government needs to implement policies to achieve the SDGs targets. Intensive coordination with all stakeholders is the key to having a successful implementation of the SDGs. The government can engage with academics, the private sector, philanthropists, the media, and others to extend their involvement in SDGs activities. The use of big data is also important to capture changing behavior and opinion on policy implementation. With reliable data that builds a short- and medium-term response, we can evaluate and monitor how the implementation of policies meets the achievement of SDGs.

5

The Way Forward

V. The Way Forward

In the last part of this book, we summarize some of the strategies explained in the previous chapters and what the next steps would be. In this part, we emphasize the importance of certain policies in achieving Indonesia's SDGs targets during the recovery period. Refocusing and re-aligning some of the SDGs targets during the recovery programs would be important. Nonetheless, the existing programs that are not aligned with the SDGs objectives, such as activities that can be harmful to environmental and social aspects, need to revisited and revised.

The COVID-19 outbreak has disadvantaged the global economy, as is seen as the most tremendous crisis event for the past 10 years. At the same time, the pandemic has disrupted the demand-side through lower consumption and investments. Further to this, an increase in uncertainties and a decline in income have further decreased consumption and investment confidence. When it comes to supply-side, labor supply is dropped due to mobility restrictions and people's fear of the virus due to mortality and morbidity risks. The social distancing policy has reduced productive capacity and disrupted economic productivity. The situation is worsened because the negative supply and demand shocks are transmitted across countries through trade and financial linkages (Bofinger et al., 2020). The global economy is predicted to decline by 5.2% in 2020, which is approximately three times worse than 2009's global financial crisis.

As mentioned in Chapter 3, all of the SDGs have been disadvantaged by the COVID-19 pandemic. The current risk from the pandemic may jeopardize countries' efforts in achieving the SDGs, due to the fact that they have pursued them in stages. The COVID-19 pandemic will create a bigger challenge to the world in achieving the SDGs, including Indonesia. Therefore, it needs extra efforts and extra commitment from all stakeholders in order to put the SDGs targets back on track.

The SDGs offer an integrated platform to address and mitigate the impact of the crisis. Under the SDGs agenda, the given comprehensive framework can bring the global economic, environmental, and social development agendas into balance. The global trend shows that many countries have put efforts to mainstream the criteria of the SDGs into their socio-economic and environmental development agenda, in particular during their recovery responses with sustainable recovery instruments. These kinds of instruments are believed to be able to provide a fast economic recovery, reduce poverty, increase social inclusion, and minimize environmental impacts.

Several government interventions, such as a mega rice project and biodiesel policy, raise public concerns due to their considerable impact on environment and social aspects. However, the government can take advantage of these megaprojects by ensuring the positive impacts can be delivered to the benefits of people, environment, and the economy. Great lessons can be learned from experiences on mega rice projects in the past, including Mega Rice Project Kalimantan in 1995, Ketapang Food Estate, and Merauke Integrated Food and Energy Estate (MIFEE), which yielded very low rice production and failed at achieving its target while creating unproductive peatlands that have been dried and are prone to catch fire. Moreover, the issue of land disputes with indigenous people and rejection by the local community have worsened implementation (Patunru & Ilman, 2020). While the biodiesel policy still carries several loopholes, the government can undertake more efforts to make a clear policy target, and avoid land expansion and deforestation, as well as

emphasize the project benefits to smallholder farmers to ensure inclusive development. In this context, the implementation of megaprojects should ensure a balance between the economic, environmental, and social benefits to promote longer positive impact to the nation.

Other countries' experiences with Building Forward Better Initiatives will provide valuable lessons in recovering from crisis, such as building a disaster management system, developing a more climate-resilient society and environment, even implementing the circular economy comprehensively. Indonesia has initiated an important step towards low carbon development, which is well-integrated into the medium-term planning document. This initiative is an important investment to pursue a green recovery and green economy that can lower the cost of adaptation in the future. Planning for a more sustainable and resilient economy will not only protect people and the planet, but also gain economic benefits and prepare the community to overcome unexpected adverse events in the future.

References

Agrawala, S., Dussaux, D., & Monti, N. (2020). What policies for greening the crisis response and economic recovery ? Lessons learned from past green stimulus measures and implications for the COVID-19 crisis. *OECD Environment Working Papers*, (164). https://doi.org/https://doi.org/10.1787/c50f186f-en

Agustiyanti. (2020). Jokowi Teken Pepres Revisi Kedua APBN 2020, Defisit Anggaran Rp1.039 T. Retrieved from Katadata.co.id website: https://katadata.co.id/agustiyanti/finansial/5ef592357d095/jokowi-teken-pepres-revisi-kedua-apbn-2020-defisit-anggaran-rp1039-t

Akerman, A., Gaarder, I., & Mogstad, M. (2015). The Skill Complementarity of Broadband Internet. *The Quarterly Journal of Economics*, *130*(4), 1781–1824. https://doi.org/10.1093/qje/qjv028

Aklin, M., Bayer, P., Harish, S. P., & Urpelainen, J. (2018). *Escaping the Energy Poverty Trap: When and How Governments Power the Lives of the Poo* (1st Editio). The MIT Press.

Alstadsæter, A., Bratsberg, B., Eielsen, G., Kopczuk, W., Markussen, S., Raaum, O., & Røed, K. (2020). *The First Weeks of the Coronavirus Crisis: Who Got Hit, When and Why? Evidence from Norway*. https://doi.org/10.3386/w27131

Andersen, A. L., Hansen, E. T., Johannesen, N., & Sheridan, A. (2020). Consumer Responses to the COVID-19 Crisis: Evidence from Bank Account Transaction Data. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3609814

APROBI. (2020). Dana Dampak Covid-19 Sebanyak Rp 2,78 Triliun Dialokasikan Untuk Industri Biodiesel. Retrieved from https://aprobi.or.id/2020/06/19/dana-dampak-covid-19-sebanyak-rp-278-triliun-dialokasikan-untuk-industri-biodiesel/

Azis, I. J. (2018). ASEAN Economic Integration: Quo Vadis? *Southeast Asian Economies*, *35*(1), 2–12. https://doi.org/10.1355/ae35-1b

Baldwin, R., & di Mauro, B. W. (2020). *Economics in the Time of COVID-19*. Retrieved from 978-1-912179-28-2

Baldwin, R., & Mauro, B. W. di. (2020). *Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes*. CEPR Press.

Bappenas. (2019). Rancangan Teknokratik Rencana Pembangunan Jangka Menengah Nasional 2020-2024. *Rencana Pembangunan Jangka Menengah Nasional 2020-2024*, 313. https://doi.org/10.1017/CBO9781107415324.004

Baqaee, D., & Farhi, E. (2020). *Supply and Demand in Disaggregated Keynesian Economies with an Application to the Covid-19 Crisis*. https://doi.org/10.3386/w27152

Barbier, E. B. (2020). Greening the Post - pandemic Recovery in the G20. *Environmental and Resource Economics*, (June). https://doi.org/10.1007/s10640-020-00437-w

Barrero, J. M., Bloom, N., & Davis, S. (2020). *COVID-19 Is Also a Reallocation Shock*. https://doi.org/10.3386/w27137

Basri, C. M. (2020). Jalan Panjang Pemulihan Ekonomi. *Kompas*.

BBC. (2020a). Luwu Utara: Korban banjir bandang terus bertambah, rumah diselimuti lumpur 2,5 meter, warga 'mengungsi pakai ban'. Retrieved August 30, 2020, from https://www.bbc.com/indonesia/indonesia-53465893

BBC. (2020b). *Virus corona: Banjir dan letusan gunung berapi jadi ancaman nyata di tengah wabah, pemerintah "masih bahas pembicaraan awal."* Retrieved from https://www.bbc.com/indonesia/indonesia-52446120

BDO. (2020). COVID 19: The Employment Retention Programme. Retrieved August 2, 2020, from https://www.bdo.my/en-gb/insights/featured-insights/covid-19-the-employment-retention-programme

Beatty, A., Berkhout, E., Bima, L., Coen, T., Pradhan, M., & Suryadarma, D. (2018). *Indonesia Got Schooled: 15 Years of Rising Enrolment and Flat Learning Profiles*.

Benmelech, E., & Tzur-Ilan, N. (2020). The Determinants of Fiscal and Monetary Policies During the COVID-19 Crisis. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3634549

BNPB. (2020). Data Informasi Bencana Indonesia (DIBI). Retrieved August 22, 2020, from https://bnpb.cloud/dibi/

Bofinger, P., Dullien, S., Fuest, G. F. C., Hüther, M., Südekum, J., & Mauro, B. W. di. (2020). Economic implications of the COVID-19 crisis for Germany and economic policy measures. In R. Baldwin & B. W. di Mauro (Eds.), *Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes*. CEPR Press.

Borjas, G., & Cassidy, H. (2020). *The Adverse Effect of the COVID-19 Labor Market Shock on Immigrant Employment*. https://doi.org/10.3386/w27243

Bowen, A., Fankhauser, S., Stern, N., & Zenghelis, D. (2009). *An outline of the case for a "green" stimulus*.

BPS. (2019). *Welfare Statistics*.

BPS. (2020a). *Buletin Statistik Perdagangan Luar Negeri Ekspor Menurut Kelompok Komoditi dan Negara, Mei 2020*. Retrieved from https://www.bps.go.id/publication/2020/07/29/df4e66a0e8f0be94a47a413d/buletin-statistik-perdagangan-luar-negeri-ekspor-menurut-kelompok-komoditi-dan-negara--mei-2020.html

BPS. (2020b). *Gini Ratio Maret 2020 tercatat sebesar 0,381*. Retrieved from https://www.bps.go.id/pressrelease/2020/07/15/1748/gini-ratio-maret-2020-tercatat-sebesar-0-381.html

BPS. (2020c). *Hasil Survei Sosial Demografi Dampak Covid-19 2020*. Retrieved from https://www.bps.go.id/publication/2020/06/01/669cb2e8646787e52dd171c4/hasil-survey-sosial-demografi-dampak-covid-19.html

BPS. (2020d). *Persentase Penduduk Miskin Maret 2020 naik menjadi 9,78 persen*. Retrieved from https://www.bps.go.id/pressrelease/2020/07/15/1744/persentase-penduduk-miskin-maret-2020-naik-menjadi-9-78-persen.html

BPS. (2020e). *Statistik Kelapa Sawit Indonesia*. Retrieved from

https://www.bps.go.id/publication/2019/11/22/1bc09b8c5de4dc77387c2a4b/statistik-kelapa-sawit-indonesia-2018.html

Cabinet Secretariat of the Republic of Indonesia. (2020). KUR Super Mikro, Skema Pinjaman Baru Bagi Pekerja Terkena PHK dan IRT Produktif. Retrieved from https://setkab.go.id/kur-super-mikro-skema-pinjaman-baru-bagi-pekerja-terkena-phk-dan-irt-produktif/

Campello, M., Kankanhalli, G., & Muthukrishnan, P. (2020). *Corporate Hiring under COVID-19: Labor Market Concentration, Downskilling, and Income Inequality*. https://doi.org/10.3386/w27208

Carvalho, V., Garcia, J., Hansen, S., Ortiz, A., & Rodrigo, T. (2020). Tracking the COVID-19 Crisis with High-Resolution Transaction Data. *CEPR Discussion Paper*.

CNBC Indonesia. (2020a). Gelombang 4 Program Kartu Prakerja Ditunda, Ini Penyebabnya. Retrieved from https://www.cnbcindonesia.com/news/20200625104950-8-167901/gelombang-4-program-kartu-prakerja-ditunda-ini-penyebabnya

CNBC Indonesia. (2020b). Update Data Terbaru: Ada 3 Juta Orang Kena PHK di Indonesia. Retrieved from https://www.cnbcindonesia.com/news/20200612180328-4-165046/update-data-terbaru-ada-3-juta-orang-kena-phk-di-indonesia

Coalition for Urban Transitions. (2019). *Climate Emergency, Urban Opportunity*. Retrieved from https://urbantransitions.global/en/publication/climate-emergency-urban-opportunity/

de Ree, J., Muralidharan, K., Pradhan, M., & Rogers, H. (2018). Double for Nothing? Experimental Evidence on an Unconditional Teacher Salary Increase in Indonesia. *The Quarterly Journal of Economics*, *133*(2), 993–1039. https://doi.org/10.1093/qje/qjx040

Deloitte. (2020). Governments' response to COVID-19. Retrieved from https://www2.deloitte.com/us/en/insights/economy/covid-19/governments-respond-to-covid-19.html

Dikau, S., Robins, N., & Volz, U. (2020). Building a sustainable financial system: the state of practice and future priorities. In *INSPIRE Briefing Paper*. Retrieved from https://eprints.soas.ac.uk/33106/

Dikau, S., & Volz, U. (2019). *Central Bank Mandates, Sustainability Objectives and the Promotion of Green Finance*. https://doi.org/DOI:

Djalante, R., Lassa, J., Setiamarga, D., Sudjatma, A., Indrawan, M., Haryanto, B., … Warsilah, H. (2020). Review and analysis of current responses to COVID-19 in Indonesia: Period of January to March 2020. *Progress in Disaster Science*, *6*, 100091. https://doi.org/10.1016/j.pdisas.2020.100091

Donahue, A. K., Eckel, C. C., & Wilson, R. K. (2014). Ready or Not? How Citizens and Public Officials Perceive Risk and Preparedness. *The American Review of Public Administration*, *44*(4_suppl), 89S-111S. https://doi.org/10.1177/0275074013506517

Duflo, E. (2001). Schooling and labor market consequences of school construction in Indonesia: Evidence from an unusual policy experiment. *American Economic Review*, *91*(4), 795–813. https://doi.org/10.1257/aer.91.4.795

Ellen McArthur Foundation. (2015). *Growth Within: A Circular Economy Vision for a Competitive Europe*. Retrieved from https://www.mckinsey.com/~/media/McKinsey/Business

Functions/Sustainability/Our Insights/Growth within A circular economy vision for a competitive Europe/Growth_Within.pdf

Fairlie, R., Couch, K., & Xu, H. (2020). *The Impacts of COVID-19 on Minority Unemployment: First Evidence from April 2020 CPS Microdata*. https://doi.org/10.3386/w27246

Fankhauser, S., Bowen, A., Calel, R., Dechezleprêtre, A., Grover, D., Rydge, J., & Sato, M. (2013). Who will win the green race? In search of environmental competitiveness and innovation. *Global Environmental Change*, *23*(5), 902–913.

Ferraro, P. J., & Simorangkir, R. (2020). Conditional cash transfers to alleviate poverty also reduced deforestation in Indonesia. *Science Advances*, *6*(24), eaaz1298. https://doi.org/10.1126/sciadv.aaz1298

Filmer, D., Rogers, H., Angrist, N., & Sabarwal, S. (2020). Learning-adjusted years of schooling (LAYS): Defining a new macro measure of education. *Economics of Education Review*, *77*, 101971. https://doi.org/10.1016/j.econedurev.2020.101971

Garrett-Peltier, H. (2017). Green versus brown: Comparing the employment impacts of energy efficiency, renewable energy, and fossil fuels using an input-output model. *Economic Modelling*, *61*, 439–447.

Gentilini, U., Almenfi, M., Dale, P., Lopez, A. V., Mujica, I. V., Quintana, R., & Zafar, U. (2020). *Social Protection and Jobs Responses to COVID-19: A Real-Time Review of Country Measures*. Retrieved from http://documents1.worldbank.org/curated/en/590531592231143435/pdf/Social-Protection-and-Jobs-Responses-to-COVID-19-A-Real-Time-Review-of-Country-Measures-June-12-2020.pdf

Gong, B., Zhang, S., Yuan, L., & Chen, K. Z. (2020). A balance act: minimizing economic loss while controlling novel coronavirus pneumonia. *Journal of Chinese Governance*, *5*(2), 249–268. https://doi.org/10.1080/23812346.2020.1741940

Government of the United Kingdom. (2020). Coronavirus (COVID-19): Guidance and support. Retrieved August 2, 2020, from https://www.gov.uk/guidance/claim-for-wage-costs-through-the-coronavirus-job-retention-scheme

Gunawan, A. (2020). Public warned of more eruptions as Mt. Sinabung spews ash 5,000 meters high. *The Jakarta Post*. Retrieved from https://www.thejakartapost.com/news/2020/08/10/public-warned-of-more-eruptions-as-mt-sinabung-spews-ash-5000-meters-high.html

Gunnella, V., & Quaglietti, L. (2019). The economic implications of rising protectionism: a euro area and global perspective. *Economic Bulletin Articles*, *3*. Retrieved from https://ideas.repec.org/a/ecb/ecbart/201900031.html

Hanna, R., & Olken, B. (2020). *Online Survey on Economic Impact of COVID-19 in Indonesia: Results from Week 14 (J-PAL Southeast Asia)*.

Harvey, P. (2005). *Cash and vouchers in emergencies*. Retrieved from https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/432.pdf

Hepburn, C., O'Callaghan, B., Stern, N., Stiglitz, J., & Zenghelis, D. (2020). Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change? *Oxford Review of Economic Policy*. https://doi.org/10.1093/oxrep/graa015

Hergoualc'h, K., Carmenta, R., Atmadja, S., Martius, C., Murdiyarso, D., & Purnomo, H. (2018). *Managing peatlands in Indonesia: Challenges and opportunities for local and global communities*. https://doi.org/10.17528/cifor/006449

Hong, H., Li, F. W., & Xu, J. (2019). Climate risks and market efficiency. *Journal of Econometrics*, *208*(1), 265–281. https://doi.org/10.1016/j.jeconom.2018.09.015

Hook, L., & Wisniewska, A. (2020). How coronavirus stalled climate change momentum. Retrieved from Financial Times website: https://www.ft.com/content/052923d2-78c2-11ea-af44-daa3def9ae03

Horváth, B., Khilji, T., Gankhuyag, U., Meng, T., Canossa, di V., Chen, J., & Rong, S. (2020). Social and Economic Impact of Covid-19 in the Asia-Pacific Region. *UNDP Bangkok Regional Hub*, (April), 1–36.

Huang, Y., Lin, C., Wang, P., & Xu, Z. (2020). Saving China from the coronavirus and economic meltdown: Experiences and lessons. In R. Baldwin & B. W. di Mauro (Eds.), *Mitigating the COVID Economic Crisis: Act Fast and Do Whatever It Takes*. CEPR Press.

IDNFinancials. (2020). Bappenas estimates losses due to Greater Jakarta floods at Rp 5.2 trillion. Retrieved from https://www.idnfinancials.com/news/31030/bappenas-estimates-losses-jakarta-floods

ILO. (2020a). Country policy responses: Indonesia. Retrieved from https://www.ilo.org/global/topics/coronavirus/country-responses/lang--en/index.htm#ID

ILO. (2020b). *COVID-19 and the World of Work: Impact and Policy Responses.* Retrieved from https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_738753.pdf

ILO. (2020c). COVID-19 has exposed the fragility of our economies.

IMF. (2020a). *Digital Solutions for Direct Cash Transfers in Emergencies*.

IMF. (2020b). Managing Director's Opening Remarks at the Petersberg Climate Dialogue XI. Retrieved from https://www.imf.org/en/News/Articles/2020/04/29/sp042920-md-opening-remarks-at-petersberg-event

IMF. (2020c). Policy Responses to COVID-19. Retrieved August 22, 2020, from https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#A

IMF. (2020d). *World Economic Outlook Update: A Crisis Like No Other, An Uncertain Recovery*. Retrieved from https://www.imf.org/en/Publications/WEO/Issues/2020/06/24/WEOUpdateJune2020

IPCC. (2018). Summary for Policymakers. In *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change,*. Retrieved from https://www.ipcc.ch/sr15/chapter/spm/

IRENA. (2016). *Renewable Energy Benefits: Measuring the Economics*. Abu Dhabi.

Katadata. (2020). Peremajaan Kelapa Sawit Rakyat Selalu di Bawah Target. Retrieved from Databoks website: https://databoks.katadata.co.id/datapublish/2020/02/17/peremajaan-kelapa-sawit-rakyat-selalu-di-bawah-target

Katz, L. F., & Krueger, A. B. (2019). The Rise and Nature of Alternative Work Arrangements in the United

States, 1995–2015. *ILR Review*, *72*(2), 382–416. https://doi.org/10.1177/0019793918820008

Kurniawan, R., & Managi, S. (2018). Economic growth and sustainable development in Indonesia: an assessment. *Bulletin of Indonesian Economic Studies*, *54*(3), 339–361.

LCDI. (2019). *Low Carbon Development: A A Paradigm Shift Towards a Green Economy in Indonesia*. Retrieved from https://www.greengrowthknowledge.org/sites/default/files/downloads/policy-database/indonesia_lowcarbon_development_full report.pdf

Le Quéré, C., Jackson, R. B., Jones, M. W., Smith, A. J. P., Abernethy, S., Andrew, R. M., … Canadell, J. G. (2020). Temporary reduction in daily global CO 2 emissions during the COVID-19 forced confinement. *Nature Climate Change*, 1–7.

Lindell, M. K., & Perry, R. W. (2012). The Protective Action Decision Model: Theoretical Modifications and Additional Evidence. *Risk Analysis*, *32*(4), 616–632. https://doi.org/10.1111/j.1539-6924.2011.01647.x

LIPI. (2020). *Survei Dampak Pandemi COVID-19 Terhadap Kinerja Usaha Mikro Kecil Menengah Indonesia: Mitigasi dan Persiapan Pemulihan*. Retrieved from https://drive.google.com/drive/folders/1TkC_p4SO5rvYDcU_4yyZblO1Vxc0GD9w

Luohan Academy. (2020). Measuring the Global Pandemic Economy. Retrieved from https://www.luohanacademy.com/insights/c8023c66c55ba097

Mandiri Institute. (2020). *UMKM di Tengah Pandemik Covid-19: Analisa Sektoral dan Rekomendasi Kebijakan Stimulus Fiskal*.

Ministry of Environment and Forestry of Indonesia. (2014). *The Fifth National Report to the Convention on Biological Diversity*.

Ministry of Finance Republic of Indonesia. (2020). *Program Pemulihan Ekonomi Nasional*. Retrieved from https://www.kemenkeu.go.id/media/15149/program-pemulihan-ekonomi-nasional.pdf

Montenovo, L., Jiang, X., Rojas, F. L., Schmutte, I., Simon, K., Weinberg, B., & Wing, C. (2020). *Determinants of Disparities in Covid-19 Job Losses* (No. 27132). https://doi.org/10.3386/w27132

Mukhi, N., Rana, S., Mills-Knapp, S., & Gessesse, E. (2020). *World Bank Outlook 2050 Strategic Directions Note: Supporting Countries to Meet Long-Term Goals of Decarbonization*. Retrieved from https://openknowledge.worldbank.org/handle/10986/33958

Ochs, A., & Gioutsos, D. (2017). *The Employment Effects of Renewable Energy Development Assistance*.

OECD. (2016). *The Ocean Economy in 2030: The Ocean as a Sustainable Source of Economic Growth*.

OECD. (2019). *Programme for International Student Assessment (PISA) Results from PISA 2018: Indonesia Country Note*. Retrieved from https://www.oecd.org/pisa/publications/PISA2018_CN_IDN.pdf

OECD. (2020a). *Building Back Better : A Sustainable , Resilient Recovery after COVID-19*.

OECD. (2020b). *Environmental health and strengthening resilience to pandemics*. Retrieved from https://read.oecd-ilibrary.org/view/?ref=129_129937-jm4ul2jun9&title=Environmental-health-and-strengthening-resilience-to-pandemics

Olivia, S., Gibson, J., & Nasrudin, R. (2020). Indonesia in the Time of Covid-19. *Bulletin of Indonesian Economic Studies*, *56*(2), 143–174. https://doi.org/10.1080/00074918.2020.1798581

P2 Kependudukan, Kementerian Tenaga Kerja, & LD FEB UI. (2020). *Survei Online: Dampak COVID-19 terhadap Tenaga Kerja di Indonesia*. Retrieved from http://lipi.go.id/siaranpress/hasil-survei-dampak-pandemi-covid-19-pada-pekerja/22011

Patunru, A., & Ilman, A. (2020). *Political Economy of Rice Policy in Indonesia: Perspective on the ASEAN Economic Community*. https://doi.org/10.35497/296887

Peters, G. P., Marland, G., Le Quéré, C., Boden, T., Canadell, J. G., & Raupach, M. R. (2012). Rapid growth in CO2 emissions after the 2008–2009 global financial crisis. *Nature Climate Change*, *2*(1), 2–4. https://doi.org/10.1038/nclimate1332

Pierce, M., Hope, H., Ford, T., Hatch, S., Hotopf, M., John, A., … Abel, K. M. (2020). Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population. *The Lancet Psychiatry*, *7*(10), 883–892. https://doi.org/10.1016/S2215-0366(20)30308-4

Rivai, R. S., & Anugrah, I. S. (2011). Konsep dan Implementasi Pembangunan Pertanian Berkelanjutan di Indonesia. *Forum Penelitian Agro Ekonomi*, *29*(1), 13. https://doi.org/10.21082/fae.v29n1.2011.13-25

Robins, N., Clover, R., & Singh, C. (2009). *A Climate for Recovery: The colour of stimulus goes green*. Retrieved from https://www.globaldashboard.org/wp-content/uploads/2009/HSBC_Green_New_Deal.pdf

Solberg, E., & Akufo-Addo, N. A. D. (2020). *Amid the coronavirus pandemic, the SDGs will help us build back better*.

Stiroh, K. J. (2002). Information Technology and the U.S. Productivity Revival: What Do the Industry Data Say? *American Economic Review*, *92*(5), 1559–1576. https://doi.org/10.1257/000282802762024638

Suryahadi, A., Al Izzati, R., & Suryadarma, D. (2020). Estimating the Impact of Covid-19 on Poverty in Indonesia. *Bulletin of Indonesian Economic Studies*, *56*(2), 175–192. https://doi.org/10.1080/00074918.2020.1779390

Tacconi, L., & Muttaqin, M. Z. (2019). Reducing emissions from land use change in Indonesia: An overview. *Forest Policy and Economics*, *108*, 101979. https://doi.org/10.1016/j.forpol.2019.101979

Tempo. (2020). *Darurat Corona, Peserta Kelas 3 BPJS Kesehatan Disubsidi Rp 3 T*. Retrieved from https://bisnis.tempo.co/read/1326456/darurat-corona-peserta-kelas-3-bpjs-kesehatan-disubsidi-rp-3-t

Thomas, V. F. (2020). Angka Pengangguran 2020 Terburuk, Apa yang Bisa Dilakukan Jokowi? Retrieved June 4, 2020, from Tirto.id website: https://tirto.id/angka-pengangguran-2020-terburuk-apa-yang-bisa-dilakukan-jokowi-fKQg

UN. (n.d.). Sustainable Development Goals. Retrieved from https://www.un.org/sustainabledevelopment/sustainable-development-goals/

UN Economic and Social Council. (2020). Progress towards the Sustainable Development Goals. *Report of the Secretary-General*, 1–23.

UNDP. (2020). *The Social and Economic Impact of COVID-19 in the Asia-Pacific Region*. Bangkok.

UNEP. (2016). Sustainable waste management is an opportunity, not burden - Head of UN Environment's Almaty Office. Retrieved from https://www.unenvironment.org/news-and-stories/news/sustainable-waste-management-opportunity-not-burden-head-un-environments

UNICEF. (2017). *Skills for the Future*.

UNICEF. (2020a). *COVID-19 and Children in Indonesia: An Agenda for Action to Address Socio-Economic Challenges*.

UNICEF. (2020b). *Handwashing with soap, critical in the fight against coronavirus, is 'out of reach' for billions*.

Vally, H. (2020). 6 countries, 6 curves: how nations that moved fast against COVID-19 avoided disaster. Retrieved August 10, 2020, from https://theconversation.com/6-countries-6-curves-how-nations-that-moved-fast-against-covid-19-avoided-disaster-137333

Vigo, D., Patten, S., Pajer, K., Krausz, M., Taylor, S., Rush, B., … Yatham, L. N. (2020). Mental Health of Communities during the COVID-19 Pandemic. *The Canadian Journal of Psychiatry*, *65*(10), 681–687. https://doi.org/10.1177/0706743720926676

WHO. (2020a). *Coronavirus Disease 2019 (COVID-19) Situation Report*.

WHO. (2020b). Safe waste management during COVID-19 response. Retrieved from https://www.who.int/indonesia/news/detail/21-07-2020-safe-waste-management-during-covid-19-response

World Bank. (2016). *The Cost of Fire: An Economic Analysis of Indonesia's 2015 Fire Crisis*. Retrieved from http://pubdocs.worldbank.org/en/643781465442350600/Indonesia-forest-fire-notes.pdf

World Bank. (2017). *Learning for All: Towards Quality Education for Enhanced Productivity & Economic Growth in Indonesia*. Jakarta.

World Bank. (2020a). Earth Day 2020: Could COVID-19 Be the Tipping Point for Transport Emissions? Retrieved from https://www.worldbank.org/en/news/feature/2020/04/22/earth-day-2020-could-covid-19-be-the-tipping-point-for-transport-emissions?cid=ECR_TT_worldbank_EN_EXT

World Bank. (2020b). *Global Economic Prospects, June 2020*. https://doi.org/10.1596/978-1-4648-1553-9

World Bank. (2020c). *Indonesia Economic Prospects, July 2020: The Long Road to Recovery*. Retrieved from https://openknowledge.worldbank.org/handle/10986/34123

World Bank. (2020d). *World Bank Commodities Price Forecast*. Retrieved from http://pubdocs.worldbank.org/en/633541587395091108/CMO-April-2020-Forecasts.pdf

World Bank. (2020e). *World Bank East Asia and Pacific Economic Update, April 2020 : East Asia and Pacific in the Time of COVID-19*. https://doi.org/10.1596/978-1-4648-1565-2

Appendices

1. Priority Sector Sustainability Criteria

- **Employment**
  - Does the intervention create new jobs over the short term? If yes, how many?
  - Do these new jobs make use of skills that already exist in the local population?
  - Do these new jobs require similar skills to those of jobs lost in this crisis?
  - Are the employment opportunities inclusive, gender-balanced, and available to underemployed and vulnerable populations?

- **Economic Activity**
  - What is the expected economic multiplier of this intervention (i.e., total economic activity generated, including through second-order effects)?
  - Does the intervention increase imported goods and services? What is the percentage of domestic content in the inputs?
  - Does the intervention generate demand in the most affected sectors?
  - Or does it target new or different sectors?
  - If in a different sector, can the workforce easily shift to this new sector?
  - Does the intervention include measures to facilitate the transition of workers and the required investments?

- **Timeliness and Risk**
  - How long will it take to fully implement this intervention and to create jobs and activity (including project design, consultation processes, budget mobilization, procurement, etc.)?
  - Does this intervention have a plan in place to manage a possible re-instatement of COVID containment measures?
  - What impact will the project have on local/national debt and its sustainability?

- **Human/Social Capital**
  - Does the intervention create decent jobs, considering for example, average salary, right to unionize, safety and health, and durability?
  - Do the jobs created also promote skill-building and opportunity for advancement?
  - Does it contribute to labor participation of women, people with disability, or excluded groups?
  - Does the intervention improve public health and labor productivity, such as through reduced local air or water pollution?
  - Does the intervention build or strengthen social protection systems over the long term?

- **Technologies**
  - Will the intervention develop, import, or demonstrate technologies with significant growth potential?
  - Will the intervention support early stage R&D investment, thereby creating the opportunity for significant growth potential?

- **Natural/Cultural Capital**
  - Does this intervention respect the rights of indigenous communities?

- Will the intervention support the reclamation of previously polluted land so that it can be (re)developed?
- Will the intervention improve agriculture and land productivity?
- Will the intervention protect biodiversity and ecosystem services?
- Could the intervention generate irreversible environmental or cultural losses (e.g., increase deforestation, wetland development, or damage to cultural heritage sites)?

- **Physical Capital**
  - Will the intervention help close the gap in delivering universal access to essential infrastructure services?
  - Will the intervention improve local economic productivity through access to better, more reliable infrastructure services?

- **Fundamental Market Failures**
  - Will the intervention address market failures, such as market-distorting subsidies, pricing that fails to account for externalities, etc.?
  - Will the intervention contribute to asset or export diversification?

- **Increasing Resilience/Adaptive Capacity**
  - Has the project been screened for exposure and vulnerability to disaster and climate risk, considering future changes in climate conditions? Is it likely to attract further investments in at-risk areas?
  - Will the intervention boost resilience to natural disasters, for instance through hardened infrastructure, use of nature-based solutions (such as mangroves to protect against coastal floods), or efforts to relocate infrastructure out of harm's way?
  - Does the intervention improve socio-economic resilience, that is, the ability of the population to cope with and recover from shocks? Does it improve their adaptive capacity, that is their ability to reduce negative impacts (such as adapting buildings to improve resilience to extreme temperature) or capture opportunities (such as higher agriculture productivity in some place and for some crops)?

- **Decarbonization/Sustainable Growth**
  - Is the intervention consistent with and supportive of existing long-term decarbonization targets and strategies? (If such targets and strategies do not exist, does the intervention contribute to the government's "Nationally Determined Contribution" and the eventual decarbonization of the economic system?)
  - Does the intervention create or amplify a lock-in of carbon- or energy-intensive development patterns, or represent a future stranded asset risk due to decarbonization, technology change or other market trends?
  - Does the intervention remove or reduce financial market, tax, or regulatory obstacles to decarbonization (e.g., for energy efficiency or low-carbon technology deployment)?
  - Does the intervention contribute to developing or piloting a low-carbon technology, making it more widely available, or reducing its cost?
  - Does the intervention provide the technical means to better integrate or employ low-carbon technologies or strategies (for instance, through improvements to transmission and distribution infrastructure, public transit infrastructure, sidewalks or bike lanes, or by promoting denser urban development)?
  - Does the intervention increase local/national energy security?

2. Phasing Strategies

Important Aspect	Indonesia Commitment	Potential Risk	Beneficiaries
Climate resilience	Paris Agreement Limit global temperature rise to below 2 degrees Celsius above pre-industrial level and pursuing efforts to limit the temperature increase to 1.5 degrees Celsius above pre-industrial level.	• Climate impacts rapidly growing threat. • Climate hazards are likely to increase poverty, worsen inequalities, exacerbate food insecurity and cause health problems.	• Investing in mitigation today can lower the costs of adaptation in the future. • Adaptation policies are critical to preventing a deterioration of livelihoods as a result of climate hazards. • Climate resilience can not only protect people and property but generate economic activity that will create domestic jobs and drive prosperity as well.
Disaster resilience		• Disaster caused abundant damages, including economic damage and deaths. • Disasters will continue to occur, whether natural or human-induced, in all parts of the country • Risk cannot be eliminated completely	• Investing in mitigation today can lower the costs of adaptation in the future. • Adaptation policies are critical to preventing a deterioration of livelihoods as a result of disasters. • Economic benefits of resilience, such as the cost savings of mitigation, valuing the protective function and services ecosystem. • The planning and preparing for one type of disaster, can reap benefits for the types of disasters or unexpected adverse events.

Important Aspect	Indonesia Commitment	Potential Risk	Beneficiaries
Circular economy	With regard to the Perpres No 27/2017 about National Strategy and Policy (Jakstranas) of household and similar-to-household waste treatment at national, provincial, and regency level, the waste reduction target has been set to 30% and waste handling to 70% by 2025, setting a tone that embodies the principle of the circular economy	• The concept of linear economy is threatening the sustainability of development of economy and environmental protection. • 33% of the world's population could be affected by water scarcity by 2025. • 10% the amount of biodiversity lost by 2030 without action to stem the hide. • 90% of sewage and 70% of industrial wastes in developing countries are discharged without treatment. • Climate change • Food loss and waste.	• Reduce primary resource consumption. • Reduce the use of energy and materials in production and use phases. • Incentive and support waste reduction • Reduce the use of materials that are difficult to recycle in products and production processes.

3. Fiscal Stimulus (update June 29, 2020)

No.	Stimulus	Total Budget (Rp Trillion)	Existing Conditionality	Beneficiaries
Support for Social Protection and Consumption				
1	**Social Safety Net**	**178.9**	-	-
	PKH (Program Keluarga Harapan)	37.4	- Registered and participate in the educational facilities' activities (SD-SMA) - Registered and participate in activities at health facilities (pregnant women and children aged 0-6 years) - Registered and participate in social facilities' activities (elderly and people with disabilities)	Beneficiary families decile 1-2 (10 million household)
	Kartu Sembako	43.6	- Poor people who are listed in the Ministry of Social Affairs data , if approved would receive a bank account for KKS - Food purchases are only made in e-warongs that are partners with the government	Beneficiary families decile 1-3 (20 million household)
	Discounts on electricity rates for 450 and 900 VA customers	6.9	- Free for poor people (deciles 1-6) with 450VA power - 50% discount for the poor (deciles 1-6) with 900VA power	Beneficiary families decile 1-6 (31.2 million household) - 24 million HH untuk 450VA - 7.2 million HH untuk 900VA
	Cash Social Assistance (non-Jabodetabek area)	32.4	- Beneficiary families who are not PKH recipients and Kartu Sembako - April-June given IDR 600,000 / month - July-Sept given IDR 300,000 / month	Beneficiary families decile 4 (9 million HH)
	Basic food assistance (Jabodetabek area)	6.8	- Beneficiary families who are not PKH and Kartu Sembako recipients - April-June given IDR 600.000/month - July-Sept given IDR 300.000/month	Beneficiary families decile 5 (2.1 million households) - 1.3 million HH di Jakarta - 600 ribu HH di Bodetabek

No.	Stimulus	Total Budget (Rp Trillion)	Existing Conditionality	Beneficiaries
	Kartu Pra Kerja Additional	20	- Beneficiary families who are not PKH and Kartu Sembako recipients - April-June given IDR 600.000/month - July-Sept given IDR 300.000/month	Beneficiary families decile 5-6 (5.6 million households)
	BLT Dana Desa for 11million beneficiary families	31.8	- Assistance is given to beneficiary families who are not PKH, Kartu Sembako, basic food assistance, cash social assistance, and Kartu Pra Kerja recipients - Assistance is given for 6 months (April-September) with different amounts - In April-June per beneficiary families will receive IDR 600,000 / month, this amount will be reduced to Rp. 300,000 / month in July-September	Beneficiary families decile 4-5 (11 million HH)
2	**Reserves to fulfill basic needs and market / logistics operations**	**25**	- Coordinated with the Ministry of Trade, Ministry of Industry and Bulog - Directed to ensure the availability of foodstuffs and basic commodities, at stable prices	
	TOTAL	**203.9**	-	-
Support for MSMEs and the Private Sector				
1	**MSMEs incentive**	**123.46**		
	Interest subsidy	**35.28**		
	Interest subsidies for MSMEs that borrow through BPR, Banking, and Financing Companies		- Postponement of installments and interest subsidies for micro and small businesses by 6% in the first 3 months and 3% for the following 3 months - Postponement of installments and interest subsidies for medium-sized businesses of 3% in the first 3 months and 2% in the following 3 months - Has a collectability of 1 (current) and 2 (with special mention) at the bank / BPR / PP - Not included in the National Black List (especially for debtors with loans of more than IDR 50 million) - Have a NPWP - Register for the interest subsidy facility through the Ministry of Finance's SIKP web portal	- Micro and small business credits (loans under IDR 500 million) - Medium business credit (loan IDR 500 million-IDR 10 billion) - Motor vehicle credits for productive businesses (including online motorcycle taxis and / or informal businesses) - Home ownership credit (up to type 70)

No.	Stimulus	Total Budget (Rp Trillion)	Existing Conditionality	Beneficiaries
	Interest subsidies for MSMEs that borrow through KUR, UMi, Mekaar, and Pegadaian		- Postponement of principal installments and interest subsidies for KUR, UMi, Mekaar, and Pegadaian is given in full for 6 months	
	Interest subsidies for MSMEs that borrow through Online, Operations, Farmers, LPDB, LPMUKP, and local government's MSMEs		- Relaxation is given in the form of interest subsidy of 6% for 6 months	
	Guarantee for New Working Capital Credits for MSMEs	6	- Consists of an IJP Expenditure component of Rp. 5 trillion and a working capital guarantee reserve (stop loss) of Rp. 1 trillion - Guarantee is carried out through State-Owned Entreprises (Jamkrindo and Askrindo) as well as insurance business entities appointed by the government	
	Placement of government funds in banks for restructuring and expanding access to finance for the real sector	78.78	- Given through commercial banks to be distributed to productive businesses / real sectors - The first stage was given to Bank Mandiri, BRI, BNI, and BTN (HIMBARA) - A placement period of 3 months and an interest rate of 80% BI7DRR (3.42%)	- MSMEs - Companies that are export oriented - Labor intensive industry - The housing sector - Credit to State-Owned Entreprises
	Final income tax of MSMEs is borne by the government	2.4	- Have a turnover of below IDR 4.8 billion per year - Subject to Final Income Tax based on PP No. 23 Tahun 2018 - Have a Certificate based on PMK-44 / PMK.03.2020 - Submit a report on the realization of the final income tax borne by the government no later than the 20th after the end of the tax period	- MSMEs players with a turnover below Rp. 4.8 billion per year and subject to Final Income Tax based on PP No. 23 Tahun 2018
	Investment financing to cooperatives through LPDB KUMKM	1	- Never received financing from a financial institution or banking system	- Business actors who have never received financing from financial institutions or the banking system

No.	Stimulus	Total Budget (Rp Trillion)	Existing Conditionality	Beneficiaries
2	**Business Tax Incentives**	**120.61**		
	Government-borne Income Tax Article 21 (DTP)	39.66	- Are employees in 440 certain industrial fields and / or companies that have the Ease of Import for Export Destination (KITE) facility - Have a NPWP - Paid in cash by the employer at the time of income payment to employees (valid from the notification period until the tax period September 2020)	- 1,062 KLU in 440 selected industrial fields - WP KITE
	Article 22 Import Income Tax Exemption	14.75	- KLU is attached to PMK 23/2020 and / or has been designated as a KITE company - Submit an application for a Certificate of Exemption (SKB) to the Head of KPP where the Central taxpayers is registered - Attach the Minister of Finance's Decree regarding the determination of companies that get KITE facilities	- 431 KLU in 19 selected sectors - WP KITE - WP KITE-IKM
	30% reduction in installments of Income Tax Article 25	14.4	- Given for 6 months to Taxpayers who have the KLU code and are designated as KITE companies - Delivering notification of a 30% reduction of the PPh 25 installments that should have been payable - Deliver written notification to registered KPP	- 846 KLU in 19 selected sectors - WP KITE - WP KITE-IKM
	Acceleration of VAT refunds	5.8	- Accelerate VAT refunds for 6 months for exporters and non-exporters who are eligible - Valid for WP with a value of less than IDR 5 billion - Has a KLU code and is designated as a KITE company - Submit Periodic VAT Overpayment SPT (LB) with a maximum amount of IDR 5 billion	- 431 KLUs in 19 selected sectors - WP KITE - WP KITE-IKM
	Decreased corporate income tax rates from 25% to 22%	20		- Taxpayers who use the Article 25 Income Tax installment mechanism
	Reserve and other stimuli	26	- Expansion and extension of incentives	
	TOTAL	**244.07**		

No.	Stimulus	Total Budget (Rp Trillion)	Existing Conditionality	Beneficiaries
Support for Local Governments and Sectoral Groups				
1	**Support for Local Governments**	**23.7**		
	Additional Regional Incentive Fund (DID) for economic recovery	5	- DID is allocated to regions based on an assessment of the main criteria and performance categories - Must budget for DID allocation for public service and health sector categories - The health budget is directed towards handling COVID-19 - Local governments that receive DID outside of the health group still prioritize health - Funds come from the State General Treasurer (BUN), which is focused on supporting the acceleration of economic recovery in the regions	Local government at the - Province - Regency / City
	Use of Physical DAK reserves	8.7	- DAK is given by taking into account the following criteria: the current APBD TA, reports on the realization and absorption of DAK for the previous FY year, a list of activity contracts - Intended for specific physical activities (development) in the region - This time DAK is focused on physical development (housing) using the self-managed method, labor intensive, using local labor, within 3 to 4 months	Local government at the - Province - Regency / City
	Provision of loan facilities to regions	10	- The remaining amount of the loan plus the drawn loan does not exceed 75% of the APBD revenue - Meet the ratio of regional financial capacity and do not have arrears Purpose of Loans - Short term: cover the shortage of cash flow - Medium term: public services that do not generate revenue - Long term: investment in public services that generate revenue and economic value - Bonds: public service investments that generate revenues for the state budget and are withdrawn periodically	Local government at the - Province - Regency / City

No.	Stimulus	Total Budget (Rp Trillion)	Existing Conditionality	Beneficiaries
2	**Additional K / L and sectoral spending**	**82.41**		
	K / L labor-intensive program	18.44	- Submitted only to the Ministry of Public Works and Housing, Ministry of Transportation, KKP, and Ministry of Agriculture - Directed for labor-intensive projects - The main workers targeted are those who lost their jobs due to COVID-19	- Ministry of Public Works and Housing (IDR 11.2 trillion) - Ministry of Transportation (IDR 6 trillion - Ministry of Marine and Fisheries (IDR 300 billion) - Ministry of Agriculture (Rp1.21 trillion)
	Tourism sector	3.8	- Incentives in the form of discounting airplane tickets to tourist destinations - Tax incentives for hotels and restaurants	Middle and upper class society (implemented in the third quarter if there has been an economic movement)
	Housing for Low-Income Communities (MBR)	1.3	- The form of assistance in the form of interest subsidies and down payment assistance - Intended for the people with max income 8 million - Do not own a house and have never received housing finance subsidies - Other terms depend on the bank who is providing assistance	Low Income Communities (MBR)
	Expansion reserves	58.87	-	-
	TOTAL	**106.11**	-	-
Support for State-Owned Entreprises				
1	Labor-intensive restructuring fund placement	3.42		
2	State Equity Participation (PMN)	20.5	- PMN is given to improve the capital structure of State-Owned Entreprises affected by COVID-19 and who carry out special assignments from the Government in driving economic recovery	- HK (Rp7.5 trillion) - BPUI (IDR 6 trillion) - PNM (IDR 1.5 trillion) - ITDC (Rp0.5 trillion) - PPA (IDR 5 trillion)

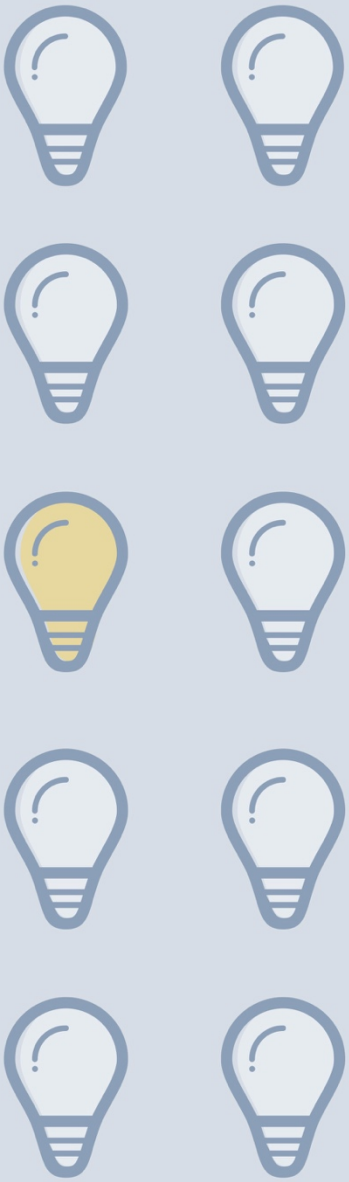
No.	Stimulus	Total Budget (Rp Trillion)	Existing Conditionality	Beneficiaries
3	Bailout (investment) for working capital	29.65	- A bailout fund that serves as a stimulus for working capital of State-Owned Entreprrises who are affected by COVID-19 in the short term - For Garuda, KAI, and Perumnas, the bailout funds will be provided through a government investment scheme - For PTPN and KS, bailout funds will be provided through the placement of government funds at Participating Banks	- Garuda (IDR 8.5 trillion) - Perumnas (Rp0.65 trillion) - KAI (Rp3.5 trillion) - KS (Rp3 trillion) - PTPN (IDR 4 trillion) - PPA (Rp. 10 trillion)
	TOTAL	**53.57**	-	-
Health Support				
1	Expenditure for handling COVID-19	65.8	Used for handling COVID-19 in the form of: - COVID-19 preventive program - Laboratory - COVID-19 treatment - Medical equipment and medicines - Medical waste management Claim verification is carried out by BPJS with the following steps: 1. Administrative verification (file completeness) 2. Service verification (filtration) 3. Costs verification 4. Claim results verification	Hospitals and (or) health service centers that handle: - COVID-19 patients - PDP - ODP (> 60 years with / without comorbidities and <60 years with comorbidities) both those who have partnered with BPJS and the government or not

No.	Stimulus	Total Budget (Rp Trillion)	Existing Conditionality	Beneficiaries
2	Incentives for medical personnel	5.9	- Health workers serving at health care centers that have served at least 100 COVID-19 patients Incentives are given after going through the stages 1. Submission (from health facilities) to the Dinas Kesehatan 2. Verification (BPPSDM) 3. Submission of verification results to the Ministry of Finance 4. If approved, the money will go to the RKUD 5. Distribution from RKUD to health workers	- Specialist (max. IDR 15 million / month) - Doctor (max. IDR 10 million / month) - Nurse (max. IDR 7.5 million / month) - Other supporting professions (max. IDR 5 million / month)
3	Compensation for death	0.3	Incentives are given after going through the stages 1. Submission (from health facilities) to the Health Office 2. Verification (BPPSDM) 3. Submission of verification results to the Ministry of Finance 4. If approved, the money will go to the RKUD 5. Distribution from RKUD to health workers	- Medical personnel treating COVID-19 patients
4	JKN contribution assistance	3	The poor who are registered in the integrated social welfare data with the following criteria: - The poor who do not have a job and (or) have a job but are unable to fulfill their basic needs - Poor people who have jobs and are able to fulfill basic needs but are unable to pay dues	Poor people with the criteria listed in the Integrated Social Welfare Data

No.	Stimulus	Total Budget (Rp Trillion)	Existing Conditionality	Beneficiaries
5	COVID-19 task force	3.5	Assistance is provided only for the task force, in the form of: - APD for health workers - Medical equipment - The need for a national laboratory and organizing PCR tests - Claims of payment for COVID-19 treatment - Distribution and logistics costs for medical devices - Quarantine facilities for Indonesian citizens who come from abroad	The Task Force for handling COVID-19 which consists of: - K / L - 7 heads of government authorities - Regional government - TNI - Police both at the central and regional levels
6	Tax incentives in the health sector	9.05	- Article 23 income tax exemption for the health sector related to handling COVID-19, including incentives for medical personnel (Rp0.09 trillion) - Exemption from taxes and import duties for imported goods and services used for handling the COVID-19 pandemic - VAT is borne by the government for goods and services related to handling COVID-19 which are subject to tax (IDR 5.2 trillion)	Medical personnel and supply providers for health services
	TOTAL	**87.55**	-	-
	TOTAL STIMULUS PEN	**695.2**		

LPEM FEB UI
Universitas Indonesia

Kementerian PPN/
Bappenas



The pandemic of Coronavirus Disease (COVID-19) has dismantled the global economy, which will have a much larger impact compared to the Global Financial Crisis (GFC) in 2008. This pandemic has created a disruption for both the demand and supply side, where it reduces both consumption and investment, and at the same time it affects the supply chain; Thus, it affects firms' activities and the production network.

The Government of Indonesia (GoI) has implemented several policies that might mitigate the impact of the COVID-19. Albeit these policies might be useful to accelerate the recovery process, it is worth noting that COVID-19 not only affect the economy but also unmask the shortcoming in the current system.

Nonetheless, the unprecedented crises due to COVID-19 will give an opportunity for GoI to implement several reforms which will be related to some environmental and sustainability issues. Climate change remains a big hurdle even after the government is able to minimize the virus outbreak. Therefore, proper responses to the economic crisis due to COVID-19 would also need to consider the impact of these policies on the climate and other Sustainable Development Goals (SDGs). In this book we propose several recommendations on what the government could do for Indonesia's agenda sustainable recovery after COVID-19.

Institute for Economic and Social Research
Faculty of Economics and Business,
Universitas Indonesia (LPEM FEB UI)

Address : Jl. Salemba Raya 4 Jakarta 10430
Phone : (021) 3143177
Fax : (021) 31934310
Email : lpem@lpem-feui.org/ info@lpem-feui.org
Website : https://www.lpem.org

Ministry of National Development Planning/
National Development Planning Agency
(BAPPENAS)

Address : Jl. Taman Suropati No 2, Jakarta 10310
Phone : (021) 31936207
Fax : (021) 3145374
Email : -
Website : https://www.bappenas.go.id

ISBN 978-623-95702-0-0