THE PHILIPPINES' RESPONSE TO THE COVID-19 PANDEMIC

Learning from Experience and Emerging Stronger to Future Shocks

Edited by Celia M. Reyes

Philippine Institute for Development Studies
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List of Acronyms

4Ps	*Pantawid Pamilyang Pilipino* Program
a2i	access to information
ACPC	Agricultural Credit Policy Council
ADB	Asian Development Bank
AFC	Asian financial crisis
AICS	Assistance to Individuals in Crisis Situation
AIDS	acquired immunodeficiency syndrome
AIP	Annual Investment Program
AKAP	*Abot Kamay ang Pagtulong*
APCICT/ESCAP	Asian and Pacific Training Centre for Information and Communication Technology for Development
APIS	Annual Poverty Indicator Survey
ARMM	Autonomous Region in Muslim Mindanao
ASEAN	Association of Southeast Asian Nations
BARMM	Bangsamoro Autonomous Region in Muslim Mindanao
BE-LCP	Basic Education Learning Continuity Plan
BES	Business Expectations Survey
BHERT	barangay health emergency response team
BIR	Bureau of Internal Revenue
BLGD	Bureau of Local Government Development
BLGF	Bureau of Local Government Finance
BoP	balance-of-payments
BSGC	budgetary support of government corporations
BSP	*Bangko Sentral ng Pilipinas*
CALABARZON	Cavite, Laguna, Batangas, Rizal, Quezon
CAMP	COVID-19 Adjustment Measures Program
CARES	COVID-19 Assistance to Restart Enterprises
CBN	cost-of-basic needs

CDC	Centers for Disease Control and Prevention
CERC	Crisis and Emergency Risk Communication
CES	consumer expectations survey
CGE	computable general equilibrium
CHED	Commission on Higher Education
CIO	chief information officer
CODE	Coordinated Operations to Defeat the Epidemic
COVID-19	coronavirus disease 2019
COVID-19 P3-ERF	COVID-19 *Pondo para sa Pagbabago at Pag-asenso* Enterprise Rehabilitation Fund
CPI	consumer price index
CREATE	Corporate Recovery and Tax Incentives for Enterprises
CV	coefficient of variation
DA	Department of Agriculture
DALY	disability-adjusted life year
DBCC	Development Budget Coordination Committee
DBM	Department of Budget and Management
DBP	Development Bank of the Philippines
DENR	Department of Environment and Natural Resources
DepEd	Department of Education
DFA	Departments of Foreign Affairs
DICT	Department of Information and Communications Technology
DILG	Department of the Interior and Local Government
DOF	Department of Finance
DOH	Department of Health
DOH-EB	Department of Health-Epidemiology Bureau

DOLE	Department of Labor and Employment
DOLE-AKAP	Department of Labor and Employment-*Abot Kamay ang Pagtulong*
DOST-FNRI	Department of Science and Technology-Food and Nutrition Research Institute
DOTr	Department of Transportation
DRRM-H	Disaster Risk Reduction and Management in Health
DSA	data-sharing agreement
DSWD	Department of Social Welfare and Development
DTI	Department of Trade and Industry
ECQ	enhanced community quarantine
EPR	employment-to-population
EREID	emerging and reemerging infectious diseases
ESP	Emergency Subsidy Program
ESU	epidemiology surveillance unit
FAO	Food and Agriculture Organization
FDS	federal data strategy
FIES	Family Income and Expenditure Survey
FIST	Financial Institutions Strategic Transfer Act
FNI	food and nonfood items
FPIA	free public internet access
FSRF	financial subsidy for rice farmers
GAA	General Appropriations Act
GCQ	general community quarantine
GDP	gross domestic product
GFC	global financial crisis
GFI	government financial institution
GHS	global health security index
GNI	gross national income

GOCC	government-owned and controlled corporation
GRDP	gross regional domestic product
GSIS	Government Service Insurance System
GVA	gross value-added
HCF	healthcare facility
HCW	healthcare worker
HDI	human development index
HDRO	United Nations Human Development Report Office
HIV	human immunodeficiency virus
HRH	human resources for health
IATF-EID	Inter-Agency Task Force for the Management of Emerging Infectious Diseases
IATF-EREID	Inter-Agency Task Force for Emerging and Reemerging Infectious Diseases
IATF-TWG for AFP	Inter-Agency Task Force for the Management of Emerging Infectious Diseases-Technical Working Group for Anticipatory and Forward Planning
ICT	information and communications technology
ICU	intensive care unit
IDM	Institute for Disease Modelling
IDP	internally displaced people
IFPRI	International Food Policy Research Institute
ILO	International Labour Organization
IMF	International Monetary Fund
IOM	International Organization for Migration
IP	indigenous people
IQR	interquartile range
IRA	internal revenue allotment
IT	information technology

JHCHS	John Hopkins Center for Health Security
JHU	Johns Hopkins University
JMC	joint memorandum circular
JUG	joined-up government
LAG	livelihood assistance grants
LBP	Land Bank of the Philippines
LDF	local development fund
LFS	Labor Force Survey
LGU	local government unit
LSA	learning support aide
LSP-NSB	Livelihood Seeding Program/*Negosyo Serbisyo sa* Barangay
MC	memorandum circular
MECQ	modified enhanced community quarantine
MELC	most essential learning competency
MERS	Middle East respiratory syndrome
MGCQ	modified general community quarantine
MICS	multiple indicators cluster surveys
MRIO	multiregional input-output
MSME	micro, small, and medium enterprise
NAP	national action plan
NAP-COVID	National Action Plan against COVID-19
NCR	National Capital Region
NDRRMC	National Disaster Risk Reduction and Management Council
NDRRMP	National Disaster Risk Reduction and Management Plan
NEDA	National Economic and Development Authority
NG	national government
NRCO	National Reintegration Center for OFWs
NSO	National Statistics Office

NTF	national task force
NTI	nuclear threat initiative
OCD	Office of Civil Defense
OECD	Organisation for Economic Co-operation and Development
OFW	overseas Filipino worker
OHCC	one health command center
OP	Office of the President
OWWA	Overseas Workers Welfare Administration
PCOO	Presidential Communications Operations Office
PDITR	prevent, detect, isolate, treat, reintegrate
PDP	Philippine Development Plan
PeGIF	Philippine eGovernment Interoperability Framework
PhilHealth	Philippine Health Insurance Corporation
PhilSys	Philippine Identification System
PHP	Philippine peso
PIDS	Philippine Institute for Development Studies
PIDSR	Philippine Integrated Disease Surveillance and Response
PIO	public information officer
PISA	Program for International Student Assessment
POEA	Philippine Overseas Employment Administration
PopCen	Census of Population
PPAs	programs, projects, activities
PPE	personal protective equipment
PPP	purchasing power parity
PRC	Philippine Red Cross

Project EASE	Educational Assistance through Scholarship in Emergencies
PSA	Philippine Statistics Authority
PUV	public utility vehicle
PWDs	persons with disabilities
RA	republic act
RDA	recommended dietary allowance
RHU	rural health unit
RRP	reverse repurchase
RSBSA	Registry System for Basic Sectors in Agriculture
RT-PCR	reverse transcription polymerase chain reaction
SAP	Social Amelioration Program
SARS	severe acute respiratory syndrome
SBCorp	Small Business Corporation
SBWS	Small Business Wage Subsidy
SDG	Sustainable Development Goal
SEC	Securities and Exchange Commission
SEF	Special Education Fund
SEIR	susceptible-exposed-infected-removed
SEPO	senate economic planning office
SHFC	Social Housing Finance Corporation
SLP	sustainable livelihood program
SocPen	Social Pension for Indigent Senior Citizens
SPIMS	*Sa Pinas, Ikaw ang Maám at Sir*
SPTT	special permit to transport
SPV	special purpose vehicle
SRA	special risk allowance
SSF	shared service facilities
SSS	Social Security System

SURE	survival and recovery
SWS	Social Weather Stations
SY	school year
T3	test, trace, treat
TB DOTS	directly observed therapy for the treatment of tuberculosis
TDF	term deposit facility
TESDA	Technical Education and Skills Development Authority
TIMSS	Trends in International Mathematics and Science Study
TUPAD	*Tulong Panghanapbuhay sa Ating* Displaced/Disadvantaged Workers
TUPAD #BKBK	*Tulong Panghanapbuhay sa Ating* Displaced/Disadvantaged Workers #*Barangay Ko, Bahay Ko* Disinfection/Sanitation Project
TV	television
UN	United Nations
UNDP	United Nations Development Programme
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
UNSD	United Nations Statistics Division
UPPI	University of the Philippines Population Institute
USD	United States dollar
WB	World Bank
WEF	World Economic Forum
WGA	whole-of-government approach
WHO	World Health Organization

Foreword

The coronavirus disease 2019 (COVID-19) pandemic has significantly disrupted households and businesses, threatening the health, income, and social routines of Filipinos. Since March 2020, the government has imposed various policies, such as community lockdowns and mandatory health protocols, to lessen the risk of spreading the virus while mitigating the socioeconomic impacts of the pandemic. Likewise, the rapid spread and disruptive nature of the COVID-19 pandemic has compelled the government to identify solutions and act decisively to protect the people.

This volume provides evidence-based analyses of the various pandemic responses and recovery efforts of the government, with a focus on experiences, challenges, and lessons learned. In particular, it gathers insights of PIDS experts on matters relating to health, macroeconomy, food security, labor, social protection, poverty, education, digitalization, fiscal response, and crisis and risk communication.

The Institute hopes that the analyses in this book can help inform the discourse on the impacts of the COVID-19 pandemic on various sectors and how the government can respond more effectively. This publication also aims to promote dialogue and reflection on how we can learn from our current experiences so that we can build our resilience to future shocks and emerge from this crisis stronger.

ANICETO C. ORBETA JR.
President

Preface

We are pleased to present a collection of papers on the Philippine government's response to the coronavirus disease 2019 (COVID-19) pandemic. This book reflects our concerted desire to help the country overcome the ongoing crisis by providing reliable and evidence-based analyses of the situation that could help policymakers, government leaders, and the public gain insights into the social and economic costs of the pandemic. By sharing some lessons on what works and what does not in terms of policy responses, we hope to help the Philippines find solutions to recover from the current COVID-19 crisis and increase its resilience in the long run.

We sincerely thank the Philippine Institute for Development Studies (PIDS) for giving us a platform to share our insights about the current crisis. We join PIDS in highlighting the importance of learning from the experiences in this pandemic to refine our shortcomings and better respond to future challenges.

We hope that the insights and recommendations raised in this publication can guide future policies and programs of the government. May they also serve as a foundation for further collaborative work as we navigate our path to recovery and resilience.

THE AUTHORS

Acknowledgment

The Philippine Institute for Development Studies (PIDS) owes the completion of this book to the hard work and dedication of the following individuals:

In Part I, Celia M. Reyes, Ma. Kristina P. Ortiz, Arkin A. Arboneda, and Anna Rita P. Vargas wrote an analysis of the government's pandemic response during the first year of the COVID-19 crisis. They assessed the different strategies and policies done by the government and shared insights to help decisionmakers craft and implement better policies for a stronger Philippine society.

Meanwhile, several PIDS researchers provided policy analyses and recommendations on the government's responses to the pandemic on key sectors/areas in Part II. It contains outputs from Michael R.M. Abrigo, Jhanna Uy, Nel Jason Haw, Valerie Gilbert T. Ulep, and Kris A. Francisco on COVID-19 transmission and its macroeconomic impacts; Valerie Gilbert T. Ulep on health; Margarita Debuque-Gonzales on the economy and macro responses of the government; Roehlano M. Briones on food security; Aubrey D. Tabuga and Carlos C. Cabaero on Filipino migrant workers; Adoracion M. Navarro on human development; Celia M. Reyes, Ronina D. Asis, Arkin A. Arboneda, and Anna Rita P. Vargas on poverty; Jose Ramon G. Albert, Michael R.M. Abrigo, Francis Mark A. Quimba, and Jana Flor V. Vizmanos on income distribution; Aniceto C. Orbeta Jr. on education; Sheila V. Siar on crisis and risk communication; and Charlotte Justine Diokno-Sicat on fiscal response.

The daunting yet rewarding task of book production was led by Sheila V. Siar, with the help of Gizelle G. Manuel, who assisted in editorial coordination, copyediting, and proofreading, and Wenilyn M. Asuncion and Maryam P. Tubio, who provided editorial support.

Part I
Theme Paper

Learning from Experience and Emerging Stronger to Future Shocks

Celia M. Reyes
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Arkin A. Arboneda
Anna Rita P. Vargas

Introduction

The coverage and depth of the impacts of the coronavirus disease 2019 (COVID-19) outbreak had been far reaching and severe. Countries continued to face mounting number of cases and death tolls as global statistics record about 79.2 million confirmed cases and 1.8 million deaths as of end-December 2020 (WHO 2021). To lessen the risk of spreading the virus, governments were compelled to impose various mobility restrictions, including travel bans and community lockdowns, which inevitably posed great pressure on the daily operations of households and firms. Labor markets had been disrupted on an unimaginable scale. The International Labour Organization (ILO) estimated losses in global working hours of about 255 million full-time equivalent[1] jobs in 2020, four times higher than the recorded losses during the global financial crisis in 2009 (ILO 2021). These consequences caused the global economy to plummet into its deepest recession since World War II, with a predicted contraction of about 5.2 percent in 2020 (World Bank 2020a). No country was spared from the damaging impacts of the COVID-19 pandemic, although the severity and speed of recovery varied depending largely on the public sector's crisis response.

As with other countries, the pandemic hit the Philippine economy and society unprecedentedly. The economy slumped into a recession in 2020 and experienced the largest shrinkage of about 9.5 percent (PSA 2021a) since the release of the first growth data in 1947. The imposed lockdowns on several areas, especially in the National Capital Region (NCR), created ripple effects as businesses were forced to shut down, and major economic activities were brought to a temporary halt. As a result, the unemployment rate spiked to 17.7 percent in April 2020, equivalent to about 7.3 million jobless Filipinos, from only 5.1 percent in April of the preceding year.

[1] The ILO assumes a 48-hour working week.

In addition, the Department of Labor and Employment (DOLE) reported that, as of October 2020, about half a million overseas Filipino workers (OFWs) were displaced from their jobs due to the pandemic. These economic consequences dragged down the country's performance in alleviating poverty and decreasing inequality. Reyes (2021) estimated that without the Social Amelioration Program (SAP), poverty incidence among families could increase by 3.9-percentage points, which is equivalent to about one million families sliding into poverty.

Since the onset of the COVID-19 outbreak in the country in January 2020, the government had been using different strategies to contain the virus while mitigating the pandemic's adverse economic impacts and allaying public concerns. The national and local governments had been working together in implementing pandemic-related policy and health measures, such as travel restrictions, lockdowns, mandatory health protocols (e.g., social distancing, wearing of face masks), contact tracing, and isolation, among others. The government's plans, strategies, and actions are guided by the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF-EID), which was convened to serve as the overall recommendatory body to the government in addressing the pandemic.

The national government's overall pandemic response is embodied in several pieces of legislation and planning documents. The President signed two major bills: the *Bayanihan* to Heal as One Act or Republic Act (RA) 11469 and the Bayanihan to Recover as One Act or RA 11494, in March and September 2020, respectively. The third installment of the Bayanihan laws—Bayanihan to Recover as One Act—passed the third reading in June 2021 but has not been approved in the Senate. These pieces of legislation primarily grant the President special powers to enable the government to carry out its plans and actions during the national health emergency. They contain provisions key to the pandemic response, such as social amelioration programs, assistance programs for severely affected sectors, temporary operation of private establishments to serve as temporary lodging or quarantine facilities, transport modality of healthcare workers (HCWs), and hiring of temporary health personnel.

Objectives of the paper

Addressing the immediate and medium-term impacts of the pandemic requires an effective policy mix that balances the needs of the economy and the health sector. While there is a paramount need to contain the virus and lessen the risk of its transmission, the government has to find ways to prevent the economy from crumbling down. Given this backdrop, this paper closely examines how the government navigated the first year of the pandemic. More specifically, it does the following:

1. **examines the observable impacts** of the pandemic on various sectors of the Philippine economy and society;
2. **documents** the government's response to the pandemic;
3. examines the **whole-of-government approach** and its role in crisis response;
4. discusses some of the **best practices** of other countries to control the pandemic and recover from the crisis;
5. identifies **gaps, issues, and challenges** in the government response to the pandemic; and
6. provides **recommendations** to help decisionmakers craft and implement better policies for a stronger and more resilient Philippine economy and society.

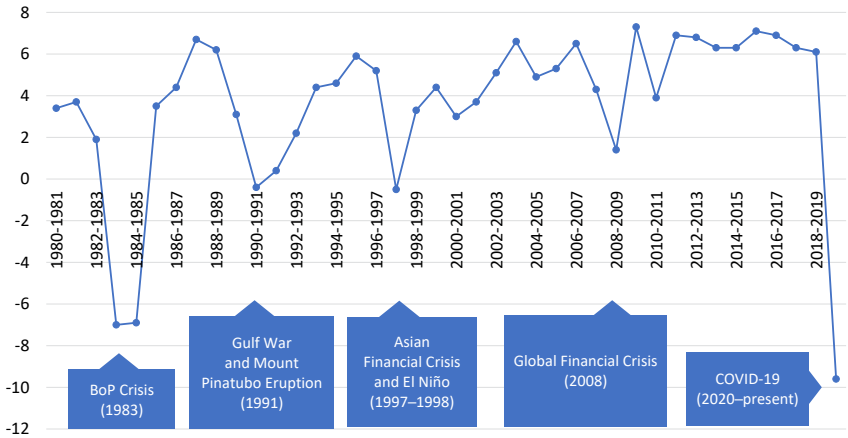
This paper is a timely endeavor, given that the fight against the pandemic is still ongoing, and the government is continually recalibrating its plans toward recovery. The next section presents an overview of the status of the Philippine economy and society as the pandemic continues. It is followed by a quick review of the Philippines' experience in crisis response and a timeline of the COVID-19 pandemic and its immediate observable impacts. Then, a discussion of the pandemic response of the public sector ensues, followed by an account of some of the best practices found in other countries. The role of the whole-of-government approach in crisis management and some emerging issues and concerns in the current government actions and strategies were also tackled. The last section lays out some of the lessons learned during the first year of the pandemic.

The Philippines' experience in crisis response

The Philippines is not new to risks and shocks. Located in the Pacific Ring of Fire and along the typhoon belt, it frequently experiences natural disasters, such as typhoons, earthquakes, and volcanic eruptions. In 2020, the World Risk Index ranked the Philippines ninth among most-at-risk countries in terms of extreme weather events (Behlert et al. 2020). That year, the country experienced Super Typhoon Rolly (international name: Goni), a devastating Category 5 typhoon that affected millions of Filipinos and costed PHP 17.9 billion in total damages (OCD 2021).

Aside from natural hazards, the country also experienced two major financial crises in the past 30 years and multiple emerging and reemerging infectious diseases (EREID). In terms of economic impact, these financial crises caused greater disruptions in the country's growth compared to other hazards (Figure 1). The effects of natural disasters are often concentrated in a few areas of the country. However, given their regular occurrence, national and local governments have incorporated strategies in various development plans to lessen risks and potential damages.

Figure 1. Gross domestic product (at constant 2018 prices) growth rate and significant events, 1980–2020



BoP = balance of payment; COVID-19 = coronavirus disease 2019
Source: Reyes (2021)

For the most part, the country managed these threats well and addressed concerns from other similar hazards. The government implemented regulatory reforms to maintain bank health and financial sector discipline in response to past economic and financial crises. Following the Asian financial crisis, monetary authorities employed greater exchange rate flexibility and began securing and maintaining foreign exchange reserves as a safety measure in case of another shock.

On the other hand, natural disasters were addressed by developing and implementing multisectoral disaster plans. The Disaster Risk Reduction and Climate Change Action was also mainstreamed into development plans (e.g., National Climate Change Action Plan, Philippine Development Plans) and existing policies to formally operationalize and institutionalize resiliency-oriented efforts. Aside from these, rebuilding efforts after a natural disaster are almost always accompanied by greater relief spending. Actions relevant to recent infectious diseases, such as the severe acute respiratory syndrome (SARS) and the Middle East respiratory syndrome (MERS), are discussed in the next section.

Experience with recent infectious diseases

Unlike other Asian countries that dealt with SARS and MERS, the Philippines successfully managed initial cases and prevented a widespread outbreak of these diseases. Thus, it had little experience handling infectious diseases on a much larger scale.

The SARS in 2003 was handled like any other infectious disease with epidemic potential. Border control and rigid screening were the first line of defense, followed by contact tracing, quarantine, and community containment. Only 12 confirmed cases and 93 suspected cases were recorded from March to August (DOH 2005). The rest of the world was also able to manage the disease, with total infected individuals reaching 8,098 only (CDC 2017). The SARS cases in the Philippines largely originated from returnees or travelers from other countries who breached hospital protocols (WHO 2003). Thus, strict compliance and effective information dissemination in the healthcare system are extremely vital in managing EREID.

To speed up contact tracing, the national government also directed local government units (LGUs) to create their own response teams, namely, the Barangay Health Emergency Response Team (BHERT) (DILG 2003). The BHERT consists of one barangay *tanod* and two barangay health workers (preferably a nurse or midwife) and should have a distribution of one team per 5,000 population. The teams monitored the daily condition of individuals from SARS-affected countries and the household members of SARS patients. City and municipal health offices were required to have a surveillance officer, while provincial health offices were mandated to form epidemiology and surveillance units.

In 2006, a review of this surveillance system was conducted to help in developing the Philippine Integrated Disease Surveillance and Response (PIDSR) framework. Several concerns were presented: (1) absence of a manual of procedures that can help guide field workers in carrying out their task; (2) lack of capacity, training, and supervision especially at the local level; and (3) limited resources in terms of equipment and essential supplies (DOH 2007). In the PIDSR framework, LGUs were given a more active role in local disease detection and response, wherein there is an assigned epidemiology and surveillance unit at each level of the government.

First identified in Saudi Arabia in 2012, MERS spread to 27 countries. The Philippines was able to prepare before actual cases were recorded. The Department of Health (DOH) also drafted an interim guideline for MERS preparedness and response in 2014. A third edition of the PIDSR was also published, where additional details and instructions were incorporated. To improve coordination efforts, an Inter-agency Task Force for Emerging and Reemerging Infectious Diseases (IATF-EREID) was also established in response to MERS and to prepare for future epidemics.

The first confirmed case of MERS in the country was recorded in February 2015, three years after it was initially reported in Saudi Arabia. The government experienced difficulties in contact tracing as close contacts of MERS patients could not be located due to insufficient information. Nevertheless, no other major event took place and infection levels were eventually controlled.

A few years later, the DOH developed a manual of operation and procedures for its Emerging and Reemerging Infectious Diseases Program. The manual provides general guidance, in terms of prevention, preparation, and response, that are relevant in addressing the threat of infectious diseases (DOH n.d.-a).

Philippine health security

Presented in 2019, the Global Health Security (GHS) Index[2] provides insightful information on the country's health capacity and functional capabilities before the COVID-19 pandemic. The Philippines ranked 53rd out of 195, better than 75 percent of evaluated countries (NTI and JHCHS 2019). However, it still needs to improve on the following areas where it ranked lower than most: (1) prevention measures for zoonotic diseases; (2) immunization for existing diseases; (3) epidemiology workforce; (4) trade and travel restrictions; (5) political and security risk; (6) infrastructure adequacy, particularly airport, power, and road network; and (7) public health vulnerabilities, including access to necessities and health financing, among others. The DOH also elaborated on some of these gaps, particularly the need to enhance data sharing of travelers' information with the private sector (e.g., airline industry) and improve collaboration with the Department of Agriculture (DA) on infection control (DOH 2019).

With the ongoing pandemic, a heavy load has been placed on the health system and its workers. Despite the advances made during the past health crises, the country continues to face challenges in building a more resilient health system. Furthermore, there are looming risks and shocks from public health concerns and uncertainties from climate change and economic and financial landscape. As with other hazards, ample preparation and proactive response based on science and evidence are vital in minimizing the detrimental impacts of these shocks.

[2] The index includes six categories relevant to pandemic response: "(1) prevention of the emergence or release of pathogens; (2) early detection and reporting for epidemics of potential international concern; (3) rapid response to and mitigation of the spread of an epidemic; (4) sufficient and robust health system to treat the sick and protect health workers; (5) commitments to improving national capacity, financing plans to address gaps, and adhering to global norms; and 6) overall risk environment and country vulnerability to biological threats" (NTI and JHCHS 2019, p.36).

Impacts of COVID-19 pandemic

The Philippines remains one of the most severely hit economies by the COVID-19 pandemic. Based on data released by the World Health Organization (WHO) in early June 2021, the Philippines ranked 24th and 26th with the highest cumulative cases and cumulative deaths, respectively, among 236 economies (WHO 2021). Among the member-states of the Association of Southeast Asian Nations (ASEAN), it ranked second, representing almost a third of the total number of cases in the region (Table 1). The Lowy Institute, which releases country rankings in COVID-19 performance[3], showed the Philippines lagging behind, ranking 79th out of 98 countries in January 2021 and 81st out of 102 in March 2021 (Lowy Institute 2021).

In terms of growth, the Philippine economy faced a major slump, recording the biggest contraction (i.e., 9.6%) since the late 1940s and the worst economic performance in the region in 2020 (Table 1). Nevertheless, the projected growth in the medium run provides some optimism as the government works toward recovery and a more resilient economy. The succeeding sections explain how the overall crisis response plays a major role in determining the country's post-crisis performance.

Timeline of the pandemic

In December 2019, a novel strain of coronavirus, known as SARS-CoV-2 (formerly called 2019-nCoV), was first detected amid an outbreak of cases of respiratory illness in Wuhan, China. The WHO then declared a global health emergency by the end of January 2020 and classified COVID-19, the disease caused by the virus, a global pandemic in March 2020. Since then, countries worldwide have implemented various policies to prevent the virus from entering their borders and mitigate the effects of the disease on their population.

In the Philippines, the government initiated various measures to control the spread of the disease. On March 7, the DOH raised the country's alert level to Code Red sublevel 1 as a preemptive call

[3] The pandemic response of included countries is assessed based on 14-day rolling averages of data on six indicators: (i) confirmed cases, (ii) deaths, (iii) cases per million people, (iv) deaths per million people, (v) cases as a proportion of tests, and (vi) tests conducted per thousand people (Lowy Institute 2021).

Table 1. COVID-19 cases and deaths and GDP growth rate, ASEAN member-states

Country	Cases[a]	Deaths[a]	Population (in M)[b]	% Share Cases	% Share Deaths	GDP Growth Rate (%)			
						2019	2020	2021[f]	2022[f]
Indonesia	1,863,031	51,803	270.63	0.69	0.02	5	-2.1	4.5	5
Philippines	**1,276,004**	**21,969**	**108.12**	**1.18**	**0.02**	**6.1**	**-9.6**	**4.5**	**5.5**
Malaysia	622,086	3,460	31.95	1.95	0.01	4.3	-5.6	6	5.7
Thailand	182,548	1,297	69.63	0.26	0.00	2.3	-6.1	3	4.5
Myanmar	144,456	3,227	54.05	0.27	0.01	6.8	3.3	-9.8	–
Singapore	62,210	33	5.70	1.09	0.00	1.3	-5.4	6	4.1
Cambodia	34,833	266	16.49	0.21	0.00	7.1	-3.1	4	5.5
Viet Nam	9,027	53	96.46	0.01	0.00	7	2.9	6.7	7
Lao PDR	1,968	3	7.17	0.03	0.00	4.7	-0.5	4	4.5
Brunei Darussalam	244	3	0.43	0.06	0.00	3.9	1.2	2.5	3

GDP = gross domestic product
[a] cumulative; [b] estimated population in 2019; [f] forecast
Note: "–" = no data available
Sources: WHO (2021); World Bank (2021); ADB (2021)

for government officials and health professionals to prepare for a rise in the number of cases (Santos 2020). A state of public health emergency was declared on March 8, and the country was placed under a state of calamity by virtue of Proclamation 929 on March 17. These measures allowed for a price freeze, easier access to financial resources, and a faster procurement process, among others.

Restrictions for passengers coming from abroad were also imposed. The DOH, through the Bureau of Quarantine, closely monitored all seaports and airports and intensified the checking of all travelers going to the Philippines as early as January 5, 2020 (CNN Philippines Staff 2020a). Starting January 23, all international flights from Wuhan were suspended, while flights from other parts of China were placed under strict monitoring (CNN Philippines Staff 2020b). Despite these measures, the DOH confirmed the first case in the country on January 30. This first patient, who was asymptomatic upon arrival in the Philippines, was from Wuhan and an inbound passenger from Hong Kong. This prompted the government to temporarily ban the entry of Chinese nationals from the Hubei province in China starting January 31 (Esguerra 2020). This was further extended to include inbound passengers from Mainland China, Hong Kong, and Macau starting February 2 (Jalea and Gregorio 2020), and from Taiwan starting February 10 (CNN Philippines Staff 2020c). Effective March 22, the entry of all foreign nationals was restricted. This was done by temporarily suspending visa-free privileges and issuance of entry visas. Meanwhile, previously issued visas to all foreign nationals were canceled, except for officials of foreign governments and international organizations and foreign spouses and children of Filipino nationals (DFA 2020).

Movements within the country were also restricted through the imposition of community quarantines as early as March 15 to suppress the transmission of the virus. Four major community quarantine classifications were created: enhanced community quarantine (ECQ), modified enhanced community quarantine (MECQ), general community quarantine (GCQ), and modified general community quarantine (MGCQ). The key differences between each classification are presented in Table 2. The IATF releases the classification of provinces, municipalities, and cities initially every two weeks until August 2020, and every month thereafter (Table 3).

Table 2. Key differences of community quarantine classifications implemented in the Philippines (amended as of April 2021)

	Enhanced Community Quarantine (ECQ)	Modified Enhanced Community Quarantine (MECQ)	General Community Quarantine (GCQ)	Modified General Community Quarantine (MGCQ)
Movement of population	Limited to accessing essential goods and services and for work in permitted offices and industries	Outdoor exercises are allowed *(earlier guidelines only allow this at GCQ/MGCQ areas)*	Outdoor noncontact sports and exercise are allowed, subject to minimum public health standards	Movement for leisure activities is allowed, subject to minimum public health standards
Public transportation	Allowed at limited capacity (earlier guidelines only allowed public transportation in GCQ/MGCQ areas)			
Schools (face-to-face classes)	Face-to-face classes are suspended		Limited classes for higher education and technical vocational education and training may be allowed, subject to CHED and TESDA guidelines	
Allowed industries/ establishments (at full onsite capacity)	• Hospitals • Health, emergency, and frontline services • Medicine and medical supply manufacturers • Agriculture • Logistics • Essential and priority construction projects		• Food and other essential goods manufacturers • Construction works suppliers • Essential retail trade and services • Food preparation • Financial service providers	
	Business process outsourcing and export-oriented businesses (earlier guidelines allow these sectors at areas under MECQ or lower) Public transport providers and operators (earlier guidelines allow public transportation only in GCQ/MGCQ areas)			

Table 2 *(continued)*

	Enhanced Community Quarantine (ECQ)	Modified Enhanced Community Quarantine (MECQ)	General Community Quarantine (GCQ)	Modified General Community Quarantine (MGCQ)
Other industries/ establishments allowed to operate	**Maximum of 50% capacity:** • Media establishments **Onsite skeleton workforce:** • Dental, rehabilitation, optometry, and other medical clinics • Veterinary clinics • Banks and money transfers • Capital markets • Water supply and sanitation • Energy • Telecommunications • Airline and aircraft maintenance • Funeral and embalming • Security personnel • Printing • Repair and maintenance • Leasing or real estate • Employment activities • Teachers and related staff • Legal services • E-commerce		**Maximum of 50% capacity:** Media establishments **50–100% onsite capacity:** All industries/establishments allowed at skeleton workforce in ECQ areas	**50–100% onsite capacity:** All industries/establishments, except for entertainment venues, kid amusement industries, and cockfighting or operation of cockpits

CHED = Commission on Higher Education; TESDA = Technical Education and Skills Development Authority
Source: IATF-EID (2021a)

Table 3. Community quarantine classifications of regions, provinces, cities, and municipalities (March 2020–August 2021)

Period	Enhanced Community Quarantine (ECQ)	Modified Enhanced Community Quarantine (MECQ)	General Community Quarantine (GCQ)	Modified General Community Quarantine (MGCQ)
March to April 2020 (start of community quarantine)	Metro Manila (March 15) Entire Luzon (March 17) Iloilo (March 21) Antique (March 22) Cebu City (March 28) Cebu (March 30) Negros Occidental (March 30) Negros Oriental (April 3) Davao Region (April 4) Caraga Region (April 7)			
May 1–15, 2020	Metro Manila, CALABARZON, Central Luzon (except Aurora), Benguet, Pangasinan, Iloilo, Albay, Cebu, Bacolod City, Davao City, Zamboanga City, San Jose (Occidental Mindoro)		Rest of the country	
May 16–31, 2020	Cebu City, Mandaue City	Metro Manila, Bataan, Bulacan, Nueva Ecija, Pampanga, Laguna, Zambales	Rest of the country	
June 1–15, 2020			Metro Manila, Cagayan Valley, Central Luzon, CALABARZON, Central Visayas, Pangasinan, Zamboanga City, Davao City	Rest of the country

Table 3 *(continued)*

Period	Enhanced Community Quarantine (ECQ)	Modified Enhanced Community Quarantine (MECQ)	General Community Quarantine (GCQ)	Modified General Community Quarantine (MGCQ)
June 16–30, 2020	Cebu City	Talisay City	Cagayan Valley (except Batanes), CALABARZON, rest of Central Visayas, Aurora, Bataan, Bulacan, Tarlac, Occidental Mindoro, Olongapo City, Zamboanga City, Davao City	Rest of the country
July 1–15, 2020	Cebu City	Talisay City Minglanilla (Cebu) Consolacion (Cebu)	Metro Manila, Benguet, Cavite, Rizal, Leyte, Southern Leyte, Lapu-Lapu City, Mandaue City, Ormoc City	Rest of the country
July 16–31, 2020		Cebu City	Metro Manila, Bulacan, Cavite, Laguna, Rizal, Southern Leyte, Agusan del Norte, Basilan, Bacolod City, Iloilo City, Talisay City, Mandaue City, Lapu-Lapu City, Ormoc City, Tacloban City, Zamboanga City, Davao City, Minglanilla (Cebu), Consolacion (Cebu)	Rest of the country
August 1–15, 2020		Metro Manila (August 4–18) Bulacan (August 4–18) Cavite (August 4–18) Laguna (August 4–18)	Batangas, Rizal, Cebu City, Talisay City, Lapu-Lapu City, Mandaue City, Zamboanga City, Minglanilla (Cebu), Consolacion (Cebu)	Rest of the country

Table 3 *(continued)*

Period	Enhanced Community Quarantine (ECQ)	Modified Enhanced Community Quarantine (MECQ)	General Community Quarantine (GCQ)	Modified General Community Quarantine (MGCQ)
August 16–31, 2020	Catbalogan City (August 21)	Tuguegarao City (August 26)	Metro Manila, CALABARZON, Nueva Ecija, Bulacan, Iloilo City, Cebu City, Lapu-Lapu City, Mandaue City, Talisay City, Minglanilla [Cebu], Consolacion [Cebu]	Rest of the country
September 2020		Iligan City Bacolod City (September 8) Lanao del Sur (September 8)	Metro Manila, Bulacan, Batangas, Bacolod City, Tacloban City	Rest of the country
October 2020		Lanao del Sur Enrile [Cagayan] (October 7–20)	Northern Samar (October 20), Metro Manila, Batangas, Iloilo City, Bacolod City, Tacloban City, Iligan City	Rest of the country
November 2020		Laoag City (November 27–December 11)	Davao City (November 20), Metro Manila, Batangas, Lanao del Sur, Iloilo City, Bacolod City, Tacloban City, Iligan City	Rest of the country
December 2020			Laoag City (December 12–25), Isabela (December 14), Metro Manila, Batangas, Lanao del Sur, Davao del Norte, Iloilo City, Tacloban City, Iligan City, Davao City	Rest of the country

Table 3 *(continued)*

Period	Enhanced Community Quarantine (ECQ)	Modified Enhanced Community Quarantine (MECQ)	General Community Quarantine (GCQ)	Modified General Community Quarantine (MGCQ)
January 2021	Tuguegarao City (January 20) Passi City (January 28–February 11)		Laoag City (January 11), Metro Manila, Batangas, Davao del Norte, Lanao del Sur, Santiago City, Tacloban City, Iligan City, Davao City	Rest of the country
February 2021		4 barangays in Upol [Bohol] (February 13)	Metro Manila, Cordillera Administrative Region, Batangas, Davao del Norte, Lanao del Sur, Tacloban City, Davao City, Iligan City	Rest of the country
March 2021	***From March 29–April 11:*** Metro Manila, Bulacan, Cavite, Laguna, Rizal		Bulacan (March 22), Cavite (March 22), Laguna (March 22), Rizal (March 22), Metro Manila, Apayao, Kalinga, Mountain Province, Batangas, Lanao del Sur, Baguio City, Tacloban City, Iligan City, Davao City	Rest of the country
April 2021		Quirino, Santiago City ***From April 12:*** Metro Manila, Bulacan, Cavite, Laguna, Rizal, Abra	Quezon (April 12), Cordillera Administrative Region, Cagayan, rest of Isabela, Nueva Vizcaya, Batangas, Lanao del Sur, Tacloban City, Iligan City, Davao City	Rest of the country

Table 3 *(continued)*

Period	Enhanced Community Quarantine (ECQ)	Modified Enhanced Community Quarantine (MECQ)	General Community Quarantine (GCQ)	Modified General Community Quarantine (MGCQ)
May 1–14, 2021		Metro Manila, Bulacan, Cavite, Laguna, Rizal, Quirino, Abra, Ifugao, Santiago City	Apayao, Benguet, Kalinga, Mountain Province, Cagayan, Isabela, Nueva Vizcaya, Batangas, Quezon, Palawan, Lanao del Sur, Tacloban City, Iligan City, Davao City	Rest of the country
May 15–31, 2021		Quirino, Ifugao, Santiago City, Zamboanga City	Abra, Apayao, Benguet, Kalinga, Mountain Province, Cagayan, Isabela, Nueva Vizcaya, Batangas, Quezon, Lanao del Sur, Puerto Princesa City, Iligan City, Davao City ***With heightened restrictions:*** Metro Manila, Bulacan, Cavite, Laguna, Rizal	Rest of the country
June 1–15, 2021		Zamboanga Peninsula, Apayao, Benguet, Ifugao, Cagayan, Agusan del Sur, Santiago City, Puerto Princesa City, Iloilo City, Cagayan de Oro City, Butuan City	Kalinga, Mountain Province, Isabela, Nueva Vizcaya, Quirino, Batangas, Quezon, Lanao del Sur, Baguio City, Iligan City, Davao City, Cotabato City ***With restrictions:*** Metro Manila, Bulacan, Cavite, Laguna, Rizal	Rest of the country

Table 3 *(continued)*

Period	Enhanced Community Quarantine (ECQ)	Modified Enhanced Community Quarantine (MECQ)	General Community Quarantine (GCQ)	Modified General Community Quarantine (MGCQ)
June 16–30, 2021		Zamboanga Peninsula, Cagayan, Apayao, Ifugao, Bataan, Iloilo, Negros Oriental, Agusan del Sur, Dinagat Islands, Surigao del Sur, Santiago City, Lucena City, Naga City, Cagayan de Oro City, Davao City, Butuan City	SOCCSKSARGEN, Kalinga, Mountain Province, Benguet, Abra, Isabela, Nueva Vizcaya, Quirino, Batangas, Quezon, Davao del Norte, Lanao del Sur, Iligan City, Cotabato City ***With heightened restrictions:*** Cavite, Laguna, Rizal ***With some restrictions:*** Metro Manila, Bulacan	Rest of the country
July 1–15, 2021		Davao Region, Cagayan, Apayao, Bataan, Iloilo, Negros Oriental, Zamboanga del Sur, Zamboanga del Norte, Dinagat Islands, Surigao del Sur, Lucena City, Puerto Princesa City, Naga City (Camarines Sur), Cagayan de Oro City, Butuan City	SOCCSKSARGEN, Ifugao, Isabela, Nueva Vizcaya, Quirino, Batangas, Quezon, Guimaras, Aklan, Negros Occidental, Antique, Capiz, Zamboanga Sibugay, Agusan del Norte, Surigao del Norte, Agusan del Sur, Baguio City, Santiago City, Bacolod City, Zamboanga City, Iligan City, Cotabato City ***With heightened restrictions:*** Cavite, Laguna ***With some restrictions:*** Metro Manila, Bulacan, Rizal	Rest of the country

Table 3 *(continued)*

Period	Enhanced Community Quarantine (ECQ)	Modified Enhanced Community Quarantine (MECQ)	General Community Quarantine (GCQ)	Modified General Community Quarantine (MGCQ)
July 16–31, 2021		Iloilo (until July 22), Bataan, Davao Occidental, Davao de Oro, Davao del Sur, Davao del Norte, Butuan City, Cagayan de Oro City	Metro Manila, SOCCSKSARGEN, Caraga Region, Apayao, Isabela, Nueva Vizcaya, Quirino, Bulacan, Cavite, Rizal, Quezon, Batangas, Guimaras, Negros Occidental, Zamboanga Sibugay, Zamboanga del Norte, Davao Oriental, Baguio City, Santiago City, Puerto Princesa City, Zamboanga City, Cotabato City **With heightened restrictions:** Aklan (until July 22), Antique (until July 22), Capiz (until July 22), Bacolod City (until July 22), Cagayan, Laguna, Negros Oriental, Zamboanga del Sur, Lucena City, Naga City (Camarines Sur), Davao City	Rest of the country

Table 3 *(continued)*

Period	Enhanced Community Quarantine (ECQ)	Modified Enhanced Community Quarantine (MECQ)	General Community Quarantine (GCQ)	Modified General Community Quarantine (MGCQ)
August 1–15, 2021	***August 1–7:*** Iloilo, Cagayan de Oro City, Gingoog City ***From August 6***: Metro Manila, Laguna	Ilocos Norte, Bataan, Cebu	Cordillera Administrative Region, SOCCSKSARGEN, Caraga Region, Isabela, Nueva Vizcaya, Quirino, Quezon, Batangas, Guimaras, Negros Occidental, Zamboanga Sibugay, Zamboanga del Norte, Davao Oriental, Davao del Sur, Baguio City, Puerto Princesa City, Zamboanga City, Cotabato City ***With heightened restrictions***: Metro Manila, Rizal, Cavite, Laguna, Bulacan, Ilocos Sur, Cagayan, Antique, Aklan, Capiz, Negros Oriental, Zamboanga del Sur, Misamis Oriental, Davao del Norte, Davao de Oro, Davao Occidental, Lucena City, Naga City (Camarines Sur), Bacolod City, Davao City, Butuan City	Rest of the country

Table 3 *(continued)*

Period	Enhanced Community Quarantine (ECQ)	Modified Enhanced Community Quarantine (MECQ)	General Community Quarantine (GCQ)	Modified General Community Quarantine (MGCQ)
August 16–30, 2021	***Until August 20:*** Metro Manila **Until August 22:** Bataan	Apayao, Ilocos Norte, Bulacan, Cavite, Laguna, Rizal, Aklan, Iloilo, Lucena City, Lapu-Lapu City, Mandaue City, Cebu City	Tarlac (from August 13), Caraga Region, Quirino, Isabela, Nueva Vizcaya, Batangas, Quezon, Guimaras, Negros Occidental, Zamboanga Sibugay, Zamboanga del Norte, Davao Oriental, Davao del Sur, Sultan Kudarat, Sarangani, Cotabato, South Cotabato, Baguio City, Santiago City, Puerto Princesa City, Zamboanga City, General Santos City, Cotabato City **With heightened restrictions:** Ilocos Sur, Cagayan, Quezon, Batangas, Antique, Capiz, Negros Oriental, Zamboanga del Sur, Misamis Oriental, Davao del Norte, Davao Occidental, Davao de Oro, Naga City (Camarines Sur), Bacolod City, Davao City	Rest of the country

CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; SOCCSKSARGEN = South Cotabato, Sultan Kudarat, Sarangani, and General Santos City
Note: Updates as of August 17, 2021
Source: Authors' compilation of IATF Resolutions and news articles

Different levels of community quarantine were imposed depending on several factors. Initially, it was based mainly on the number of active COVID-19 cases in a locality. On August 27, new parameters were identified in IATF Resolution 66: (1) healthcare utilization rate of beds and equipment dedicated to COVID-19 patients; (2) daily attack rate, two-week growth rate, and case doubling time; (3) barangays with new cases in the past two weeks; (4) efficiency of surveillance, contact-tracing, and isolation efforts; (5) absence of local transmission from locally stranded individuals or returning overseas Filipinos for two weeks; (6) number of establishments closed and workers affected; (7) clusters in workplace and establishments; (8) food security; (9) social indicators on multidimensional deprivation; and (10) adherence to minimum health standards.

Immediate impacts of COVID-19 and lockdown measures on different sectors

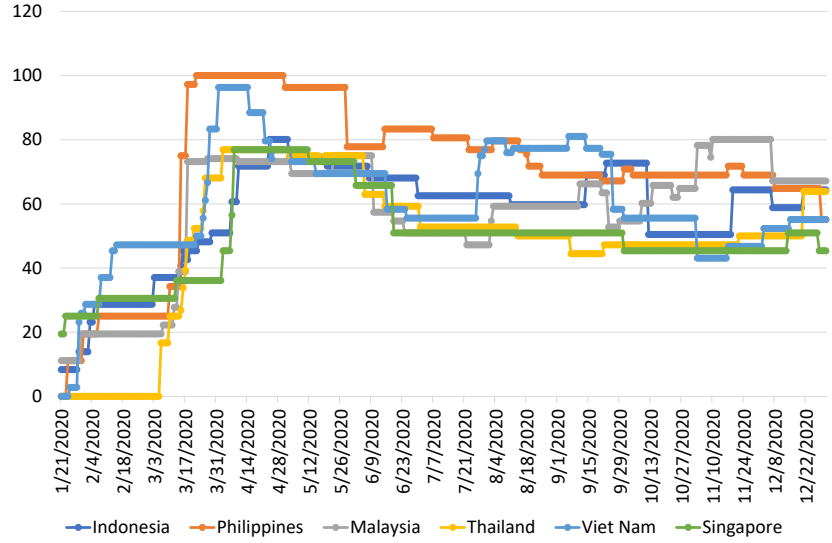
The COVID-19 outbreak's socioeconomic effects can be attributed to the pandemic and the public sector's response to it. In a recent report, the National Economic and Development Authority (NEDA) noted that the Philippine economy loses at least PHP 105 billion for each week of stricter community lockdown measures, such as the ECQ (Rivas 2021).

The Oxford COVID-19 Government Response Tracker (OxCGRT) team of the Blavatnik School of Government has been monitoring the responses of different economies since the onset of the pandemic. One of the indices used is the stringency index, which is calculated using nine policy subindicators: (1) closing of schools, (2) closing of workplaces, (3) cancellation of public events, (4) restrictions in gatherings, (5) closing of public transport, (6) stay-at-home requirements, (7) restrictions on internal mobility between cities or regions, (8) restrictions on international travel, and (9) presence of public information campaigns on COVID-19. The index ranges from 0 to 100, with 100 being the strictest.

Figure 2 illustrates the stringency of the pandemic-related measures of the Philippine government compared to other ASEAN member-states. Noticeably, Viet Nam and Singapore had an early aggressive response to the pandemic as shown by the high stringency index during the first few weeks of the outbreak. Viet Nam imposed

an early travel ban starting January 23 on all passenger train services traversing between Viet Nam and China. Five days later, its Ministry of National Defense ordered the closure of trails connecting to China and stepped up its border control. By the end of January, it stopped issuing entry for foreign visitors who had visited mainland China; on February 1, its civil aviation authority suspended all flights going to mainland China, Hong Kong, Macau, and Chinese Taipei. Such was also the tactic of Singapore, wherein a temporary ban on entry of travelers from mainland China was imposed on February 1 (Ai-Lien et al. 2020). While these neighboring countries already ramped up their border controls through travel bans, the Philippines had decided to only restrict the issuance of visas to travelers coming from Hubei, China, on January 28 through IATF Resolution 1 (Cepeda 2020). The Philippines' response only became more restrictive starting in March 2020, as can be seen in the sharp rise in the stringency index in Figure 2.

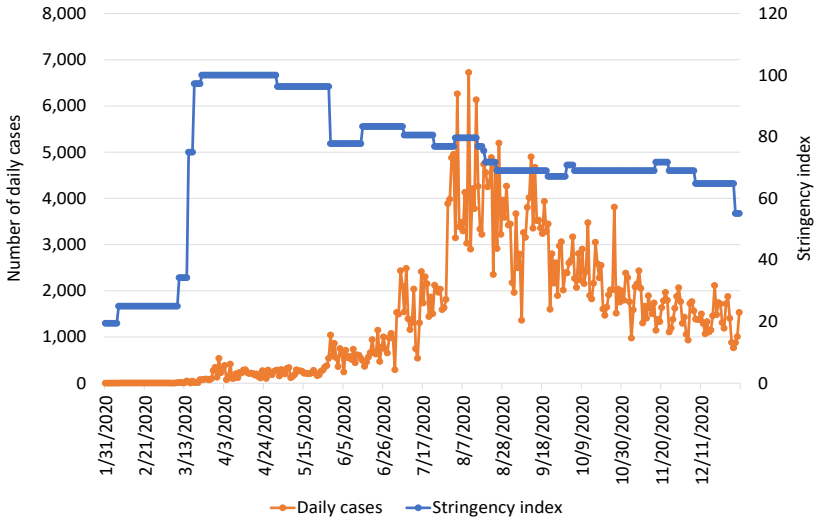
Figure 2. Stringency index of COVID-19 government response, select ASEAN member-states



COVID-19 = coronavirus disease 2019; ASEAN = Association of Southeast Asian Nations
Note: The index ranges from 0 to 100, with 100 representing the strictest measures to fight the pandemic.
Source: Hale et al. (2020)

The primary intent of the community lockdowns and travel restrictions was to curb the spread of the virus. However, despite the highly stringent measures implemented in March and April, daily cases continued to rise rapidly (Figure 3).

Figure 3. Stringency of government response against new daily cases, Philippines



Notes: (i) Stringency index ranges from 0 to 100, with 100 representing the strictest approaches; (ii) Smoothed new daily cases represent a 7-day rolling average.
Sources of basic data: Hale et al. (2020); Ritchie et al. (2021)

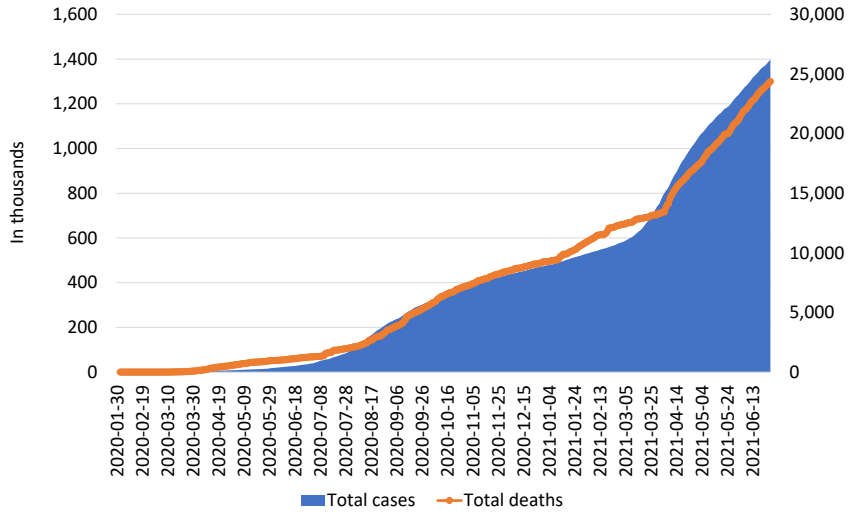
Health

The Philippine health sector was fraught with uncertainty when the first case of the COVID-19 was confirmed. The scant information about the virus' nature (e.g., mode of transmission, severity of symptoms) made it difficult for the government to fully gauge the demand for healthcare facilities, equipment, and workers. Hence, as with other countries, the rapid progression of the virus outbreak overwhelmed the health sector and consequently exposed long-standing issues affecting the country's ability to fight and recover from the pandemic.

The Philippines' health system has shown significant advancements over the years; however, despite such progress, it is still being challenged by important issues relating to health service delivery, financing, and overall governance. In a Philippine health system review conducted by Dayrit et al. (2018, p.xxviii), they observed that the health system still faces important issues of inefficiencies and inequities as a result of "disorganized governance, fragmented health financing, and devolved and pluralistic service delivery". For instance, even if there are well-specified national objectives for health, the attainment of these goals at the local level remains unbalanced due to LGUs' varying capacities and priorities. Moreover, the Philippine Health Insurance Corporation (PhilHealth), the national health insurance provider, remains mired with problems in providing ample financial protection for the Filipino people, which has contributed to the high out-of-pocket expenditures in the past years. There is also a continued maldistribution of health facilities and health professionals across the country, even if the country has met and even surpassed some of the international thresholds that measure the adequacy of human health resources (Abrigo and Ortiz 2019). These are among the major issues that make the Philippine health system vulnerable to the damages caused by the pandemic.

The outbreak had continued to progress despite continuous efforts to contain the virus. The total number of cases and deaths had been rising over time, although its increase had somewhat slowed down from the last quarter of 2020 until the first two months of 2021 (Figure 4). However, other variants of the virus, including the Alpha, Beta, and Gamma variants first detected in the United Kingdom, South Africa, and Brazil, respectively, had started to enter the country (Limpot 2021a; Magsambol 2021a; Reuters Staff 2021). In July 2021, the Philippines recorded its first case of the Delta variant, which was found to be more infectious and transmissible even among vaccinated individuals. These more transmissible variants, together with the dwindling compliance of the people with health protocols, contributed to the sudden surge in cases starting in April 2021 (Limpot 2021b). Other contributory factors included the easing of the community quarantines (e.g., GCQ), especially in Metro Manila, starting the last quarter of 2020 until March 2021.

Figure 4. Total number of cases and deaths, Philippines



Note: The data do not consider the number of recovered cases.
Source: WHO (2021)

Apart from the direct effects, such as the number of infected cases and deaths, the pandemic had repercussions on other areas of health that policymakers need to look into. Ulep (this volume) shows the disruptions in inpatient and primary care services and productivity losses brought about by the pandemic. The community quarantines constrained people's access to essential healthcare services as outpatient and inpatient services shifted to COVID-19 response and given fears of going to the hospital. Moreover, based on PhilHealth's data, insurance claims declined for 12 identified illnesses[4] in April 2020, with those suffering from acute gastroenteritis, asthma, chronic pulmonary diseases, and pneumonia having the largest decline (60–70%). In terms of hospital admissions and visits, there was also a steep decline, with the vulnerable sectors being affected the most. In terms of productivity, Ulep estimated that the losses from the direct and indirect health effects can reach up to PHP 2.3 trillion (in net present value).

[4] These are acute gastroenteritis, asthma, chronic kidney diseases, chronic obstructive pulmonary disease, cancer, dengue, diabetes, hypertension, ischemic heart disease, pneumonia, stroke, and tuberculosis.

Another indirect health cost that could be associated with the pandemic is the mounting amount of medical and infectious wastes in the country as the outbreak progresses. The Department of Environment and Natural Resources (DENR) recently reported that as of August 2021, about 280 metric tons of medical wastes are produced each day, raising concerns among LGUs as more transmissible variants emerge (Villanueva 2021).

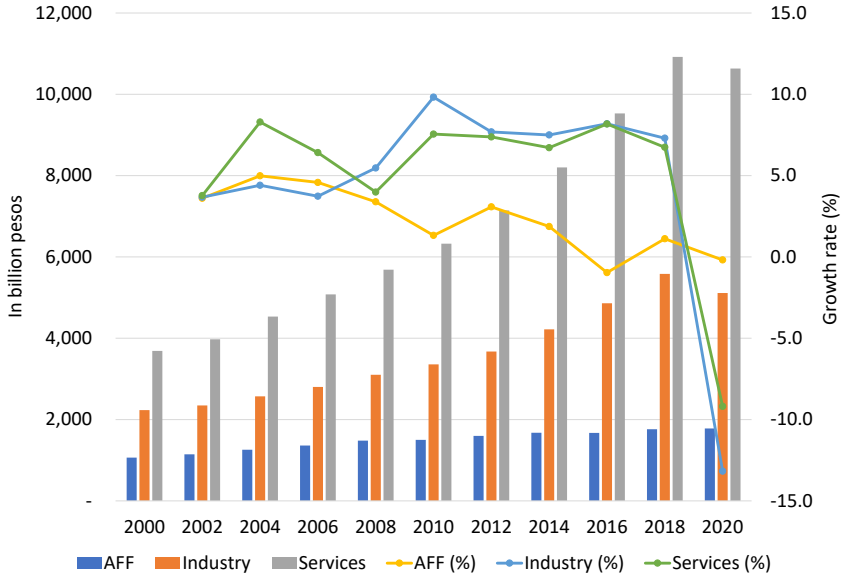
Macroeconomy

The sharp slump in the economy can be traced back to the contractions in aggregate supply and demand. On the supply side, the services sector, which has long been the greatest contributor to the economy, contracted by 9.2 percent (Figure 5). This contraction was primarily driven by the shrinkage in accommodation and food service activities (-45.4%) and transportation and storage (-30.9%), which may be attributable to the strict community quarantines and social distancing measures. Meanwhile, the industry sector posted the highest decline (13.2%), with construction (-25.7%) and mining and quarrying (-18.9%) largely contributing to this decline. Agriculture, fishing, and forestry, whose growth slowed down by 0.2 percent only, was the least affected among the three major sectors.

The only subsectors that posted positive growth in 2020 were financial and insurance activities (5.5%), information and communication (5%), and government services (4.6%). Financial services benefitted from the expansionary measures of the *Bangko Sentral ng Pilipinas* (BSP), which encouraged activities among banks, while the information and communication sector was sustained by an extensive shift to digital and online platforms (Debuque-Gonzales, this volume).

Meanwhile, household spending significantly declined by 7.9 percent from 2019 to 2020. Most of the decline came from reductions in expenditures on alcoholic beverages and tobacco (25.6%), transport (33.5%), recreation and culture (44.1%), and restaurant and hotels (43.1%).

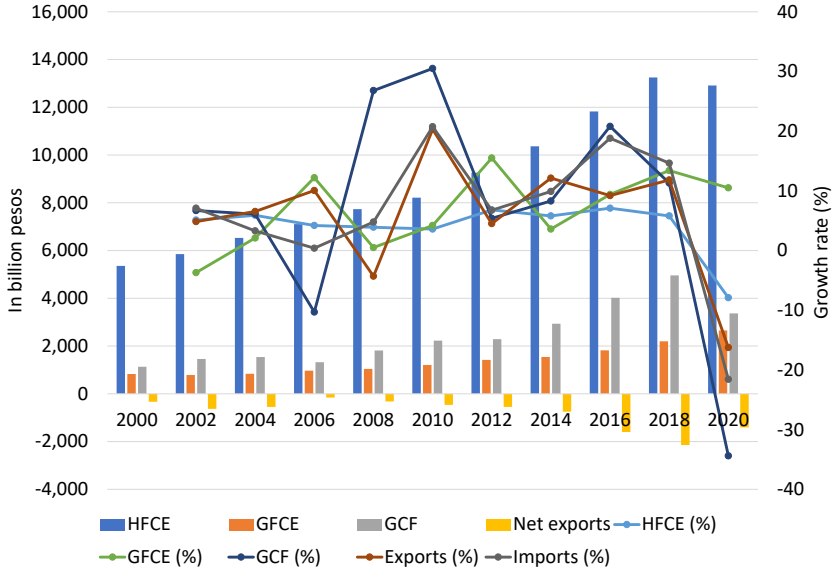
Figure 5. Gross value added by major industry at constant 2018 prices



AFF= Agriculture, fishery, and forestry
Note: Data as of April 8, 2021
Source of basic data: PSA (2021c)

Figure 6 shows a sharp decline in the growth rates of several expenditure groups. Gross capital formation declined the most (-34.4%), largely on account of the decline in construction (-30.3%) and durable equipment (-29.7%). Household final consumption expenditure, which is the main driver of aggregate demand, declined by 7.9 percent. The main sources of the decline were seen in recreation and culture (-44.1%), restaurants and hotels (-43.1%), transport (-33.5%), and alcoholic beverages and tobacco (-25.6%). Strict containment measures and alcohol bans largely contributed to the contraction of these sectors. Overall, consumer confidence remained very low for the latter half of the year, hitting a record low of -54.5 percent in the third quarter of 2020. This can be attributed mainly to the COVID-19 pandemic and its impacts, such as high unemployment rate, reduced income, and rapid increase in the prices of goods (BSP 2020a).

Figure 6. Gross value added by expenditure at constant 2018 prices



HFCE = household final consumption expenditure; GFCE = government final consumption expenditure; GCF = gross capital formation
Note: Data as of April 8, 2021
Source of basic data: PSA (2021c)

Nevertheless, inflation remained low and within the government's target during the first year of the COVID-19 crisis. It was registered at 2.6 percent only for 2020, well within the BSP's target of 2 to 4 percent. Low inflation was maintained due to the Rice Tariffication Law (Republic Act 11203), which removed the quantity restrictions on rice imports, and the decline in world oil prices caused by weakened global demand (Debuque-Gonzales, this volume). The effect of the pandemic on prices has been mixed, which could be attributed to the varying impacts on both the supply and demand side of the economy.

Debuque-Gonzales (this volume) notes that, overall, the strong and stable macroeconomic fundamentals during the pre-pandemic times helped the country cushion some of the damaging impacts of the pandemic. This can be attributed to the regulatory reforms the government had implemented, having learned from past crises, such as the Philippine debt crisis in the early 1980s, the Asian financial crisis in 1997, and the global financial crisis in 2008.

Agriculture and food security

Food sustainability is also a major concern in times of crisis. The pandemic disrupted the food supply chains, due to the constrained movement of workers, closure of processing facilities, and changes in consumer demand.

In the Philippines, the effects of the lockdown measures had not been as disruptive contrary to expectations, as evidenced in a study by Palo et al. (2020). By looking at the impact of COVID-19 on the food chains of rice, pork, cabbage, and *Lakatan* banana in the NCR, they found other factors that had posed greater influence on the availability of these commodities, with transport restrictions placing a significant burden on the supply chains.

Palo et al. (2020) noted that in a survey conducted by NEDA, a significant portion (i.e., 14%) of the respondents cited experiencing delays in checkpoints despite having all the required documents, which has contributed to disruptions in the flow of food into the NCR and the volatility of prices. The quarantine restrictions also hampered the movement of consumers that led to limited business operations or closures, contributing to the increase in underemployment and unemployment and decline in income.

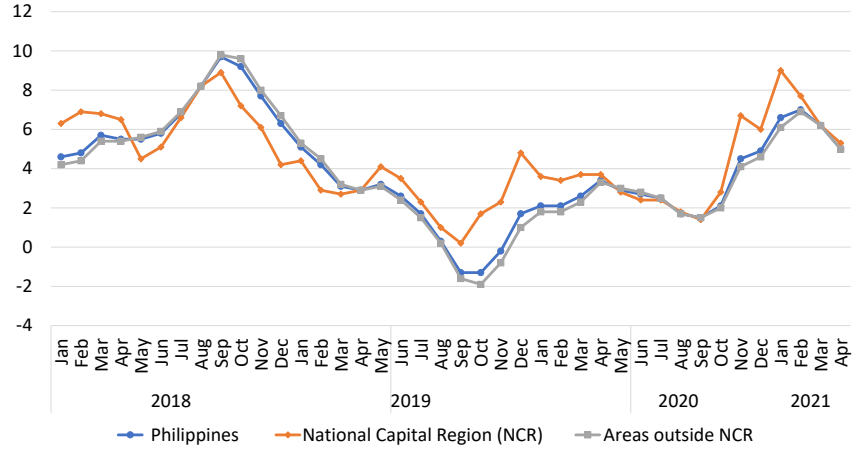
From March to May, reduced overall importation of pork and poultry products was experienced due to logistical problems. The monthly imports of chicken and pork moved erratically in 2020 (Briones, this volume).

Looking at the year-on-year changes in the Consumer Price Index (CPI) of food, there was a rapid rise in food prices until early 2021 (Figure 7). The inflation rate of food and nonalcoholic beverages increased, on average, from 2.1 percent in 2019 to 2.7 percent in 2020. The price hikes in vegetables, meat, and fruits were the highest contributors to the spike in the food CPI. In December 2020, the annual rate of food index for meat reached 10 percent, while that of vegetables rose to as high as 19.7 percent. This increase in prices may be attributed to the African Swine Fever and the decreased agricultural production due to the typhoons that hit the country (NEDA 2020). In addition, Briones (this volume) observed that despite the price freeze, there was price volatility evident immediately before and after the ECQ in 2020. A World Bank (2020b) survey conducted

in the first half of August 2020 found that about 54 percent of the poorest households were unable to purchase rice, meat, or vegetables due to mobility restrictions and reduced incomes. The volatility of prices, coupled with lower incomes, severely affected consumers' access to food, especially those from low-income households.

Overall, the agriculture sector remained stable and even registered positive movements compared with the industry and services sectors (Briones, this volume). It posted growth in some quarters. Employment also grew in contrast with other major industries that posted negative year-on-year change in employment. This could mean that the sector was able to absorb excess labor from other industries. Nonetheless, even if the COVID-19 pandemic has not inflicted any major consequence on the food supply chain, it is important to assess the severity of the crisis and ensure the flexibility of supply chains while adapting to measures meant to mitigate the spread of the disease.

Figure 7. Year-on-year changes in food CPI (2012=100)

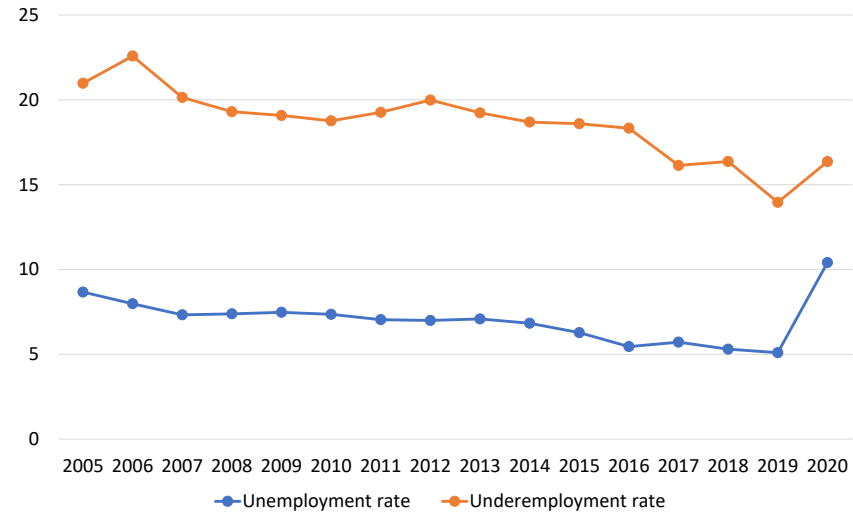


CPI = consumer price index
Source of basic data: PSA (various years-a)

Labor and employment

Stringent measures on mobility led to widespread unemployment and reduced work hours. Figure 8 shows the sharp increase in the unemployment rate to 10.3 percent (equivalent to about 4.5 million unemployed Filipinos) in 2020, the highest since 2005. According to the latest data from PSA, the unemployment rate soared to 17.6 percent in April 2020 and went down to 8.7 percent in October 2020, although this was still almost double the rate recorded in the same quarter in 2019, which was 4.6 percent. Similarly, based on preliminary estimates, underemployment rate increased from 13.8 percent in 2019 to 16.2 percent (equivalent to 6.4 million Filipinos) in 2020. Preliminary estimates from the 2020 Labor Force Survey showed that the labor force participation rate went down to its lowest since 2005, at 59.5 percent or 73.7 million Filipinos, when a new definition of unemployed was adopted. This is indicative of the deleterious impacts of the pandemic and the physical distancing protocols and quarantine measures (PSA 2021b).

Figure 8. Unemployment and underemployment rate, Philippines



Source of basic data: PSA (2021b)

The largest employment contraction was seen in the industry sector, which declined by 11.1 percent (Table 4). Except for mining and quarrying, almost all subsectors experienced a significant decline in employment. The number of employed persons in the services sector also declined substantially by 8.5 percent. This was observed primarily in arts, entertainment and recreation, accommodation and food services, information and communication, and real estate activities. Overall employment decreased by 6.5 percent in 2020.

In a preliminary report of DOLE (2021) on local job displacement, about 430,000 Filipino workers were displaced due to permanent business closure or workforce reduction. Of the total displaced workers, 90 percent were due to retrenchment, and the remaining 10 percent to permanent closure. Majority of the displaced workers are situated in the NCR.

Meanwhile, in a World Bank (2020c) survey, majority of the respondents noted that the unemployment was due to the closure of business and government operations owing to COVID-19 restrictions.

Despite the significant decline in employment in 2020, NEDA (2021) reported that jobs significantly increased by 2.2 million in the first quarter of the year. This can be largely attributed to the increase in jobs in the services sector, particularly in the wholesale and retail trade, other services[5], and transportation and storage. Underemployment increased slightly from 16 percent in January 2021 to 16.2 percent in March 2021, which can be considered an improvement, given the rate of 18.9 percent registered in April 2020. More than half of the jobs increase (1.2 million) was due to the expansion of the industry sector, particularly in the construction and manufacturing sectors brought about by the continued ease in restrictions in early 2021 and the ramping up of infrastructure projects to take advantage of the dry season.

[5] According to PSA (2009, p.S-1), "other service activities include activities of membership organizations, repair of computers and personal and household goods, and a variety of personal service activities not covered elsewhere in the classification. Parlors, spas, laundry services, funeral activities, domestic services, and porter services, among others, are included in this subsector according to the 2009 Philippine Standard Industrial Classification."

Table 4. Percent distribution and number of employed persons by industry, 2019 and 2020[p]

Indicators	2019	2020[p]	2019	2020[p]	% Annual Change
	% Share		Persons (in '000)		
Employed persons			41,938	39,379	-6.5
Agriculture	**22.2**	**24.8**	**9,325**	**9,754**	**4.6**
Agriculture, hunting, and forestry	19.2	21.8	8,070	8,574	6.3
Fishing and aquaculture	3.0	3.0	1,255	1,179	-6.0
Industry	**19.3**	**18.3**	**8,106**	**7,206**	**-11.1**
Mining and quarrying	0.4	0.5	177	184	4.2
Manufacturing	8.7	8.1	3,651	3,184	-12.8
Electricity, gas, steam, and air conditioning supply	0.2	0.2	91	81	-10.6
Water supply; sewerage, waste management, and remediation activities	0.2	0.1	64	58	-10.1
Construction	9.8	9.4	4,123	3,700	-10.3
Services	**58.4**	**56.9**	**24,507**	**22,418**	**-8.5**
Wholesale and retail trade; repair of motor vehicles and motorcycles	20.0	20.5	8,368	8,081	-3.4
Transportation and storage	8.2	7.4	3,424	2,932	-14.4
Accommodation and food service activities	4.6	3.7	1,933	1,468	-24.0
Information and communication	1.0	0.9	433	350	-19.3

Table 4 *(continued)*

Indicators	2019	2020[p]	2019	2020[p]	% Annual Change
	% Share		Persons (in '000)		
Financial and insurance activities	1.4	1.4	586	556	-5.1
Real estate activities	0.6	0.5	237	192	-19.0
Professional, scientific, and technical activities	0.7	0.7	310	260	-16.1
Administrative and support service activities	4.0	4.1	1,692	1,609	-4.9
Public administration and defense; compulsory social security	6.5	6.5	2,724	2,563	-5.9
Education	3.0	3.3	1,267	1,286	1.5
Human health and social work activities	1.3	1.4	543	542	0.1
Arts, entertainment, and recreation	1.0	0.6	402	230	-42.6
Other service activities	6.2	6.0	2,588	2,346	-9.4
Activities of extraterritorial organizations and bodies	0.0	0.0	1	2	261.1

[p] Preliminary

Notes:

(i) 0.0 – less than 0.05 percent; does not imply the absence of observation for the indicator, instead it implies very low observation

(ii) The annual estimates were based on the final results of the 2019 Labor Force Survey (LFS) (using the 2015 population projection) and January and April rounds 2020 LFS and preliminary results of the July and October rounds 2020 LFS.

Source: PSA (2020, 2021b)

Poverty and inequality

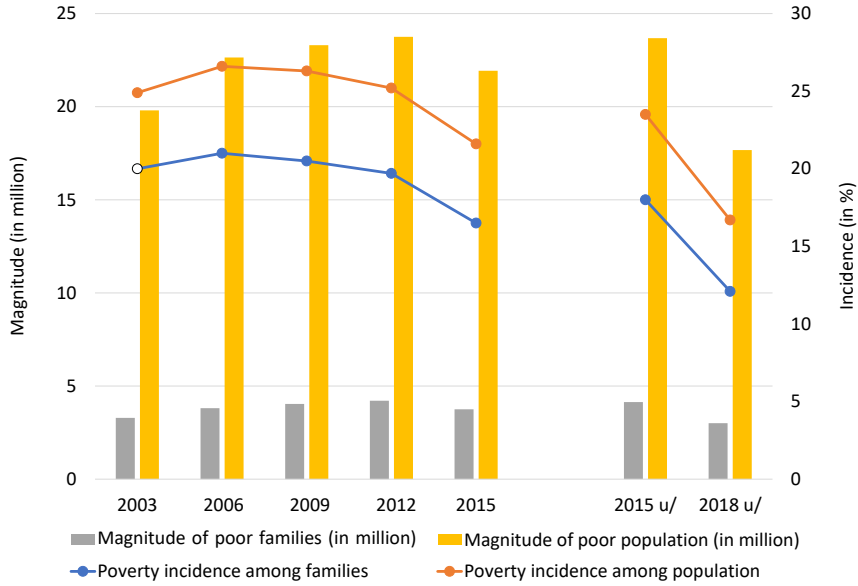
In recent years, the Philippines made significant progress in poverty alleviation and inequality reduction, but this was reversed by the pandemic. From 2015 to 2018, poverty incidence among families and population declined by 5.9 and 6.8 percentage points, respectively, equivalent to 1.1 million families and 6 million individuals that had moved out of poverty (Figure 9). Albeit still high relative to neighboring countries, such as Viet Nam, Malaysia, and Indonesia, the country made headway in reducing income inequality. The Gini coefficient[6] declined from 46.5 in 2012 to 42.3 in 2018. However, given the lockdowns that constrained the mobility of people and the conduct of economic activities, the reduction of working hours and workers and the closure of many businesses would negatively impact the poverty and inequality status of the country. In a simulation study by Albert et al. (this volume), about 1.5 million people could slide into poverty even with the presence of emergency financial subsidies that are targeted for at least 90 percent of the households. Without the subsidies, an additional 5.5 million Filipinos could fall into poverty.

In another simulation study, Reyes (2021) estimated that without the SAP, poverty incidence among families could go as high as 16 percent, equivalent to about 4 million Filipino families; this could go as high as 21.5 percent or an additional 5 million Filipinos (Table 5).

As the world continues to struggle with the pandemic, the economic recovery of the country is expected to be slow in 2021. While it is projected that the Philippines will register positive economic growth in 2021, this will not be enough to bounce back to pre-COVID levels. Table 6 shows the estimated impacts of the pandemic on poverty in 2021 (Reyes et al., this volume), assuming an economic growth of 6.1 percent and the provision of cash transfers in different scenarios. The simulations show that, compared to the 2020 estimates without SAP, poverty incidence will slightly decrease to 14 percent among families and 19 percent among population. This poverty reduction is due to the increase in family incomes owing to the assumed growth in economic activity.

[6] A measure of income inequality where 1 denotes perfect inequality and 0 denotes perfect equality. This may be expressed in terms of percentage.

Figure 9. Poverty indicators, 2003–2018



Note: "u/" = updated
Source of basic data: PSA (various years-b)

Table 5. Simulation of the impact of COVID-19 on the magnitude and poverty incidence in 2020 under different scenarios, Philippines

Scenarios	Estimates		Increase (Decrease)	
	Magnitude ('000)	Incidence (%)	Magnitude ('000)	Incidence (percentage points)
Poverty incidence among families				
Before COVID-19*	3,004.6	12.1	–	–
2020 (without SAP)	3,964.4	16.0	959.8	3.9
2020 (with SAP)	3,015.5	12.2	10.9	0.05
Poverty incidence among population				
Before COVID-19*	17,670.2	16.7	–	–
2020 (without SAP)	22,697.7	21.5	5,027.5	4.8
2020 (with SAP)	18,330.8	17.3	660.6	0.6

COVID-19 = coronavirus disease 2019; SAP = Social Amelioration Program
*Official poverty estimates in 2018; "–" = no data available
Source: Reyes (2021)

Table 6. Simulation of the impact of COVID-19 on the magnitude and poverty incidence in 2021 under different scenarios, Philippines

Scenarios	Magnitude (in thousands)	Incidence (%)
Poverty incidence among families		
Scenario 1: Without SAP	3,465.1	14.0
Scenario 2: First tranche for poorest 18M; Second tranche for poorest 14M	2,634.0	10.6
Scenario 3: Two tranches for poorest 14M	2,634.0	10.6
Scenario 4: One tranche for poorest 14M	3,019.5	12.2
Scenario 5: PHP 1,000 for all families	3,385.4	13.7
Poverty incidence among population		
Scenario 1: Without SAP	20,107.2	19.0
Scenario 2: First tranche for poorest 18M; Second tranche for poorest 14M	16,211.9	15.3
Scenario 3: Two tranches for poorest 14M	16,211.9	15.3
Scenario 4: One tranche for poorest 14M	18,073.0	17.1
Scenario 5: PHP 1,000 for all families	19,746.1	18.7

COVID-19 = coronavirus disease 2019; M = million
Source: Reyes et al. (this volume)

With jobs losses and catastrophic spending brought about by the pandemic, the various channels (e.g., savings, salaries and wages, self-employment, borrowings, support from family and relatives working abroad) through which households finance their daily living expenses had been adversely affected.

In a World Bank (2020b) survey conducted during the first half of August 2020, 57 percent of households experienced a decline in income or no income at all. The two poorest quintiles were the ones severely affected, with 60 percent in both quantiles experiencing reduced income or a lack of it.

Households reliant on cash remittances from abroad were also affected by the pandemic. Based on the results of the 2018 National Migration Survey conducted by the PSA, households rarely set aside cash remittances for savings. Instead, they spend 75 percent of the total remittances on food and other household necessities. Without sufficient savings, they may find it difficult to navigate through this pandemic since the host countries are also largely affected (Tabuga and Cabaero, this volume). In particular, Saudi Arabia and the United Arab Emirates experienced immense losses for the first time in years. These countries closed their borders, halting the deployment of some Filipino workers.

Preliminary estimates from the BSP show that remittances went down from USD 30.1 billion in 2019 to USD 29.9 billion in 2020, affecting about 9 percent[7] of Filipino households who have at least one family member working overseas. Looking at the month-on-month level of remittances, there was a dip in April and May 2020, although it abruptly recovered thereafter (Figure 10). The continued influx of remittances indicates OFWs' commitment to send money to their families, especially amid a crisis. Nonetheless, due to the peso appreciation in 2020, the spending power of remittance-reliant households had also been negatively affected.

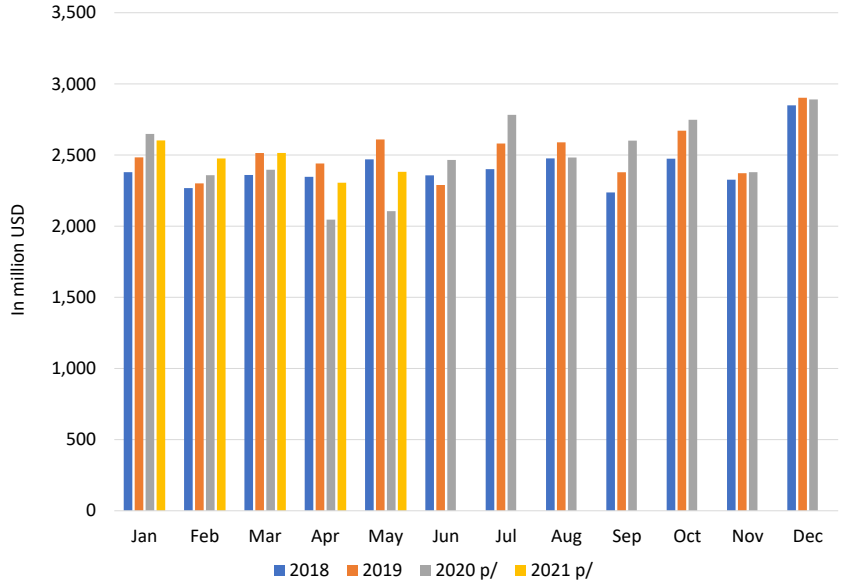
The savings of low-income households were the most affected by the pandemic. Results of the BSP's Consumer Expectations Survey[8] show that the percentage of households with savings had starkly declined, especially the poorer households. The slight improvement in the fourth quarter of 2020 can be attributed to the slight increase in the number of savers from the high- and middle-income clusters, offsetting the decrease in the low-income group (BSP 2020b).

To survive the crisis, households resorted to different coping strategies. Based on a World Bank survey (Table 7), majority of households reduced food consumption or shifted to cheaper food items (50.5%), delayed their payment obligations (47.8 percent),

[7] This figure is based on the results of the 2018 National Migration Survey conducted by the PSA. The figure may not be accurately reflective of the current year's situation.

[8] The Consumer Expectations Survey is a quarterly survey of the BSP that covers a random sample of 5,000 Filipinos in the Philippines.

Figure 10. Month-on-month remittances, 2018–2021



USD = United States dollar
[p] Preliminary figures
Source: BSP (2021)

reduced nonfood consumption or shifted to cheaper nonfood items (45.6%), relied on savings (41.3%), or received assistance from the government (40%).

In terms of human development, Navarro (this volume) noted that the vulnerable groups, (e.g., poor, informal settlers, homeless, informal sector workers, persons with disabilities [PWDs]) are expected to carry a greater burden from the pandemic. A summary of the simulations is presented in Table 8. The human development index for 2020 will be reduced to 0.708 from 0.712 in 2018 while the expected years of schooling and gross national income per capita are seen to decline as well.

Learning was also disrupted during the pandemic. During the community quarantine, only 20 percent of household members continued learning activities remotely (World Bank 2020b). Should schools reopen, 81 percent of households signified willingness to send their children back to school.

Table 7. Coping mechanisms of households during the pandemic, Philippines

Coping Strategies	Number of Households (in thousands)	Percent
Total number of households	3,231,140	100.00
Reduced food consumption or shifted to cheaper food items	1,630,650	50.47
Delayed payment obligations	1,541,828	47.72
Reduced nonfood consumption or shifted to cheaper nonfood items	1,473,623	45.61
Relied on savings	1,334,633	41.31
Received assistance from government	1,292,653	40.01
Engaged in additional income-generating activities	1,069,989	33.11
Borrowed from friends and family	1,057,911	32.74
Received assistance from friends and family	879,319	27.21
Engaged in online selling	763,016	23.61
Credited purchases	620,962	19.22
Received assistance from NGO or church	504,260	15.61
Took a loan from a financial institution	377,552	11.68
Pawned assets/property	279,569	8.65
Took advanced payment from employer	258,177	7.99
Sold assets/property	217,572	6.73
Covered by insurance policy	180,002	5.57
Sold harvest in advance	13,967	0.43

NGO = nongovernment organization
Source of basic data: World Bank (2020c)

Education

The pandemic and the imposed community lockdowns caused schools to shut down and shift to other modes of learning (e.g., modular, blended). The total number of enrollees in basic education went down in the school year (SY) 2020–2021. There was a

Table 8. Simulating the 2020 Human Development Index given COVID-19

Indicator	2018	2020 (simulated)	Assumptions, data inputs
Life expectancy at birth	71.1	71.16	Set back to 2019 level, UN World Population Prospects
Expected years of schooling	12.7	12.578	Using 2019 projection of expected years of schooling (based on LFS data), then using 2020 projected population of learners and DepEd estimate of decline in enrolment as of October 8
Mean years of schooling	9.4	9.4	Assuming 2 years of annual growth in mean years of schooling are missed (i.e., back to 2018 level)
GNI per capita (in 2011 PPP USD for the 2018 HDI, in 2017 PPP USD for the 2020 HDI)	9,540	9,112.63	Conversion inputs used: GNI per capita in 2017 PPP USD of World Bank, NEDA-DBCC projected real GNI growth, and PSA population projection
Philippines' HDI	0.712	0.708	

COVID-19 = coronavirus disease 2019; HDI = human development index; GNI = gross national income; PPP = purchasing power parity; USD = United States dollar; UN = United Nations; LFS = Labor Force Survey; DepED = Department of Education; NEDA-DBCC = National Economic and Development Authority-Development Budget Coordination Committee; PSA = Philippine Statistics Authority

Sources: UNDP (2019) for 2018 data; Navarro (this volume) for 2020 data

significant decline in the number of enrollees in private schools (-21.6%), state universities and colleges (SUCs)/local universities and colleges (-9.4%), and Philippine schools overseas (-7.7%) (Table 9). Although there was a growth in public school enrollment, the change was minimal at 0.6 percent.

Likewise, enrollment in most levels in basic education went down during the pandemic. This trend was seen in enrollments in elementary and junior high school, with greater decline among learners with special education needs (Table 10).

Table 9. Basic education enrollment in SY 2019–2020 and SY 2020–2021 by sector

	SY 2019–2020	SY 2020–2021	% Change
Public only	22,572,923	22,712,409	0.62
Private	4,304,676	3,375,748	-21.58
SUCs/LUCs	131,006	118,755	-9.35
Philippine schools overseas	21,786	20,110	-7.69
Total	**27,030,391**	**26,227,022**	**-2.97**

SY = school year; SUCs/LUCs = state universities and colleges/local universities and colleges
Source: DepEd (various years)

Table 10. Basic education enrollment in SY 2019–2020 and SY 2020–2021 by level

Level of Education	2019–2020	2020–2021	% Change
Kindergarten	2,044,745	2,055,635	0.53
Elementary	13,226,174	12,539,961	-5.19
Elementary (LES)	61,787	55,208	-10.65
Junior high school	8,501,509	8,337,693	-1.93
Junior high school (LES)	2,141	1,698	-20.69
Senior high school	3,194,035	3,236,827	1.34
Total	**27,030,391**	**26,227,022**	**-2.97**

SY = school year; LES = learners with special education
Source: DepEd (various years)

Apart from the enrollment figures, the primary mode of learning among students changed drastically, as they were compelled to continue schooling remotely. According to Orbeta (this volume), a significant proportion of basic education students in private schools use pure online and blended learning, while students in public schools mostly rely on printed modules. On average, there is no significant disparity in the level of access to cell phones between public and private school students, and across income deciles. While, it is desirable to deliver remote learning through online means, recent available data show that ownership of cell phones is more prevalent than having access to the internet. These findings indicate that it may be more equitable if remote learning is delivered through the most popular means (i.e., printed modules) and complemented with the most accessible device (i.e., cell phone). The degree of engagement between the teachers, students, and parents may be enhanced using cell phones. Apart from the material requirements for remote learning, another important aspect is the quality of support provided at home, which is affected by the educational attainment of the parents. Students from low-income households tend to have parents with low education, which affects the quality of support for the remote learning of children (Orbeta, this volume). Measuring the extent of learning taking place during the pandemic is essential to assess the effectiveness of current strategies.

Remote learning has implications on the welfare of the children and the Philippine economy in the short and long run. Raitzer et al. (2020) found that a year of distance learning is associated with PHP 1.68 trillion worth of lost productivity for K–12 students. In a scenario where children are to repeat the lost year, the cost would be greater, given foregone higher incomes due to delayed entry into the workforce. They also identified some short-term costs to the parents and private school teachers, such as job losses and reduced work hours. If at least one adult with high school education needs to support the online learning of children, there would be a reduction of around 11 percent in the workforce, equivalent to economic losses worth PHP 225 billion in just a span of one school year.

Government responses

Legislative responses: Bayanihan Act

The first legal framework adopted to address the pandemic is the Bayanihan to Heal as One Act (Bayanihan I) or RA 11469, which granted the President special powers to facilitate the pandemic response of the government. This law focused on the immediate measures needed in the health sector and the rest of society. Bayanihan I was intended to suppress the transmission of the virus, immediately mobilize assistance to families and individuals affected by the community quarantines, adopt measures that can prevent the overburdening of the healthcare system, provide ample healthcare needs (e.g., medical tests, treatments) to COVID-19 patients and those suspected of infection, and undertake programs for recovery and rehabilitation (e.g., social amelioration programs, safety nets). The law also enjoined the government to collaborate with other stakeholders, such as the private sector, to ensure the quick execution of needed measures and programs. To fund Bayanihan I, agencies in the executive department and government-owned and controlled corporations (GOCCs) were directed to cancel appropriated programs, projects, or activities and reallocate their funds to pandemic response.

The law took effect from March 24 to June 25, with a total of PHP 369.1 billion and PHP 357.9 billion obligated and disbursed, respectively, out of the PHP 387.9 billion worth of allocated funds (DBM 2021). When Bayanihan I expired, additional funds from the 2020 national budget were allocated to COVID-19 response, amounting to PHP 6.5 billion, bringing the total amount of Bayanihan I funds to PHP 396.4 billion.

The Bayanihan to Recover as One Act (Bayanihan II) or RA 11494 took effect from September 15, 2020 to June 30, 2021. It put forward economic relief efforts while retaining some of the

provisions of Bayanihan I. It carried a total of PHP 165.5 billion[9] worth of economic stimulus (i.e., PHP 140 billion from regular appropriation and PHP 25.5 billion additional standby funds) to help pandemic-hit sectors. Table 11 provides a detailed list of the provisions of the two laws.

The budget mix shown in Figure 11 highlights the differences in the thrusts of Bayanihan I and II. In Bayanihan I, the Department of Social Welfare and Development (DSWD) received the highest chunk of the budget, wherein PHP 212.4 billion (54% of PHP 394.4 billion) went to the implementation of SAP. An emergency subsidy amounting from PHP 5,000 to PHP 8,000 was given to around 18 million low-income families nationwide for a maximum of two months (i.e., April and May). Through DSWD Memorandum Circular (MC) 4 (s. 2020), beneficiaries of the *Pantawid Pamilyang Pilipino* Program (4Ps) were automatically entitled to receive a top-up assistance or emergency subsidy worth PHP 5,000 to PHP 8,000 depending on the prevailing regional minimum wage rates and existing program grants being received. The next major recipient was the DOH, which was allocated PHP 52.4 billion for the procurement of RT-PCR detection kits, hiring of emergency workers for pandemic response, funding of the Philippines COVID-19 Emergency Response Project with loan assistance from the World Bank, payment of the salary deficiencies and other benefits of deployed health personnel, and provision of other funding requirements for the continued implementation of Bayanihan I. An important aspect of the law was the granting of additional benefits for HCWs through the provision of SRA during the ECQ.[10] Funding was based on hospital savings

[9] Section 2.1 of the IRR states that the government is to release a fiscal stimulus package of PHP 140 billion to alleviate the needs of the health sector, give appropriate cash-for-work programs, and inject capital to government financial institutions (GFIs) to support the productive sectors of the economy. Other funding sources for the COVID-19 response include the existing balances in the Municipal Development Fund (at least PHP 10 billion worth of investments to be transferred under the name of the Bureau of Treasury, the remaining to be disbursed to the GFIs), taxes earned from offshore gaming, and the discontinuance, realignment, and on the availability, use, and release of funds, among others, to be supervised by the DBM.

[10] The SRA was a one-time grant equivalent to 25 percent of the monthly basic salary of a public health worker and given on a prorated basis. It covered all HCWs regardless of status (regular, contractual, casual, or job-order government personnel and workers) who had been authorized to physically report for work during the ECQ.

Table 11. Differences between Bayanihan I and II

Content	Bayanihan to Heal as One Act (RA 11469)	Bayanihan to Recover as One Act (RA 11464)
Accreditation of testing kits and facilitation of needed health protocols	• Expedite and streamline the accreditation of testing kits • Facilitate prompt testing of PUIs and PUMs, and the compulsory immediate isolation and treatment of patients	
Provision of financial support by the PhilHealth	• Shoulder the full cost of treatment for COVID-19 patients by the PhilHealth (see PHIC Advisory 2020-022; covered period up to April 14, 2020 only)	• Shoulder the cost of treatment of COVID-19 patients on case-rate basis
Strengthening human resources in the health care sector	**Additional workforce** • Hire temporary human resources for health	**Additional workforce**
	Additional benefits and protection for health workers working during the ECQ or MECQ • Provide COVID-19 Special Risk Allowance to public health workers • Shoulder all medical expenses of all HCWs through PhilHealth should they get exposed to the virus or any work-related injury or disease • Provide PHP 100,000 to all HCWs who may get severe COVID-19 while in line of duty; and PHP 1M in case of death while helping fight the pandemic (retroactively implemented starting February 1, 2020) • Provide PPEs and other protective equipment/supplies by the DOH to all local HCWs	**Extension of benefits and protection for HCWs as authorized under Bayanihan I** • Provision of additional benefits • Provide life insurance, accommodation, transportation, meals to all HCWs providing COVID-19 health care (see DOH Administrative Order 2020-0054 for details) • Provide mandatory testing of all HCWs every 15 days to be shouldered by the PhilHealth • Provide PHP 15,000, in case of mild or moderate case (retroactively implemented starting February 1, 2020) • Provide PPEs and other protective equipment/supplies by the DOH to all local HCWs as well as barangay officials and indigent persons
Construction of new facilities/temporary transfer of operations	• Temporary transfer of operations of privately-owned medical facilities as well as passenger vessels and other establishments to give shelter to health workers in need, serve as quarantine facilities; and public vehicles to transport frontliners	• Facilitate the "construction of temporary medical isolation and quarantine facilities, field hospitals, and dormitories for frontliners, and the expansion of government hospital capacity", to be supervised by the DOH, DPWH, and DILG

Table 11 *(continued)*

Content	Bayanihan to Heal as One Act (RA 11469)	Bayanihan to Recover as One Act (RA 11464)
Donation, procurement, allocation, and distribution of health products	• Ensure that the donation, acceptance, and distribution of relevant health products are not unnecessarily delayed • Ensure allocation of medical-related goods to health facilities • Partner with the Philippine Red Cross in the distribution of goods and services relevant to the pandemic response • Facilitate the acquiring of needed equipment or supplies for pandemic response by exempting these goods from import duties, taxes, and other fees and by granting incentives for the manufacture and importation of such goods	• Facilitate the inflow of foreign donations of medical goods through the lifting of required clearance from the Food and Drug Administration prior to customs release
Implementation of immunization programs and other important health-related projects		• Ensure complete and on-time immunization program for all vaccine-preventable diseases • Utilize additional research funds to commission studies on COVID-19 through the DOH-Health Technology Assessment Council • Continue the feeding program for the undernourished children through DepEd
Support to LGU and other LGU-related provisions	• Authorizing LGUs to use more than five percent (5%) of the amount allocated for their respective calamity funds, which are still subject to additional funding and support from the national government • Encouraging LGUs to abide by and cooperate with the national government's plan of actions (e.g., community quarantine) so that there is a unified, cohesive, and orderly execution of the plan to fight the COVID-19 virus	• Extend deadlines for payment of all local taxes, fees, and charges authorized and imposed by LGUs to December 2020 • Increase the personnel services cap of each LGU • Increase the allowable debt services ceiling of the LGUs and exempt them from the loan ceiling cap imposed by the Department of Finance • Provide some regulatory relief in the public infrastructure activities of the LGUs, as identified by the NEDA, for one year • Allow for the expanded utilization of the Special Education Fund to facilitate educational arrangements (e.g., alternative learning modalities)

Table 11 *(continued)*

Content	Bayanihan to Heal as One Act (RA 11469)	Bayanihan to Recover as One Act (RA 11464)
Agriculture sector, food security, and fair pricing	• Protect people's welfare from unfair practices and acts in relation to the supply, distribution, and movement of goods, especially those that are pertinent to COVID-19 response (e.g., medical supplies, food, clothing)	• Continue assistance to the agriculture sector through the Plant, Plant, Plant program • Push for the digitalization of agricultural systems as it implements the following programs: (i) productivity enhancement programs, (ii) income enhancement projects, (iii) social protection and social amelioration (Expanded SURE Aid Recovery Project or SURE COVID-19 financing program), and (iv) appropriate cash-for-work program • Provide financial relief for Agrarian Reform Beneficiaries
Information and communications technology (ICT)		• Ensure the accelerated deployment of critical ICT infrastructure for improved digital connectivity, faster internet speed and stability, and cybersecurity to be spearheaded by the DICT
Provision of loans/flexible terms	• Provide credit to the productive sectors of the economy through measures such as, but not limited to, lowering the effective lending rates of interest and reserve requirements of lending institutions	• Provide housing loans and programs • Halt the imposition of fines and other monetary penalties for nonfiling, late filing, failure to comply with compulsory notification, and other reportorial requirements relating to business activities, among others
Labor and employment		• Hire contact tracers • Implement employment-related programs, such as cash-for-work programs, unemployment assistance for involuntarily displaced workers or employees, such as but not limited to, COVID-19 Adjustment Measures Program, *Tulong Panghanapbuhay sa Ating* Disadvantaged/Displaced Workers, and the *Abot-Kamay ang Pagtulong* for OFWs

Table 11 *(continued)*

Content	Bayanihan to Heal as One Act (RA 11469)	Bayanihan to Recover as One Act (RA 11464)
Labor and employment *(continued)*		• Assist overseas Filipinos, including "repatriation, shipment of remains or cremains, or medical assistance", among others, through the Department of Foreign Affairs-Office of Migrant Workers Affairs • Enhance venues to allow for computer-based licensure exams through the Professional Regulation Commission • Provide guidelines on alternative working arrangements that may be adopted by the private sector through DOLE
Transportation and work-from-home scheme	• Regulate and limit the operation of all transportation sectors whether public or private • Regulate traffic on all roads, streets, and bridges • Continue to authorize alternative working arrangements for employees and workers especially when necessary	• Provide transport sector database or a master list of "all displaced and critically impacted transport workers under the road, rail, air, and maritime sectors, prior to the actual implementation of the interventions for the transport sector" • Provide partially subsidized service contracting to all affected PUVs (e.g., jeepneys) in specific areas, and provide safe public transport to the public through the DOTr, LTFRB, and the LGUs • Provide mechanisms for monitoring, data gathering, assessment, and evaluation of the PUV service contracting program through the DOTr and the LTFRB • Ensure accessible sidewalks and safer bicycle lanes, in partnership with the DPWH • Provide other interventions, such as (i) grants for applicable regulatory fees; (ii) substitution of refund option to travel vouchers; (iii) grants for fuel subsidy and/or digital fare vouchers; and (iv) grants for training, equipment, facilities, test kits, and necessary personnel, subject to availability of funds

Table 11 *(continued)*

Content	Bayanihan to Heal as One Act (RA 11469)	Bayanihan to Recover as One Act (RA 11464)

Banking sector and competition policy	• Postpone "statutory deadlines and timelines of any document, the payment of taxes, fees, and other charges required by law, and the grant of any benefit, to ease the burden on individuals under community quarantine"
	• Give a minimum of a 30-day grace period for the loans payment including those in credit cards "falling due within the period of the ECQ without incurring interests, penalties, fees, or other charges
	• Give a 30-day grace period on residential rents due within the period of ECQ without incurring interests and other penalties
		• Provide loan interest rate subsidies by all NGAs through GFIs, for LGU loans and borrowings and relief measures
		• Provide taxation interventions including incentives, safeguards, initial public offering repeal, net operating loss carry-over
		• Provide various payment moratoriums and other regulatory relief measures, such as:
		  • One-time 60-day mandatory moratorium on loans, including amortizations;
		  • 30-day grace period for payment of utilities within the period of ECQ or the MECQ;
		  • 30-day grace period on payment of rents; and
		  • Exempt firms from compulsory notification for mergers and acquisitions with transaction values below the threshold of PHP 50 billion within a period of 2 years from the effectivity of Bayanihan II

Social Amelioration Program	• Provide an emergency subsidy amounting to around PHP 5,000–PHP 8,000 to around 18 million low-income families nationwide • Implement the expanded and enhanced *Pantawid Pamilyang Pilipino* Program	• Provide emergency subsidy of PHP 5,000 to PHP 8,000 to (i) affected low-income households in areas under granular lockdown; (ii) households with recently returned OFWs; (iii) unemployed or displaced workers due to COVID-19 in private health institutions, culture and arts, creative industries, broadcast, construction, public transportation, trade and industries, cooperatives, and other economic sectors • Expedite the granting of assistance to target beneficiaries through the utilization of digital technologies • Conduct validation and deduplication (i.e., benefits received from existing government programs are to be taken into consideration in computing the amount of subsidy under Bayanihan II)

Table 11 *(continued)*

Content	Bayanihan to Heal as One Act (RA 11469)	Bayanihan to Recover as One Act (RA 11464)
Infrastructure		• Provide regulatory relief measures for infrastructure programs and projects under the DPWH and other government agencies. • Waive all applications for needed permits, licenses, clearances, and registration requirements for permit requirements pertaining to environmental laws, occupational safety, health
Tourism		• Implement the following programs: (i) Tourism Road Infrastructure Project; (ii) appropriate cash-for-work program; (iii) training and subsidies for tourist guides; (iv) establishing of COVID-19 testing centers in select tourist destinations, in cooperation with the DOH, DILG, and the LGUs; and (v) provision of other select programs related to the tourism sector to lessen the negative impacts of the pandemic to the sector
Education		• Provide programs to implement digital education, information technology and digital infrastructures, and alternative learning modalities, including the printing and delivery of self-learning modules of the DepEd • Develop smart campuses in SUCs through investments in ICT infrastructure, acquisition of learning management systems, and other equipment to fully implement flexible learning modalities • Provide education subsidies and allowances to qualified students for the payment of unpaid tuition for SY 2019–2020 or the tuition fee for SY 2020-2021 c/o DepEd and CHED • Provide one-time cash assistance to the teaching and nonteaching personnel who have lost their jobs or have not received their wages c/o DepEd and CHED • Provide programs that relate to "upgrading technologies and toolkits, capacitating institutions, and delivering training and scholarship programs" c/o TESDA

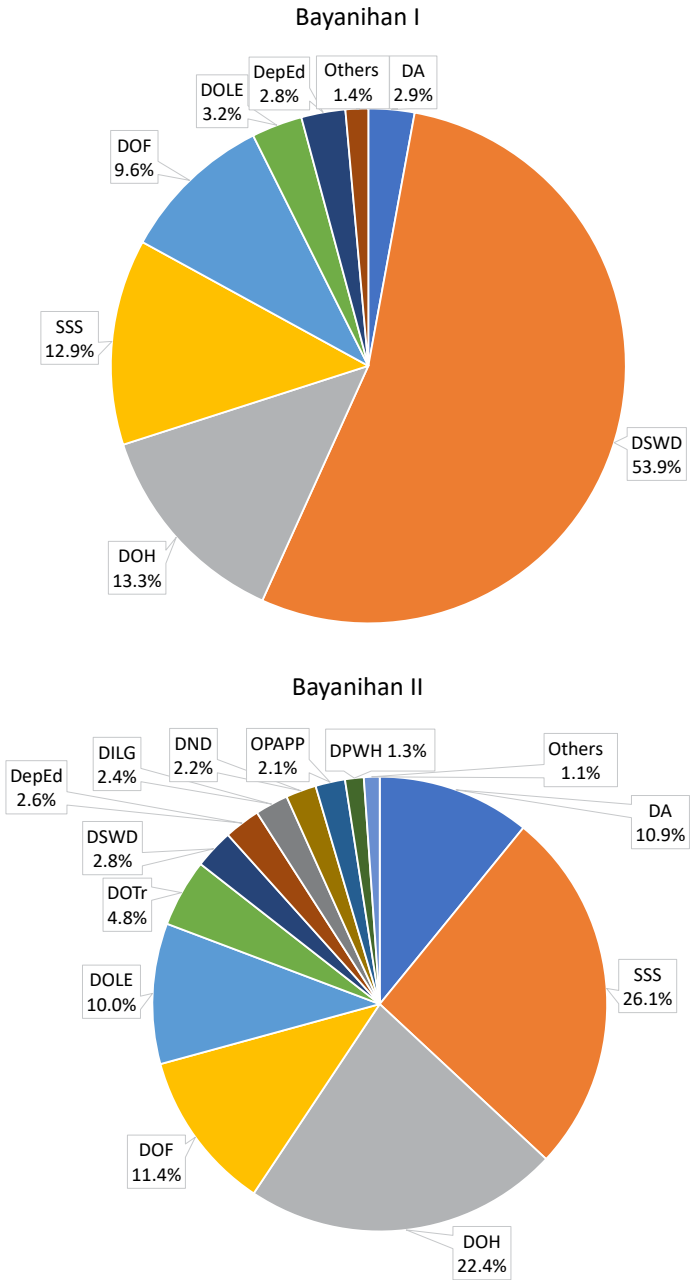
Table 11 *(continued)*

Content	Bayanihan to Heal as One Act (RA 11469)	Bayanihan to Recover as One Act (RA 11464)
Environment/energy and waste management	• Encourages the conservation and regulation of the distribution and use of power, fuel, energy, and water, and ensures their adequate supply	• Reiterate the need for the DOH and the DENR to implement proper waste management practices to prevent the spread of the virus and other diseases
Others	• Requiring businesses to prioritize and accept contracts subject to fair and reasonable terms, for materials and services necessary to promote the declared national policy	• The DTI and other agencies are to help ensure the unhampered flow of goods, as well as fair pricing of and access to essential goods, and improve capacities for e-commerce. • The DTI is to facilitate programs that would enable the digitalization of MSMEs and cooperatives, in coordination with other pertinent agencies, such as the DICT, DTI, and CHED. • There were also provisions for national athletes in whose allowances (athletes and coaches) shall be provided by the Philippine Sports Commission.

RA = Republic Act; PUIs = persons under investigation; PUMs = persons under monitoring; COVID-19 = coronavirus disease 2019; PhilHealth = Philippine Health Insurance Corporation; ECQ = enhanced community quarantine; MECQ = modified enhanced community quarantine; HCWs = healthcare workers; PHP = Philippine peso; M = million; PPE = personal protective equipment; DOH = Department of Health; DPWH = Department of Public Works and Highways; DILG = Department of the Interior and Local Government; LGUs = local government units; NEDA = National Economic and Development Authority; DICT = Department of Information and Communications Technology; DepEd = Department of Education; OFW = overseas Filipino workers; DOLE = Department of Labor and Employment; PUVs = public utility vehicles; DOTr = Department of Transportation; LTFRB = Land Transportation Franchising and Regulatory Board; DPWH = Department of Public Works and Highways; NGAs = national government agencies; GFIs = government financial institutions; SY = school year; CHED = Commission on Higher Education; TESDA = Technical Education and Skills Development Authority; DENR = Department of Environment and Natural Resources; DTI = Department of Trade and Industry; MSMEs = micro, small, and medium enterprises

Source: Authors' compilation

Figure 11. Budget allocation under Bayanihan I and II



DA = Department of Agriculture; DepEd = Department of Education; DOF = Department of Finance; DOH = Department of Health; DILG = Department of the Interior and Local Government; DOLE = Department of Labor and Employment; DND = Department of National Defense; DPWH = Department of Public Works and Highways; DSWD = Department of Social Welfare and Development; DOTr = Department of Transportation; DTI = Department of Trade and Industry; OPAPP = Office of the Presidential Adviser on the Peace Process; SSS = Social Security System
Note: Data as of June 30, 2021
Source of basic data: DBM (2021)

and covered frontliners reporting for duty during the ECQ from March 15 to May 16. The DOH allotted PHP 51.9 million for those without savings (i.e., the 17 DOH-retained hospitals that requested additional funding). Overall, although the DOH's obligation and disbursement rates remained fairly high at 94.8 and 95.6 percent, respectively, the obligation and disbursement rates for the hiring of additional emergency workers remained low (49.2% and 69.2%, respectively), as of end-June 2021.

Bayanihan II placed emphasis on helping the economy recover through livelihood assistance. It provided for increased allocations to the Department of Trade and Industry (DTI) (from PHP 0.203 billion to PHP 1.1 billion), DOLE (from PHP 12.6 billion to PHP 21.4 billion), and Social Security System (SSS) (from PHP 51 billion to PHP 55.8 billion). The DSWD's budget allocation decreased from PHP 212.4 billion to PHP 6 billion in Bayanihan II. As of June 30, 2021, a significant amount of money had not been obligated (PHP 13.9 billion or 93.5% obligation rate) and disbursed (PHP 21.4 billion or 89.3% disbursement rate) despite the extension of Bayanihan II funds' validity from December 19, 2020 to June 30, 2021.

As of July 2021, the third installment of the Bayanihan legislation—Bayanihan to Arise as One Act (Bayanihan III)—has not been passed in the Senate. While not considered a priority bill of the administration, it carries important provisions crucial to the country's recovery. The bill provides for continued assistance to sectors hit hard by the pandemic and necessary measures to make the country more resilient to future shocks. To help ensure accountability and transparency, the President has to submit a monthly report to Congress and the Commission on Audit while the law is being implemented.

The interventions under the Bayanihan III bill or House Bill 9411 (18th Congress) are categorized into three groups: (i) *Kalinga*, which includes fiscal programs and projects for all the Filipino people; (ii) *Kabuhayan*, which includes both fiscal and nonfiscal relief to support livelihoods; and (iii) *Kalusugan*, which includes both fiscal and nonfiscal relief to ensure food security and access to quality health care even in the time of the pandemic. These three are intended to be implemented in phases in a span of one year. Kalinga includes

the *Ayuda* program that aims to provide a cash subsidy amounting to PHP 2,000 to each Filipino, regardless of age, to be given in two tranches. The DSWD is to spearhead the distribution of the cash aid. The agency, together with the Department of the Interior and Local Government (DILG) and the LGUs, shall be responsible for the identification of the beneficiaries. A digital payment system is also encouraged to minimize face-to-face contact. LGUs are mandated to create a Grievance and Appeals Committee with a hotline to help ensure that concerns and complaints by the constituents are received and acted upon. Another cash aid amounting to PHP 5,000 shall be provided to each household under ECQ. Living costs, household size, and duration and level of quarantine will be considered in determining the amount of the assistance. The budget shall come from the DSWD's Assistance to Individuals in Crisis Situation (AICS). Additional emergency assistance is also to be provided to households in the form of food packs.

In the Kabuhayan or livelihood aspect, the Small Business Wage Subsidy Program implemented by the Department of Finance (DOF), SSS, and the Bureau of Internal Revenue (BIR) will be continued and expanded for micro, small, and medium enterprises (MSMEs), especially those hit hard by the pandemic. The amount ranges from PHP 5,000 to PHP 8,000. The law also strengthens DOLE's existing programs for displaced and disadvantaged worker, including OFWs and freelancers, such as the *Tulong Panghanapbuhay sa Ating* Displaced/Disadvantaged Workers (TUPAD), COVID-19 Adjustment Measures Program (CAMP), and *Abot Kamay ang Pagtulong* (AKAP) Program. There will also be training subsidies for affected seafarers and land-based OFWs. Meanwhile, the assistance to drivers and transport workers and other provisions for economic recovery stated in Bayanihan II shall be continued.

Under the Kalusugan or health pillar, the bill reiterates the need to ensure the implementation of health and nutrition programs at the barangay level, food security initiatives (e.g., the Enhanced Plant, Plant, Plant program), and financial and technical assistance to registered cooperatives. There will also be additional funds for the Medical Assistance for Indigents Program of the DOH. The SRA for medical frontliners shall remain. Various measures,

such as regulatory relief, loans, technical assistance, and support for research and development, shall be provided to suppliers of COVID-19 goods and services to ensure seamless provision of supplies for the mitigation of the virus.

Moreover, Section 26 of the bill lays out the strategies to achieve herd immunity to COVID-19, while Section 27 details the support to be given to LGUs. It also allows for the expanded use of the Special Education Fund (SEF) to facilitate educational arrangements during the pandemic. Other forms of assistance include support to basic education for the implementation of digital education and the IT and Digital Infrastructure and Alternative Learning Modalities Program. Also, the bill establishes the Free Public Internet Access (FPIA) Fund under RA 10929, which will be funded by the spectrum user fees and other sources. The implementation of the FPIA program and the National Broadband Program is envisioned to support the digital needs to combat the pandemic and cope with its impacts. Section 43 mandates NEDA to submit a long-term plan for building economic resilience within six months of the law's effectivity.

Bayanihan III carries a stimulus package amounting to PHP 401 billion, of which PHP 216 billion shall be provided as cash aid to all Filipinos regardless of socioeconomic status (Table 12). This bill, as mentioned, has not been passed in the Senate due to unresolved issues, such as budget sourcing and some questionable provisions (e.g., pension and other benefits for military and uniformed personnel).

Health

Task Force and National Action Plan

The initial action undertaken by the national government was to convene the IATF-EID created in 2014 through Executive Order (EO) 168. The primary task of the IATF-EID is to assess and monitor suspected or confirmed EID and establish mechanisms through which its entry and local transmission may be prevented. The DOH Secretary serves as the chairperson of the task force, with duly authorized representatives from the Departments of Foreign Affairs (DFA), DILG,

Table 12. Proposed budget allocation to Bayanihan III initiatives

Program	Amount in Billion Pesos			
	Phase 1	Phase 2	Phase 3	Total
Ayuda to all Filipinos (DSWD)	108	108		216
Emergency Assistance to Affected Households (AICS-DSWD)	12	12	6	30
Wage subsidies (SBWS-DOF, SSS, BIR)	8	8	4	20
Assistance to Displaced/ Disadvantaged Workers (TUPAD, CAMP, AKAP-DOLE)	10	10	5	25
National Nutrition		6		6
Assistance to the Agri-Fishery Sector		15	15	30
Assistance to the Cooperatives		1.0	1.0	2.0
Medical Assistance to Indigents Program (DOH)	3	3	3	9
Local Government Support Fund		3		3
RT-PCR for Seafarers and OFWs (DOTr)	0.5			0.5
Pension and Gratuity Fund	20	20	14.6	54.6
Support to Basic Education (DepEd)	4.0			4.0
Support for Higher Education	0.5			0.5
Total	**165.9**	**186**	**48.6**	**401**

DSWD = Department of Social Welfare and Development; AICS = Assistance to Individuals in Crisis Situation; SBWS = Small Business Wage Subsidy; DOF = Department of Finance; SSS = Social Security System; BIR = Bureau of Internal Revenue; TUPAD = *Tulong Panghanapbuhay sa Ating* Disadvantaged/Displaced Workers; CAMP = COVID-19 Adjustment Measures Program; AKAP = *Abot Kamay Ang Pagtulong*; DOLE = Department of Labor and Employment; DOH = Department of Health; DOTr = Department of Transportation; DepEd = Department of Education
Source: House Bill 9411

Justice, DOLE, Tourism, and Transportation and Communications[11] as members. Section 3 of the EO also provides for the need to develop an EID Preparedness Manual[12] to embody a comprehensive and sustainable approach to managing the EID in the country. The manual must contain, among others, guidelines on (i) quarantine and immediate containment of EID within ports of entry, (ii) epidemiological investigation and contact tracing, (iii) treatment of infected cases and containment of affected areas, (iv) formulation of a risk communication plan and EID materials for the general public, and (v) respective responsibilities of government agencies/instrumentalities (EO 168).

On March 24, 2020, the IATF-EID released Resolution 15, which approved the proposed National Action Plan (NAP) for COVID-19. The NAP served as the government's overall strategic plan for responding to the COVID-19 crisis by utilizing and maximizing the public sector's resources and expertise. The main strategy was the end-to-end T3 (test, trace, treat) management system operationalized using the PDITR (prevent, detect, isolate, treat, reintegrate) strategy. (See the succeeding sections for more details of the T3 system.)

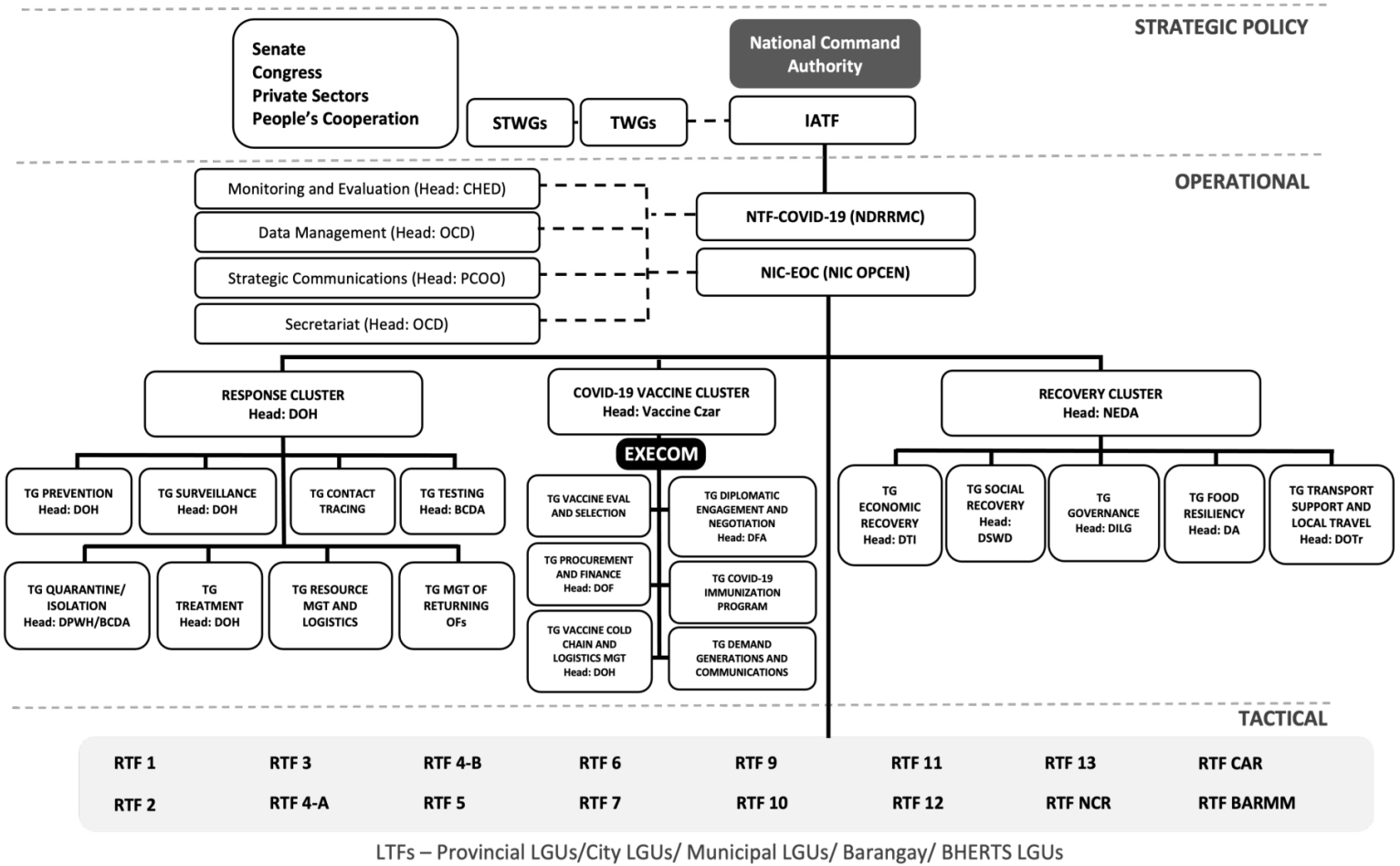
Resolution 15 also approved the proposed expanded organizational structure, which included the newly created National Task Force (NTF). The NTF, spearheaded by the Secretary of the Department of National Defense, serves as the operational arm or the implementing body, while the IATF-EID acts as the policymaking body to suppress the spread of the virus and protect the people. Figure 12 shows the approved organizational structure per Resolution 15.

In May 2020, Secretary Vince Dizon, Presidential Adviser on Flagship Programs and Projects and Chief of the Bases Conversion and Development Authority, was appointed "testing czar" in addition to being deputy chief implementer of the government's COVID-19 response. Two months later, three more officials were appointed as czars to help contain the virus: Baguio City Mayor Benjamin Magalong as "contact tracing czar", Sec. Mark Villar of the Department of Public Works and Highways as "isolation czar",

[11] This is not disaggregated into two departments, namely, the Department of Transportation and the Department of Information and Communications Technology.

[12] Per checking with the DOH as of July 23, 2021, the Manual of Operations (MOP) on the EREID Program is being finalized and will be released in the coming months.

Figure 12. IATF-EID expanded organizational structure



LTFs – Provincial LGUs/City LGUs/ Municipal LGUs/ Barangay/ BHERTS LGUs

Figure 12 *(continued)*

IATF-EID = Inter-agency Task Force for the Management of Emerging Infectious Diseases; STWGs = sub-technical working groups; TWGs = technical working groups; CHED = Commission on Higher Education; OCD = Office of Civil Defense; PCOO = Presidential Communications Operations Office; NTF-COVID-19 = National Task Force Against COVID-19; NDRRMC = National Disaster Risk Reduction and Management Council; NIC-EOC = National Incident Command Emergency Operations Center; OPCEN = operations center; DOH = Department of Health; COVID-19 = coronavirus disease 2019; NEDA = National Economic and Development Authority; EXECOM = executive committee; TG = task group; BCDA = Bases Conversion and Development Authority; DPWH = Department of Public Works and Highways; MGT = management; OFs = overseas Filipinos; EVAL = evaluation; DOF = Department of Finance; DFA = Department of Foreign Affairs; DTI = Department of Trade and Industry; DSWD = Department of Social Welfare and Development; DILG = Department of the Interior and Local Government; DA = Department of Agriculture; DOTr = Department of Transportation; RTF = regional task force; CAR = Cordillera Administrative Region; NCR = National Capital Region; BARMM = Bangsamoro Autonomous Region in Muslim Mindanao; LTFs = local task forces; LGUs = local government units; BHERTs = Barangay Health Emergency Response Teams

Source: National Task Force Against COVID-19 (2021)

and Usec. Leopolda Vega of the DOH as "treatment czar". The rising cases nationwide in mid-2020 prompted the appointment of these officials to strengthen the T3 strategy of the national government. In November 2020, the head of the Office of the Presidential Adviser on the Peace Process, Sec. Carlito Galvez, was appointed as "vaccine czar" who shall ensure that the Philippines has access to COVID-19 vaccines once they become available.

Policy measures

- *Mobility restrictions*

On January 28, 2020, the IATF-EID released Resolution 1 on the approved recommendations for the management of COVID-19. It pushed for the temporary suspension of the issuance of visas for travelers coming from Hubei Province, China, and the issuance of travel advisories that discourage nonessential travel to China. The Philippines' initial policy on border restrictions was less restrictive compared to Viet Nam, which immediately monitored and restricted its northern borders after learning that China recorded 27 cases and first death (Chau et al. 2020). Viet Nam was one of the few Southeast Asian countries with a high restrictiveness index during the first few months of the pandemic.

On March 15, 2020, the President declared a lockdown over the entire Metro Manila that meant the suspension of nonessential travels (via land, domestic air, and domestic sea) to and from the region until April 14, 2020. Only the following travelers were allowed during the ECQ: (1) Filipino citizens including their foreign spouse and children, holders of permanent visas, or those with Philippine government-issued diplomatic visas; (2) inbound international travel passengers who are in transit at the start of the ECQ's effectivity; and (3) outbound travelers who can leave within 72 hours from the effectivity of the ECQ.

- *Information dissemination campaigns*

The DOH, in coordination with the Presidential Communications Operations Office, rolled out the "*BIDA Solusyon sa* COVID-19" campaign (DOH n.d.-b) to educate Filipinos about the COVID-19

pandemic and encourage them to actively participate in preventing its further transmission. BIDA stands for (i) B – *Bawal walang* mask, (ii) I – *I-sanitize ang mga kamay, iwas-hawak sa mga bagay*, (iii) D – *Dumistansya ng isang metro*, and (iv) A – *Alamin ang totoong impormasyon*.

- *National Action Plan in phases*

Phase 1 of NAP included efforts to lessen the risk of further transmission through the proposed PDITR strategy to adapt to the new normal (NTF COVID-19 2020). This was in line with the operationalized management system of the outbreak, the T3 system. It also involves a plan to improve testing and contact tracing capacity, intensify information campaigns on minimum health protocols, and impose localized lockdowns when needed. Phase 2 focused on preventing further transmission, in addition to working toward economic and social recovery. It also included the PDITR while adopting a "national-government-enabled, LGU-led, and people-centered" approach to responding to the crisis (NTF COVID-19 n.d.-a). In this phase, there was stricter implementation of health protocols, strengthened information campaigns, and localized lockdowns. Phase 3 focused on transitioning to the new normal, which was targeted to start in the last quarter of 2020. It involved initiatives aimed at reviving and stimulating the economy while remaining vigilant on the continuing spread of the virus (NTF COVID-19 n.d.-b). The government's actions were also anchored on a whole-of-government strategy and a whole-of-nation approach to fight the pandemic (Kabagani 2020).

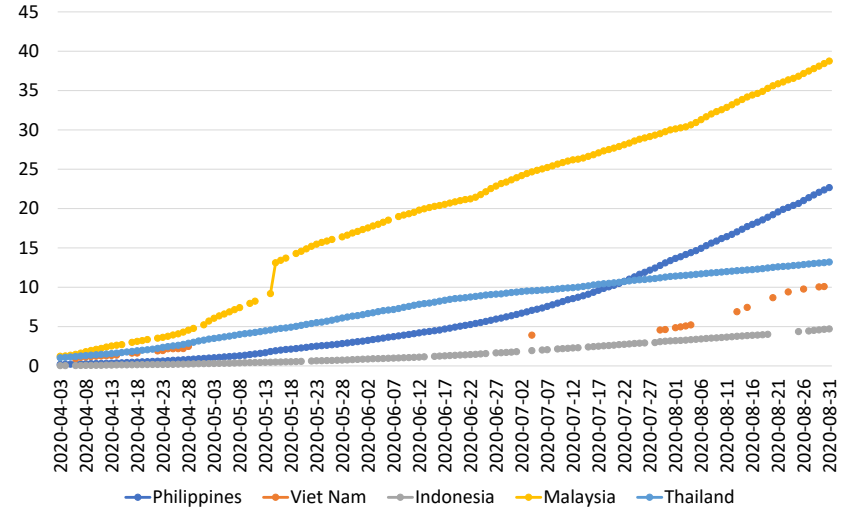
The NAP also adopted a modified zoning containment strategy implemented by the Local Task Force. The strategy included lockdowns by barangay, block, block and house, street, house, and building.

Apart from the lockdowns, the following T3 strategy was implemented across the country:

i. Test: Testing of suspected COVID-19 infections

The testing capacity of the Philippines ramped up in the second semester of 2020 (Figure 13). The DOH attributed the increase in the number of cases at the time to the increased testing, in addition to community transmission (DOH 2020a).

Figure 13. Total tests per 1,000 individuals by ASEAN member-state



ASEAN = Association of Southeast Asian Nations
Source of basic data: Hasell et al. (2020)

ii. Trace: Contact tracing

Contact tracing is one of the most crucial activities in ensuring that chains of virus transmission are broken and prevented. However, it has remained one of the weakest points in the country's COVID-19 response as pointed out by the Philippine Medical Association (WHO 2020a). Contact-tracing czar Mayor Benjamin Magalong notes that the weaknesses point to the LGUs' lack of capacity and system (e.g., manual encoding of data) to do contact tracing (CNN Philippines Staff 2020d).

Another issue is the lack of a single and unified contract tracing application[13] utilized across the country. Even though StaySafe.PH was made the official COVID-19 management and monitoring tool of the public sector through IATF Resolution 85, some sectors, such as the tourism industry, opted to use the SafePass (HOR-Press and Public Affairs Bureau 2021). However, issues on the implementation and effectiveness of StaySafe.ph were also reported. In February 2021,

[13] It was only during the first quarter of 2021 when officials decided to use a single contact tracing application in the country—the StaySafe.ph.

the Philippines registered only a 1:7 ratio of COVID-19 infected individuals to the total number of contacts, when the ideal ratio was 1:37 for urban areas and 1:30 for rural communities (HOR-Press and Public Affairs Bureau 2021).

Prior to the COVID-19 pandemic, there were significant efforts by the government to develop the EID Preparedness Manual (Section 3 of EO 168, s. 2014), however, the final version was disseminated to stakeholders (e.g., Centers for Health Development) only in 2021. Section 3c particularly states that the manual should include epidemiological investigation and contact tracing system that would help the government in responding and managing the EID. As of writing, only 35 percent of the 3,135 establishments monitored nationwide used a digital contact-tracing application (OP 2021). Establishments were also found to be using different applications—some used the StaySafe.ph while others used their own or LGU-developed systems.

iii. Treat: Treating of COVID-19 patients

- *One health command center and other measures*

Dayrit et al. (2018) raised the need for a facilitated referral system that could help patients navigate the health system more effectively. This system would allow patients to be referred to the most appropriate healthcare provider, thus, potentially preventing them from incurring additional costs. The One Health Command Center (OHCC) is intended for the same purpose during the pandemic. Headed by treatment czar Usec. Leopoldo Vega of DOH, the OHCC shall ensure the effective and efficient health facility referral system in Metro Manila using the DOH dashboards and protocols to maximize health resources for the care of COVID-19 patients. The OHCC may be reached through a mobile application (Pure Force Citizens), telephone/mobile phone, or the quick response codes available to the public (DOH 2020b).

In late 2020, the DOH also implemented the "*BIDA Bastonero*" in which a security official was to enforce physical distancing measures with the use of a measurement device or stick (DOH 2020c). This was to ensure that minimum public health standards would be maintained amid the holiday rush.

Augmentation of HRH and expansion of facilities

On April 2, 2020, the Joint Congressional Oversight Committee recommended the DOH to facilitate the accreditation of testing kits and laboratories and ensure the availability of PPEs in hospitals by submitting projections of the needs per facility.

Looking at the situation of the Philippine health system in terms of distribution of staff and facilities, many areas, especially in the Visayas and Mindanao, have inadequate number of health equipment and health professionals relative to their total population (Figures 14 and 15).

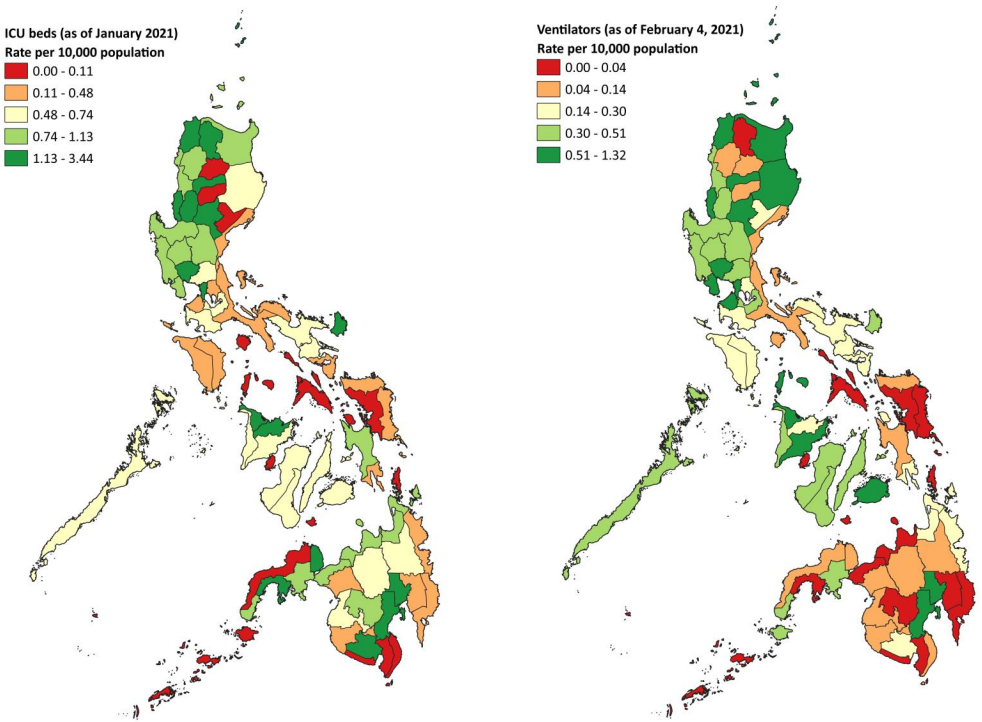
To augment the need for additional facilities for confirmed COVID-19 patients, certain private establishments, such as the Philippine International Convention Center, World Trade Center, Rizal Memorial Coliseum, and PhilSports Arena, were temporarily used as isolation facilities.

Vaccination rollout

In January 2021, the national government through the DOH released the interim "Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines" in preparation for the vaccine rollout. The plan was a product of a concerted effort of experts from various government agencies. The following principles guided its crafting: (i) national ownership, (ii) shared responsibility, (iii) integration, and (iv) innovation. Meanwhile, the allocation and prioritization of the vaccines are grounded on the following principles: (a) human well-being, (b) equal respect, (c) national equity, (d) reciprocity, and (e) legitimacy. Table 13 presents the vaccination prioritization scheme implemented in early 2021. Frontline workers in the medical field, senior citizens, persons with comorbidities, and later on, local chief executives, are among the top prioritized groups in the vaccination rollout.

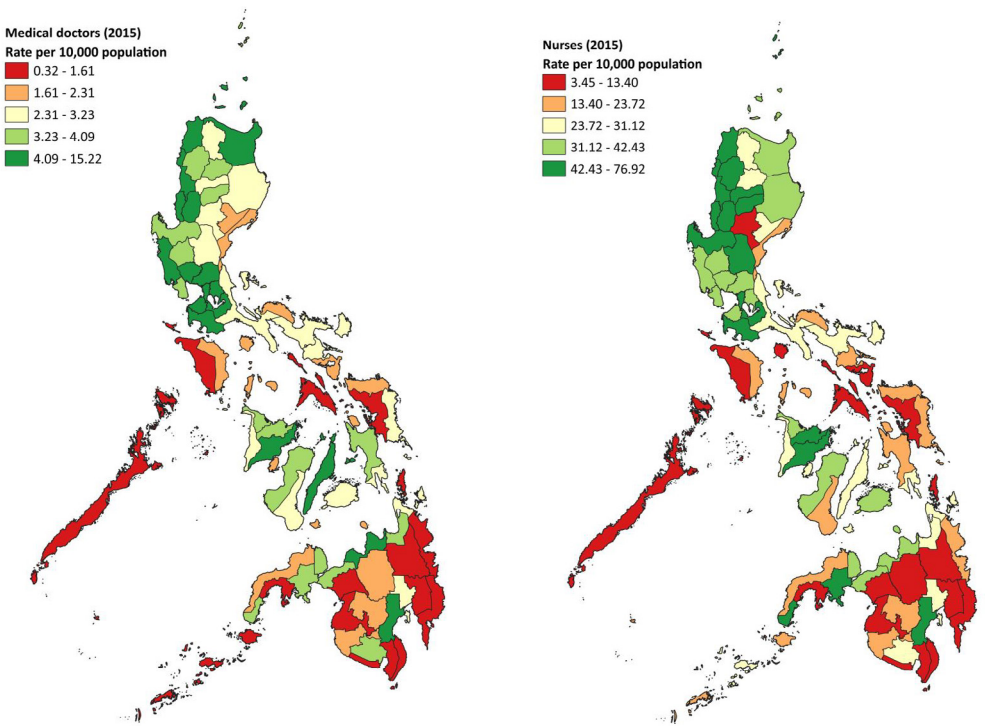
The nationwide vaccine rollout was scheduled in phases based on the number of available vaccines, cold chain requirements, and severity of COVID-19 outbreaks in geographical areas.

Figure 14. Number of ICU beds and ventilators per 10,000 population by province, 2021



ICU = intensive care unit
Sources of basic data: DOH (2021b, 2021c) for ICU and ventilators; PSA (2019) for projected population

Figure 15. Human resource for health per 10,000 population by province, 2015



Sources of basic data: PSA (n.d.) for medical doctors and nurses; PSA (2019) for projected population

Table 13. Vaccination prioritization scheme

A1	Frontline workers in health facilities (national and local, public and private) Health and allied health professionals Individuals engaged in health-related institutions and given clinical responsibilities (e.g., medical students, interns, clinical researchers, nursing aides, janitors, barangay health workers) ***IATF-EID Resolution 117** includes the following under A1: (1) outbound OFWs for deployment within the next four months and (2) immediate family members of healthcare workers
A1.5	Local chief executives, such as mayors and governors (previously under A4) under **IATF-EID Resolution 115-B**
A2	Senior citizens aged 60 years old and above
A3	Persons with comorbidities
A4	Frontline personnel in essential sectors, including uniformed personnel and persons working in sectors identified by the IATF as essential during the ECQ ***iNITAG Resolution 3** limits Priority Group A4 to workers and employees who are directly client facing or those who cannot consistently meet the minimum public health standards ***DOH Department Memorandum 2021-0259:** A4.1: Private sector workers who work outside their homes A4.2: Government workers A4.3: Informal sector workers and self-employed who work outside their homes and/or working in private households Phase 1: A4 workers in NCR+8 (NCR, Bulacan, Pampanga, Cavite, Laguna, Batangas, Rizal, Metro Cebu, Metro Davao) Phase 2: A4 workers outside NCR+8
A5	Indigent population
B1	Teachers and social workers
B2	Other government workers
B3	Other essential workers
B4	Sociodemographic groups at significantly higher risk other than senior citizens and indigenous people
B5	Overseas Filipino workers (OFWs)
B6	Other remaining workforce
C	Rest of the Filipino population

IATF-EID = Inter-agency Task Force for the Management of Emerging Infectious Diseases; ECQ = enhanced community quarantine; iNITAG = Interim National Immunization Technical Advisory Group; DOH = Department of Health; NCR = National Capital Region
Note: iNITAG Resolution 2 excludes the following persons in the vaccination: (1) aged below 16 years old, (2) allergic to polyethylene glycol and/or polysorbate, and (3) those who experienced severe allergic reactions after the first vaccine dose.
Sources: DOH (2021a); IATF-EID (2021c, 2021d); iNITAG (2021a, 2021b, 2021c)

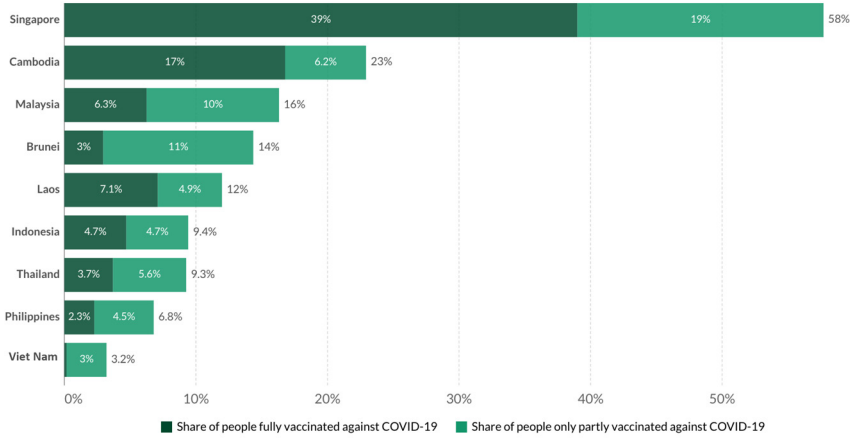
Despite this rollout plan, the Philippines lagged in the share of vaccines administered to the total population. Only 2.3 percent were fully vaccinated as of June 26, 2021, while 4.6 percent had received the initial dose (Figure 16).

Solid waste management

The DENR Environmental Management Bureau issued several memorandum circulars to manage medical and infectious wastes during the COVID-19 pandemic. For example, the Special Permit to Transport (SPTT) enabled the unhampered transport of hazardous wastes from healthcare facilities while another policy issuance exempted registered waste transporters from travel bans, provided they could present documents indicating compliance to safety protocols. The collection of fees for the issuance of the SPTT was also suspended during the ECQ.

In addition, recognizing the serious health implications of mounting infectious wastes, the DENR planned to conduct a healthcare waste management project with the United Nations Development Programme.

Figure 16. Percentage share of vaccinated persons to total population by number of doses



COVID-19 = coronavirus disease 2019
Note: This data is only available for countries that report the breakdown of doses administered by first and second.
Source of basic data: Hasell et al. (2020)

With funding of USD 1.076 million (PHP 54 million), the project shall involve the construction of two waste treatment facilities—one in Pasig City, where the volume of medical wastes had reached a critical level, and the other in Caloocan City (Villanueva 2021).

Social safety nets

The national government's main strategic response to ensure public welfare amid the pandemic was to provide financial support to vulnerable sectors and groups most affected by the lockdowns (e.g., public utility vehicle [PUV] drivers). The Bayanihan laws provided for the implementation of the SAP to give emergency financial subsidies to the poorest households, senior citizens, PWDs, and those who lost their jobs due to the pandemic. The Joint Memorandum Circular (JMC) 1 (s. 2020) by the DSWD, DOLE, DTI, DA, DOF, DBM, and DILG streamlined and harmonized the various social assistance programs of the government and highlighted a whole-of-nation approach in addressing the various socioeconomic threats and challenges posed by the pandemic. It provided the implementing rules and regulations of SAP. Bayanihan II also gave emergency subsidies to target individuals and households. Table 14 provides details of the emergency cash subsidy under Bayanihan I and II.

Aside from SAP, the law also provided wage subsidies for MSMEs. Table 15 shows the list of programs, benefits, and entitlements provided to businesses and workers during the pandemic through the DTI.

Labor and employment

To assist affected formal workers in the business, tourism, and education sectors, DOLE provided cash grants through the CAMP. The labor department also implemented other assistance programs, such as TUPAD for informal workers and the CAMP-AKAP for OFWs (Table 16). Table 17 shows the target beneficiaries and allocated budget for both the Bayanihan I and Bayanihan II laws.

In the transport sector, the Department of Transportation implemented the provision of support to road-based public transport stakeholders through Direct Cash Subsidies, a one-time cash grant amounting to PHP 5,000–PHP 8,000.

Table 14. Target beneficiaries and allocated budget for the Emergency Cash Subsidy Program under Bayanihan I and II

Program	Bayanihan I				Bayanihan II (as of January 4, 2021)[1]		
	First Tranche		Second Tranche[2]				
	No. of Target Beneficiaries	Allocated Amount (in billion PHP)	No. of Beneficiaries	Disbursed Amount (in billion PHP)	No. of Target Beneficiaries	No. of Beneficiaries	Disbursed Amount (in billion PHP)
Emergency cash subsidy	**17.95 M**	**101.5**	**14.30 M**	**85.1**	**643,091**	**300,815**	**1.96**
Pantawid Pamilya beneficiaries (4Ps)	4.29 M	18.6	–	–	–	–	–
Non-4Ps	13.56 M	82.1	–	–	–	–	–
Transport network and vehicle service and public utility vehicles in NCR	98,132	0.8	–	–	–	–	–
Additional low-income non-4Ps families (qualified but were not previously granted subsidy under Bayanihan I)	–	–	–	–	568,026	251,776	1.70
Low-income non-4Ps families in granular lockdown areas	–	–	–	–	75,065	49,039	0.26

4Ps = *Pantawid Pamilyang Pilipino* Program; PHP = Philippine peso; M = million; NCR = National Capital Region

[1] According to the Report on the implementation of RA 11494 (Nov. 3, 2020), PHP 6 billion will be allocated to finance the following programs: PHP 5 billion for the Social Amelioration Program and PHP 1 billion for livelihood assistance grants

[2] Data as of December 7, 2020 (https://www.pna.gov.ph/articles/1123981)

Note: "–" = no data available

Source: Authors' compilation from OP (2020b, 2021)

Table 15. National government assistance and initiatives for MSMEs during the COVID-19 pandemic

Strategic Goal 1: Enabling Business Environment	
DTI Memorandum Circular 20-44	1. Recommending the recategorization of some business establishments or activities from Category IV to Category III 2. Additional services allowed for barbershops and salons 3. Adjustment of operating hours of food and retail businesses 4. Amendment of the IATF list of businesses that are not allowed to operate 5. Registration of businesses with IATF-endorsed contact tracing applications or administer contact tracing forms
DTI Memorandum Circular 20-24	Guidelines on the extension of the filing, validity, and suspension of penalties and fees of barangay micro business enterprise certificates of authority expiring during the community quarantine (extended for 60 working days)
DTI Memorandum Circular 20-17	Extension of the validity of the Philippine Standard (PS) Quality and/or Safety Certification Mark licenses due to the enhanced community quarantine over Luzon
DTI Memorandum Circular 20-12	Guidelines on the concessions on residential rents; commercial rents of MSMEs (minimum of 30 days grace period)
DTI Memorandum Circular 20-30	Guidelines on refund of payments made for events affected by the state of public health emergency (complementary to Memorandum Circular 20-12: Grace Period on Rent)
DTI Memorandum Circular 20-39	Increasing the operating capacity of dine-in food establishments, amending for the purpose DTI Memorandum Circular 20-37 (s. 2020)
Joint Memorandum Circular 2020-02	Guidelines on the operations and incentives of covered enterprises engaged in the manufacture, importation, and distribution of certain products, and for other purposes, pursuant to RA 11469 (Bayanihan to Heal as One Act)
Revenue Memorandum Circular 57-2020	Streamlining of business registration requirements and revised checklist of documentary requirements
Revenue Regulations 11-2020	Extends the deadline for filing and payment of 2019 Annual Income Tax Return, availing of tax Amnesty Return on Delinquencies, among others, without the imposition of penalties on taxpayers

Table 15 *(continued)*

Strategic Goal 2: Improving Access to Finance	
COVID-19 Assistance to Restart Enterprises (CARES) 2 Program	Similar to the loan feature of CARES 1, including loan limit, zero interest rate, service fee, grace period, and repayment term: 1. Microenterprise (asset size of less than PHP 3 million) may borrow PHP 10,000 to PHP 200,000 2. Small enterprise (asset size <PHP 10 million) may borrow up to PHP 500,000 3. The Small Business Corporation is offering a one-month loan moratorium to MSME borrowers under the P3 loan programs (named as CARES Program)
Livelihood Seeding Program-*Negosyo sa* Barangay (LSP-NSB)	With an allotted amount of PHP 203 million, the program will provide a package of livelihood kits and business advisory assistance and services, amounting to at least PHP 5,000 up to PHP 8,000 to MSMEs affected by natural and human-induced calamities including health disasters arising from epidemics and pandemics.
COVID-19 Adjustment Measures Program (CAMP)	A safety net program for affected workers in the formal sector that includes one-time financial assistance of PHP 5,000 and employment facilitation
Tulong Panghanapbuhay sa ating Disadvantaged/Displaced Workers *Barangay Ko, Bahay Ko* Disinfection/ Sanitation Project (TUPAD #BKBK)	A community-based safety net program that provides temporary wage employment to the informal economy workers affected by the pandemic
Small Business Wage Subsidy Program	Through the Social Security System (SSS), a wage subsidy of between PHP 5,000 and PHP 8,000 (based on the regional minimum wage) per month (up to two months) will be given to affected employees of small businesses upon registration
Unemployment benefits for dislocated workers	Through the SSS, the Unemployment Insurance or Involuntary Separation Benefit will be granted to covered employees who were involuntarily separated from employment
Survival and Recovery (SURE) COVID-19	Offers working capital loans to Agri-fishery MSEs and emergency and production requirements assistance to Marginalized Small Farmers and Fishers (MSFF) to continue operations amid the quarantine

Table 15 *(continued)*

Strategic Goal 2: Improving Access to Finance	
Financial Subsidy for Rice Farmers	A one-time financial assistance amounting to PHP 5,000 to be given to rice farmers with farm sizes ranging from 1 hectare and below and listed under the Registry System for Basic Sectors in Agriculture
Recovery Package for Micro and Small Enterprises Engaged in Agriculture and Fisheries Food Production, and Other Supply Chain Activities	In accordance with the Agripreneurship Development Fund/Program of the ACPC, this package consists of financial assistance and capacity building for micro and small enterprises engaged in agriculture and fisheries production, and other supply chain activities
Rehabilitation Support Program on Severe Events (RESPONSE)	Under the Development Bank of the Philippines, this provides public and private institutions in areas declared under a state of calamity with low-interest loans under a simplified application procedure
Interim Rehabilitation Support to Cushion Unfavorably-affected Enterprises by COVID-19 (I-RESCUE)	Under Landbank of the Philippines, the program aims to support SMEs, cooperatives, and MFIs through the provision of additional funds and loan restructuring under more flexible terms and conditions
Grant of temporary and rediscounting relief measures	Includes the provision of financial assistance, grace period/moratorium on loans, and non-imposition of penalties, among others, for BSP supervised financial institutions
Loan moratorium for Microfinance Council of the Philippines Inc. and the Alliance of Philippine Partners in Enterprise Development	For the client beneficiaries of Microfinance Council of the Philippines Inc. and the Alliance of Philippine Partners in Enterprise Development, there will be no loan payment collections, and no penalties or fines will be levied for microentrepreneurs during the period of enhanced community quarantine

Table 15 *(continued)*

Strategic Goal 3: Enhancing Management and Labor Capacities	
Development of a Google site of technology tools for MSMEs	The DTI developed a Google site to provide information to MSMEs on the different technology tools, applications, platforms, and resources available in coping with the challenges of the community quarantine
ASEAN SME Academy	Currently administered by the DTI's PTTC-GMEA, this is a one-stop multiplatform online learning and information resource that provides about 50 training courses, around 350 relevant links to business information, and access to a directory of service providers for mentorship
Rebuilding the *Sari-Sari* Stores through Access to Resources and Trade (ReSTART)	A multipartnership program that has three components, namely: 1. Safe Stores Communication – development of information materials (on-ground and digital posters) 2. Safe Store Education – development of online modules on how micro retailers shall operate safely under the new normal/post-COVID-19 3. Retailers' Rebuild Bridge Loan's provision of loans to micro retailers and Safe Stores Kit's provision of information materials to micro retailers availing loans
Upskilling and reskilling through TESDA Online Program (TOP)	TOP is an open educational resource that aims to make technical education more accessible to Filipino citizens using information and communications technologies

Table 15 *(continued)*

Strategic Goal 4: Improving Access to Technology and Innovation	
Shared service facilities (SSF) project/ fabrication laboratories (FabLabs)	SSF project is a public-private partnership that aims to improve MSME competitiveness by providing them with machinery, equipment, tools, systems, accessories and other auxiliary items, skills, and knowledge under a shared system
Strategic Goal 5: Access to Market	
Online National Food Fair in Shopee.Ph and Shopee mobile application	Coordinated by DTI and Shopee Philippines, this is a pilot online trade fair project featuring 29 participants, including MSME exhibitors
Series of *Diskwento* caravan and rolling stores	These are being conducted, some of which are done jointly with the Department of Agriculture and local government units in cooperation with MSME suppliers, to ensure the supply of basic necessities priced in accordance with, or lower than, the suggested retail prices
Website creation through Easybuilder.Pro	In partnership with the DTI, EasyBuilder.Pro, a website building platform, is waiving subscription fees for MSMEs for developing websites using their platform

COVID-19 = coronavirus disease 2019; DTI = Department of Trade and Industry; MSMEs = micro, small, and medium enterprises; ASEAN = Association of Southeast Asian Nations; SMEs = small and medium enterprises; MFIs = microfinance institutions; PTTC-GMEA = Philippine Trade Training Center-Global MSME Academy; TESDA = Technical Education and Skills Development Authority; IATF = Inter-Agency Task Force
Source: Department of Trade and Industry (n.d.)

Table 16. Social Amelioration Programs for the labor sector

Program	Number of Beneficiaries	Remarks
CAMP for Affected Formal Workers	914,335 total workers/beneficiaries	PHP 4.577 B has been utilized
	780,467 retrenched, permanently laid-off, and temporarily laid-off workers in private establishments	PHP 3.902 B has been utilized
	89,573 displaced workers from the tourism sector	PHP 452.9 M has been utilized
	44,295 displaced workers from the education sector	PHP 222.1 M has been utilized
CAMP-AKAP for OFWs	116,194 OFW beneficiaries	PHP 1.168 B has been utilized
TUPAD for Informal Workers	939,209 total workers/beneficiaries served	
	797,222 beneficiaries have been paid	PHP 4.547 B has been utilized
	141,987 beneficiaries have been ongoing	PHP 829.1 M is ready for disbursement

CAMP = COVID-19 Adjustment Measures Program; AKAP = *Abot Kamay Ang Pagtulong*; OFWs = overseas Filipino workers; TUPAD = *Tulong Panghanapbuhay sa Ating* Disadvantaged/Displaced Workers; PHP = Philippine peso; M = million; B = billion
Source: OP (2021)

Table 17. Target beneficiaries and allocated budget for CAMP and TUPAD under Bayanihan I and II

Program	Bayanihan 1		Bayanihan 2 (as of January 4, 2021)[1]	
	No. of Target Beneficiaries	Allocated Amount (in billion PHP)	No. of Beneficiaries	Disbursed Amount (in billion PHP)
CAMP for affected formal workers	**657,201**	**3.29**	**914,335**	**4.6**
Retrenched, permanently laid-off, and temporarily laid-off in private establishment	–	–	780,467	3.9
Displaced workers from the tourism sector	–	–	89,573	0.5
Displaced workers from the education sector	–	–	44,295	0.2
CAMP-AKAP for OFWs[2]	**338,900**	**3.45**	**116,194**	**1.2**
TUPAD for informal workers	**337,198**	**1.26**	**939,209**	–
Paid beneficiaries	–	–	797,222	4.5
Ongoing work[3]	–	–	141,987	0.8
Total	**1,333,299**	**8.00**	**1,969,738**	**10.3**

CAMP = COVID-19 Adjustment Measures Program; AKAP = *Abot Kamay Ang Pagtulong*; OFWs = overseas Filipino workers;
TUPAD = *Tulong Panghanapbuhay sa Ating* Disadvantaged/Displaced Workers; PHP = Philippine peso
[1] PHP 16 billion total allotted amount according to RA 11494
[2] Additional PHP 1 billion was added from the initial Bayanihan 1 allotment, data shown was taken as of November 28, 2020 (DOLE 2020)
[3] Amount ready for disbursement
Note: "–" = no data available
Source: Authors' compilation from OP (2020a, 2020b, 2021)

From November to December 2020, PHP 779.1 million had been released to 119,863 qualified PUV units nationwide, or 67.1 percent of the total allotment for the program (OP 2021).

Moreover, the Civil Service Commission issued MC 10 (s. 2020), on the "Revised interim guidelines for alternative work arrangements and support mechanisms for workers in the government during the period of a state of national emergency due to COVID-19 pandemic". Government agencies were allowed to implement any of the following work arrangements: work-from-home, skeleton workforce, compressed workweek, staggered working hours, and other alternative work arrangements. Meanwhile, work-from-home arrangements for the private sector are guided by RA 11165 or the Telecommuting Act of 2018.

Education

The education sector shifted to a remote learning system that comprised different learning modes, including online classes, printed modules, and lessons broadcasted via radio or television. The Department of Education (DepEd), Technical Education and Skills Development Authority (TESDA), and Commission on Higher Education (CHED) released several policy issuances related to the continued learning of Filipino students while ensuring their safety amid the pandemic. The DepEd also authorized school heads to release desktop computers, laptops, tablet PCs, and smartphones to teachers for use in online trainings and classes during the pandemic. It also authorized schools to issue desktops, laptops, and tablet PCs that can be borrowed by learners for temporary use in online learning. In May 2020, the DepEd issued the Basic Education Learning Continuity Plan (BE-LCP), which specified the different learning modalities that can be conducted under the remote learning system and other department orders that guided the implementation of remote learning during the pandemic (Orbeta, this volume).

Aside from issuing policy guidance on online/remote learning, the DepEd also released a directive supporting the DOH's program to immunize children under five years old, which includes activities

like information drive about COVID-19 and polio and the details on mass immunization. It created a task force called "Quick Response and Recovery Team (QRRT)-nCOV" to oversee these initiatives. Guidelines on the suspension of classes and the submission of the weekly health situation reports by the school division officers were also provided. For TESDA, there was a temporary suspension of classes based on the protocols released by the IATF-EID. For CHED, flexible learning methods for higher education were offered in lieu of the suspension of face-to-face classes.

In terms of financing, the Government Service Insurance (GSIS) launched the GSIS Computer Loan Program that provides PHP 30,000 worth of financial assistance to members and their families for the purchase of computer units for online work or virtual classes of their children. It also allocated funds for the Financial Assistance Loan–Educational Loan Program, which provides assistance for tuition fees and/or other school expenses. Members can avail of a 10-year loan of up to PHP 100,000 per school year, with a 5-year grace period.

Agriculture and food security

To mitigate the risk of disrupting the food supply chain, the national government strengthened the DA's Food Lane Pass program (Briones, this volume). This program exempts suppliers and truckers of basic commodities (e.g., rice, frozen meat, agricultural products) from travel restrictions and allows for easier passage at designated checkpoints. The department also imposed an emergency price control on necessities for 60 days upon the announcement of the State of Public Emergency.

Due to earlier reports on issues in the free flow of essential food supplies, the DA, DILG, and Philippine National Police improved their coordination to ensure unhampered movement of food supply, cargo, and business personnel during the community quarantines.

Also, cash assistance was provided to eligible rice farmers through select government financial institutions (GFIs). The expanded Survival and Recovery (SURE) Assistance Program provided zero-interest

and collateral-free loans to marginalized small farmers and fishers affected by the ECQ. As of January 4, 2021, a total credit financing of PHP 1.465 billion out of the PHP 2.5 billion total funding under the Expanded SURE-Aid and Recovery Project was extended by the DA through the Agricultural Credit Policy Council (ACPC). The department also provided a recovery package for micro and small enterprises engaged in agriculture and fisheries food production and other supply chain activities in accordance with ACPC's Agripreneurship Development Fund/Program.

Best practices in COVID-19 response

After more than a year of handling the COVID-19 pandemic, the Philippines continues to implement various levels of quarantine protocols. While heightened restrictions on mobility have helped lower COVID-19 cases, as observed in August 2020 and April 2021, much can still be improved to make the country's overall pandemic response more sustainable and less damaging to the economy in the long run. This subsection presents the best practices from other countries that may help in the formulation of the country's future response to pandemics and other public health emergencies.

COVID-19 related indicators

The best-performing countries are identified based on certain pandemic response indices. Numerous publications rank countries' performance in terms of response to the COVID-19 pandemic.[14] The following metrics were chosen to determine the comparative effectiveness of economies in preparing for and responding to a wide-scale health emergency:

[14] The indices and measurements from the Global Health Security Index 2019, Bloomberg's COVID Resilience Ranking, and COVID Performance Index serve as the basis for identifying best practices. However, other performing countries may have been left out as some of the indices only observed specific income levels. The time of measurement may have also contributed to the varying results. In using three indices, existing limitations of individual indices in relation to scope and timing is factored into the review.

- The GHS Index 2019 looks at the following factors: (1) prevention of the emergence or release of pathogens; (2) early detection and reporting for epidemics of potential international concern; (3) rapid response to and mitigation of the spread of an epidemic; (4) sufficient and robust health system to treat the sick and protect health workers; (5) commitments to improving national capacity, financing plans to address gaps, and adhering to global norms; and (6) overall risk environment and country vulnerability to biological threats (NTI and JHCHS, p.36).[15] The research was published in October 2019, months before the pandemic, thus, the results may be different from the actual response of countries. This index serves as a good baseline of whether actual preparedness and availability of resources can translate to a better response. The GHS Index measures the global health security capabilities of 195 countries in the WHO 2005 International Health Regulations (IHR).[16]
- Bloomberg's COVID Resilience Ranking shows a more recent situation, which already incorporates information on vaccine distribution. This index is observed to be more advantageous for higher-income countries, given that they have secured COVID-19 vaccines ahead of lower-income nations. Other indicators included in the computation of the ranking can be seen in Table 18. The research team ranked 53 economies, specifically those valued at more than USD 200 billion before the pandemic.
- COVID-19 Performance Index, measured by the Lowy Institute, compared the pandemic response in 116 countries.

[15] The GHS Index 2019 is a collaboration between the Nuclear Threat Initiative (NTI), John Hopkins Center for Health Security (JHU), and The Economist Intelligence Unit.

[16] The WHO IHR is a binding legal instrument that sets forth the foundational international standards of health. It addresses cross-border public health risks.

Table 18. Indicators used in building Bloomberg's COVID Resilience Ranking

Indicator	Definition	Source
1-month cases per 100,000	COVID cases per 100,000 people over the past month	Johns Hopkins University
1-month fatality rate	COVID deaths as a share of cases over the past month	Johns Hopkins University
Total deaths per 1 million	COVID deaths per one million people since the start of the pandemic	Johns Hopkins University
Positive test rate	Percentage of COVID tests that come back positive based on latest available data	Our World in Data
Access to COVID vaccines	Percentage of population covered by vaccine supply agreements	Bloomberg News
Doses given per 100	COVID vaccine doses administered per 100 people	Bloomberg News
Lockdown severity	A high score indicates that social and economic activities are tightly restricted by government policies. It means people are experiencing greater disruption to their lives, resulting in a lower ranking	Oxford University
Community mobility	Movement of people to offices and retail spaces compared to a pre-pandemic baseline	Google Inc., Bloomberg Economics
2021 GDP growth forecast	Year-on-year GDP change forecast for 2021	Bloomberg surveys, International Monetary Fund
Universal healthcare coverage	The strength of a healthcare system, derived through the effectiveness of 23 aspects of health coverage, ranging from preventative measures like childhood vaccines to treatment of serious illnesses like cancer	Institute of Health Metrics and Evaluation
Human Development Index	Well-being of a population, defined by three measures: life expectancy, access to education, and income per capita	United Nations Development Programme

COVID = coronavirus disease; GDP = gross domestic product
Source: Bloomberg (2020)

> The review on pandemic performance was limited to the first 43 weeks (approximately 10 months) following the hundredth confirmed COVID-19 case (Lowy Institute 2021). Indicators used in the computation were confirmed cases, confirmed deaths, confirmed cases per million people, confirmed deaths per million people, confirmed cases as a proportion of tests, and tests per thousand people. This measurement looks at the effectiveness of government response in controlling and monitoring COVID-19 transmission.

The paper examined the practices implemented by select economies included in the top ten of each index (Table 19). The table has 23 economies, but the paper also looks into other countries with exemplary responses during the pandemic, such as Viet Nam and Germany.[17] The succeeding discussion will also focus on government responses to the following factors: (1) government and health system protocols, (2) social protection measures, and (3) education continuity, specifically on remote learning practices.

Response to the COVID-19 pandemic from select economies

Government and health system protocols

As of the first quarter of 2021, most of the countries in Table 19 had eased their mobility restrictions, but this did not extend to outsiders as most of their borders remained closed. The success among the best-ranked economies was observed to be reliant on the capacity for mass testing, extensive contact tracing, and quarantine protocols. Aside from controlling the spread of COVID-19, countries also had to implement and promote vaccine deployment to reach containment or herd immunity levels.

At the start of the pandemic, the best-performing economies had either allowed relatively free movement of citizens (e.g., Taiwan, Japan) or employed mobility restrictions through severe lockdown measures (e.g., United States, New Zealand). Based on the Stringency

[17] The Exemplars in Global Health have identified the pandemic response from Germany, South Korea, and Viet Nam as highly successful. This was based on the countries' performance for the following indicators: prevention, detection, containment, and treatment.

Table 19. Ranking of best-performing economies during the pandemic

Rank	GHS Index[1]	Bloomberg's Resilience Score[2]	COVID-19 Performance Index[3]
1	United States (83.5)	Singapore (79.7)	Bhutan (93.0)
2	United Kingdom (77.9)	New Zealand (79.6)	New Zealand (93.0)
3	Netherlands (75.6)	Australia (76.2)	Taiwan (84.8)
4	Australia (75.5)	Israel (74.9)	Thailand (82.6)
5	Canada (75.3)	Taiwan (74.7)	Cyprus (82.3)
6	Thailand (73.2)	South Korea (72.7)	Iceland (79.3)
7	Sweden (72.1)	Japan (70.9)	Rwanda (79.0)
8	Denmark (70.4)	United Arab Emirates (69.7)	Latvia (77.0)
9	South Korea (70.2)	Finland (68.9)	Australia (76.8)
10	Finland (68.7)	Hong Kong (68.2)	Estonia (75.6)

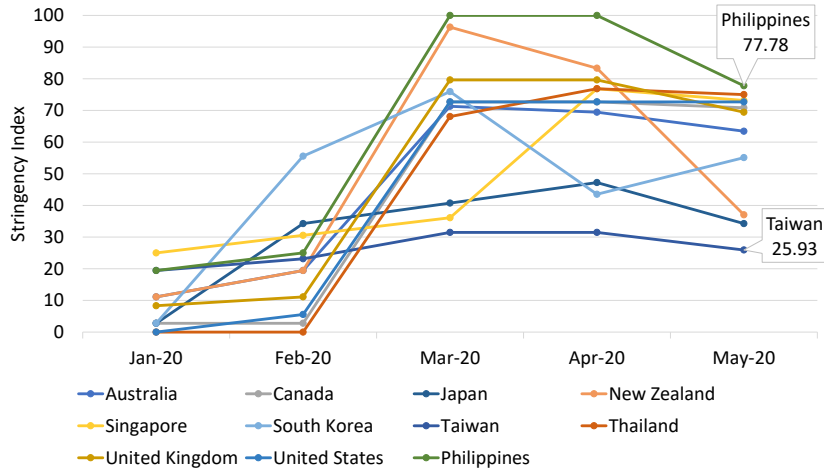
GHS = global health security; COVID-19 = coronavirus disease 2019
[1] Global Health Security Index 2019; [2] Bloomberg's COVID Resilience Ranking (as of 26 April 2021); [3] Lowy Institute (as of 13 March 2021)
Note: Ranking may change for Bloomberg's Resilience Score and Lowy Institute's COVID-19 Performance Index as new information continues to be accounted for in their computation.
Source: Authors' compilation

Index[18] of the University of Oxford, none of the 23 best-performing countries had reached a score greater than 50 in January 2020 (Figure 17). During this time, people and businesses maintained regular operations, although some governments started monitoring passengers coming from Wuhan or mainland China (e.g., Hong Kong, Singapore, Taiwan).

By the end of January and the first few weeks of February, some economies, mostly in the Asia-Pacific region, started partially closing their borders. Initially, travel bans were focused on Hubei province and other provinces of China, but as some countries experienced outbreaks, they were soon included in the list.

[18] The Stringency Index is a composite measurement that looks into the severity of different government policies implemented during the pandemic. It provides researchers and policymakers with an up-to-date reference for future responses. In particular, nine indicators (ordinal scale) were used in the computation, namely, school closures, workplace closures, public event cancellations, gathering size restrictions, public transport closures, stay-at-home measures, internal movement and international travel restrictions, and public information campaigns.

Figure 17. Stringency index of select economies in the first five months of 2020 (from January to May)



Note: Specific dates indicated in the graph are the last day of each month; score ranges from 0 to 100, where 0 is the least stringent while 100 is the most stringent.
Source: Hale et al. (2020)

Successful monitoring of incoming travelers and mandatory quarantine measures helped in managing cases coming from outside. While selected countries experienced a surge in cases, they managed to control the transmission through effective implementation of health protocols as can be gleaned from the experience of New Zealand (Box 1), Viet Nam (Box 2), and South Korea (Box 3).

At all alert levels, individuals were encouraged to document their movements, while businesses, workplaces, and organizers of gatherings were required to maintain records that could assist in contact tracing when needed.

Based on the nature of COVID-19, with majority of the infected being asymptomatic or exhibiting mild symptoms, widespread testing is essential. Thus, for contact tracing and monitoring to be effective, there is a need to ramp up testing. Two of the most common interventions are making testing free or affordable and ensuring that it is easily accessible to all. By removing these barriers, the implicit and explicit costs of testing will be lessened.

Box 1. New Zealand's four-level alert system

New Zealand implemented heightened mobility constraints to avert the transmission of the COVID-19 virus. On March 21, the country instituted a national four-level alert system (1-lowest risk of infection and 4-highest risk of infection) to address the threat of the virus. By March 25, alert level 4 was declared wherein only essential workers were allowed to go out, while other individuals could leave their bubble only for essential personal movement and local recreational activity (New Zealand Government 2021). New Zealand moved to alert level 3 on April 27. Beginning May, no new cases were discovered; by June, no active cases were reported that allowed it to move to alert level 1. The table below summarizes New Zealand's COVID-19 alert system:

Alert System	Protocols
Level 1: Prepare	• Border entry measures • Intensive testing and rapid contact tracing of any positive case • Self-isolation and quarantine required • Schools and workplaces are open • No restrictions on personal movement and gatherings • No restrictions on domestic transport
Level 2: Reduce	• People can socialize in groups of no more than 100, go shopping, or travel domestically • Physical distancing of two meters outside the home, and one meter in controlled environments like workplaces and schools • Sport and recreation activities are allowed • Public venues (e.g., libraries, pools) can open given that they comply with public health measures • Event facilities (e.g., cinemas, stadiums, concerts, casinos) can have more than 100 people at a time subjected to health compliance • Schools, early learning services, and tertiary education are open • Face coverings required on public transport and aircraft subject to a few exemptions

Box 1 *(continued)*

Level 3: Restrict	• People are instructed to stay home other than for essential personal movement—including to go to work, school if they have to, or for local recreation • People can expand their immediate household bubble to reconnect with close family, bring in caregivers, or support isolated people (should remain exclusive) • Maintain physical distancing and public health measures • Public venues are closed, however, gatherings of up to 10 people are allowed only for specific occasions • Limited capacity for schools (years 1 to 10) and early childhood education centers • Businesses cannot offer services involving close personal contact, unless this involves essential goods and services, or is an emergency/critical situation • Healthcare services use virtual, noncontact consultations whenever possible • Interregional travel is highly limited (exemptions for critical workers)
Level 4: Lockdown	• People to stay in their homes other than for essential personal movement, safe recreational activity in their area • All gatherings were canceled and all public venues closed • Businesses closed except for essential services (e.g., supermarkets, clinics, petrol stations) and lifeline utilities • Educational facilities closed • Rationing of supplies and requisitioning of facilities possible • Reprioritization of healthcare services

Source: New Zealand Government (2020)

Box 2. Viet Nam's third-degree contact tracing

Prior experience with severe acute respiratory syndrome helped prepare Viet Nam's pandemic response to COVID-19. Although Viet Nam is a lower middle-income country, it managed to address the pandemic as effectively as some high-income countries. In 2020, Viet Nam had only 1,465 COVID-19 cases, while confirmed deaths stood at 35. According to Pollack et al. (2021), this achievement can be credited partly to the country's comprehensive containment strategy based on widespread testing, detailed contact-tracing protocols, and proactive quarantine measures. Since the healthcare system can easily be overwhelmed by COVID-19, effective implementation of said measures helped slow down the transmission to manageable levels and eventually eliminated the threat for a time. Compared with other countries, Viet Nam's approach in contact tracing was unique as identification of probable cases were grounded on the epidemiological risk of infection, whether they traveled from a place with COVID-19 cases and/or if they were in contact with a positive case rather than if they were exhibiting symptoms (Pollack et al. 2021). Contact tracing went beyond the primary contact of the positive person or the first degree up to the close contact of the fourth degree when necessary.

All close contacts of those that tested positive for COVID-19 were required to be tested; if the result was positive, they were directed to isolate in health care facilities (HCFs). If the result was negative, they were directed to isolate themselves in a designated government-owned quarantine center for 14 days. Close contacts of the above individuals were mandated to complete a 14-day home quarantine. For the whole of 2020, 10,242,896 people were quarantined, wherein 2 percent were placed in HCFs, 41.9 percent in government-owned quarantine centers, and 55.9 percent were instructed to quarantine at home (WHO 2020b). To support contact tracing, targeted lockdowns were administered in key locations where the risks for outbreaks were high. The government also used a computer application (NCOVI) that encouraged individuals to declare their health status daily, provided information on probable cases, and tracked the movement of those in quarantine (Nortajuddin 2020; Pollack et al. 2021).

Aside from the country's extensive contact-tracing efforts, Viet Nam was also commended by WHO for its strong government leadership, effective multisectoral approach, early response and capacity building, and long-term investment to strengthen health emergency response (WHO 2020b).

Sources: Pollack et al. (2021); WHO (2020b)

Box 3. South Korea's ICT approach to COVID-19

South Korea was among the first countries that experienced a rapid surge in cases. It then immediately ramped up its pandemic response by developing and scaling up production of testing kits. Its response was remarkable and unique since it managed to flatten the curve without implementing prolonged lockdown measures.

Information and communications technology (ICT) and big data were also utilized to scale up contact tracing, provide medical innovations, promote physical distancing, and disseminate information to the public (Republic of Korea Ministry of Economic and Finance 2020). To retrace movements of COVID-19-positive individuals, the government extensively utilized ICT systems (Figure 18). Location data from cell phone carriers and credit card history were acquired to improve contact tracing (Zastrow 2020).

Source: Republic of Korea Ministry of Economic and Finance (2020)

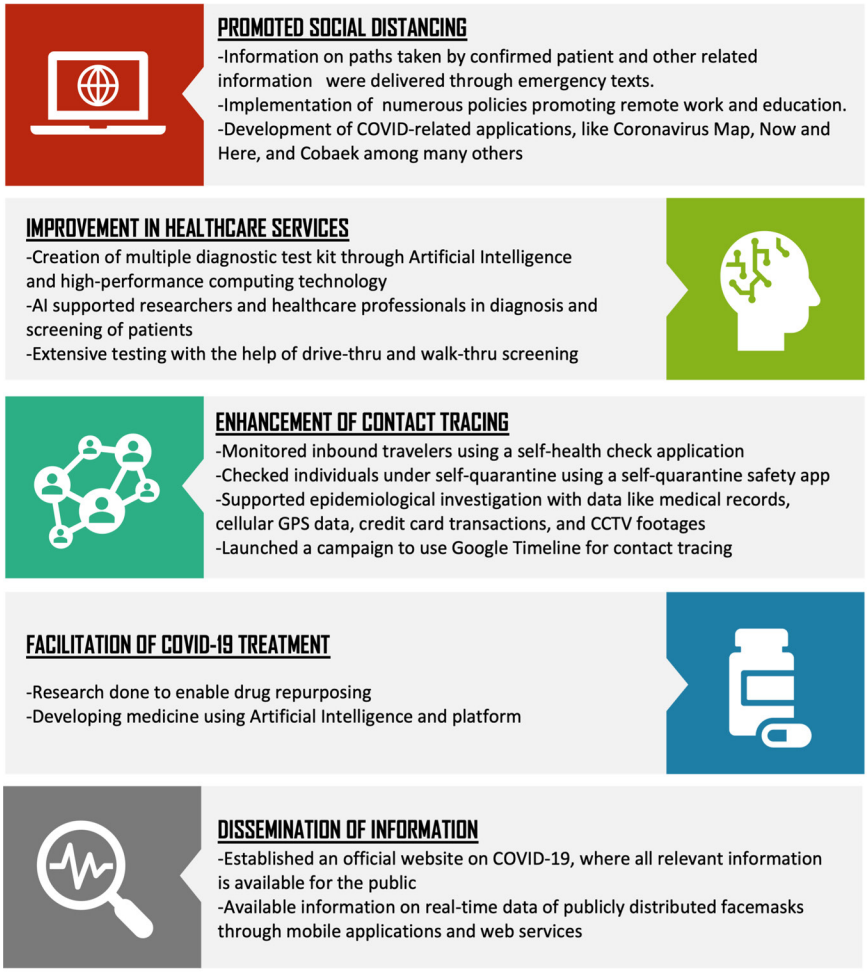
At the start of the pandemic, Singapore, South Korea, and Viet Nam were able to rapidly develop their own test kit and expand the capacity of their laboratories for mass testing. Collaboration with state universities, the private sector, and the government helped speed up this process. In Viet Nam, government-funded institutions developed at least four diagnostic tests by February (Pollack et al. 2021), while the private sector helped in mass-producing test kits.

Temporary clinics and alternative health facilities were also built to prevent the healthcare system from being overwhelmed. This guaranteed the continuity of health service delivery during the crisis. South Korea constructed hundreds of high-capacity screening clinics that promoted easier testing. Other countries also established drive-through and walk-in testing sites that encouraged more people to get tested.

Social protection measures

Countries around the world have implemented temporary social protection measures to address the economic fallout caused by the pandemic. The most common form of assistance adapted globally is the provision of cash transfers. Common beneficiaries are workers in

Figure 18. Flattening the curve using ICT



COVID-19 = coronavirus disease 2019; GPS = global positioning system; CCTV = closed-circuit television; ICT = information and communications technology
Source: Authors' compilation from the Republic of Korea Ministry of Economic and Finance (2020)

the informal sector, unemployed workers, and low-income families. Furthermore, some countries have existing programs to support solo parents, senior citizens, and PWDs, among others. Sustaining these programs ensured that vulnerable groups receive the same benefits with the prospect of receiving additional support from COVID-19-specific programs.

Based on previous economic and financial crises and earlier pandemics, the Social Protection Interagency Cooperation Board[19] emphasized the need to act on the following concerns: (1) ensure access to health services and support people in adopting necessary prevention measures; (2) ensure income security and access to essential goods and services and protect human capabilities and livelihoods; (3) prioritize the most vulnerable; (4) mobilize substantial domestic and international financing to protect and enhance fiscal space for health and social protection in all countries; (5) ensure continued/scaled-up and coordinated delivery capacities of social protection and humanitarian crisis response programs; and (6) design crisis response measures with a view of strengthening social protection systems in the medium and long term (ILO n.d.).

Boxes 4, 5, and 6 present snapshots of practices in the provision of social protection seen in New Zealand, Japan, and Bhutan during the pandemic.

Education continuity

At the start of the pandemic, school closures were one of the earliest measures introduced by governments. Although it helped lessen the risk of COVID-19 for students, it had a negative effect on both students and teachers. It likewise exacerbated existing inequalities in education. To address this, countries around the world employed various methods to help the education system.

[19] The Social Protection Interagency Cooperation Board is an interagency coordination mechanism that aims to promote and organize global coordination on social protection issues (ILO n.d.). It is composed of representatives from 10 government bodies and 25 intergovernmental agencies.

Box 4. New Zealand: Comprehensive social protection

New Zealand enforced one of the most severe stay-at-home orders, wherein only essential workers were allowed to leave their residence. Stringent quarantine protocols led to high unemployment levels, with many citizens claiming welfare benefits.

The government carried out multiple financial support mechanisms for businesses, including (1) a short-term absence payment worth NZD 350 for workers waiting for their test results, (2) resurgence support payment for businesses affected by prolonged lockdown measures [alert level 2 or above] and are expected to experience a 30-percent decline in predicted or actual revenues, (3) a wage subsidy scheme if the country is in alert level 5 and a business experiences a 40-percent decline in predicted or actual revenue, (4) a leave support scheme paid in lump sum covering two weeks for workers required to file a leave due to public health guidelines, and (5) up to NZD 100,000 for small businesses with 50 or fewer employees to sustain their cash flow needs. Debt and tax support were also made available for affected businesses.

NZD = New Zealand dollar
Source: MBIE (2020)

Box 5. Japan: Universal financial assistance

Instead of focusing on low-income families, Japan implemented a universal financial assistance for local and foreign citizens. To receive JPY 100,000 (USD 930) from the Japanese government, applicants must be living in Japan for more than three months and a registered resident as of April 27, 2020. The program amounted to around JPY 13 trillion (USD 120 billion), triple the initial program that only covered struggling households.

JPY = Japanese yen; USD = United States dollar
Source: Kyodo News (2020)

Box 6. Bhutan: Protecting the disadvantaged

Bhutan is a lower middle-income country with a population of only 760,000. It is located in South Asia and bordered by India and China, both critical locations of the pandemic. In 2020, its total COVID-19 cases reached 655, while only one confirmed death was recorded.

The International Labour Organization estimates that about 87.5 percent of the total employment in the country are in the informal sector (Alvarenga and Soares 2020). Bhutan's primary social protection program is the Druk Gyalpo Relief Kidu, which has a total budget of BTN 700 million. It provides monthly assistance to 23,000 individuals, which amounts to BTN 8,000 or BTN 12,000 for three months. An additional BTN 800 is given to those with children. This covers unemployed, self-employed, workers with suspended contracts, and returning citizens. Employment support was also given to approximately 2,400 people who lost their livelihood and/or working in the tourism and hospitality sector.

BTN = Bhutan ngultrum
Source: Alvarenga and Soares (2020)

Distance or remote learning is not a new mode of teaching; however, the pandemic has forced its large-scale adoption that affected close to 91 percent of learners (1.6 billion) (Dreesen et al. 2020). For education to remain equitable, governments devised multiple policies to help students, parents, educators, and schools.

Accordingly, UNICEF provided the following recommendations for learning under COVID-19: (1) make multiple delivery channels available; (2) provide support to teachers, parents, and caregivers delivering distance learning; and (3) monitor feedback of involved parties on the coverage and quality of education (Dreesen et al. 2020). Ndaruhutse et al. (2020) added the importance of collaboration between the government and private sector investing in national digital capacity, providing access to technological equipment for underprivileged families, and ensuring that education content is representative of the audience. Table 20 shows some of the best practices from other countries in terms of remote learning.

Table 20. Examples of best practices in remote learning per key theme

Key Themes	Bangladesh	Singapore	South Korea	United States
1. **Collaborating across government and in public-private partnerships to build preparedness**	Establishment of Access to Information (a2i) in the ICT Division of the Government of Bangladesh to build capacity and capability of the media sector		Strong collaboration between the government and telecommunications companies for the creation of smart learning systems and services	Sesame Workshop demonstrated the importance of different fields working together (i.e., education experts, media production experts, child psychologists)
2. **Investing in building national digital capacity**	Ten-year external investment worth GBP 50 million in the education and media sector, as well as external investment to establish a2i	Prioritized investment in ICT, and specifically education technology, through a series of national plans over the last 25 years		A district in the US had developed an online learning system that can be easily switched in response to COVID-19
3. **Providing guidance for teachers on how to support remote learning**		Used a pilot approach before nationwide school closures; provided guidance to teachers	Established a remote community of practice for teachers, Teacher On, in which teachers can exchange ideas and examples of good practice; provided guidance for teachers on remote learning	Creation of the National Standards for Quality Online Learning
4. **Supporting parents to help their children with remote learning**	a2i is planning to provide guidance to parents to help engage their children in remote learning			Sesame Workshop provided resources on a dedicated website to support families and communities

Table 20 *(continued)*

Key Themes	Bangladesh	Singapore	South Korea	United States
5. Affordable (or free) internet access for educational sites from network providers	Negotiated with all six mobile phone networks to ensure reduced data costs for educational material			Used by several US states or districts
6. Providing technological equipment and/or internet access for disadvantaged families			Supported low-income families to reduce the cost of internet connectivity, as well as supported third sector computer equipment-lending services	Some districts have provided disadvantaged students with Chromebooks, while others have parked Wi-Fi-enabled buses in local communities
7. Ensuring broadcasting presenters and content are inclusive and representative of the audience				Sesame Workshop promoted inclusion and strong representation from different racial and ethnic groups, as well as from children with disabilities and other types of disadvantage

GBP = British pound sterling; ICT = information and communications technology; COVID-19 = coronavirus disease 2019
Source: Ndaruhutse et al. (2020)

South Korea's national strategy for homeschooling included the above suggestions, but the country also capitalized on online platforms to provide support. Teachers and educators were given guidance through the Teacher On initiative and the 10,000 Communities platform, which provided teachers with an online community to share practices and allowed them to learn from each other (Ndaruhutse et al. 2020).

Meanwhile, Rwanda's education sector used multiple platforms for distance learning to reach underprivileged students. Education was delivered through television (TV) and radio programs, while general information was disseminated through newspapers, social media, and text messages.

The availability of vaccines for children is considered key to post-COVID-19 education continuity for countries. The Pfizer-BioNTech COVID-19 vaccine can now be administered to individuals 12 years and older, while other vaccines are still under clinical trials. The world is slowly returning to normal, thus, the government must plan ahead on using better practices in remote learning, transitioning from remote to face-to-face learning, or applying a combination of both modalities depending on the situation.

Best practices during the pandemic

Although countries like the United States and the United Kingdom ranked relatively high in the GHS 2019 index, they were not as successful as other countries with lower rankings in handling the COVID-19 pandemic at the early stages. The speed of the response and the use of stringent measures were observed to be key responses in handling the initial wave of infection. Additionally, fast mobilization of resources and immediate science-informed policy responses had been critical in keeping the number of infections manageable. In terms of geography, location proved to be beneficial in isolating from outside infection. Island nations like Australia, New Zealand, Singapore, and Taiwan implemented strict measures on water and air travel.

However, once the virus breached a country's border, rapid response in the form of effective contact tracing, isolation and physical distancing protocols, and extensive testing were among the measures

that best-performing countries did exceptionally. Early detection and containment were vital in preventing the healthcare system from being overstretched and managing scarce resources better. Walk-through and/or drive-through testing, an initiative done by many of the selected countries, proved useful in encouraging people to get tested and enforcing wider infection surveillance efficiently.

Meanwhile, ICT and big data aided some governments in contact tracing and spreading key information. New Zealand adopted a nationwide monitoring system through the NZ COVID Tracer, an application that uses quick response codes to check the travel history of individuals. Singapore made use of TraceTogether, an application that records the distance and the duration of encounters between users (Palma 2020). In Taiwan, a digital healthcare system allowed healthcare workers to have easy access to vital medical information of citizens online and to notify doctors about a patient's risk of infection based on travel history (Farr and Gao 2020). South Korea used artificial intelligence in treatment and healthcare delivery.

Clear leadership and governance, along with a data-driven and science-based approach, were also observed among the selected countries. Rapid and effective response from the government helped in controlling the pandemic and building trust with citizens. This section on best practices can be summarized in Figure 19, which presents some of the universal practices of the best-performing countries in handling the COVID-19 pandemic.

Role of whole-of-government approach in crisis management

The government's response plays a crucial role in determining how well and fast a country can recover from the damaging consequences of a crisis. While there is a wide gamut of strategies a government can undertake, the whole-of-government approach (WGA) seems to be the governing umbrella through which countries can effectively manage and tackle issues and challenges that require interagency and cross-tier actions. This approach has been commonly used in

Figure 19. Best practices in handling the COVID-19 pandemic

COVID-19 = coronavirus disease 2019
Source: Authors' compilation

addressing complex societal issues, achieving development goals, managing crises, and strengthening national security, among others (Christensen and Lægreid 2007; Hammond 2007).

The concept of a "joined-up government" (JUG) is considered today's common response to the "siloed" governance that has long been prevailing within public sectors. Veering away from the consequences of the New Public Management reforms in the 1980s, such as the fragmentation of policies, structural devolution, and single-purpose organizations (Pollitt 2003; Gregory 2006), the concept of "joining up" the government arose to make the public sector more responsive to people's needs through increased cohesion and collaboration. Pollitt (2003, p.35) defines JUG as an "aspiration to achieve horizontally and vertically coordinated thinking and action" that can lead to numerous benefits, including the elimination of situations in which different policies across agencies undermine each other, better use of limited resources, establishing collaborations among key stakeholders in a certain policy issue, and providing citizens access to a holistic and wide-ranging set of public services. While there is no single definitive set of practices and mechanisms that can fit all countries, there are emerging commonalities that point toward the successes of WGA (Carey and Crammond 2015).

Today's health crisis is a useful case in point to highlight the importance of WGA and how it can be used to achieve societal goals and outcomes. For instance, in Australia and New Zealand, it breaks the silo mentality across government entities and thus supports a more horizontally harmonized and agile government needed in crisis management (Carayannopoulos 2016; Brookings Doha Center 2021). Collaborative planning among stakeholders, which include government bodies, medical experts, and crisis managers, allows for a comprehensive response to a major and complex crisis, such as the COVID-19 pandemic (Downey and Myers 2020). The WGA also enables academic institutions and private organizations to work more closely with the government in responding to the pandemic.

Nonetheless, despite its growing prominence in modern public administration, the experiences of other countries illustrate how the mere adoption of a WGA can be insufficient, if not detrimental (Bryson et al. 2006), in a country's pursuit of a more cohesive set of policy outcomes (Homel 2004). This section thus examines the notion of WGA—what it is and what it entails to ensure that it translates into better coordination and more cohesive policies.

The Philippine case

Collaborative efforts across government bodies through WGA have been among the primary mechanisms wherein the public sector aims to achieve its cross-sectoral goals, especially during the COVID-19 pandemic. The WGA has been a recurring theme in the Philippine governance system, as can be seen in previous national planning documents (e.g., *Philippine Development Plan (PDP) 2011–2016; E-Government Master Plan 2022*) and specific COVID-related policy issuances (Bayanihan to Heal as One Act; "We Recover as One" report; *updated PDP 2017–2022*). JMC 1 (s. 2020), which provides for the implementing rules and regulations of the social amelioration measures, highlights the need for WGA in its execution. Despite this, the government's pandemic response, as shown by the different indicators (e.g., cumulative cases and deaths and pandemic response scores and rankings), can still benefit from a fully functioning WGA supported by key elements discussed later in this subsection.

Experiences of Australia on WGA

The Australian government is one of the highest-ranking countries in pandemic response and is known to be an implementer of WGA even before the health crisis. Its coordinated and unified response (Bremmer 2020; Holley et al. 2021) has been commended and regarded as one of the best practices based on Bloomberg's COVID Resilience Ranking (Hong et al. 2021) and the Lowy Institute's COVID Performance Index (Lowy Institute 2021). The Australian government's ability to provide a coordinated national response while recognizing the autonomous powers of the individual states has been a key feature of its pandemic response (Child et al. 2020). Nonetheless, Australia has better initial conditions (e.g., technological advancement) and structural advantages over other countries that may have largely contributed to its success in the fight against the pandemic.

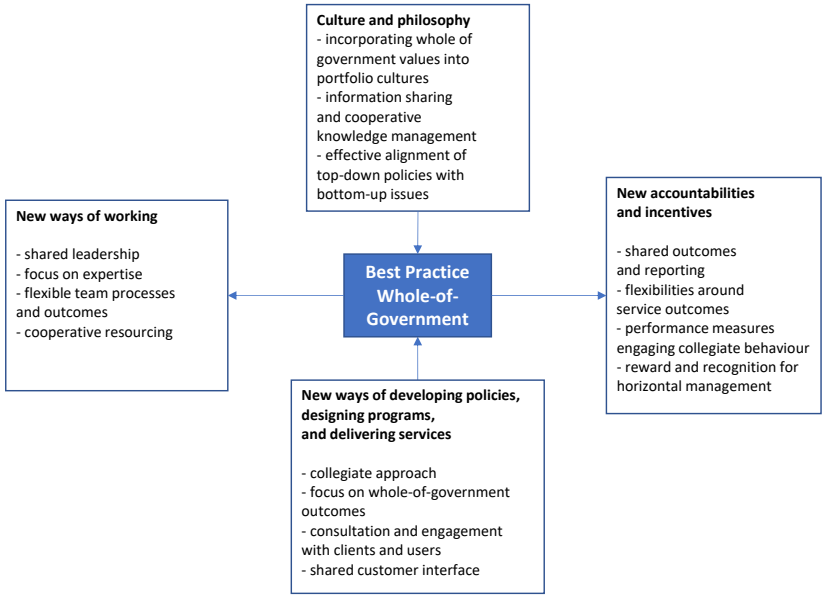
Figure 20, which was adopted from Ling's (2002) framework, summarizes Australia's best practices in implementing WGA. It presents a fourfold typology or dimensions of a joined-up endeavor: (i) new ways of working, (ii) new accountabilities and incentives, (iii) culture and philosophy, and (iv) new ways of developing policies and delivering services. The highest national whole-of-government plan and national health plan are the Australian Government Crisis Management Framework and the National Health Emergency Response Arrangements, respectively. In the succeeding subsection, the WGA is further explained using the four basic elements of an e-government as defined by the UN (2012).

Enabling factors of a whole-of-government approach

The WGA is founded on the idea of collaboration. As Bryson et al. (2006, p.2) put it, collaboration is the "linking or sharing of information, resources, activities, and capabilities by organizations in two or more sectors to achieve jointly an outcome that could not be achieved by organizations in one sector separately". This definition emphasizes the different aspects or elements that need to be interconnected to attain jointly set goals.

Joining up government organizations for certain societal goals can be facilitated through the use of technology and innovation.

Figure 20. Best practice of whole of government, Australia



Source: Shergold (2004) adopted from Ling (2002)

Today, the "digitalization of things" is at the forefront of making public service delivery more efficient and responsive to people's needs. It thus acts as a major driving force toward a more effective whole-of-government work. As suggested by the UN (2012), attaining a well-functioning digital or e-government for WGA requires four basic elements: (i) national coordinating authorities, (ii) interoperable databases across public sector bodies, (iii) integrated portal for massive online public services, and (iv) overall commitment of the public sector (Table 21). As there are no existing standards or rules as to what constitutes an effective whole-of-government practice, these four elements can be considered initial prerequisites for implementing an improved WGA for the Philippines.

The first element is having **a national coordinating authority** and a legitimate coordinating officer that would oversee the collaboration efforts of the government.

Table 21. Whole-of-government approach anchored on e-governance elements

Indicator/Description
I. Presence of national coordinating authorities
Is there a **national coordinating authority** responsible for overseeing cross-body collaboration (e.g., task forces) to achieve economic and societal goals during pandemics? i. Cross-departmental (departments) ii. Cross-governmental (national and local) iii. Cross-sectoral (includes NGOs, private sector) iv. All of the above
Is there a designated official responsible for overseeing the cross-body collaboration?
Is the role of each body within the national coordination authority clear and concise?
II. Public sector interoperability – *ability of the government to share and integrate information by using common standards*
Is there an overall plan* for public sector interoperability? *Includes the resources, cost, and policies to operationalize interoperability
If yes, is it being implemented?
Is there any regulation/policy/legal framework that supports the implementation of the interoperability of databases?
Is there an existing manual/guideline/governance arrangement on the use of an interoperable database in a time of crisis?
Is there an interconnected repository for uniquely identifying information (e.g., birth certificates, passports, citizen identification number) that is essential for the targeting of potential beneficiaries for COVID-19-related response?
Is there a standardized information-sharing infrastructure across government bodies for the interoperability of databases?
Is there a secure platform that government agencies can use to interact, share, access, and process data and information to facilitate the delivery of services?

Table 21 *(continued)*

Indicator/Description
III. Online service integration – *single website that contains all major information and services provided by the public sector*
Is there a single online portal that aggregates pertinent public sector information and services related to COVID-19 pandemic response?
If yes, what is the number and percentage share of connected government bodies to the total number of target government bodies? i. National ii. Local governments
Is there a grievance machinery/feedback mechanism available in the use of the online government platform?
Is the existing online government platform i. Accessible (e.g., easily navigated, understandable) ii. Fully functional
IV. Overall commitment – *concrete efforts to pursue WGA through e-governance given considerations on cost, varying technical capacities of agencies, cultural/political context, etc.*
Is the WGA embedded in any of the regulatory laws or policies?
Is there a single document that guides the country's overall pandemic response?
Is the said document readily available to the public?
Does the document contain the following information? i. Organizational structure of the lead agency ii. Role and functions of each body iii. Plans and strategies iv. Action points v. Targets/milestones (with established monitoring framework)

Table 21 *(continued)*

Indicator/Description
Is the public regularly informed/updated about the status of the set targets/milestones (e.g., release of SAP) via online public platforms (e.g., social media)?
Is there a mechanism that monitors the commitment of the stakeholders to the WGA (i.e., working harmoniously with other government bodies) to achieve common objectives? i. Horizontal level (within national government) ii. Vertical level (national and local)
Do the LGUs follow the protocols and standards that are set by the national government? i. Social amelioration program ii. Vaccination program
Do the LGUs allocate budget for the smooth implementation of the pandemic response?
Do the LGUs create any body to ensure smooth implementation of the pandemic response?
Is there a consistent commitment to the implementation of actions and initiatives (e.g., capacity-building) related to pandemic response? i. Political support ii. Budgetary support
Are nongovernment bodies consulted/considered in the crafting of the pandemic response?
Are there established mechanisms for participation of/consultation with stakeholders from nongovernment organizations, the private sector, or civil society?

NGOs = nongovernment organizations; COVID-19 = coronavirus disease 2019; WGA = whole-of-government approach; SAP = Social Amelioration Program; LGUs = local government units
Source: Adopted from UN (2012)

In the context of e-governance, this implies a dedicated national coordinating agency and a chief information officer (CIO) or an equivalent, with legitimate authority to oversee and promote efforts toward e-governance across agencies. In Australia, the Digital Transformation Agency, which is headed by a chief executive officer, serves as the lead agency in all whole-of-government digital and ICT strategies and policies that facilitate the achievement of modern, efficient, and coordinated government services (DTA n.d.). It also enhances people's transactions with the government by helping government agencies create simple, clear, and fast public services. Meanwhile, the US has the CIO Council, which is part of the Federal Data Strategy (FDS) tasked to improve information technology systems across government services. It consists of several CIOs across the executive branch of the US Federal Government and is led by the Federal CIO or the chairperson of the Council from the Office of Management and Budget (US CIO Council n.d.).

The Philippine national government has been planning to create a Council of CIOs to coordinate the implementation of e-government initiatives in the country. This has been part of the ICT plans of the government since 2006, but it was never adopted due to the weak political traction of the then Commission on Information and Communications Technology (DICT 2014). It was only in 2015 when this plan was solidified through RA 10844, which created the DICT. Section 13 of the law states the need to create a CIO Council, which shall comprise CIOs from national government agencies, SUCs, GOCCs, and GFIs and headed by the DICT Secretary. The Council's primary role is to assist the DICT in advancing the national ICT development agenda. Currently, there are CIOs in government agencies, but the creation of the Council is yet to happen. Nonetheless, there had been initiatives[20] to capacitate CIOs in the national and local governments, which is a good start in advocating a full e-government system.

[20] The Asian and Pacific Training Centre for Information and Communication Technology for Development conducted a training on Data-Driven Governance for Information and IT Officers, attended by 75 CIOs and IT officers from national and local governments in the country (APCICT/ESCAP 2021).

A national coordinating body must have a clear leadership capable of effectively steering policy actions during a crisis. Applying this notion, the IATF-EID plays the lead role as the policymaking body in the pandemic response. However, as can be seen in its organizational structure (Figure 12), it is not entirely clear where in the hierarchy the NTF stands. Based on the IATF Resolution, the NTF serves as the operational or implementation arm of the IATF. Borrowing from the idea of having a separate CIO Council, there can also be a council of task group representatives to supervise the collaboration efforts within the IATF and ensure that the initiated plans and strategies within their respective groups/sectors are being implemented according to the plan. This can be headed by a designated focal person that will oversee whether the policies created by the IATF-EID are being implemented fully and accordingly by the NTF. Having this separate entity can make it easier for the IATF to monitor the execution of plans.

The roles and responsibilities of each government body within the whole-of-government activity should be clear, consistent, and in writing (e.g., the NAP or the EID Preparedness Manual). An example is the protocol on wearing face shields in public places. The confusion started when one of the DOH undersecretaries announced in a press briefing that the wearing of face shields outdoors is no longer required, to which the Malacañang had agreed to. However, the IATF and DOH later clarified through the issuance of new clarificatory guidelines that the existing policy, that is, wearing of face shields in enclosed spaces and public places (e.g., schools, public transport and terminals), remains (Magsambol 2021b). It is also not clear where the czars appointed by the government come in. Even with the presence of an organizational structure, the delineation of roles and functions tends to get blurry from time to time.

Engagement of key stakeholders in crafting policies during a crisis is also important. Civil society and relevant expert groups can offer valuable insights into the situation on the ground. With sufficient consultation, implementation gaps are less likely to happen if real-time and context-specific information from stakeholders is considered, which informs the viability of a proposed policy.

A case in point was when the NTF released a policy in July 2020 that restricts individuals to ride motorcycles in tandem except when they are couples residing in one household and using an approved two-passenger plastic barrier (Punongbayan 2020). Private groups (e.g., motorcycle riders association, engineers) and even legislators raised concerns about the safety and effectiveness of the said policy (Luci-Atienza 2020; *Rappler* 2020). Thus, in less than a month after its implementation, the policy was relaxed and the barrier was no longer required for riders living within the same household under the GCQ. Stakeholders were displeased not because of the new policy but because of the additional expense that they had to incur (i.e., purchasing barriers) to comply with the initial policy (Malasig 2020). The IATF-EID, through its various technical working groups, consulted nongovernment expert groups in the deliberation of its policies. Indeed, a wider consultation proved to be important. However, as can be gleaned from its experience, it can be expanded and enhanced. While the government needs to act swiftly in times of crisis, systematic stakeholder engagement is critical to ensure that proposed policies are fair, transparent, and effective.

As to the composition of the task force (i.e., IATF-EID), the members should be selected not only to represent their respective agencies but also to bring in expertise and experience for collaborative problem-solving. Hence, participants from each agency or government body should be selected carefully based on what they can contribute to the task force.

The second element is the **interoperability of databases**. Interoperability means the "ability of government organizations to share and integrate information by using common standards" (UN 2012, p.58). This can be examined in terms of having an overall plan or a supporting legal framework, an interconnected repository of uniquely identifying information (e.g., national ID, birth certificate), standardized information-sharing infrastructure, and a secure platform for online exchange and repository. Australia has a manual on interoperability framework published in 2006 and the GovTEAMS, whereby public officials can easily collaborate, create online communities, and engage with other individuals from

other government offices and those outside the public sector (Dennett 2018). Meanwhile, the US has the FDS that promotes a data-driven culture within the public sector. It contains the adoption of data standards that can facilitate data sharing and interoperability. It lays out the mission, principles, practices, and action plan with a timeline for milestones in implementing the FDS framework. Its principles are anchored on ethical governance, conscious design, and learning culture. The practices it hopes to impart within the government are grouped into two: (i) building a culture that values data and promotes public use and (ii) governing, managing, and protecting data (FDS n.d.).

Currently, the Philippines has the Philippine eGovernment Interoperability Framework (PeGIF), which is a part of the iGovPhil Program launched in 2012 (iGov Philippines n.d.). Its goal is to allow government bodies to have a seamless exchange of information, services, and materials. The framework presents the overall plan in three phases or interoperability domains: phase 1 deals with the technical aspects and standards of interoperability; phase 2 deals with information interoperability and exchange; and phase 3 deals with business process interoperability. To date, however, the implementation of PeGIF is still in the works as there is no existing legal framework or law supporting its implementation. Currently, the interoperability of databases is done separately in an ad hoc manner. Per IATF Resolution 25 (s. 2020) the DOH and DILG has a data-sharing agreement (DSA) in accordance with the Data Privacy Act. The challenge with ad hoc agreements (e.g., DSA, memorandum of agreement) is that it takes time to be approved and implemented. In a crisis, the agility of the government in delivering public goods and services is vital. For instance, in an interview with the 4Ps National Project Management Office, it disclosed that it requested from the DOH access to data from a survey it recently conducted. The survey included information about children who had experienced issues with internet connection that could help DSWD in crafting programs to support the needs of children in remote learning. However, the DOH has yet to release the data as of the time of the interview.

Interoperable databases can facilitate the efficient and effective targeting of social amelioration program beneficiaries. Government agencies can easily access data from pertinent agencies (e.g., Land Transportation Office/Land Transportation Franchising and Regulatory Board for the list of jeepney drivers) and release assistance to those severely affected by the crisis. To date, there is still no interconnected repository of uniquely identifying information (e.g., birth certificates), standardized information-sharing infrastructure available across agencies, and a secure platform for data sharing among government agencies. These factors are important in creating fully functional interoperable databases.

The third element is having a **single online portal for public services**. A good example is the USA.Gov website, which serves as the official integrated digital portal for public services in the US. It was carefully designed so that end-users can easily navigate and maximize the platform. In the Philippines, the government created www.COVID19.gov.ph for COVID-19-related matters, such as the number of cases and deaths, protocols and standards, and available government programs by sector (i.e., social, economic, health, security). The website also has a feedback mechanism, which is an important aspect of e-governance. However, improvements can be done to the website's user interface, the functionality of some links, and the timeliness of updating. It can also be enhanced to be more responsive to the needs of the people. While it offers a wide range of information, it can be more inclusive by providing more language or dialect options and having more easily accessible links to the different social programs by affected sectors (e.g., displaced workers, MSMEs). Equally important is the dissemination of the portal to the public, such as via social media, so that the people have a common legitimate source of information for accessing COVID-19-related matters, especially on the government's pandemic response. Having a single source of official information on COVID-19 can contribute to a more harmonized response and public action.

Moreover, a single online platform is useful for the Philippine government's contact-tracing strategy. Contact tracing is delegated to the DILG, in coordination with the LGUs, as stipulated in IATF Resolution 25. However, LGUs and other government bodies use

different platforms or applications for contact tracing, which has prevented a more coordinated and effective contact tracing in the country. Hence, even if there is forged coordination among government bodies, policy objectives may be difficult to achieve without harmonized guidelines and tools.

The fourth and the most crucial element is the **overall commitment of the public sector**. Governments that are pushing strongly for WGA should remain vigilant and prepared for potential challenges, including issues in connecting different ICT systems within the public sector, the complexity of establishing authentication and secure systems for the increasingly integrated infrastructure, the accompanying costs, and the political and organizational tensions and considerations that may hamper effective coordination among different government bodies (UN 2012). In addition, power and turf issues, varying organizational culture and beliefs, and even performance management, which focuses only on the organization's own objectives and not the collective goals, can hamper the fast implementation of e-governance for a WGA.

In a national crisis, the pooling of resources shows the commitment of government bodies (national and local) in achieving their collective goals. The ability to share resources for shared responsibilities and objectives across agencies is one of the enablers of the WGA. Resources must be pooled cooperatively when needed (Ling 2002). During emergencies in Australia, the government assists states and territories with insufficient resources (Shergold 2004). Meanwhile, in the Philippines, LGUs are provided financial assistance to implement the nationally set policies for the COVID-19 response. Under the Bayanihan to Recover as One, they are given PHP 1.5 billion through the Local Government Support Fund for their local anti-COVID efforts. The details are stipulated in the DBM's Local Budget Circular 128.[21]

[21] The guidelines issued by the DILG include the following: (i) allowing LGUs to realign their local funds (e.g., local development fund, gender and development fund, *Sangguniang Kabataan* Fund, Special Education Fund [SEF]), including their unutilized transfers and subsidies; (ii) using a portion of their SEF to support alternative learning modalities, digital education, digital infrastructure, and continuity plans; and (iii) using their remaining cash balances of public funds held in trust. All unutilized funds by December 31, 2021 are to be reverted to the National Treasury. https://www.dilg.gov.ph/PDF_File/issuances/memo_circulars/dilg-memocircular-20201012_7334a12627.pdf (accessed on August 10, 2021).

In addition to pooling resources, supporting guidelines or frameworks for the conduct of WGA is necessary. Australia has a document titled "Connecting Government: Whole of Government Responses to Australia's Priority Challenges" that underscores the need to build a supportive public sector culture and encourages whole-of government solutions by formulating guidelines and codes of conduct under the "working together" slogan (APSC 2004). Even if there are means to collaborate in terms of budgets, programs, and goals across government bodies, if traditional cultures and accountability mechanisms persist among government bodies, the WGA might still have less influence on achieving desired outcomes (Christensen and Lægreid 2007).

Moreover, there is a need to ensure that horizontal or cross-cutting targets are clearly monitored across agencies. As suggested by Pollitt (2003), they should be of equal importance or has an "equal status" with the agency's own targets. There should also be a balance between the monitoring of cross-cutting targets and the agency's own goals. There is also a need to recognize that there is no one-size-fits-all strategy when it comes to embedding whole-of-government initiatives within government bodies.

Overall, the adoption of WGA is an important step in achieving policy objectives or outcomes that require interbody collaboration. The following are some considerations that could help facilitate its successful adoption: (i) citizen-centric design of online portals, (ii) greater harmonization and cohesion of policies between local governments and the national government despite the presence of local autonomy, (iii) standardizing ICT systems for the integration of systems across agencies, (iv) promoting a culture of data and innovation among government agencies and bodies, (v) establishing secured platforms, and (vi) addressing issues in ICT infrastructure. The WGA is not a panacea to the most complex societal issues; rather, it is a driving force that must be supported with proper tools and instruments to be effective.

Issues and concerns in the pandemic response

The Philippines instituted one of the most stringent responses to COVID-19. It imposed the most stringent lockdown on its largest island group—Luzon—when the pandemic hit in 2020. This made the Philippines consistently above 55 points in the Government Response Stringency Index[22] of Oxford University. In the early stages of the community quarantine, the country scored 100 points (strictest) from March 22 to April 30, 2020. Several issues and concerns also arose regarding the country's COVID-19 response strategy.

"Securitized" approach in pandemic response. The Philippine response has been characterized as "securitized", based on the overall "militaristic" and police-centric approach in addressing the pandemic (Atienza et al. 2020; Hapal 2021). This could be attributed to the NTF being headed by retired military officers. These appointments were justified by the government based on their competence, obedience to directives, and expertise in logistics, which were argued to be much needed, particularly in the procurement of vaccines (Parrocha 2021). Another aspect is the assignment of uniformed personnel and civilian police in implementing lockdowns and quarantine protocols and distributing relief to the communities.

This strategy is similar to that employed by the Indonesian government (Chandran 2020) but in contrast with the strategy of most countries, where doctors, health experts, and scientists were proactively involved by their governments in planning and decisionmaking.

Lack of a strongly coordinated implementation framework. The alignment of all action plans across program implementers in the government is crucial to allow the creation of a comprehensive system of responses that complement each other. However, in the case of the Philippines' response, vertical and horizontal plans and operations were not fully aligned (NTF n.d.-a). While LGUs were

[22] The Government Stringency Index is a composite measure of nine response metrics: (1) closure of schools, (2) closure of workplaces, (3) cancellation of public events, (4) restrictions on public gatherings, (5) closures of public transport, (6) restrictions on internal movements, (7) international travel controls, (8) stay-at-home requirements, and (9) public information campaigns (Ritchie et al. 2021).

expected to develop local plans aligned with the national framework, some of them failed to comply with national policies and/or applied different standards in implementing IATF policies in their localities. One factor behind the varying levels of response among LGUs is their absorptive capacities in implementing the trace-test-isolate-treat strategy for COVID-19 (NTF n.d.-a).

Reactionary responses. The government had been late in implementing the much-needed preventive measures at the onset of the health crisis. Weeks into the emerging health crisis had passed before the government issued travel bans. At the onset, the administration was adamant in telling the public that the emerging crisis was not a major concern, even after the first COVID-related death was recorded (PCOO 2020). Despite the proposal to immediately close the borders to travelers from China, the government veered away from this response, citing possible repercussions on the country's diplomatic relations with China (Cepeda 2020).

Lack of expanded and targeted testing and aggressive contact tracing. The country lagged in contact tracing and ramped-up testing, which are, among the effective response strategies employed in most countries. The health department pointed out that mass testing is not a priority as testing the entire population would only lead to "indiscriminate testing" (Magsambol 2021c). Moreover, accreditation of testing laboratories was slow during the first months of the pandemic. Thus, testing efforts were very selective, given the limited test kits and testing laboratories. At the onset, testing was only limited to healthcare workers and patients with symptoms and a history of exposure and travel (Magsambol 2020). As more laboratories and testing kits became available, the government assured that testing would be expanded to include more people. However, as the number of cases continued to rise, testing efforts need to be enhanced with aggressive contact tracing, thus, calls for increased contact tracing efficiency and speed, rapid isolation, use of analytical tools, and establishment of the overall contact-tracing ecosystem (NTF n.d.-a).

Data issues. Having clear, accurate, timely, and granular data is important to identify appropriate response strategies and policies promptly. Unfortunately, serious data issues were evident in the Philippines. At the onset, reporting on confirmed cases was delayed as samples were brought to laboratories abroad for testing. As more laboratories were accredited and testing capacity was increased, the daily reporting of cases and deaths became possible. A daily data drop was established by the DOH to report both nationwide and subnational data on COVID-19 cases, deaths, and recoveries. However, caution was advised in using these data in the latest periods as laboratories were failing to submit reports on time. Moreover, the UP COVID-19 Pandemic Response Team (2020) saw gross errors in the DOH data, such as changes in the sex, residence, and status (e.g., recovered or deceased) of cases, inconsistencies in variable formats, missing data, and inconsistencies with data from the local governments. This made data analysis and release of daily statistics difficult, which had a direct impact on the government's response.

Data issues were also observed in targeting beneficiaries for the provision of assistance to affected individuals and families, which, in turn, led to delays in the distribution of aid. The *Listahanan* 2015, which is used to identify poor families per region and allocate budgets to local governments for the cash aid distribution, failed to capture the actual number of needy families during the pandemic. Numerous complaints from LGUs surfaced as the number of pre-allocated beneficiaries per LGU did not tally with the actual number of individuals within their jurisdiction qualified to receive the cash aid (Chiu 2020). This forced some of the implementers in the LGUs to prioritize certain beneficiaries in distributing aid based on the budget provided to them. Thus, there were appeals to include more families in the succeeding tranches of the cash assistance to provide aid to all affected families and individuals (Abad 2021). Moreover, with no interoperable database across all implementing agencies that provide cash aid, several leakages were observed. Duplicates and ineligible beneficiaries were identified. In a virtual presser on the status report of the cash distribution, the DSWD reported

675,933 duplicate recipients, 239,859 ineligible beneficiaries, and 58,725 families who returned their cash aids during the first tranche of cash distribution in 2020 (Cudis 2020). Having an interoperable database, which may be possible through the National ID System, can help in targeting social protection program beneficiaries.

Inadequate stakeholder consultation. Lack of consultation with public health professionals and experts led to poorly planned policies that are at times in contrast with the advice of medical experts. An example is the required installation of protective barriers in motorcycles to prevent virus transmission between the driver and the passenger. This requirement succeeded the policy in early July 2020 that permitted motorcycle back riding for cohabiting persons. The said policy had no proven scientific benefit and only posed risks to road safety, according to experts, and added a financial burden to the riders. Because of much clamor from several legislators, other government agencies, private groups, and the general public, it was revoked weeks after it was announced.

Another example is the movement of returning overseas Filipinos and locally stranded individuals through the *Balik Probinsya, Bagong Pag-asa* Program. This was introduced to decongest the paralyzed healthcare system in Metro Manila by bringing trapped residents back to their home provinces. Despite the good intentions, the program became the origin of several outbreaks of COVID-19 cases in previously COVID-19-free provinces,[23] undermining the archipelagic advantage of the Philippines against the pandemic.

Communication issues. The communication interventions for COVID-19 response in the Philippines can be characterized as late, incoherent, vague, and confusing (Siar, this volume). Official announcements of community quarantine classification were often announced late at night during the President's public address. There was also a lack of a unified and coherent message from concerned government agencies as well as conflicting and inconsistent announcements. Comprehensive cascading of information was also lacking and there were gaps in information dissemination and

[23] On May 22, 2020, over 100 workers from NCR returned to the province of Leyte, of whom at least two tested positive upon arrival to the province (Gabieta 2020).

poor coordination between national government entities and local governments. This was evident in several shifts and retractions of policy directives, which caused mistrust and public confusion.

Lessons learned

The pandemic is far from over, but there are important lessons that can be learned from the country's experience that can guide the government in its continuing response to the pandemic and in addressing future shocks. Below are some of the lessons this paper has put together. They are further elucidated in the background papers in Part II of this volume.

Health and community quarantines[24]

- **Imposing community quarantines or lockdowns is helpful but not sufficient in suppressing the outbreak**. The disease transmission model by Abrigo et al. (this volume) shows that aggressive containment efforts through better contact tracing (e.g., rapid increase in testing capacity), improved implementation of health protocols (e.g., social distancing, isolation), and timely health care seeking for symptomatic cases are key to containing the virus.
- **While lockdowns are necessary, it is important to ensure that supply chains for essential goods and services remain unhampered.** Supply chains for food, medical supplies and equipment, and other relevant goods and services should remain operational to ensure that these important goods and services are adequately provided to end-users in a timely manner.
- **Local governments are crucial in ensuring that public health initiatives and surveillance are implemented according to plan.** The containment of the virus should start in localities, with hospitals as the last line of defense. LGUs can help in contact tracing and informing the public about the importance of following health protocols. LGUs should maximize their powers to help identify and/or construct additional facilities for isolation and quarantine purposes.

[24] See Abrigo et al. (this volume) and Ulep (this volume) for details.

Finally, they should work with pertinent national agencies (e.g., DOH, DepEd, DSWD) in implementing critical policies and programs for addressing the negative impacts of the pandemic.

- **Providing a more humane approach to imposing health protocols may be more desirable and effective**. An incentive-based approach (e.g., giving financial incentives to those that are compliant with health protocols) can be more effective in influencing behavior than withholding incentives, imposing fines, or arresting violators of health protocols.
- **Protecting and providing a wide range of support to healthcare workers is a must.** The pandemic brings the lives of healthcare workers at great risk, as they are largely exposed to the virus and are prone to burnout due to the influx of patients. Prioritizing their needs to ensure that their duties are carried out well is of utmost importance. These include the continuous provision of personal protective equipment, training and mentoring about the disease, psychosocial support to decrease the likelihood of burnout and depression, and enhanced hospital surveillance systems.
- **The COVID-19 has multifaceted health impacts, apart from the direct health impacts, that require serious attention from policymakers and decisionmakers.** The indirect health impacts of the outbreak, such as the inability or delayed access to critical healthcare services due to fear of contracting the virus in hospitals and clinics and the lack of healthcare resources (e.g., workers) due to the need to attend to the COVID-19 outbreak, must be considered. The deterioration of health outcomes due to the pandemic has implications on productivity, which in turn, affects the overall economy. As such, this needs an equal amount of attention and examination from the country's leaders and policymakers.

- **The government must push for genuine and holistic reforms in the health sector, which is essential for national development not just in times of crisis.** Large investments should be made to improve the entire health system.

Macroeconomic response[25]

- **Amid the pandemic, monetary easing, public spending, and certain demand substitution helped spur growth in some subsectors.** The only subsectors that grew in 2020 were financial and insurance activities (5.5%), information and communication (5%), and government services (4.6%). Financial services benefitted from the BSP's expansionary measures, which encouraged activities among banks and the extensive shift to digital and online platforms.
- **To address the recession, experience has emphasized the need for a swift and strong policy response in the form of combined monetary and fiscal stimulus.** Things to consider when formulating a policy response include the following: (1) treat the COVID-19 recession akin to a natural disaster (provide a generous amount of support and relief spending), (2) consider the potential negative spillover to the financial system that can trigger another crisis (offer some regulatory relief and liquidity support to the financial sector), and (3) consider that supply shocks can cause shortages in demand (fiscal policy may generate greater benefits if concentrated on social insurance and protection rather than traditional stimulus).
- **For developing countries, it is ideal to address public health concerns foremost—through containment, widespread testing, and contact tracing—as this would alleviate the tradeoffs between health and economy early on.** Instead of an extensive lockdown that highly restricts economic activities, targeted measures that weigh risk across age groups alongside widespread testing, reliable quarantine protocols, and effective contact tracing are recommended.

[25] See Debuque-Gonzales et al. (this volume)

- **It is also important to keep the economy alive without endangering the safety of the public.** While public health safety is of utmost importance, the national government should find ways to encourage economic activities. Some businesses may be repurposed to augment the needs of the government for its pandemic response.
- **Although the central bank exhibited strong monetary response and aggressive monetary loosening at the initial stage of the pandemic, these measures were not able to incite wide-scale bank lending due to persistent tight financial conditions.** There was a substantial decrease in production and consumer loan growth, from 8.6 percent to zero percent and from 15.5 percent to 2.3 percent, respectively.
- **The timely passage of the national budget matters a lot during a crisis.** The fiscal package reached PHP 506.1 billion or about 2.6 percent of gross domestic product (GDP) during the emergency relief stage, while about PHP 165.5 billion or 0.9 percent of GDP was allotted to Bayanihan II. A large share of the fiscal package in Bayanihan II was earmarked to GFIs to support wholesale lending and encourage the offering of low-interest-rate loans and lending programs. Other support included PHP 9.5 billion for the transport sector, PHP 4.1 billion for the tourism sector, and PHP 24 billion for the agriculture and fisheries sector.
- **Based on empirical research on modern pandemics, countries with greater initial government spending (particularly on health care) displayed faster recovery, in terms of GDP growth, and a decline in unemployment right after the crisis.** Existing literature has also preferred providing assistance/protection to workers in businesses that are contact intensive and targeting SMEs to help withstand the crisis.

Food security[26]

- **The government must ensure that future shocks and emergencies will not disrupt the food supply chains.** While the agriculture sector quickly recovered from the crisis, health and security measures disrupted supply and demand of the agri-food system, endangered food security, and compromised the livelihoods of small farmers and fisherfolk. Constraints in consumption activity affected sales and marketing activity and depressed farmgate prices and incomes.
- **The government should implement programs that will boost support for agriculture,** especially for small farmers and fisherfolk, and advocate for continued openness of international markets to food products.

Education[27]

- **It is important to support the learning of students through printed modules and supplement these with the most feasible or accessible medium (i.e., cell phone) to improve the interaction among teachers, students, and parents.** While online learning is the ideal mode of learning delivery during the pandemic, majority of the students, especially in public schools, do not have internet access at home. Data indicate that ownership of cell phones is higher than that of internet connection. As such, it may be less inequitable to advocate the use of cell phones to improve the interaction among teachers, students, and parents than to push for the online mode. In this light, it is important to determine the impact of using cell phones on education and provide other helpful interventions (e.g., providing cell phone load to teachers for over-the-phone contact).
- **Learning delivery through broadcast modalities, such as TV and radio, should be improved.** Data show a high proportion of households owning TV and radio yet such

[26] See Briones (this volume)

[27] See Orbeta (this volume)

modalities are less utilized as modes of learning delivery based on enrollment data.

- **Ways through which the quality of home support may be improved should be explored.** The government should implement strategies for home support as the success of remote learning highly depends on the quality of home support. For example, the role of Learning Support Aides (LSAs), which was authorized under Bayanihan II, can be expanded to strengthen the implementation of the BE-LCP. The LSAs may provide targeted learning home support, especially to children of low-educated parents.
- **As next steps, the government should look at the extent of learning achieved through various learning modalities.** Considering the low average test scores of the Philippines in the recent Programme for International Student Assessment and Trends in International Mathematics and Science Study before the pandemic, the government must gauge the quality of education being provided through the different modalities of learning delivery. While there is no consensus yet on whether online mode will lead to better education outcomes than face-to-face, it is likely that in the Philippines, remote learning will exacerbate existing education outcomes.

Social protection[28]

- **Social safety nets that are effective, properly targeted, and well distributed are necessary to help Filipino families cope with the damaging effects of the pandemic.** Apart from the emergency assistance programs, other programs such as wage subsidies or low-interest loans are a must for those whose livelihoods are seriously affected by the pandemic.

[28] See Reyes et al. (this volume)

- **In line with the imposition of community quarantines, the national government must also ensure that people have access to food and other necessities through massive safety nets programs.** Community lockdowns must be accompanied by social amelioration measures that would help not just households but also firms, particularly MSMEs, as they endure the consequences of reduced work hours, unemployment, and halted business operations.
- **Emergency subsidies (e.g., monetary assistance, food and nonfood items) are essential to augment the needs of Filipino families during a pandemic.** To cope with the pandemic, most families were reported to have reduced their consumption, delayed repaying their debts, used their savings, and/or borrowed from relatives or friends. Government support in the form of monetary grants and/or food and nonfood items have been given to 2 in 5 households as reported in the World Bank (2020c) survey as of August 2020.
- **Equally important are strong leadership and data-driven decisionmaking in executing the pandemic response.** Policymakers and decisionmakers should base their plans and strategies on accurate data and use them for long-term planning. This should be accompanied by strong political will.
- **Reliable universal health coverage, coupled with extensive COVID-19 testing and vaccination, can greatly help in future public emergencies, especially health-related ones.** The pandemic has shown that having reliable health insurance can cushion the blow of any health-related public emergency.
- **Establishing interoperable databases across government agencies is vital in crafting effective and timely policies during public emergencies.** The Philippines' experience in crisis response shows the importance of readily available and interoperable databases across agencies to facilitate the crafting and implementation of programs and policies, such as the identification of eligible beneficiaries for targeted programs.

- **Modifying existing assistance programs, instead of creating new ones with new mechanisms for implementation, may be a more efficient approach in pandemic response.** In public emergencies where time is critical, it may be more efficient to simply expand, modify, or improve existing government programs that already have established systems for implementation.
- **While emergency cash transfers and food relief packages are needed to smooth consumption, programs that will assist households to have jobs and restart their businesses are necessary** to ensure that those who fell into poverty can move out of it as soon as possible.

Income distribution and inequality[29]

- **A multisectoral approach to pandemic response is needed to address the immediate needs of the heavily burdened sectors, such as the vulnerable groups.** While the pandemic spares no one from its negative effects, the most vulnerable groups (e.g., poor, informal settlers, homeless and internally displaced; informal sector workers, PWDs, indigenous peoples, women and children in vulnerable situations) are likely to be disproportionately burdened due to the prevailing inequalities even before the pandemic. The outbreak and lockdowns have negative impacts on the health of these groups, their capacity to sustain or find jobs in the future, the quality of education they get as a result of the suboptimal mode of learning, and food security.

Migrant labor[30]

- **The government should have a concrete plan to provide alternative livelihood opportunities and repatriation assistance to OFW returnees.** The pandemic resulted in lost jobs and opportunities for OFWs. While overseas remittances remained fairly stable in 2020, the pandemic's

[29] See Albert et al. (this volume); Navarro (this volume)

[30] See Tabuga and Cabaero (this volume)

impact on OFWs—in the form of reduced household incomes and lower remittances that could affect the macroeconomy—could be the long term.

Data, ICT, and digitalization

- **More granular data are necessary to formulate and implement data-driven responses.** With the shift to localized health service capacity assessments, granular lockdowns, and targeted social assistance programs, there is an increasing need for more disaggregated data and more efficient mechanisms for data producers to transmit their data to a central repository in a more timely manner.
- **The national government direly needs to strengthen digitalization strategies to improve the use and access to ICT.** It can start by increasing the number of cell towers to improve connectivity.
- **The government must accelerate investments in ICT infrastructure to prevent the worsening of inequalities in the education sector.** The trajectory of the Sustainable Development Goals shows that the education sector has been making significant improvements over the years prior to the pandemic. With the sudden shift to remote learning and given the inequitable access to reliable digital connectivity, inequality could worsen, putting the vulnerable groups, especially those residing in far-flung areas, at a greater disadvantage.
- **The government plays a significant role in enhancing digitalization in the economy by supporting financial innovations to reach the unbanked and promoting digital payments in public transactions.** Initiatives to promote the use of technology for financial transactions can enhance the acceptance of shifting to digital payments, which can decrease the risk of virus transmission. This shift can also be beneficial in the long run as it opens many employment opportunities and can make technology more inclusive.

- **The full implementation of the National ID system, as a foundational digital ID system, and its linking to the existing social protection information systems is essential to ensure the efficient and effective execution of crisis-related social assistance programs.** By linking the National ID system to the DSWD's National Household Targeting System (Listahanan), the Community-Based Monitoring System, and other administrative reporting systems, the government can easily identify and assist target beneficiaries.

Roles of national and local governments [31]

- **A whole-of-government approach is necessary for implementing the pandemic response.** Government agencies have different roles to play. Implementing the WGA is important to ensure that the key containment strategies are executed cohesively and effectively.
- **The interoperability of databases across government agencies is an important foundation of a working WGA.** Having interoperable databases across government bodies is an important tenet of a functioning whole-of government work. Currently, there is an existing Philippine interoperability framework plan, but there should be a strong political will to ensure its implementation. A plan may not be sufficient to operationalize this. There may be a need to institutionalize it through a law or policy. Interoperability of databases can facilitate the identification and targeting of beneficiaries of social amelioration programs in times of crisis.
- **The role and responsibilities of each government body within the task force should be clear and consistent.** While it is commendable that the Philippines was eventually able to craft a National Action Plan containing an organizational structure, there should still be a clear delineation of tasks and roles of the different government bodies included in the task force to avoid overlaps in roles

[31] See the earlier subsection on the whole-of-government approach; Sicat (this volume)

and functions. Furthermore, agency representatives should be chosen based on their competence to provide valuable inputs beneficial to the task force.

- **As local governments are often at the forefront of crisis response, national government oversight agencies must ensure that LGU funds (i.e., local development funds) are used efficiently on well-planned and well-designed investment programs.** With the implementation of the Mandanas ruling in 2022, which increases LGU resources, there is a stronger need to monitor LGU spending to ensure that the mandated minimum amount is efficiently spent on well-planned development programs, especially ones that can build community resilience to future shocks.
- **There should be improved planning, investment programming, and coordination across all tiers of government.** There should be continued efforts to strengthen these actions to mitigate the negative consequences of the pandemic or any potential shocks in the future. Reliable ICT infrastructure across localities is necessary to facilitate coordinated efforts.

Communication [32]

- **There is a need to harmonize messages used at the national and local levels to ensure accuracy and consistency.** It is difficult to motivate change in behavior or gather public support if messages released by national government agencies and LGUs are not unified or aligned with one another. Establishing a unified communication strategy is necessary to harmonize pandemic response messages.
- **Policies and protocols should be widely disseminated ahead of implementation dates.** Establishing an accessible and regularly updated website is essential in ensuring that rules and protocols are widely disseminated. Other dissemination channels, such as radio, TV, and social media, should also be tapped.

[32] See Siar (this volume)

- **Citizen engagement should be widely promoted.** Seeking feedback or inputs from civil society can be beneficial in a pandemic response to make the government more knowledgeable about the people's immediate needs and concerns. Such feedback or information can be critical inputs to make policy actions more effective and responsive to the needs of the public.
- **The role of local public information officers (PIOs) should be strengthened.** Public information officers in LGUs play a vital role in spreading and informing the public in their localities. Maximizing their functions can aid in providing accurate and reliable information to their constituents in a more effective and timely manner. Providing them with the proper training and the necessary equipment can enhance their performance as PIOs.

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Part II
Background Papers

Projected Disease Transmission, Health System Requirements, and Macroeconomic Impacts of COVID-19 in the Philippines*

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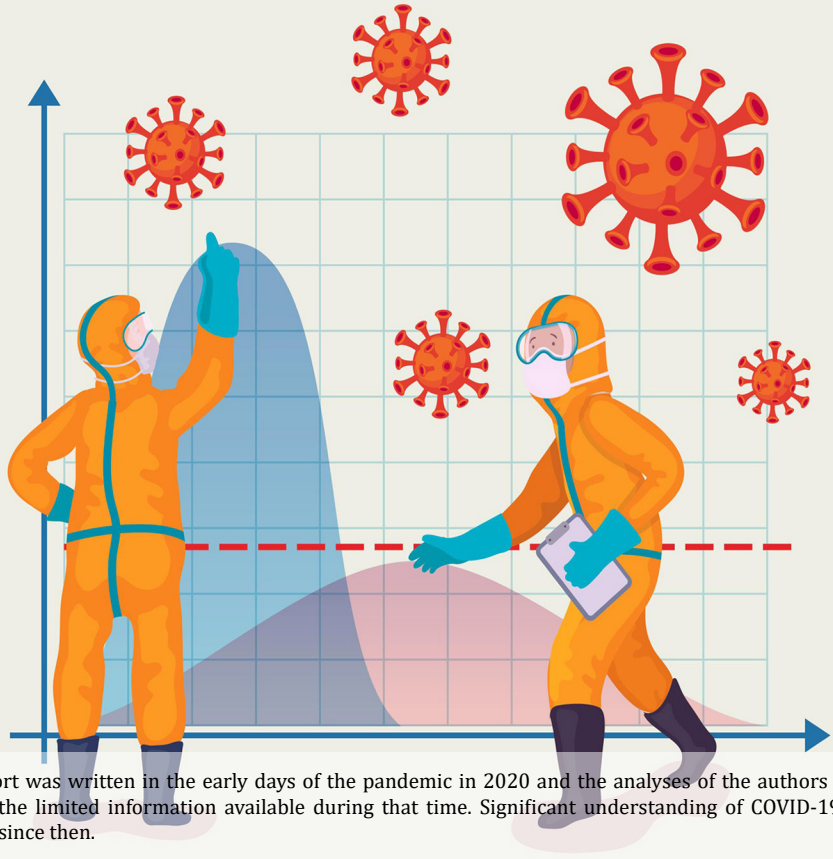


*This report was written in the early days of the pandemic in 2020 and the analyses of the authors were based on the limited information available during that time. Significant understanding of COVID-19 has improved since then.

Introduction

The coronavirus disease 2019 (COVID-19) that first started as an outbreak in Wuhan City, China, in December 2019 is now a pandemic. As of April 8, 2020, the World Health Organization (WHO) reports that over 1.4 million people have been infected, with more than 82,000 deaths across 184 countries. The number of cases is expected to escalate further (WHO 2020).

The Philippine Department of Health (DOH) confirmed its first case of COVID-19 on January 20, 2020, with local transmission identified on March 7, 2020. A month later, the Philippines recorded 3,870 confirmed cases and 182 deaths (DOH 2020a). To curb the potential exponential spread of the virus locally, the Philippine government implemented an enhanced Luzon-wide community quarantine for 30 days (March 17–April 12, 2020) to limit population movement, then extended it until April 30. The enhanced community quarantine (ECQ) has entailed suspension of classes, work-from-home schemes and skeletal workforces, and confinement of the population in their homes. Only essential activities, such as health care, food supply, medicines, and banking, were operational during the ECQ.

This paper aims to contribute to the discussion on the potential impact of the pandemic on the Philippines by estimating the likely trajectory and magnitude of the outbreak in the country under various scenarios. Based on the projected number of COVID-19 cases that require medical intervention, the study then calculated the resource requirements needed by the health system to cope with the expected increase in healthcare demand. Results from the disease transmission model were then linked to a microsimulation model to assess the potential burden of COVID-19 on the Philippine macroeconomy.

The spread of COVID-19 in the country is expected to pose a substantial strain on the country's health system. If left unchecked, the health system is projected to require as many as 1.51 million regular hospital beds, 456,000 intensive care unit (ICU) beds, 246,000 ventilators; 727,000 doctors, a million nurses, 91,000 medical specialists; and 36 million sets of personal protective equipment (PPE) for hospitalized COVID-19 cases on the peak day of the outbreak. For reference, the country employed only 52,000 physicians and 351,000 nurses in 2015 (Abrigo and Ortiz 2019) and has only

61,000 beds in levels 2 and 3 hospitals (DOH 2020a). The challenge is ensuring that the epidemic remains at manageable levels, if not totally suppressed.

An equally important challenge, however, is designing and implementing interventions necessary to effectively subdue the spread of the disease without imposing strains on society that are greater than the potential negative effects of the outbreak. As shown by the experiences of other countries, responses to epidemics may have unintended consequences—including on food security (Thomas et al. 2014), child nutrition (Kamara et al. 2017), and delivery of nonepidemic-related health services (Brolin et al. 2016)—as resources are diverted toward programs to control the epidemic. Local interventions need to recognize that more than half of Filipinos have limited capacity to subsist beyond one month without additional support.

Depending on the interventions implemented locally and the trajectory of the pandemic in other parts of the world, projections from combined disease transmission, microsimulation, and macroeconomic models suggest that the country's gross value added may decline between PHP 123.5 billion and PHP 2.5 trillion. An extension of the Luzon-wide ECQ is estimated to cost the economy at least PHP 150 billion for every month of ECQ, which in the end would only delay the spread of the disease if it is not combined with more aggressive mitigation measures. Such losses and resource costs can be drastically reduced or avoided with aggressive efforts in the post-ECQ period (i.e., by isolating at least 70 percent of infectious cases through better contact tracing, social distancing, enforcing individual or household isolation protocols, and reducing delays in time to seek care for symptomatic cases).

The next of this study assesses the potential trajectory and magnitude of the COVID-19 outbreak by using a disease transmission model calibrated with Philippine data. This is then followed by a discussion on the implied health system resource requirements needed to respond to the spread of the epidemic. This paper also quantifies the potential burden of the COVID-19 pandemic on the Philippine macroeconomy and identifies some potential limitations of various interventions to limit the spread of COVID-19 in the country. Finally, it provides key insights and recommendations based on the projections.

Projected magnitude of the COVID-19 outbreak in the Philippines

Although modeling the transmission of COVID-19 is challenging due to limited disease surveillance data, estimates of the number of cases, especially severe and critical patients, can inform disease control efforts and resource allocations for the health system.

Data on confirmed COVID-19 cases in the Philippines

This study uses available data from the DOH-Epidemiology Bureau (EB) on confirmed COVID-19 cases (updated as of April 7, 2020) and literature on the epidemiology of COVID-19 to simulate the virus' spread in the Philippine population.

Table 1 summarizes the basic epidemiological profile of confirmed COVID-19 cases. It must be emphasized that this may represent only a fraction of the total active cases in the country at the time of reporting. The number of confirmed cases may depend on the health-seeking behaviors of households and the health system's capacity for laboratory testing to confirm COVID-19 cases. The median age of cases is 53 years old (interquartile range [IQR]: 37 to 65 years old). The median age of deaths is higher at 65 years old (IQR: 58 to 74 years old). Males comprise 58 percent of all cases and 70 percent of all deaths. Majority of the confirmed cases (56%) and deaths (62%) are residents of the National Capital Region (NCR). Of these cases, 140 were considered imported—meaning, they traveled from a foreign country with known local transmission within 14 days prior to reported symptoms onset.

Method for modeling the spread of COVID-19 in the Philippines

Disease transmission from January 15, 2020 to January 15, 2022 (732 days) was simulated using a discrete-time susceptible-exposed-infected-removed (SEIR) compartmental model stratified by province. Using difference equations that govern the transition of populations across compartments, the SEIR model simulates the rate at which susceptible (S) or healthy people get exposed (E) to the virus, become infected (I), and either recover (R) or die on each day of the outbreak (Figure 1).

Table 1. Characteristics of confirmed COVID-19 cases as of April 7, 2020

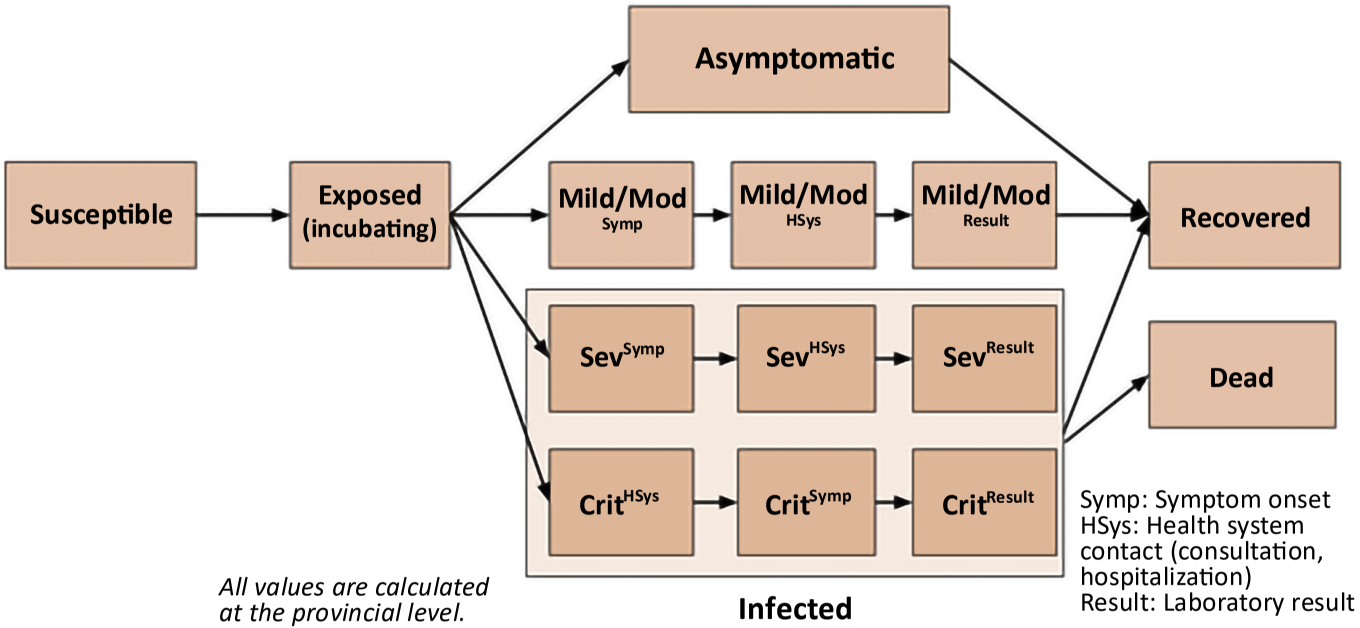
Characteristic	All Cases (n = 3,781)	All Deaths (n = 177)
Median (IQR) age, years	53 (37–65)	65 (58–74)
Age group, *n* (%)		
<15 years old	39 (1.03%)	1 (0.56%)
15–44 years old	1,284 (34.00%)	11 (6.20%)
45–64 years old	1,476 (39.00%)	68 (38.40%)
≥65 years old	981 (25.90%)	97 (54.80%)
Missing	1 (0.03%)	0 (0.00%)
Sex, *n* (%)		
Males	2195 (58.0%)	126 (69.5%)
Females	1,585 (41.9%)	54 (30.5%)
Missing	1 (0.03%)	0 (0%)
Residence, *n* (%)		
NCR	2,114 (55.9%)	109 (61.6%)
Outside of NCR	798 (21.1%)	60 (33.9%)
Missing	869 (23.0%)	8 (4.5%)
Known travel history within 14 days before reported onset of symptoms, *n* (%)		
Foreign country with local transmission	140 (3.7%)	10 (5.7%)
No foreign travel	1,186 (31.4%)	104 (58.8%)
Unknown travel history	2,455 (64.9%)	63 (35.6%)

COVID-19 = coronavirus disease 2019; IQR = interquartile range; NCR = National Capital Region
Source: Authors' calculations based on DOH-EB (2020)

Infected individuals are differentiated as either incubating, asymptomatic, or symptomatic. Symptomatic patients are further subdivided by disease severity and subphases that reflect periods between (i) disease incubation and onset of symptoms; (ii) onset of symptoms and initial contact with the health system for consultation, testing, or hospitalization; and (iii) contact with the health system and obtaining test results.

On any day of the outbreak, **susceptible** individuals without disease and living in different provinces meet infected individuals

Figure 1. SEIR model schematic for COVID-19 transmission



SEIR = susceptible-exposed-infected-removed; COVID-19 = coronavirus disease 2019; Mod = moderate; Sev = severe; Hsys = Health system contact; Crit = critical; Result = laboratory result
Source: Authors' calculations

residing in the same provinces as well as from other provinces with a probability determined by a row-standardized social distance matrix. See Appendix A for a full description of the equations and Table 2 for a summary of the parameters.

Infected individuals are able to infect susceptible individuals at a base rate determined by the basic reproduction number (*R0*). At model initialization, the infected compartment was seeded with 140 imported confirmed cases. These were introduced into the symptomatic compartment of the model on their day of symptom onset and province of residence or confinement. Accounting for these imported cases, the *R0* in NCR and non-NCR provinces were estimated to be 3.2–3.5 and 2.0–2.3 by calibrating the SEIR model to the history of reported COVID-19 deaths until April 7, 2020. This means that without any interventions, an average non-isolated infectious individual is able to infect around 3.2 to 3.5 susceptible people in the NCR, while the rate of infection by non-isolated infectious individuals in other parts of the country is 2.0 to 2.3.

Exposed individuals have an *average incubation period of 5 to 6 days* before developing symptoms. After the incubation period, 25 percent, 55 percent, 15 percent, and 5 percent of the exposed become asymptomatic, mild/moderate, severe, and critical cases, respectively. The *asymptomatic individuals were assumed here to not transmit* the infection at any time, while *symptomatic individuals are infectious two days prior to symptom onset* in the terminal phase of incubation (Anderson et al. 2020). Based on DOH-EB data, the average time from symptom onset to health system contact is 6 days and 5.9 days for mild/severe and critical cases, respectively. The average time from health system contact to test confirmation is 5.5 days and 5.8 days for mild/severe and critical cases, respectively. The average time from test confirmation to **recovery or death** is 9.7 days for mild/severe cases and 4.4 days for critical cases. The case fatality rates among severe and critical cases were assumed to be 15 percent and 55 percent, respectively.

Table 2. Parameters for the COVID-19 disease transmission model

Parameter	Value	Reference
Population	Philippines: 108,771,978	PSA (2019)
Assumed number of initial Infected cases	140 imported cases as of April 7, 2020	DOH-EB data
Basic reproduction number (*R0*)	NCR: Uniform (3.2, 3.5) Outside NCR: Uniform (2.0, 2.3)	Calibrated using DOH-EB data on the number of deaths in NCR and non-NCR provinces. Literature suggests that the mean R0 may range from 2.24 to 3.5 (IDM 2020).
Incubation period	Uniform (5, 6) days	Guan et al. (2020) Lauer et al. (2020)
Case severity distribution at end of illness	Asymptomatic: 25% Mild/Moderate: 55% Severe: 15% Critical: 5%	Various literature suggests that 20–30 percent of infections are asymptomatic (IDM 2020). Wu and McGoogan (2020)
Transition times for infected subcompartments	From symptom onset to seeking care/testing: • Mild/severe: 6.0 days (SD=5.4) • Critical: 5.9 days (SD=5.3) From seeking care/testing to test confirmation: • Mild/severe: 5.5 days (SD=3.8) • Critical: 5.8 days (SD=3.13) From test confirmation to recovery/discharge or death: • Mild, severe: 9.7 days (SD=5.1) • Critical: 4.4 days (SD=3.9)	Estimates from DOH-EB data
Case fatality given disease severity	Asymptomatic: 0% Mild/Moderate: 0% Severe: 15% Critical: 55%	Initial estimates for case fatality were based on literature (e.g., Yang et al. [2020]). Literature estimates were adjusted upward to match DOH-EB data, where age-standardized case fatality was 5%.

COVID-19 = coronavirus disease 2019; PSA = Philippine Statistics Authority; IDM = Institute for Disease Modelling; DOH-EB = Department of Health-Epidemiology Bureau; SD = standard deviation; NCR = National Capital Region

Source: Authors' review of literature and compilation of data as parameters

Projected propagation of the COVID-19 outbreak under different scenarios

To inform decisionmakers on potential interventions to suppress the outbreak, the spread of COVID-19 was simulated in the Philippine population under a scenario of no intervention (*S0*) and five other sets of scenarios (Table 3). Higher-numbered scenario sets (i.e., *S2*, *S3*, *S4*, *S5*) represent additional interventions on top of ECQ in scenario set 1 (*S1*). Letter suffixes indicate the length of the ECQ period where "a" assumes ECQ is implemented starting March 17, 2020 and ends April 12, 2020, while scenario suffixes with "b" and "c" indicate extensions of the ECQ by two and four weeks, respectively.

Scenario set 1 (*S1*) approximates current conditions: The Luzon-wide ECQ ends by April 12, 2020 (*S1a*), April 26, 2020 (*S1b*), or May 10, 2020 (*S1c*). Under this scenario, symptomatic cases are isolated when they contact the health system (e.g., go to the hospital emergency room), and majority of individuals follow ECQ guidelines. The ECQ compliance is assumed to be at 95 percent since the typical family household size is five and only one person per household leaves their home for essential movement once per week. In the post-ECQ period, everyone is free to move outside of their households, but symptomatic cases are still isolated when they contact the health system, and ECQ compliance is at a reduced rate of 50 percent.

Compared to the *S1* set, **scenario set 2 (*S2*)** models improvements in time from symptom onset to contact with the health system for testing and individual isolation. In the current status quo, the time between symptom onset and seeking care is estimated to be six days, on average, based on DOH-EB data (Table 2). Significantly reducing this lag time may be one way to ensure that symptomatic cases have a lower chance of infecting other people. Thus, during any extensions of the ECQ, the time from symptom onset is reduced to four days, then finally capped at two days in the post-ECQ period.

Scenario set 3 (S3) describes additional aggressive post-ECQ strategies compared to *S2*. This involves earlier isolation of at least 50 percent of symptomatic individuals on the day of symptom onset as opposed to the day they seek care at a health facility.

Table 3. COVID-19 outbreak scenarios

Scenarios			Luzon-wide ECQ		Health System Contact for Testing and Individual Isolation	Early Isolation at Symptom Onset
			Duration	Compliance		
S0	**No intervention**		None	–	None	–
S1	**ECQ**	***a***	Mar 17–Apr 12	95%	*Time to test/care from symptoms* = ~6 days	–
		b	+2 weeks		*% Following isolation* During ECQ - 80 percent Post-ECQ - 50 percent	
		c	+4 weeks			
S2	**ECQ + better testing**	***a***	Mar 17–Ap 12	95%	*Time to test/care from symptom onset* ECQ to April 12 = ~6 days Extended ECQ = 4 days Post-ECQ = 2 days	–
		b	+2 weeks			
		c	+4 weeks			
S3	**ECQ + better testing + isolate at symptom onset**	***a***	Mar 17–Apr 12	95%	*% Following isolation* During ECQ - 80 percent Post-ECQ - 50 percent	50 percent
		b	+2 weeks			
		c	+4 weeks			
S4	**Extended ECQ with partial lifting + better testing + isolate at symptom onset**	***b***	+2 weeks	50% during extension		
		c	+4 weeks			
S5		***b***	+2 weeks			70 percent
		c	+4 weeks			

COVID-19 = coronavirus disease 2019; ECQ = enhanced community quarantine; S = scenario set
Note: "–" = no data available
Source: Author's calculations from DOH-EB (2020) as of April 7, 2020

Scenario set 4 (*S4*) is the same in all aspects as *S3*, except that ECQ compliance is assumed at 50 percent during the ECQ extension period of two weeks (*S4b*) and four weeks (*S4c*) to simulate partial lifting of ECQ for essential industries, such as food and manufacturing. As the number of cases is expected to increase with partially lifting the ECQ in *S4*, this study also simulated an increase in intervention efforts to combat such rise in cases. **Scenario set 5 (*S5*)** conditions are similar to *S4*, but now has 70 percent of symptomatic individuals going into isolation on the day of symptom onset.

Projection results

Table 4 summarizes the number of infected people on the *peak day* of the outbreak for different scenarios. Figure 2 presents the number of infected individuals per day until January 15, 2022 of the outbreak. See Appendix 2 for the number of new cases per month by severity.

The results of the preliminary simulations imply the following:

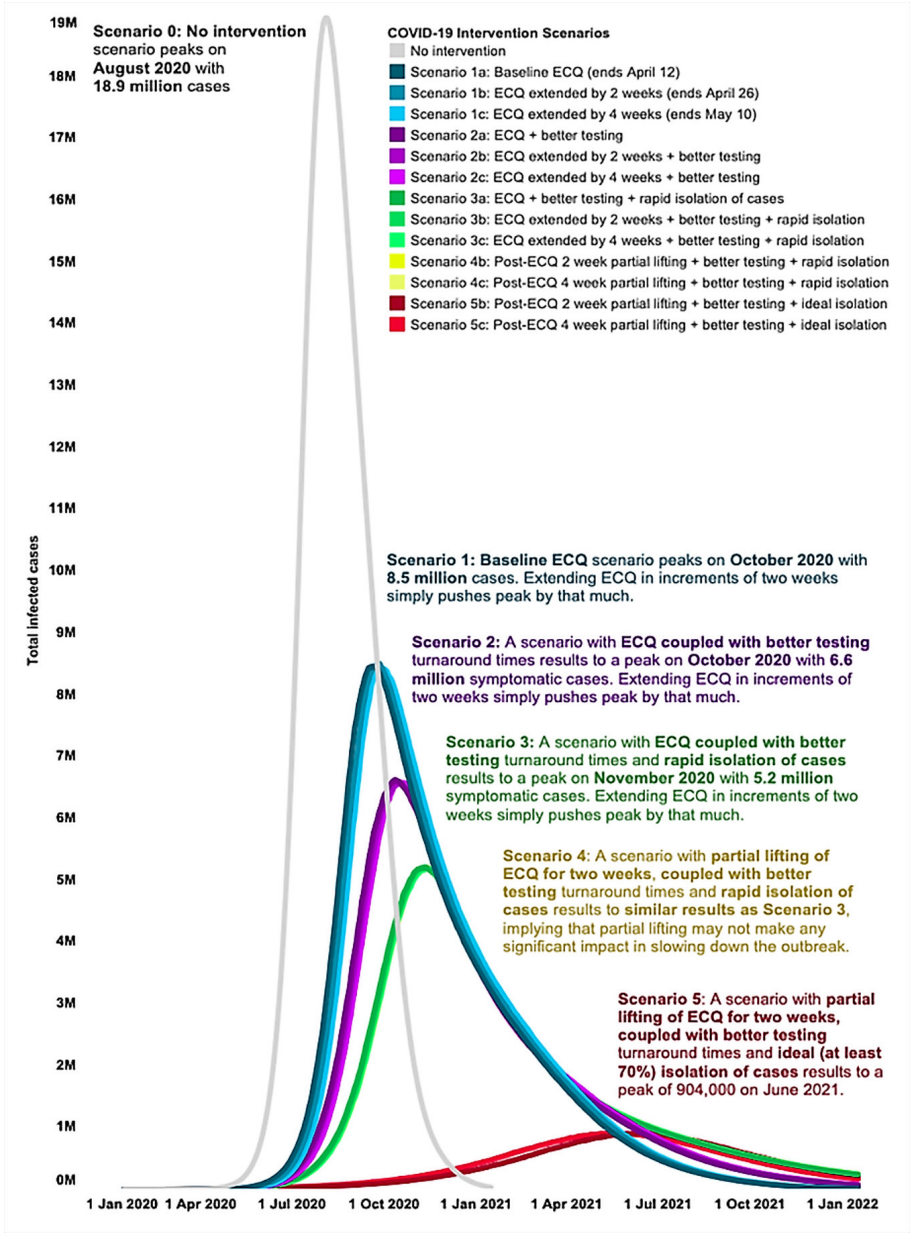
- **Without intervention (*S0*),** the peak of the COVID-19 outbreak in the Philippines would occur in August 2020 with approximately 18 percent of the whole Philippine population (18.9 million) infected with COVID-19.
- **Under ECQ or ECQ extensions (*S1*)** following current conditions (i.e., six days average time for testing and isolation), the peak of the outbreak is delayed by the same amount of time as the ECQ duration, and the number of cases at peak is reduced by 44 percent (i.e., down to 8.5 million) compared to *S0*.
- **Moderately aggressive efforts in the ECQ extension and post-ECQ period (*S2*)** to reduce delays in time from symptom onset to testing and isolation further delays the peak of the outbreak by one month and decreases the number of active infections on the peak day by 22 percent (5.2 million) compared to *S1*.
- **Additional aggressive efforts in the post-ECQ period (*S3*)** to isolate 50 percent of all cases on the day of symptom onset starting from the day ECQ ends again slows the outbreak by another month and decreases the number of cases at the peak by 21 percent compared to *S2* (5.2 million).

Table 4. Projected number of COVID-19 cases on the peak day of the outbreak

Scenario	Peak Month	Total Cases	Symptomatic Cases Only			Cumulative Deaths as of Peak Day
			Mild	Severe	Critical	
0	August 2020	18.9 mil	9.88 mil	3.39 mil	1.03 mil	1.66 mil
1a	September 2020	8.46 mil	4.41 mil	1.51 mil	456,000	1.00 mil
1b	September 2020	8.51 mil	4.43 mil	1.52 mil	458,000	1.09 mil
1c	September 2020	8.44 mil	4.40 mil	1.51 mil	454,000	1.02 mil
2a	October 2020	6.63 mil	3.07 mil	1.33 mil	410,000	921,000
2b	October 2020	6.58 mil	3.04 mil	1.32 mil	408,000	947,000
2c	October 2020	6.59 mil	3.04 mil	1.32 mil	408,000	923,000
3a	November 2020	5.21 mil	2.40 mil	1.05 mil	322,000	938,000
3b	November 2020	5.22 mil	2.41 mil	1.05 mil	322,000	874,000
3c	November 2020	5.20 mil	2.40 mil	1.05 mil	321,000	904,000
4b	November 2020	5.20 mil	2.40 mil	1.05 mil	321,000	885,000
4c	November 2020	5.22 mil	2.41 mil	1.05 mil	323,000	885,000
5b	June 2021	904,000	416,000	182,000	55,482	431,000
5c	May 2021	904,000	417,000	182,000	55,617	399,000

COVID 19 = coronavirus disease 2019; mil = million rounded off to three significant figures
Source: Authors' calculations

Figure 2. Epidemic curves for the projected number of COVID-19 cases from January 15, 2020 to January 15, 2022



Source: Authors' calculations

- **Partial lifting of the ECQ during any extensions (*S4b* and *S4c*)** does not accelerate nor increase the peak number of cases compared to *S3*—with the caveat that *the health system is able to isolate at least 50 percent of symptomatic cases on the day of symptom onset and cap the time from symptom onset to testing/isolation at two days.*
- **Isolating 70 percent of symptomatic cases (*S5*),** even with the partial lifting of ECQ, can drastically reduce the number of infected cases on the peak day to only 900,000 cases, with the peak predicted to occur much later in May or June 2021.

To summarize, extending the ECQ without other mitigation measures merely delays the progression of the outbreak and still results in a large number of cases. Aggressive efforts to implement early testing and, more importantly, earlier isolation of the majority of symptomatic cases to prevent them from infecting other susceptible individuals are crucial to suppress the outbreak.

Resource requirements for hospitalized COVID-19 patients

The rise in the number of COVID-19 patients leads to massive demands for health system resources in the form of hospital beds, ICU beds, ventilators, frontline health workers, and PPEs. Moreover, the Philippine Health Insurance Corporation (PhilHealth), the national health insurer of the country with a central role of funding the Universal Health Care program, has proposed case rates to cover medical charges for hospitalization of COVID-19 cases (PhilHealth 2020). It is crucial to take stock of the current supply of and projected demand for resources and costs to the public payer system to be able to address gaps, especially for critical patients who will need them the most.

Methods and assumptions in calculating resource requirements

Using the projected number of cases from the SEIR models, this study estimated the resource requirements for COVID-19 cases that require

medical intervention in healthcare facilities. To do this, it assumed that all symptomatic COVID-19 cases will first present on an outpatient basis in a health facility, primarily in the emergency room. These COVID-19 cases will then be triaged for case severity. Only severe or critical cases were assumed to be hospitalized, while mild/moderate cases who are stable are discharged and taken care of at home. Severe cases who present with severe pneumonia are hospitalized and confined in an isolated room or ward, while critical cases are brought to the ICU unit. Approximately 54 percent of critical cases who are in acute respiratory distress syndrome will need a mechanical ventilator (Arentz et al. 2020; Guan et al. 2020; Zhou et al. 2020).

Throughout these events, frontline health professionals with proper PPEs provide care to COVID-19 patients. A full PPE set for protection against airborne, contact, and droplet transmission includes an N95 mask, hair cap, goggles, gown, face shield, gloves, and shoe covers. Assumptions on human resources and PPE consumption are found in Table 5.

COVID-19 health system resource requirements

Tables 6 and 7 show the resource requirement for hospital beds, critical care, PPEs, and human resources for the projected number of cases on the peak day of the outbreak by scenario.

For all scenarios, demands for health care generated by COVID-19 at the peak of the outbreak far exceed the *current* supply in the health sector. Based on the best-case scenario of S5b and S5c, the country's health system would require a staggering 182,000 beds, 555,000 ICU beds, 30,000 ventilators, 88,000 doctors, 118,000 nurses, 11,000 medical specialists, and 4.41 million PPE sets by May/June 2021.

In contrast, there are only 61,459 beds across all level 2 (*L2*) and 3 (*L3*) hospitals in the Philippines (DOH 2020a). Within the hospitals reporting supply censuses to DOH (36.4% response rate) as of April 8, 2020, only 1,921 ICU beds and 2,088 ventilators nationwide were dedicated to COVID-19 patients (DOH 2020a).

Meanwhile, there are only 52,000 physicians and 351,000 nurses in the country (Abrigo et al. 2019). One cannot assume that all ward beds, ICU beds, ventilators, and human resources can be allotted for COVID-19 patients as there will be patients with other

Table 5. Human resources and PPE needs per setting for a 24-hour period

Setting	Ratio of Staff to Patients (Liwanag and Ayaay 2020)	PPE Sets per Patient Type per Day
Outpatient triage team	At maximum, 120 patients can be seen in the emergency room: • Physicians - 4:120 (2 residents, 1 consultant, 1 fellow) • Nurses - 3:120 • Auxiliary staff - 4:120 • Cleaner - 1:120 • Guard - 1:120	0.217 per symptomatic case (Calculated from ratio of staff to patients in outpatient triage team)
Inpatient wards	• Doctor - 1:6 • Nurse - 1:3	15 per severe case per day (DOH estimates in consultation with UP-PGH)
Intensive care unit	• Doctor - 1:1 • Nurse - 1:1 • Intensivist - 1:5 • Pulmonologist - 1:5 • Infectious disease specialist - 1:5 • Mechanical ventilator technician - 1:5	30 per severe case per day (DOH estimates in consultation with UP-PGH)

PPE= personal protective equipment; DOH = Department of Health; UP-PGH = University of the Philippines-Philippine General Hospital
Source: Authors' compilation

illnesses (e.g., cancer, heart failure, kidney failure, stroke) needing these resources.

The study also did not factor in the fact that some healthcare workers could develop COVID-19 or need to be quarantined, effectively removing them from the frontlines.

Only scenario *S5* presents a **manageable timeline to scale up health system capacity to a reasonable level within a year** so that the health system can be sustained even after the COVID-19 outbreak**.** For example, should the gaps in hospital beds be addressed, the Philippine healthcare system would actually end up with 1.7 level 2

Table 6. Hospital bed, ICU bed, ventilator, and PPE needs at the peak of the outbreak

Scenario	Peak Month	Hospital Bed	ICU Beds	Ventilators	PPE Sets
0	Aug 2020	3.39 mil	1.03 mil	557,000	82.0 mil
1a	Sep 2020	1.51 mil	456,000	246,000	36.5 mil
1b	Sep 2020	1.52 mil	458,000	247,000	36.7 mil
1c	Sep 2020	1.51 mil	454,000	245,000	36.4 mil
2a	Oct 2020	1.33 mil	410,000	222,000	32.3 mil
2b	Oct 2020	1.32 mil	408,000	220,000	32.1 mil
2c	Oct 2020	1.32 mil	408,000	220,000	32.2 mil
3a	Nov 2020	1.05 mil	322,000	174,000	25.5 mil
3b	Nov 2020	1.05 mil	322,000	174,000	25.5 mil
3c	Nov 2020	1.04 mil	321,000	174,000	25.4 mil
4b	Nov 2020	1.04 mil	321,000	174,000	25.4 mil
4c	Nov 2020	1.04 mil	323,000	174,000	25.5 mil
5b	Jun 2021	182,000	55,500	30,000	4.41 mil
5c	May 2021	182,000	55,600	30,000	4.41 mil

ICU = intensive care unit; PPE = personal protective equipment; mil = million rounded off to three significant figures
Source: Authors' calculations

and level 3 beds per 1,000 population compared to the current supply of 0.57 level 2 and level 3 beds per 1,000 population.

The study also calculated the public payer costs to PhilHealth of reimbursing severe and critical hospitalized COVID-19 cases with the proposed case rates of PHP 333,519 for severe cases and PHP 786,384 for critical cases for 2020 (PhilHealth 2020).

In *S5*, where the most extensive mitigation interventions are implemented to reduce the total number of COVID-19 cases as much as possible, total predicted reimbursements for PhilHealth for severe and critical COVID-19 cases is PHP 206 billion to PHP 268 billion. In 2019, PhilHealth only had a corporate budget of PHP 175 billion (PhilHealth 2019) (Table 8).

Table 7. Health workforce needs at peak of the outbreak

Scenario	Doctors	Nurses	Infectious Disease Specialists	Pulmo-nologists	Ventilator Specialists
0	1.64 mil	2.19 mil	206,113	206,113	111,000
1a	727,000	975,000	91,300	91,300	49,300
1b	730,000	979,000	91,600	91,600	49,500
1c	725,000	971,000	91,800	91,800	49,000
2a	646,000	864,000	82,000	82,000	44,300
2b	642,000	859,000	82,500	82,500	44,000
2c	643,000	860,000	81,600	81,600	44,100
3a	508,000	680,000	64,500	64,500	34,800
3b	508,000	680,000	64,400	64,400	34,800
3c	507,000	678,000	64,300	64,300	34,700
4b	507,000	678,000	64,300	64,300	34,700
4c	509,000	681,000	64,600	64,600	34,900
5b	88,000	118,000	11,100	11,100	5,990
5c	88,000	118,000	11,100	11,100	6,000

mil = million rounded off to three significant figures
Source: Authors' calculations

It should be noted that the calculation here does not include case rates for costs of testing, community isolation, and hospitalization of mild cases with comorbidities or of elderlies. Likewise, the estimates assume that the case rates will not be revised (e.g., to a lower amount) for April 14, 2020 onward and that all COVID-19 cases will avail of PhilHealth benefits.

As a caveat, it should also be noted that the estimates are based on the modeled scenarios. Should the health system become even much more aggressive and efficient in identifying and quarantining infected individuals, this would change the progression of the outbreak and may decrease the maximum number of cases and resource consumption.

Table 8. Projected total PhilHealth reimbursements for COVID-19 cases

Scenario	Reimbursements in PHP (in billions)
0	9,520
1a	6,430
1b	6,340
1c	6,250
2a	4,970
2b	4,920
2c	4,860
3a	3,800
3b	3,760
3c	3,740
4b	3,760
4c	3,740
5b	206
5c	268

PHP = Philippine peso
Source: Authors' calculations

Projected economy-wide impacts of COVID-19

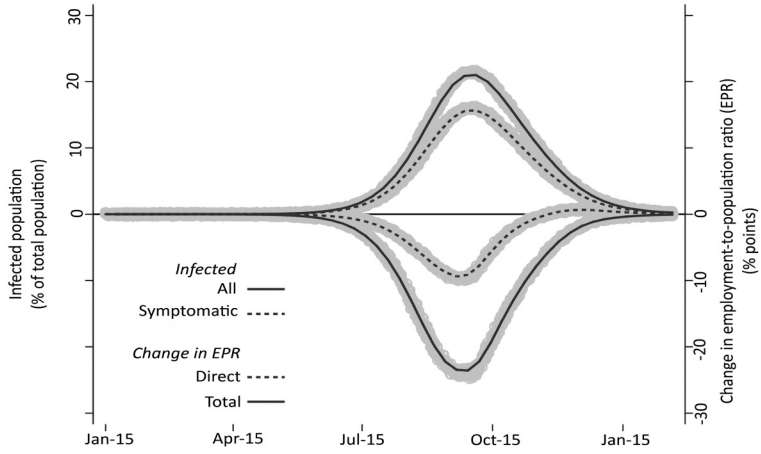
The COVID-19 outbreak is expected to affect not only local health systems but local economies as well. Arguably, the most direct impact could be observed on the ability of workers to participate in the labor market. Aside from the direct effects of excess morbidity on the labor force participation of infected individuals, household and community interventions (e.g., self-isolation and community quarantines) may induce greater exit from the workforce. This has important implications on (i) household incomes and consumption, especially when social protection systems are limited; (ii) market production that affects the supply of goods and services available in the market; and (iii) government revenues and its ability to provide public services.

Projected impact on employment

To assess the potential impact of the COVID-19 outbreak on labor force participation among households, this study linked the population-level SEIR model to an individual-level microsimulation model. Under a no-intervention scenario (*S0*), the projected number of symptomatic individuals may reach as high as a fifth of the Philippine population at the peak of the epidemic. Consequently, self-isolation and quarantine rules on infected individuals and their households may delay the reentry of workers to the labor force as reflected by the slower descent in the change in employment-to-population ratios (EPR) in Figure 3.

The country's EPR may decline by as much as 12-percentage points under *S0* as a direct result of workers becoming symptomatic COVID-19 cases. Accounting for possible household responses (e.g., taking leaves to care of the sick, voluntary household isolation), however, the reduction in EPR could reach almost 30-percentage points. With the Philippines' current EPR of 60 percent, such scenario

Figure 3. Projected infected cases and EPR change for a no intervention scenario



EPR = employment-to-population ratio
Source: Authors' estimates

poses a potential 50-percent reduction in the country's number of workers at the peak of the epidemic. The reduction could be much more pronounced if community-wide quarantines are imposed.

Potential negative impacts of interventions

While arresting the spread of COVID-19 is paramount, government interventions may need to account for the ability of households to cope with any indirect negative impacts of such interventions. For example, community quarantines may effectively limit the income sources among households, especially those with nonpermanent jobs.

Table 9 presents key household characteristics based on the 2015 Family Income and Expenditure Survey (PSA 2016b) and using the income class typology proposed by Albert et al. (2015, 2018). The proposed per capita income ranges were converted into a hypothetical number of months that a household may live on one average monthly income when consuming the bundle of goods and services used to calculate the 2015 national poverty threshold. Based on the distribution of household incomes in 2015, Table 9 suggests that about 3 in every 5 Filipinos have limited capacity to subsist without additional support if community quarantines are extended beyond one month.

Although it can be argued that households may alternatively rely on other sources of income, such as financial incentives from employers, direct loans from banks, government social security agencies, and international remittances, these options are not available equally across households. Estimates from the 2016 Annual Poverty Indicators Survey (PSA 2017a) show that only two in every five households have at least one family member with Social Security System (SSS) or Government Service Insurance System (GSIS) coverage. This **proportion is expected to be lower among poorer households** that are less likely to have formal employment compared with richer households.

While the inflow of cash remittances from international migrant workers, an important resource among a significant number of households, has been documented to be countercyclical (i.e., increasing/decreasing in economic downturns/upturns [e.g., Orbeta 2008]), international migrant workers' jobs overseas

Table 9. Selected household characteristics by income class, Philippines, 2015

	Poor	Low Income, Not Poor	Middle income			Upper Income, Not Rich	Rich
			Lower	Middle	Upper		
Subsistence capacity (months)	<1	1	2–3	4 -6	7–11	12–19	20+
Share of population (%)	22	37	26	10	4	<1	<1
Labor and employment							
Labor force participation rate (%)	61	62	64	66	68	71	76
Employment rate (%)	95	94	93	95	96	98	98
Nature of employment (%)							
Permanent job	62	66	76	85	90	91	92
Short term	30	28	22	14	10	8	8
Different employer	8	6	2	1	<1	<1	<1
Age distribution							
Average family size	5.9	4.9	4.3	3.8	3.5	3.0	2.8
Median age (years)	17	23	28	32	35	39	40
Share of children aged 15 and below (%)	42	29	20	15	12	8	7
Total dependency ratio (%)	104	62	39	29	22	15	13
Housing and household amenities							
Household amenities (%)							
Motorcycle	11	21	31	35	33	28	27
Car	<1	1	4	16	36	57	70
Landline	<1	1	4	16	31	43	53
Mobile phone	69	83	90	93	95	96	96
Computer	1	6	27	54	70	77	78
Refrigerator	6	22	52	77	88	91	95
Housing tenure (%)							
Home or owner-like possession	63	67	72	75	83	88	88
Rented house or lot	3	6	10	13	10	7	9
Others	34	27	18	12	7	5	3
Remittance recipient (%)	11	21	34	43	46	47	39

Source: Calculated from PSA (2016b) data based on the typology by Albert et al. (2018)

may also be at risk due to the spread of COVID-19 in their respective host countries. In particular, seafaring jobs are at high risk with the mass grounding of cruise ships to limit the spread of COVID-19 infections, and of cargo ships as a result of slowing global demand. Land-based overseas workers are also at risk of losing employment as a result of contracting economies, especially among countries greatly affected by COVID-19.

The experiences of many countries with community-wide quarantines suggest that large-scale telecommuting arrangements among workers and online classes among students may be possible. However, these strategies assume that the facilities necessary to implement such arrangements are available, accessible, and affordable to all households. This may not necessarily be the case in the Philippines. Data show that among households in 2015, only 1 percent and 6 percent of poor and low-income households, respectively, own a computer. Moreover, not all occupations (e.g., plant machine operators) and education courses (e.g., those with laboratory components) can be done remotely.

Finally, severely limiting travel as part of the physical distancing protocols may be critical in slowing down (if not totally arresting) the spread of infections but may have a negative impact on the social and economic welfare of households. As shown in Table 9, ownership of personal vehicles, including motorcycles and cars, is limited among all household types. Extending the ECQ while also discontinuing public transportation might constrain the ability of consumers to access—and of producers to deliver—essential market resources. Such constraints could be detrimental to patients with non-COVID-related medical conditions (e.g., cancer or kidney disease) who need to access healthcare facilities for treatment.

Projected macroeconomic impacts

Estimating the potential impact of COVID-19 on the Philippine economy is challenging. Nonetheless, this must be done to provide indications that any potential response to arrest the spread of the disease is not worse than the negative impacts of the disease itself. For instance, responses to epidemics could lead to unintended consequences as resources for existing programs get diverted to initiatives to contain the spread of the COVID-19 virus.

Challenges in estimating the potential macroeconomic impact of COVID-19

The first challenge in estimating the impact of the COVID-19 crisis on the macroeconomy is that the Philippines has not experienced an epidemic of similar proportions in recent history that allows a direct comparison of costs and benefits. The country's experiences of disease outbreaks (e.g., measles, malaria, dengue) pale in comparison with the potential impact of COVID-19. Disease outbreaks in other parts of the world, such as the 2002–2004 severe acute respiratory syndrome in China, Hong Kong, Taiwan, Singapore, and Canada; the 2009–2010 global H1N1/09 influenza pandemic; and the 2013–2016 Ebola virus epidemic mainly in West Africa appear to have limited impact on the Philippines based on aggregate income and consumption growth in the country during these periods (Figure 4).

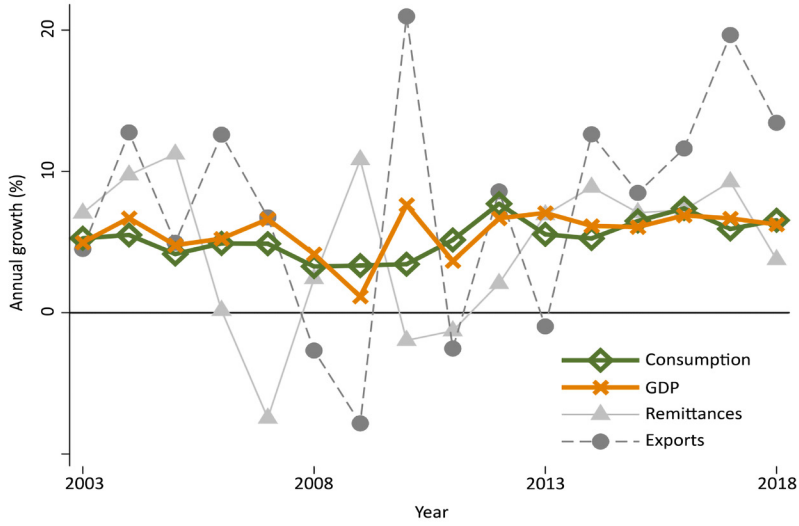
The second challenge is that COVID-19 is a novel disease; hence, its characteristics are not yet well understood. As such, the projected epidemic curves that may be included as part of the basis of economic impact estimates are being updated as new data arrive.

Finally, while the transmission channels of the economic impacts of COVID-19 may be mapped out and linked with different policy options, the relevant elasticities required to convert the extent of interventions to its projected impact are not readily available or may need to be estimated based on other proximal measures.

Current macroeconomic trends amid the COVID-19 pandemic

Recent trends in some macroeconomic indicators appear to be very similar to those of the 2009 global financial crisis. During the pandemic, the world has seen a significant decline in the price of crude oil in the first quarter of 2020 as demand from countries slowed down following the implementation of extreme measures against COVID-19, including border closures and community-wide quarantines. Brent crude prices declined by more than 50 percent from about USD 70 per barrel in March 2019 to less than USD 30 per barrel in March 2020—cheaper than USD 36 per barrel during the peak of the 2009 world crisis. Stock market composite indices of the Philippines' major trade partners also declined considerably, suggesting declining market confidence (Table 10). If this trend

Figure 4. Annual growth (%) in selected macroeconomic indicators, 2003–2018



GDP = gross domestic product
Source: World Bank (2020)

continues, the country's prospects for export growth in the near term may be affected.

Unlike the 2009 global financial crisis, the intentional contraction or "freezing" of economies in response to COVID-19 may put overseas Filipino workers at risk of losing their employment and, therefore, limit their capacity to send cash remittances. As shown in Figure 4, the substantial increase in international remittances during the 2009 global financial crisis counterbalanced the considerable decline in Philippine exports and allowed aggregate consumption and income to grow, albeit at a much slower pace.

Another unique feature of this pandemic is the intended tightening of borders across local communities. In the Philippines, for example, while the continuous and unimpeded flow of critical supplies (e.g., agricultural products) are guaranteed by the national government, the experience during the initial Luzon-wide community quarantine shows that additional documentary rules and flawed local government prerogatives may limit the cross-border movement

Table 10. COVID-19 cases and stock index decline in major Philippine export partners

Export Partners	Exports, 2017*		Confirmed COVID-19 Cases**	Stock Index Decline***	
	Value (USD B)	Share (%)		October 2008	March 2020
United States of America	11.5	16.3	35,530	~30%	~25%
Japan	10.6	15.1	1,101	~30%	~25%
Hong Kong	9.6	13.7	356	~30%	~15%
China	9.6	13.7	81,496	~5%	~10%
Singapore	3.8	5.4	509	~20%	~30%
Republic of Korea	3.2	4.6	8,961	–	~25%
Thailand	3.0	4.2	721	–	~30%
Germany	2.7	3.9	27,546	~20%	~30%
Taiwan	2.2	3.2	195	~15%	~20%
Malaysia	1.8	2.6	1,518	~15%	~15%

COVID-19 = coronavirus disease 2019; USD = United States dollar; B = billion
* Exports data are from PSA (2020a) Foreign Trade Statistics.
** Data are from Johns Hopkins University (n.d.) as of March 23, 2020.
*** Stock index refers to the primary composite index in each country's stock market. Figures reflect the rate of decline relative to the prior month. Figures for 2020 are as of March 24, 2020.
Note: "–" = no data available
Sources: Authors' calculations; PSA (2020a); Johns Hopkins University (n.d.)

of supplies. Disruptions in both local and global supply chains are expected to negatively affect the delivery of final goods for consumption and the production of other goods and services that rely on intermediate inputs.

Methods for macroeconomic projections

Table 11 describes a number of scenarios based on these trends in the global and local economy and COVID-19 spread**.** The scenarios are broadly based on disease transmission and employment microsimulation models and assumptions about the Philippine export market. These scenarios indicate the potential loss of economic activity from COVID-19 as well as COVID-19 interventions.

It is important to emphasize the following:

- The estimates are only indicative; they are based on specific assumptions on the perceived trajectory of the epidemic and consumption patterns. They may not capture all of the economic impacts of the disease (e.g., lives lost, foregone human capital investments, supply chain disruptions).
- Calculations exclude the potential increase in healthcare demand. For example, demands for PPE and hospital care are expected to increase as COVID-19 spreads. However, this may be tempered by lower demand for other healthcare services by households taking precautionary actions against being infected. The net effect is difficult to assess at this point.
- Overall, this study intentionally erred toward using conservative projection assumptions to provide a lower limit to the potential economic losses that the country may experience from the pandemic.

The macroeconomic projections are based on an application of the Leontief input-output analysis that has also been employed elsewhere (e.g., Abiad et. al. 2020). Using the 2012 Philippine input-output table (PSA 2017b), which captures the forward and backward linkages among industries in the economy, the implied matrix of technical coefficients (which captures the inputs necessary to produce one unit of output in each sector assuming Leontief

Table 11. Macroeconomic projection scenarios

Scenarios	Consumption/Employment*	Exports
Worse case Scenario S1b: The pandemic is not contained around the world, and the global economy slows down into a recession.	5.3-percent reduction in household consumption as a result of 19.7-percent drop in annual average labor supply, and 20-percent net reduction in average incomes among displaced workers	Philippine exports of goods decline by 80 percent of the 2009 global financial crisis rates for agriculture, forestry, and fishing (5%), mining and quarrying (20%), and manufacturing (24%). Consumption from transportation, storage and communication, and other services export declines by 20 percent.
Moderate case Scenario S3b: The pandemic is effectively contained around the world by end of 2020 Q3.	3.7-percent reduction in household consumption as a result of 14.4-percent drop in annual average labor supply, and 20-percent net reduction in average incomes among displaced workers	50 percent of worse-case scenario
Best case Scenario S5b: The pandemic is effectively contained around the world by end of 2020 Q2.	0.7-percent reduction in household consumption as a result of 7.4-percent drop in annual average labor supply, and 20-percent net reduction in average incomes among displaced workers	10 percent of worse-case scenario

Q = Quarter
* Commodity-specific income elasticities of demand are calculated based on aggregate data from PSA (2020b). See Appendix C for the calculation of the change in employment by scenario.
Source: Authors' calculations

production technology) is calculated. Based on the projected change in final demand, the changes in gross output may be calculated, from which changes in gross value added may be derived.

Results of macroeconomic projections

Table 12 summarizes the projected decline in gross value added by sector based on the scenarios in Table 11. The Philippine economy may lose between PHP 276.3 billion (best case) and PHP 2.5 trillion (worst case) due to COVID-19. While the transport, storage, and communication sector is expected to suffer substantial losses because of expected declines in tourism (PHP 11.7 billion to PHP 124.3 billion), other sectors—particularly other services (PHP 41.5 billion to PHP 356.9 billion), manufacturing (PHP 82.1 billion to PHP 855.2 billion), and wholesale and retail trade (PHP 93.2 billion to PHP 724.8 billion)—are projected to also be negatively affected as a result of weaker global and domestic demand.

This section also estimates the potential macroeconomic impact of different nonmedical mitigation measures as summarized in Table 13. Unlike the estimates for the scenarios, however, the results summarized in Table 13 only capture the contribution of weaker household final demand on gross value added. The potential contributions of declining exports are excluded. Further, the estimates are based on a multiregional input-output (MRIO) model to capture the interlinkages among major island groups. The MRIO model is based on four regions (NCR, rest of Luzon, the Visayas, and Mindanao) and the same 10 industry groups listed in Table 12.

Results suggest that imposing community-wide quarantines alone may not be enough to sufficiently flatten the epidemic curve and avert substantial economic losses. It also suggests that extending community-wide quarantines may increase these economic losses given the same nonmedical mitigation measures implemented. Extending the Luzon-wide community quarantine by one month is projected to result in at least **PHP 150 billion worth of foregone economic activity based on the projection assumptions.**

Table 12. Projected decline in sectoral gross value added

	Level (PHP billion)			Share of 2019 Gross Value Added (%)		
	Best	Moderate	Worse	Best	Moderate	Worse
Agriculture, forestry, and fishing	9.4	50.5	110.3	0.5	2.9	6.4
Mining and quarrying	1.7	8.6	26.9	1.1	5.3	16.7
Manufacturing	82.1	421.8	855.2	2.3	11.7	23.8
Construction	1.7	9.0	19.3	0.1	0.5	1.2
Electricity, gas, and water	5.7	30.5	44.3	0.9	5.0	7.3
Transportation, storage, and communication	11.7	61.6	124.3	1.1	5.6	11.3
Wholesale and retail trade	93.2	497.7	724.8	2.6	13.9	20.3
Financial intermediation	18.5	98.9	141.3	1.1	6.0	8.6
Real estate, renting, and business activities	10.7	56.8	79.7	0.4	2.4	3.3
Other services	41.5	221.0	356.9	1.5	7.8	12.6
All sectors	276.3	1,456.3	2,482.9	1.4	7.6	12.9

PHP = Philippine peso
Source: Authors' calculations; PSA (2020a)

Table 13. Projected macroeconomic impact of nonmedical interventions

	Mitigation Measures			ECQ Extension		
	ECQ	Better Testing	Isolation at Onset	No Extension	+2 weeks	+4 weeks
Level (PHP billion)						
S1	Yes; 95%	No	No	1,417.9	1,475.7	1,573.3
S2	Yes; 95%	Yes	No	1,230.4	1,323.7	1,415.7
S3	Yes; 95%	Yes	Yes; 50%	1,043.6	1,141.5	1,241.2
S4	Yes; 50%	Yes	Yes; 50%	–	980.7	1,029.8
S5	Yes; 50%	Yes	Yes; 70%	–	213.4	283.7
Share of 2019 GVA (%)						
S1	Yes; 95%	No	No	7.4	7.7	8.2
S2	Yes; 95%	Yes	No	6.4	6.9	7.4
S3	Yes; 95%	Yes	Yes; 50%	5.4	5.9	6.4
S4	Yes; 50%	Yes	Yes; 50%	–	5.1	5.3
S5	Yes; 50%	Yes	Yes; 70%	–	1.1	1.5

GVA = gross value added; ECQ = enhanced community quarantine; S = situation; PHP = Philippine peso
Notes:
(1) "–" = no data available
(2) S4 and S5 scenarios assume extensions
(3) No intervention: PHP 1,980 billion; 10.2 percent of 2019 GVA
Source: Authors'calculations

However, the cost of inaction may be larger. In a no intervention scenario (*S0*), the MRIO model suggests that the Philippines may lose about PHP 2 trillion in foregone gross value added as a result of weaker household demand as more workers become unemployed for extended periods of time.

Recommendations

The COVID-19 pandemic is not merely a public health issue but an economic and social one as well. The ECQ is a step toward managing the health system's limited resources, buying time to buttress hospital and laboratory testing capacity, and equipping healthcare workers with proper protection. However, setting the economy on "freeze" mode for a longer period may cause unintended consequences.

As the study's model suggests, the ECQ may have provided the health system some time to prepare (but in itself is not sufficient to contain the outbreak). In the absence of more aggressive public health interventions, a successive wave of infections could rise months after the ECQ. Hence, the government must not be complacent and must be strategic in containing the outbreak.

The post-ECQ strategy must be designed to maintain a low level of virus transmission but should be economically sustainable. A gradual and calibrated transition to a risk-based strategy that combines relaxation of economic restrictions with control measures against the spread of the virus is therefore recommended. As the economy reopens, the government should continuously expand its capacity to perform the following:

- Detect and isolate individual cases, and identify close contacts;
- Protect high-risk population groups, including healthcare workers;
- Continuously implement public health measures, such as physical distancing and handwashing; and
- Treat as many patients as possible, particularly severe and critical cases.

Implementing these requires a whole-of-government approach: bringing together the resources of different government agencies and harnessing the expertise of the private sector. The general strategy

should not be hospital centric. Efforts to control the transmission of the virus should start in local communities, and hospitals should serve as the last line of defense. Local governments' role to implement public health programs and surveillance is critical.

The following are specific recommendations covering the four action points:

- **Continue scaling up testing capacity to reduce turnaround times for laboratory results.** As of April 13, 2020, the testing capacity of the country using reverse transcription polymerase chain reaction (RT-PCR) is at 2,000 tests per day across 15 laboratories, with more than 30 laboratories at different stages of accreditation by the Research Institute of Tropical Medicine.

  The accreditation of these laboratories must be hastened to remove bottlenecks in releasing laboratory confirmation to patients of their COVID-19 status. Efforts demonstrated by local government units (LGUs) and the private sector to scale up these laboratories should be encouraged by the national government. The goal is to reduce turnaround times from around 10 days to the ideal of 24 to 48 hours to ensure that confirmed cases are isolated, and their close contacts quarantined as soon as possible. Moreover, being able to remove negative cases quickly from quarantine reduces the burden on the healthcare system and allows the provision of more appropriate interventions.

  In addition to RT-PCR testing, the government should scale up rapid serology tests that determine who have already been infected with the coronavirus and have antibodies. However, serologic testing should not be used as the sole basis for making clinical management decisions.
- **Increase contact-tracing capabilities rapidly.** The DOH should increase the number of contact tracers coordinating with epidemiology surveillance units (ESUs) at the central and regional levels and provide the necessary support for ESUs in the LGUs. Two relevant issuances of the DOH (2020b, 2020c) have already been publicly circulated and must be strengthened. First, nurses deployed under

the Nurse Deployment Program should be seconded to become contact tracers in their respective LGUs, but not at the expense of more urgent needs, such as COVID-19 case management. Second, the DOH should mandate—and not merely provide guidance on—hospital and subnational laboratory's cooperation in all DOH and LGU efforts related to epidemiological surveillance. Finally, the DOH should enlist the cooperation of the public by clearly communicating the importance of contact tracing and what the public can do to improve epidemiological surveillance.

- **Decongest health facilities by expanding isolation and quarantine facilities outside of hospitals for mild cases or suspected cases presenting with mild symptoms.** LGUs should continue building isolation and quarantine facilities for mild cases to avoid intrahousehold transmission. The use of nonessential public spaces and partnerships with lodging facilities, such as hotels, is an important start. Furthermore, the Department of Education should consider allowing LGUs to use schools as quarantine facilities, at least until the end of May, if onsite classes are assumed to resume in June 2020.
- **Provide a more humane approach for enforcing quarantine and isolation for suspected and confirmed cases.** The national government, through the Department of Social Welfare and Development, Department of Labor and Employment, GSIS, and SSS, must develop a joint policy to provide financial incentives to suspected and confirmed cases who fully complied with isolation and quarantine guidelines. These may be in the form of subsidies for lost daily wages based on the regional minimum wage, GSIS or SSS monthly salary credit, or conditional cash transfers for those in the informal sector. At the same time, the national government must provide a more measured approach in handling quarantine violations, such as by withholding the financial incentives or imposing a fine, rather than arresting or through any semblance of corporal punishment.

- **Provide a wide range of support and protection schemes for healthcare workers.** As evidence suggests, the risk of infection among healthcare workers during outbreaks increases because of the following reasons: (i) delayed recognition of symptoms and limited experience in dealing with the respiratory disease, (ii) burnout due to exposure to a large number of patients, (iii) lack of PPEs, and (iv) lack of measures to prevent the spread in the hospitals.

  To address these issues, the following are recommended: (i) provide constant training to healthcare workers about the novel disease through interactive training and mentoring, (ii) improve access to PPEs, (iii) provide psychosocial support to reduce burnout and depression, and (iv) strengthen the hospital surveillance system. Burnout is associated with negative outcomes, such as lower quality of care. If health workers are taking on long shifts without breaks, they might inadvertently drop their guard when using PPEs and following infection control protocols.
- **Remove all possible bottlenecks in the production and importation of PPEs.** To rapidly improve the availability of PPEs, the national government must rely on both expanding local manufacturing capacity and increasing imports. Through whatever means necessary, the national government, led by the Department of Trade and Industry, must enlist the support of textile, plastic, and paper factories and distilleries to repurpose their production lines toward producing PPEs and other critical medical supplies. Through negotiated contracts, it may purchase 100 percent of the inventory produced by these companies and distribute the goods equitably to all health facilities in need. The national government must strictly enforce importation policies related to trade liberalization of PPEs, such as relaxing Food and Drug Administration requirements and allowing provisional goods declaration by the Bureau of Customs. Daily updates on total PPE production and shipments must be reported publicly for transparency purposes.

The government should not solely aim to "flatten" the epidemic curve; it should also aim to limit prolonged disruptions in the economy. A key step toward this direction, of course, is to control the spread of the epidemic. Even during epidemics, the government should ensure that critical goods and services remain available, affordable, and accessible.

- **Deploy a massive safety nets program to ensure that households have access to food and other basic necessities.** However, the interventions need not be confined to the poor, displaced workers, and other at-risk populations but must also include firms, particularly micro, small, and medium enterprises. Safety net programs can ensure that households are not induced unnecessarily to continue working for their sustenance during epidemics. It may also be used to limit the spread of the disease by isolating susceptible and infected individuals and limiting their contact with the general population. Based on current infection rates and costs of treatment, it is more cost effective to incentivize people to stay at home.
- **Prioritize revitalizing economic activity without endangering public safety.** Keeping every person at home may freeze the economy. Economic activity needs to be encouraged, wherever it is safe and possible, to allow goods and services to be consumed in other areas. After all, ensuring that households have a continuous source of income is the greatest safety net of all.

  As earlier suggested, some businesses may be repurposed to help in the interventions against COVID-19 (e.g., garments factories to make PPEs, distilleries to produce alcohol). Also, other businesses may need to be developed (e.g., research, digital platform deliveries, manufacturing) to supply goods and services that cannot be readily sourced from the international market.

  The national government must also allow public transportation to partially operate, subject to strict physical distancing guidelines, to facilitate the movement of essential

economic transactions. It may directly hire drivers or operators on a cash-for-work basis to manage the availability of public transportation.

- **Ensure that supply chains remain operational.** The flow of goods and services should be continuous and unencumbered. While social distancing measures are necessary, they need not hinder the delivery of supplies. Fast lanes for food, health personnel, medical supplies, and many others need to be established and safeguarded. Safety protocols should be in place to ensure that the COVID-19 virus is not spread through the supply chain.

Services to contain disease outbreaks are important public goods. Such efforts cut across age groups, socioeconomic classes, and geographic boundaries. They require concerted action across sectors—a whole-of-government, whole-of-society approach. After all, the success of the various initiatives implemented can only be measured by the success of the "weakest link" in the network of communities.

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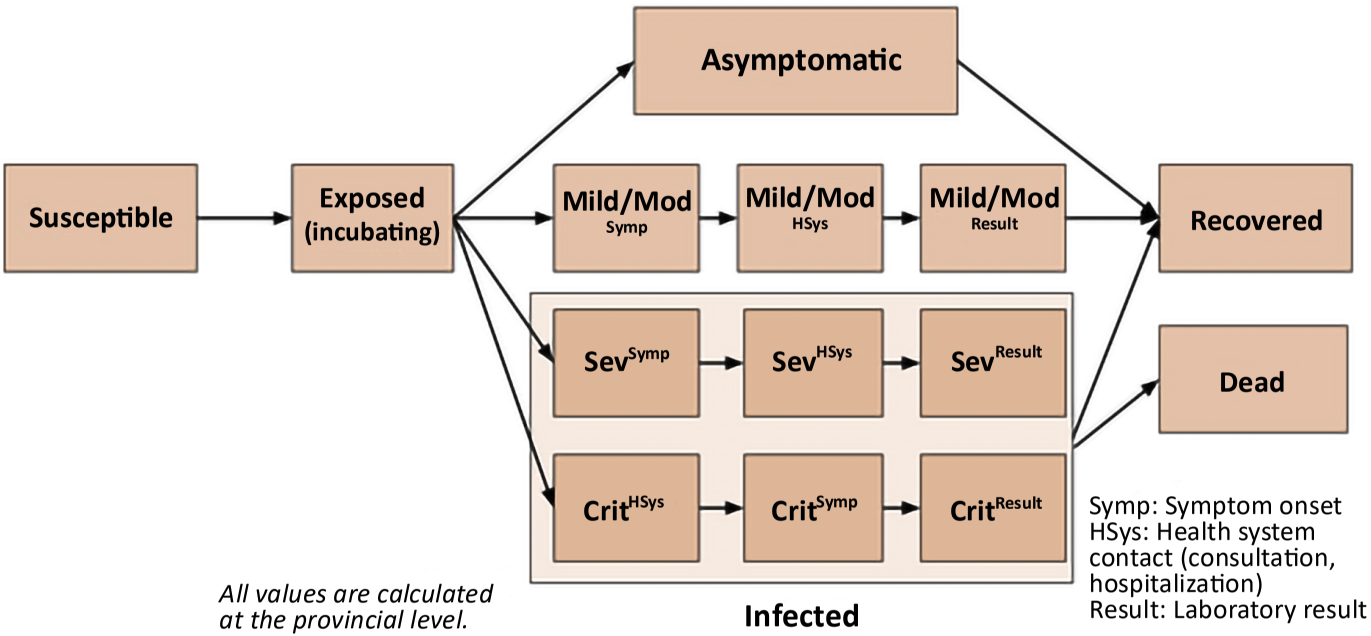
Appendix A. SEIR model description

This note discusses the key features of a SEIR model developed to simulate the potential spread of COVID-19 in the Philippines population from January 15, 2020 to January 15, 2021. The model compartments are illustrated in the schematic below (Figure 1).

Figure 1. SEIR model schematic for COVID-19 transmission



SIER = susceptible-exposed-infected-removed; Sev = severe ; Mod = moderate; Crit = critical; Symp = symptom onset; HSys = health system contact
Source: Authors' illustration

Susceptible

Susceptible people are healthy people with no disease. In any period t={1,2,...}, susceptible population S_{it} living in provinces indexed by i={1,2,...} meet infected individuals living in their own area and in other areas with probability σ_{it-1}. Provinces are linked with each other through a row-standardized social distance matrix with elements w_{ij}.

$$\Delta S_{it} = -\beta \cdot \sigma_{it-1} \cdot S_{it-1}$$

$$\sigma_{it-1} = \frac{\sum_j w_{ij}(\sum_k \psi^{0k} I_{jt-1}^{0k} + \sum_k \psi^{1k} I_{jt-1}^{1k} + \psi^{21} I_{jt-1}^{21})}{S_{it-1} + I_{it-1} + R_{it-1}}$$

$$w_{ij} = \frac{N_{i0}^{j}}{N_{i0}} \cdot Q(q_{ij} = 1)$$

Each infected individual is able to infect others at a base rate of β per day. Infected persons at different subphases of infection and of different disease expression are assumed to have different relative infection rates, captured by ψ^{vk}.

Various experiments may be introduced in the model through the indicator variable $Q(q_{ij}=1)$ that takes on a value of 1 if areas i and j are connected, and zero if otherwise, (e.g., school closure, area-based quarantine). Other parameters, including transition times between Infection substates and basic reproduction number, may also be adjusted for experiments.

Exposed

Exposed or infected individuals who do not yet exhibit symptoms are not infectious until *G* days representing the average incubation period of COVID-19. We assume *G* is drawn from an exponential distribution with mean 1/γ, and that the probability of transitioning to an infected state in the next day approaches γ as 1/γ grows.

$$\Delta E_{it} = \beta \cdot \sigma_{it-1} \cdot S_{it-1} - \gamma E_{it-1}$$

Infected

The infected phase I_{it}^{vk} has three subphases indexed by v={0,1,2} and four states indexed by k={0,1,2,3}. The states refer to levels of disease expression among individuals: asymptomatic (*k*=0), mild (*k*=1), severe (*k*=2), and critical (*k*=3). Waiting times (implying transition rates) across subphases vary with the level of disease expression. The subphases reflect the period between disease incubation and onset of symptoms among symptomatic cases (*v*=0); between onset of symptoms and initial contact with health care professionals (*v*=1); and when some are hospitalized or isolated (*v*=2).

$$\Delta I_{it}^{0k} = \alpha_k \gamma E_{it-1} - \theta_k I_{it-1}^{0k}$$

$$\Delta I_{it}^{1k} = \theta_k I_{it-1}^{0k} - \phi_k I_{it-1}^{1k}$$

$$\Delta I_{it}^{2k} = \phi_k I_{it-1}^{1k} - \mu_k[\zeta_k + (1-\zeta_k)] I_{it-1}^{2k}$$

Recovered/Dead

For the last transition, infected individuals transition either into recovery (*R*) or death (*D*), with severity-specific case fatality rate ζ_k.

$$\Delta R_{it} = \sum_k \mu_k (1-\zeta_k) I_{it-1}^{2k}$$

$$\Delta D_{it} = \sum_k \mu_k \zeta_k I_{it-1}^{2k}$$

Appendix B. SEIR model results per month

The table below presents the total number of new COVID-19 cases per month and the total cumulative number of deaths as of month's end for each scenario.

Table 1. Projected number of new cases and total cumulative deaths per month (thousands)

Scenario	April 2020				May 2020				June 2020			
	Mild	Severe	Critical	Cumulative Deaths	Mild	Severe	Critical	Cumulative Deaths	Mild	Severe	Critical	Cumulative Deaths
0	5.90	1.5	0.49	1.6	69	17.3	5.8	21.2	490	123	40.9	219
1a	0.87	0.22	0.07	0.55	7	1.68	0.56	3.22	36.4	9.1	3.0	20.1
1b	0.45	0.11	0.04	0.54	5	1.14	0.38	2.36	26.8	6.7	2.2	14.6
1c	0.48	0.12	0.04	0.54	3	0.75	0.25	1.83	20.7	5.2	1.7	10.5
2a	0.79	0.20	0.07	0.49	4	0.99	0.33	2.48	17.6	4.4	1.5	12.1
2b	0.43	0.11	0.04	0.52	3	0.83	0.28	2.02	16.3	4.1	1.4	10.2
2c	0.44	0.11	0.04	0.54	3	0.73	0.24	1.68	13.3	3.3	1.1	8.1
3a	0.64	0.16	0.05	0.51	2.7	0.68	0.23	2.16	9.3	2.3	0.8	8.4
3b	0.47	0.12	0.04	0.52	2.3	0.56	0.19	1.84	8.9	2.2	0.7	7.4
3c	0.46	0.12	0.04	0.53	2.0	0.51	0.17	1.64	8.0	2.0	0.7	6.5
4b	0.50	0.13	0.04	0.52	2.6	0.64	0.21	1.90	8.5	2.1	0.7	7.4
4c	0.51	0.13	0.04	0.55	2.3	0.57	0.19	1.82	8.0	2.0	0.7	7.0
5b	0.53	0.13	0.04	0.52	0.77	0.19	0.06	1.55	1.3	0.3	0.1	3.4
5c	0.52	0.13	0.04	0.53	1.0	0.26	0.09	1.69	1.7	0.4	0.1	4.2

Table 1 *(continued)*

Scenario	July 2020				August 2020				September 2020			
	Mild	Severe	Critical	Cumulative Deaths	Mild	Severe	Critical	Cumulative Deaths	Mild	Severe	Critical	Cumulative Deaths
0	793	198	66.10	1,409	465	116	38.7	3,333	191	47.7	15.9	4,572
1a	174	43.4	14.50	120	356	89	29.7	539	311	77.6	25.9	1,347
1b	139	34.8	11.60	90.7	340	85.1	28.4	440	323	80.6	26.9	1,208
1c	112	27.9	9.32	68.8	312	78.1	26.0	358	344	85.9	28.6	1,077
2a	77.5	19.4	6.46	58.3	215	53.8	17.9	240	281	70.2	23.4	695
2b	70.6	17.7	5.89	50.8	193	48.4	16.1	215	268	66.9	22.3	641
2c	61.5	15.4	5.12	41.8	191	47.8	15.9	185	277	69.3	23.1	582
3a	32.9	8.23	2.74	31.5	94.2	23.6	7.85	109	175	43.8	14.6	317
3b	31.1	7.76	2.59	28.8	86.3	21.6	7.19	102	182	45.6	15.2	301
3c	27.6	6.89	2.30	26.4	86.9	21.7	7.24	95.8	184	46.1	15.4	287
4b	30.6	7.66	2.55	28.4	91.7	22.9	7.64	100	181	45.3	15.1	296
4c	29.2	7.29	2.43	27.0	85.8	21.5	7.15	96.0	167	41.8	13.9	286
5b	2.11	0.53	0.18	6.6	3.07	0.77	0.26	11.0	4.9	1.2	0.4	19.1
5c	2.68	0.67	0.22	8.46	4.35	1.09	0.36	15.0	6.8	1.7	0.6	25.4

Table 1 *(continued)*

Scenario	October 2020				November 2020				December 2020			
	Mild	Severe	Critical	Cumulative Deaths	Mild	Severe	Critical	Cumulative Deaths	Mild	Severe	Critical	Cumulative Deaths
0	41	10	3.4	5,139	10.6	2.7	0.9	5,283	1.5	0.36	0.12	5,319
1a	227	57	18.9	2,158	172	43.0	14.3	2,751	137	34.3	11.4	3,215
1b	240	60	20.0	2,044	181	45.1	15.0	2,666	141	35.2	11.7	3,149
1c	252	63	21.0	1,931	190	47.5	15.8	2,580	146	36.5	12.2	3,083
2a	222	56	18.5	1,352	168	42.0	14.0	1,926	124	31.0	10.3	2,382
2b	227	57	18.9	1,291	171	42.7	14.2	1,873	127	31.8	10.6	2,340
2c	228	57	19.0	1,225	173	43.2	14.4	1,81	133	33.3	11.1	2,298
3a	218	54	18.1	737	175	43.7	14.6	1,243	131	32.7	10.9	1,706
3b	214	54	17.9	709	177	44.2	14.7	1,213	132	33.0	11.0	1,681
3c	210	53	17.5	689	181	45.2	15.1	1,192	134	33.4	11.1	1,665
4b	206	52	17.2	703	174	43.4	14.5	1,207	135	33.8	11.3	1,676
4c	219	55	18.3	686	179	44.8	14.9	1,191	135	33.6	11.2	1,664
5b	7.3	1.8	0.6	31	10.4	2.6	0.9	47.3	14.6	3.6	1.2	72.6
5c	9.3	2.3	0.8	41	13.8	3.5	1.2	63.1	18.9	4.7	1.6	96.1

Source: Authors' calculations

Appendix C. Estimating projected labor supply change

The overall change in labor supply is calculated by combining the projected exit from the labor market as a result of (i) excess mortality or morbidity, including household-level isolation or other mitigation measures, from the spread of COVID-19; and (ii) the displacement of workers as a result of community-wide quarantines. The contribution of excess mortality or morbidity and household-level mitigation measures on labor market exit is estimated based on the projected prevalence of the disease from the disease transmission (i.e., SEIR) model, which is linked with the individual-level microsimulation model. The contribution of the Luzon-wide community quarantine on labor supply displacement is based on estimates by Muyrong (2020). These estimates are then used to calculate the projected change in household final consumption expenditure in the Leontief input-output model.

Table 1. Projected change in labor supply by cause (% change)

	Excess Mortality/ Morbidity	Community Quarantine	Total Effect
Best case	-2.9	-4.4	-7.4
Moderate case	-5.2	-4.4	-14.4
Worse case	-15.2	-4.4	-19.7

Source: Authors' calculations

The Multifaceted Health Impacts of the COVID-19 Pandemic

Valerie Gilbert T. Ulep

Introduction

The coronavirus disease 2019 (COVID-19) pandemic has been a significant health burden globally. In the Philippines, 2.8 million confirmed cases and 45,000 deaths were recorded as of November 10, 2021—one of the highest in the Asia-Pacific region (WHO 2021). However, these numbers barely represent the overall health impact of the pandemic. Understanding both the direct and indirect health consequences of the pandemic is critical in designing a holistic public health response (Ulep et al. 2021).

Measuring the indirect health impacts of the pandemic is a challenge in the country. While the government has built an entire health information system that regularly monitors COVID-19 cases, hospitalization, and deaths, the disruption of essential health services has gone unmeasured (Mikkelsen et al. 2015; Roberton et al. 2020). Like most countries, the Philippines had imposed stringent measures to limit the spread of the virus and prevent morbidity and mortality. However, these policy approaches came with a heavy price (Broadbent et al. 2021). In the Philippines, reports on the disruption of health services, especially during the first year of the pandemic, were mostly anecdotal (UNDP and UNICEF 2020). Because of widespread fear of getting infected at overrun health facilities and of the ensuing lockdown measures, many Filipinos have reportedly foregone seeking health care.

To understand the depth of the public health crisis, the author published a study that estimated the magnitude of the disruption of health services using insurance data from the Philippine Health Insurance Corporation (PhilHealth). Findings suggest that health insurance claims from high-burden diseases declined by 50 percent to 60 percent in 2020, with no signs of recovery throughout the year (Ulep et al. 2021). The level of decline is alarming. In a scenario where there is already a relatively low uptake of essential health services (e.g., child immunization, prenatal care), further disruption will have a huge repercussion on population health and well-being.

This paper is a continuation of the initial research work on the indirect health impacts of the COVID-19 pandemic in the Philippines.

It has two research objectives: (1) to demonstrate the extent of the disruption on essential healthcare services by using administrative data from selected government facilities and (2) to estimate the economic costs of both direct and indirect health impacts of the pandemic. The results validate the author's initial findings based on PhilHealth insurance claims. There was a significant decline in admissions and outpatient consultation, particularly among vulnerable populations. Lastly, the estimated long-run productivity losses related to health are around PHP 4.3 trillion, mostly from indirect impacts (non-COVID-19 deaths and morbidities).

Methodology

Health facility data

In the initial study (see Ulep et al. 2021), insurance claims data from PhilHealth were used to demonstrate the disruption brought by the pandemic on healthcare services. Since insurance claims data were likely to be limited, this paper supplemented its analysis with hospital admissions and outpatient data obtained directly from government primary care facilities (i.e., rural health units [RHUs]) and hospitals.

RHUs provide basic public health services in local communities, while hospitals provide higher-level inpatient care. The Department of Health (DOH) had requested government hospitals and RHUs to submit data as part of the national government's effort to monitor the public health programs of local governments. Such DOH data contained aggregate quarterly admissions and consultations from January 2019 to December 2020. Only those facilities that submitted and accomplished the monitoring questionnaire were included in this study's analysis; they total 60 out of 410 government hospitals (17%) and 114 out of 2,500 (5%) primary care facilities. Appendix A presents the distribution of hospitals included in the analysis.

Utilization data on public health programs, such as tuberculosis and human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), were also requested from DOH central office.

Direct and indirect health costs

The Disability-Adjusted Life Year (DALY), which is the total years of life lost due to premature mortality and disability due to COVID-19 and other indirect health effects, was estimated (WHO 2021). The years of life lost were converted into monetary terms by multiplying the estimated DALYs by gross domestic product (GDP) per capita (Weisbrod 1963). The analysis was then disaggregated by direct and indirect health impacts. Direct impacts include premature deaths and morbidities (including severity) because of COVID-19. On the other hand, indirect impacts include foregone hospitalization and outpatient visits; increase in the prevalence of malnutrition, mental health, diabetes, obesity, and physical inactivity; and decline in prenatal care, immunization, antiretroviral therapy for HIV/AIDS, and Directly Observed Therapy for the Treatment of Tuberculosis (TB DOTS). Appendix B presents the methodology used to estimate the direct and indirect costs of the pandemic.

The COVID-19 pandemic in the Philippines: A brief background

The Philippines is one of the countries severely affected by the COVID-19 pandemic. As of November 10, 2021, the country recorded 2.8 million confirmed cases and 45,000 deaths because of COVID-19 (WHO 2021). It ranked 21st in terms of total deaths but was significantly lower than the global average if adjusted to population size (339 deaths per million population).[1] However, as many infections have gone undetected, epidemiologic modeling suggests that the total infections in the country are about four to five times higher than the official tally (Gu 2020). In 2020, COVID-19 was included as one of the leading causes of death in the country (PSA 2021), as shown in Table 1. While the mortality data from the civil registry might not be entirely comparable to the DOH tally, the large discrepancy suggests that the official death toll might be underestimated.

[1] The global average is 655 deaths per million.

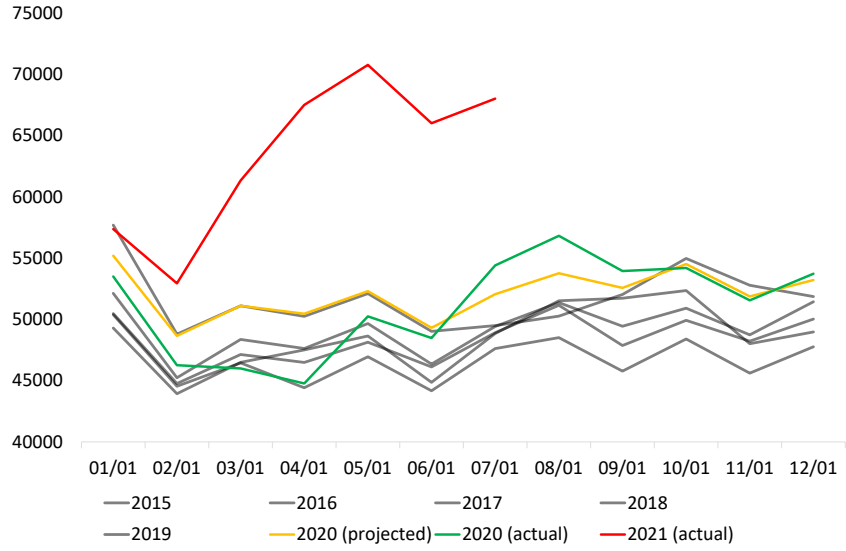
Table 1. Top causes of deaths in the Philippines, 2015–2020

	2015	2016	2017	2018	2019	2020	Share in 2020
Total	560,605	582,183	579,237	590,709	620,414	613,035	100%
Diseases of the circulatory system	198,077	198,507	196,900	201,483	213,625	225,196	37%
Neoplasms	63,003	64,594	64,125	67,138	68,657	66,179	11%
Diseases of the respiratory system	78,859	88,139	87,760	87,720	95,879	60,155	10%
Endocrine, nutritional, and metabolic diseases	42,728	42,571	41,642	42,654	45,449	51,562	8%
Injuries	39,256	44,426	44,646	43,808	42,960	36,343	6%
Certain infectious and parasitic diseases	42,475	44,340	41,099	40,929	42,726	32,954	5%
COVID-19 (virus and non-virus detected)	–	–	–	–	–	30,140	5%
Diseases of the digestive system	22,456	22,803	24,168	24,341	25,165	24,533	4%
Diseases of the genitourinary system	22,031	23,526	18,759	19,227	20,603	21,584	4%
Certain conditions originating in the perinatal period	9,831	9,785	11,054	11,768	11,260	9,535	2%
Diseases of the nervous system	7,565	7,741	8,915	9,185	10,181	8,282	1%
Congenital malformations, deformations	5,138	5,100	5,336	5,415	5,912	4,718	1%
Diseases of the musculoskeletal system	2,210	2,580	3,521	3,959	4,358	4,398	1%
Diseases of the blood and blood forming organs	3,709	3,889	4,789	4,657	4,339	4,184	1%
Diseases of the skin and subcutaneous tissue	2,327	2,191	2,803	3,339	3,718	3,625	1%
Pregnancy, childbirth, and the puerperium	1,721	1,483	1,484	1,616	1,458	1,965	0%
Mental and behavioral disorders	503	654	1,433	1,416	1,086	1,312	0%
Diseases of the ear and mastoid process	38	10	78	93	75	86	0%
Diseases of the eye and adnexa	19	5	45	43	45	54	0%
Not elsewhere classified	18,659	19,839	20,680	21,918	22,918	26,230	4%

"–" = no data available
Source: Philippine Statistics Authority (2021)

Estimates of excess deaths could provide information about the true disease burden of the pandemic. In epidemiology, "excess deaths" is one of the commonly used indicators of the "overall" impact of the pandemic on mortality (US Centers for Disease Control and Prevention 2021). It includes not only the confirmed COVID-19 cases but also the unconfirmed COVID-19 deaths and other deaths from indirect causes. Figure 1 shows the number of deaths compared to projected deaths from all causes based on projections[2] from previous years. In the Philippines, the excess deaths became only conspicuous in 2021 (Ritchie et al. 2020).

Figure 1. Excess deaths from all causes compared to average over previous years, 2015–2021



Source: Ritchie et al. (2020)

[2] 2020 projections are based on 2015–2019 deaths.

The Philippines has adopted stringent measures to reduce the spread of infection. To control widespread community transmissions, the government had enforced community lockdowns with varying levels of stringency:

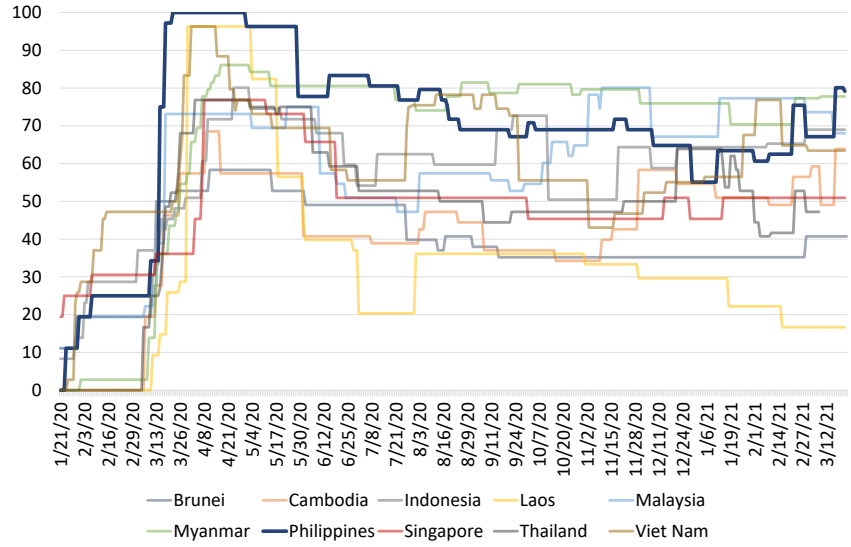
- Enhanced community quarantine (ECQ)—the entire population except essential industries need to stay home; public transportation and mass gatherings are prohibited
- Modified ECQ (MECQ) — limited number of businesses are open; restaurants are open for delivery; individual outdoor excise is permitted
- General community quarantine (GCQ)—government offices may operate at full capacity; 25 percent to 50 percent venue capacity for public gatherings, recreational facilities, and restaurants
- Modified GCQ (MGCQ)—public gatherings at 50 percent to 75 percent venue capacity; restaurants are fully operational

From March 2020 (the start of the pandemic) until April 2020, the government imposed ECQ. Most provinces shifted to GCQ in May 2020, and by June 2020, provinces in the country were either under MGCQ or GCG (Uy et al. 2021).

The Philippines had imposed one of the strictest lockdowns in the world. Figure 2 compares the stringency index[3] of the Philippines with its neighbors in the Association of Southeast Asian Nations. It recorded the highest stringency index of 100 in March 2020 and the lowest in December 2020 (Hale et al. 2021). The social, economic, and health repercussions of prolonged mobility restrictions, school closures, and border controls are costly. Therefore, both the indirect and direct consequences of the pandemic and the associated policy approaches to control should be measured to have a more informed and calibrated public health response.

[3] Stringency index is a "composite measure based on nine response indicators including school closures, workplace closures, and travel bans, rescaled to a value from 0 to 100 (100=strictest). If policies vary at the subnational level, the index is shown as the response level of the strictest subregion" (Ritchie et al. 2021).

Figure 2. COVID-19 stringency index, January 2020–March 2021



Source: Hale et al. (2021)

The disruption of healthcare services

The pandemic has further weakened countries' frail health systems. According to the World Health Organization, about 94 percent of countries reported a disruption in essential health services. However, low- and middle-income countries are more likely to suffer from the health crisis because of their relatively weaker health systems. For example, Shapira et al. (2020) demonstrated the significant disruption of essential maternal and child health services in Sub-Saharan Africa. Nguyen et al. (2021) showed that COVID-19 disrupted the provision of health and nutrition services in one of the poorest states of India despite attempts to restore services. Studies have theorized the following as reasons for the declining health services during the pandemic: (i) patients are foregoing hospitalization and procedures because of limited resources as they reallocated to the pandemic response and (ii) non-COVID-19 patients are skipping clinic visits because of mobility restrictions or

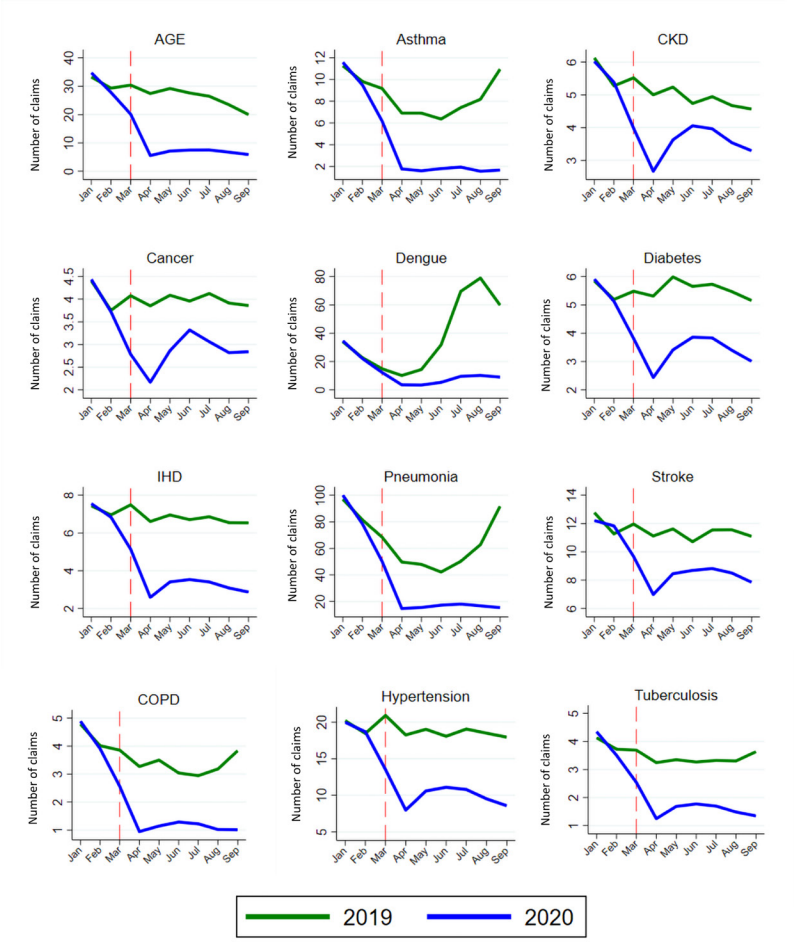
fear of contagion (Birkmeyer et al. 2020). The disruption of health services has caused fear, lack of trust, and structural dysfunction in the health system, causing patients with non-COVID-19 illnesses to delay seeking medical care (Barach et al. 2020; Schirmer et al. 2020).

In the Philippines, inpatient care for high-burden diseases sharply declined during the first year of the pandemic. The poorest population suffered the largest decline. Ulep et al. (2021) demonstrated the large decline in medical claims for 12 high-burden diseases (Figure 3), which accounted for the majority of the country's disease burden (IHME 2020). The average decline in 2020 was 57 percent compared to the same period in the previous year (2019). The number of claims remained relatively low with no signs of recovery even in the third quarter of 2020. Acute gastroenteritis, asthma, chronic pulmonary disease, and pneumonia suffered a 60-percent to 70-percent decline. Other noncommunicable diseases, such as chronic kidney disease, cancer, and stroke, declined at a lower range—at about 20 percent to 30 percent. Uy et al. (2021) expanded the study of Ulep et al. (2021) by further examining the decline in inpatient claims for high-burden diseases by insurance membership. Among the types of PhilHealth members, direct-formal contributors and the poorest indirect-indigent or sponsored members suffered the largest decline in medical claims.[4]

Children are bearing the brunt of the pandemic. Using admissions data from selected government hospitals, this study estimated the median number of admissions by quarter and patient type, namely, (i) adult internal medicine, (ii) surgery, (iii) pediatrics, and (iv) ob-gyne (Figure 4). For adult internal medicine and pediatrics, the median admission declined by 40 percent and 70 percent, respectively, in the second quarter of 2020 relative to the preceding year, with no signs of recovery throughout the year. The decline in inpatient care among children reinforces the observation that the pandemic has affected the most vulnerable populations. In contrast, the median surgical admissions declined in the second quarter of 2020, which was the peak of the strictest lockdown, but recovered in the third and fourth quarters of 2020.

[4] See the study of Uy et al. (2021) for the methodology and the detailed analyses of the claims data from PhilHealth.

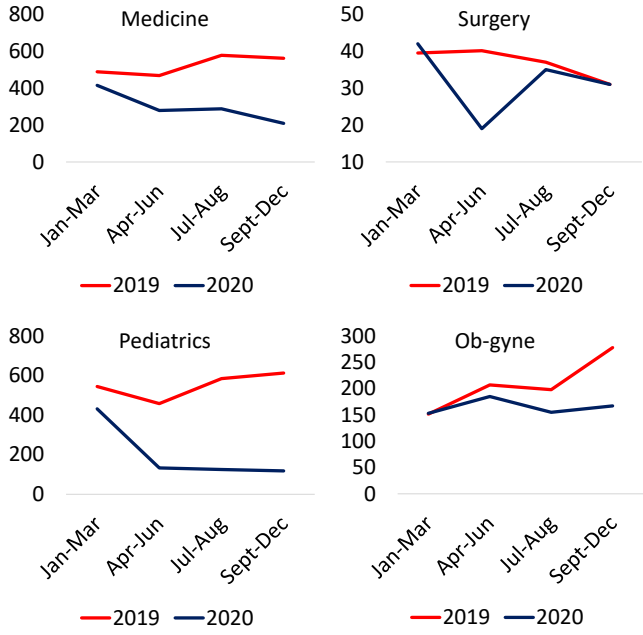
Figure 3. Seasonally adjusted insurance claims by disease, 2019 and 2020



CKD = chronic kidney disease; COPD = chronic obstructive pulmonary disease; IHD = ischemic heart disease
Source: Ulep et al. (2021)

The number of consultations in RHUs significantly declined, particularly among vulnerable populations. RHUs are individuals' and communities' gateway to the public healthcare system. They provide basic healthcare services, such as nutrition interventions, maternal and child and reproductive health services, and primary and secondary prevention against noncommunicable diseases and

Figure 4. Median admissions by patient type, 2019 and 2020

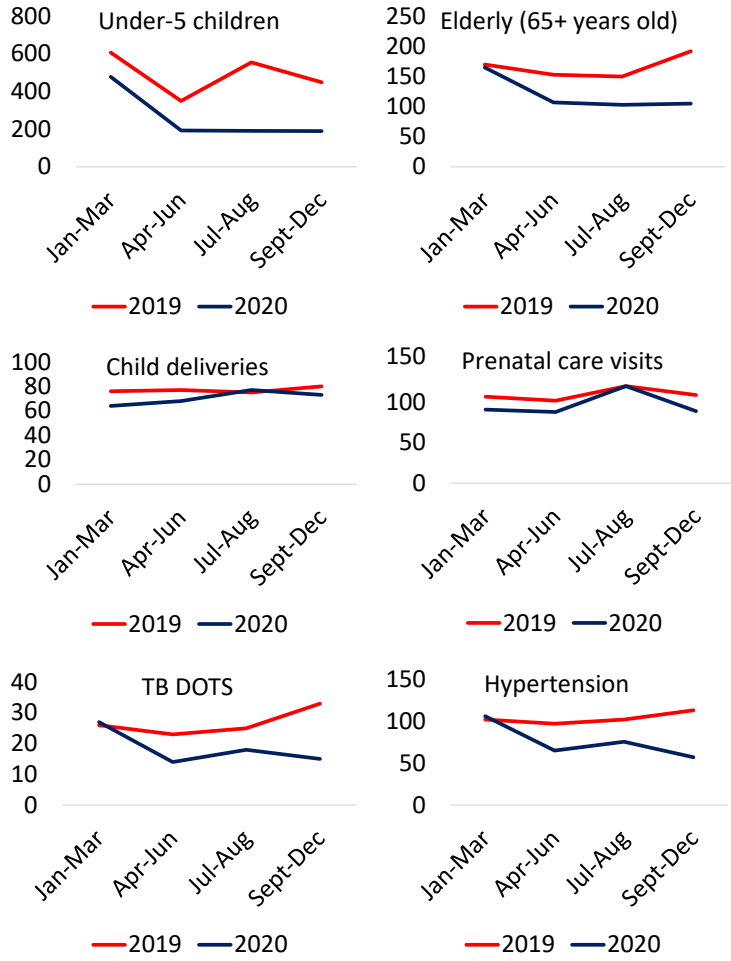


Source: Author's calculations using admissions data from the DOH

infectious diseases. Using data from primary care facilities (i.e., RHUs), this study found a decline in consultations among the vulnerable populations, particularly among under-five children and the elderly (+65 years old up) as shown in Figure 5. The large decline in consultations among these age groups suggests a possible growing unmet need for essential healthcare services. Several factors could have contributed to the large decline in outpatient visits, foremost of which is the strict stay-at-home rule imposed on children and the elderly since the start of the pandemic.

The country's targets for critical public health programs also suffered a major blow. Based on data from primary care facilities, the median number of consultations for TB DOTS fell in the second quarter of 2020, with no improvements up to the fourth quarter. The program data from the DOH central office corroborates this finding. The number of people who were tested, diagnosed, and treated for tuberculosis dramatically declined (Table 2). HIV testing, diagnosis,

Figure 5. Median consultations in rural health units, by age group and type of service, 2019 and 2020



TB DOTS = directly observed therapy for the treatment of tuberculosis
Source: Author's calculations using consultation data from the DOH

and treatment—also considered a mainstay public health intervention in reducing HIV burden—suffered a precipitous drop as well (Table 3).

The poor uptake of these critical public health interventions affects the country's prospect of reducing the incidence of tuberculosis and HIV as part of its global commitment to the Sustainable

Development Goals. The Philippines is one of the countries with the highest tuberculosis burden, and the country with the fastest-growing HIV cases in the world. For example, the reduction in uptake in TB DOTS services (i.e., testing, screening, and treatment) could be attributed to the dwindling tuberculosis supplies because of the reallocation of human resources and diagnostic equipment to COVID-19 response (e.g., Xpert machines used for tuberculosis diagnosis were repurposed for COVID-19 testing).

Table 2. TB DOTS indicators before and during the pandemic, 2018–2020

	2018	2019	2020
Number tested (Target - 2,450,000)	1,164,290	1,083,877	556,773 (-49%)
Number diagnosed and treated, new, and relapse (Target - 442,600)	371,668	409,167	256,541 (-37%)
Number diagnosed and treated drug resistant TB (DR-TB) (Target - 8,500)	7,267	7,492	6,279 (-16%)
Treatment success rate, new and relapse (Target - 90%)	91%	83%	74% (-11%)

TB DOTS= directly observed therapy for the treatment of tuberculosis;
DR-TB = drug-resistant tuberculosis
Source: Author's calculations using admissions data from DOH

Table 3. HIV/AIDS indicators before and during the pandemic, 2019–2020

	2019	2020
Number of HIV tests	1,220,765	480,285 (-61%)
Number of newly diagnosed cases	12,778	8,058 (-37%)
Newly enrolled clients in antiretroviral therapy	11,654	8,429 (-28%)

HIV = human immunodeficiency virus; AIDS = acquired immunodeficiency syndrome
Source: Author's calculations using admissions data from DOH

Productivity losses

The long-run productivity losses because of the direct and indirect health impacts of COVID-19 is PHP 2.3 trillion (in net present value). The deterioration of health and well-being brought by COVID-19 comes with a price. To assess the productivity losses, the monetary value of DALYs directly attributed to COVID-19 was estimated. Aside from the direct mortality and morbidity caused by COVID-19, policy approaches to control the spread of the infection have unintended consequences. These unintended consequences include foregone hospitalization and outpatient visits; increase in the prevalence of malnutrition, mental health, diabetes, obesity, and physical inactivity; and decline in the uptake of essential prenatal care visits, immunization, antiretroviral therapy, and TB DOTS services.

Table 4 shows the long-run productivity losses because of the COVID-19 pandemic. Indirect health impacts account for the majority of the total long-run cost. This underscores the need to address the indirect health impacts of non-COVID patients as a critical component of the pandemic response.

Table 4. Forgone future wages and productivity and additional healthcare costs due to COVID-19 and non-COVID-19 illnesses

	Lifetime years of life lost (in billions)	Equivalent years of life lost
Forgone wages (premature deaths)		
COVID-19 premature deaths	94	284,863
Non-COVID-19 deaths due to lack of health care	398	1,086,599
Forgone wages (morbidity)		
COVID-19 morbidity (including long COVID-19)	66	164,390
Non-COVID-19 morbidities due to lack of health care (including new illnesses and risk due to COVID-19 policy)	1,688	2,114,038
Total	**2,247**	**3,649,890**

COVID-19 = coronavirus disease 2019
Source: Author's calculations

Conclusion and recommendations

This study provides evidence on the multifaceted and broad health impacts of the COVID-19 pandemic. It demonstrates the sharp decline in the uptake of essential health services during the first year of the pandemic. While this trend had been observed in previous studies using PhilHealth insurance claims (Ulep et al. 2021; Uy et al. 2021), a validation of the results using admissions and consultations data from health facilities provided a more compelling argument for the government and society to adopt a more holistic and calibrated public response in reducing the total harm caused by the pandemic.

Also, this study reveals an alarming equity implication. The impacts of the pandemic and the associated policy responses appear to have severely affected the most vulnerable populations, such as the poor, senior citizens, and children. Uy et al. (2021) showed that the decline in insurance claims is significantly larger among indigents and those under sponsored programs compared with nonsponsored members of PhilHealth. Using data directly from facilities, this study likewise demonstrates that children and the elderly population suffered the most decline. In normal times, both population groups demand more healthcare services than the general population.

Meanwhile, in this author's earlier study, the supply and demand-side reasons were discussed to explain the sharp decline in the uptake of essential health services in the Philippines. Demand-side factors include the widespread fear of getting infected, which forced people—particularly those who are considered vulnerable—to forego or delay seeking medical care. Mobility restrictions could explain the decline. During the first year of the pandemic, the government halted public transportation, which made it hard for people to move around. The sharp decline in income could also explain the lower healthcare demand. In settings with high out-of-pocket private spending, healthcare demand tends to be elastic or more sensitive to income changes. In 2020, the Philippine economy declined by almost 10 percent, one of the biggest contractions in recent decades (PSA 2021).

Lastly, supply-side factors could explain the precipitous decline in the uptake of health services. With more COVID-19 patients getting infected, health facilities have no choice but to reallocate resources for the pandemic response, or worse, decline treatment to patients.

Given the health and economic burden arising from both COVID-19 and non-COVID-19 health incidences, the government must find innovative ways of giving non-COVID-19 patients access to healthcare services during the pandemic. Also, the pandemic itself must catalyze genuine reforms in the health sector, including the realization of the Philippine Health Facility Development Plan, which targets to address the chronic underinvestment in public health infrastructure, among others. "Infrastructure" here does not simply mean the service itself; rather, it also pertains to the collective capacity of the system to provide these services—from capital outlay and skilled human resources to information systems.

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Appendixes

A. Data description

Respondents came from 77 different public hospitals across regions in the Philippines. Of the 77 hospitals that responded, 5 are from the National Capital Region (6.49%). In terms of service capacity, 55 hospitals are categorized as Level 1 (71.43%), 7 are Level 2 (9.09%), and 14 are Level 3 (19.48%).

In terms of the breadth of capacity, 55 are general (71.43%), 21 are infirmary (27.27%), and 1 is psychiatric (1.3%). Table 1 shows the breakdown by service capacity and location of healthcare facilities.

Table 1. Hospital level service capacity, breadth of capacity, location, and frequency

Demographic	Service Capacity	Number	Share (%)
Hospital level	Level 1	55	71.43
	Level 2	7	9.09
	Level 3	15	19.48
Location	NCR	5	6.49
	Non-NCR	72	93.50
Breadth of capacity	General	55	71.43
	Infirmary	21	27.27
	Psychiatric	1	1.3
	Total	77	100%

NCR = National Capital Region
Source: Author's calculations

B. Methodology

The DALY measures health gaps as opposed to health expectancies. It measures the difference between a current situation and an ideal situation, where everyone lives up to the age of the standard life expectancy and is in perfect health. The DALY combines in one measure the time lived with disability and the time lost due to premature mortality.

DALY = YLL + YLD

Where:
YLL=Years Life Lost
YLD=Years Lived with Disability

a. YLL due to COVID-19 (direct effects)

The following formula calculates the YLL directly attributed to COVID-19:

$$YLL_i = \frac{N_i\,(1 - e^{-rL})}{r}$$

Where:
YLL_i = Years Life Lost due to COVID-19 at age group *i*
N_i = number of COVID-19 deaths at age group *i*
r = discount rate (3%)
L = expected life years

The number of COVID-19 deaths by age group from the DOH data drop is used for this estimate.

b. YLD due to COVID-19

The following formula is used to calculate the YLD directly attributed to COVID-19:

$$YLD_{ij} = \frac{N_{ij}\,W_{ij}(1 - e^{-rL})}{r}$$

Where:
YLD_{ij} = Years of Life with Disability due to COVID-19 at age group *i* and disease disposition group *j* (mild/asymptomatic, moderate, critical, severe, and long COVID-19)
N_{ij} = number of COVID-19 cases at age group *i* and disease disposition group *j*
W_j = disability weight at disease disposition group *j*
r = discount rate (3%)
L = expected life years

The number of COVID-19 cases by age group and disease disposition is based on data from DOH; disability weights are from Wyper et al. 2021. (https://biblio.ugent.be/publication/8699826/file/8699836)

c. YLL due to indirect health effects (decline in hospitalization and outpatient visits)

The following formula is used to estimate the impact of non-COVID-19 inpatient and outpatient services on premature deaths (YLL):

$$PIF_i = \frac{(P_i - P_i^*)(RR - 1)}{RR}$$

Where:
PIF_i = population impact fraction at age group *i*
P_i = prevalence of inpatient/outpatient conditional to need at age group *i* before the pandemic
P_i^* = prevalence of inpatient/outpatient conditional to need at age group *i* after the pandemic
RR_i = relative risk

P_i was estimated using the National Demographic and Health Survey 2017. The decline in prevalence was based on a survey by Ulep et al. (2021).

The relative risk of delay or missed care on all-cause mortality is based on the epidemiologic study by McQueenie et al. (2019).

The mortality attributed to a decline in hospitalization or outpatient visit could be estimated by multiplying the PIF with all-cause mortality.

$ID_i = PIF_i \ x \ Mor_i$

Where:
ID_i = indirect deaths due to decline in healthcare at age group *i*
Mor_i = all-cause mortality at age group *i*

The YLL due to indirect health effects, then, can be calculated using the formula:

$$YLL_i = \frac{IDD_i\,(1 - e^{-rL})}{r}$$

The same process can be used to obtain the YLD due to indirect health effects. All-cause mortality is substituted with total YLD from the Institute for Health Metrics and Evaluation.

The cost of DALYs can be obtained by multiplying the DALYs with nonhealth GDP per capita (GDP per capita-health expenditure per capita).

Navigating the COVID-19 Storm: Impact of the Pandemic on the Philippine Economy and Macro Responses of the Government

*Margarita Debuque-Gonzales**

* The author acknowledges the excellent research assistance of Ramona Maria L. Miral in writing this paper.

Introduction

The Philippine economy had been growing steadily, at above 6 percent annually for eight solid years, when the COVID-19 pandemic shock hit the world and the world economy. In terms of macro fundamentals—still quite healthy growth, well-managed inflation, benign interest rates, and a strong fiscal position—the country seemed relatively invincible to economic surprises. But this crisis was different, as it involved a public health shock that necessitated strong public health measures, which, in the case of the Philippines, came in the form of stringent lockdowns and prolonged quarantines.

Unlike some of its Asian neighbors, which had bouts with the severe acute respiratory syndrome, better known as SARS, in 2003 and the avian and swine flu in the years after, the Philippines had little experience handling epidemics. Therefore, public healthcare system was much less prepared to deal with a highly contagious virus such as COVID-19. The Philippines was also particularly vulnerable to a pandemic shock, and strict measures were ultimately required to deal with the disease because of the way the economy was structured—a large share of services in terms of output, a large share of household consumption in terms of demand, and a reliance on remittances. Remittances had served as steady engines to the economy these past years, remaining exceptionally strong through more recent crises. However, many overseas Filipino workers (OFWs) proved vulnerable to the effects of the pandemic on mobility and social interaction across the globe and the resulting economic weakness.

In 2020, as a result, the Philippines entered its deepest recession in post-war history, with output declining by 9.6 percent. Coming up with a strategy to best manage the economy and deal with the fallout of the public health shock, especially on the weaker segments of society, became the biggest challenge for the country's economic policymakers. This chapter looks more closely at that episode, dissecting the macroeconomic impact of the COVID-19 pandemic, viewing it up close through its impact on households and firms, and then chronicling and reviewing the macroeconomic policy responses of the government.

The next section discusses the impact of the COVID-19 crisis on the Philippine economy by first looking at the stringency of the country's public health measures and their relationship with community mobility, which are indicative of economic activity, then at the effect of the pandemic based on more traditional macroeconomic performance indicators. It also reviews the available surveys for a deeper understanding of how the public health crisis has affected Filipino households and businesses.

Then, a discussion follows that puts the current recession in perspective by looking at economic and financial vulnerability indicators of the country across crisis episodes. A COVID-19 policy primer is put together based on the literature. It summarizes the best analyses of the pandemic crisis and the emerging consensus on the appropriate policies for a pandemic recession, particularly for a developing economy. Consequently, another section chronicles the monetary and fiscal responses of the country's policymakers to the COVID-19 crisis, followed by a review of those responses. The final section closes the chapter by looking at the path ahead, presenting options for a way out as the country continues to struggle with the pandemic and when it enters a post-pandemic world.

Impact of the COVID-19 pandemic on the Philippine economy

Since the COVID-19 crisis is an unprecedented one, this section first looks at the impact of stringent public health restrictions on people's mobility to better understand the depth, scope, and possibly long duration of the pandemic recession. It then provides a comprehensive view of the effects of the COVID-19 shock on the Philippine economy, focusing on more traditional macroeconomic indicators. Finally, the discussion zooms in on the basic units of the economy—the country's households and firms—for a deeper awareness of the adverse outcomes of the ongoing crisis.

Policy stringency and community mobility

As the pandemic timeline shows (Figure 1), a large part of the country had been in partial quarantine since the middle of March 2020. There were recurrent lockdowns, particularly in the country's major economic zones—the National Capital Region (NCR) and neighboring areas (Regions III and IV-A). These three regions are crucial to the overall economy, as they account for nearly three-fifths of the country's gross domestic product (GDP).

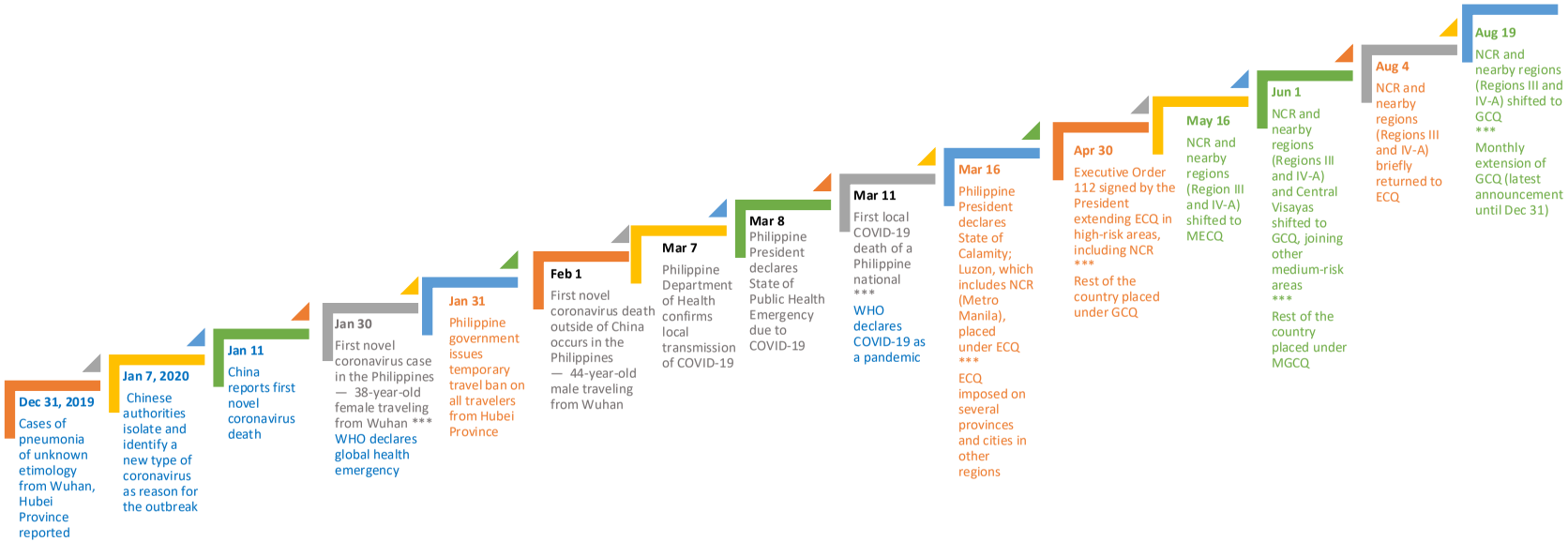
NCR (Metro Manila), Region III (Central Luzon), and Region IV-A (CALABARZON) were placed in a tightly enforced enhanced community quarantine (ECQ) in mid-March 2020, shifted to a more lenient modified ECQ (MECQ) in mid-May, and then moved to a looser general community quarantine (GCQ) by June. They were reverted to an ECQ on August 4 after medical workers asked for a reprieve from a rising number of cases, then immediately shifted back to a GCQ on August 19. As of the time of writing, the three regions were slated to remain under GCQ until January 2021, for a total quarantine duration of more than nine months.

While more lenient than an ECQ, which restricted the movement of people and required the temporary closure of nonessential businesses, the GCQ in its present form still meant some enterprises must stay shuttered or operate at less than full capacity.[1] Foreign travelers are still mostly banned, and an important segment of the population must remain at home (i.e., minors below 15 years of age), limiting the recovery of demand.

The Oxford COVID-19 Government Response Tracker (OxCGRT) stringency index reflects the severity of the public health measures that had to be put in place to contain the virus in the country (Figure 2).

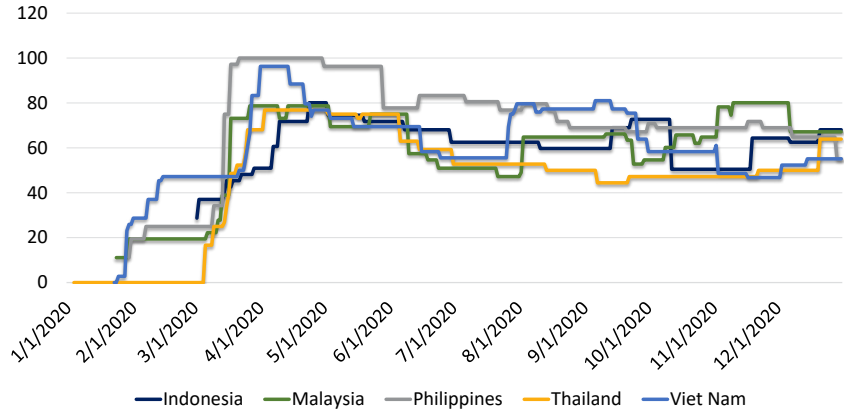
[1] Restrictions on nonleisure business activities were increasingly relaxed under DTI Memorandum Circulars 20-52 and 20-57 in October and November, respectively, but capacity restrictions on several establishments and activities remained. For areas under GCQ, those allowed to operate at up to 75-percent capacity include barbershops and salons; businesses offering personal care and aesthetic services; gyms/fitness studios and sports facilities; testing, tutorial, and review centers; internet cafes; and pet grooming centers. Malls remain limited to nonleisure activities, while dining establishments can only operate up to 50-percent capacity (or higher, depending on physical distancing protocols) for their dine-in services. Category IV industries—such as language, driving, and performance schools; cinemas and theaters; tourist destinations; and live events—are still not allowed under ECQ, MECQ, and GCQ and permitted to operate only until half capacity under MGCQ.

Figure 1. COVID-19 timeline in the Philippines



COVID-19 = coronavirus disease 2019; ECQ = enhanced community quarantine; GCQ = general community quarantine; MECQ = modified ECQ; MGCQ = modified GCQ; NCR = National Capital Region (Metro Manila)
Sources: Congressional Research Service (2020); Chua (2020); Pajaron (2020)

Figure 2. OxCGRT stringency index in major ASEAN developing economies



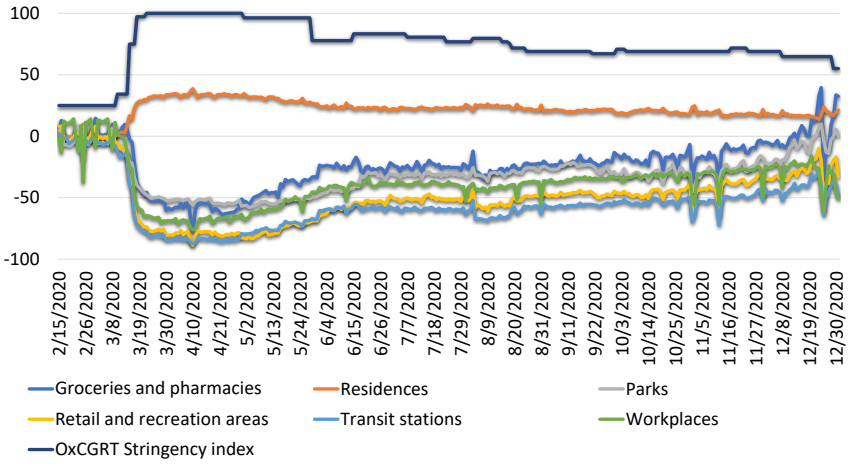
OxCGRT = Oxford COVID-19 Government Response Tracker; ASEAN = Association of Southeast Asian Nations
Source: Hale et al. (n.d.)

OxCGRT records the "strictness of 'lockdown style' policies" that constrain people's behavior. It considers indicators such as school, workplace, and public transport closures; restrictions on the size of gatherings, domestic movement, and international travel; cancellation of public events; and shelter-in-place requirements (Hale et al. 2020).

Among the five ASEAN countries, the Philippines implemented the harshest set of measures at the height of the pandemic crisis in the region based on this index. It was followed closely by Viet Nam, though with vastly different public health and economic outcomes.

Google's COVID-19 community mobility indicators based on the location of cellphone users in the country mirror the effect of these stringent policies on the population (Figure 3). Community mobility indicators have been increasingly used as a proxy for economic activity, albeit not a perfect one (*The Economist* 2020). As expected, based on the graph, the OxCGRT stringency index is positively correlated with the mobility indicator corresponding to residences (r=0.96) and negatively correlated with transit stations (-0.96), retail and recreation (-0.95), workplaces (-0.92), parks (-0.88), and groceries and pharmacies (-0.82).

Figure 3. Google community mobility and OxCGRT stringency indexes in the Philippines



OxCGRT = Oxford COVID-19 Government Response Tracker
Note: The Google community mobility dataset shows how visits and length of stay at the above-specified places change compared to a baseline. The baseline is the median value, for the corresponding day of the week, during the 5-week period from January 3 to February 6, 2020. The series are seasonally adjusted by the author (for a 7-day period).
Source: Google (n.d.); Hale et al. (n.d.)

With many communities under ECQ beginning March 16, visits to (or time spent in) the usual spots for Filipino consumers and workers instantly fell relative to the pre-crisis baseline—by a range of 38 percent (for groceries and pharmacies) to 72 percent (for transit stations) by the third day of lockdown (March 18). Social distancing peaked in mid-April, when the number of deaths appeared to ratchet up in the Philippines and worldwide.

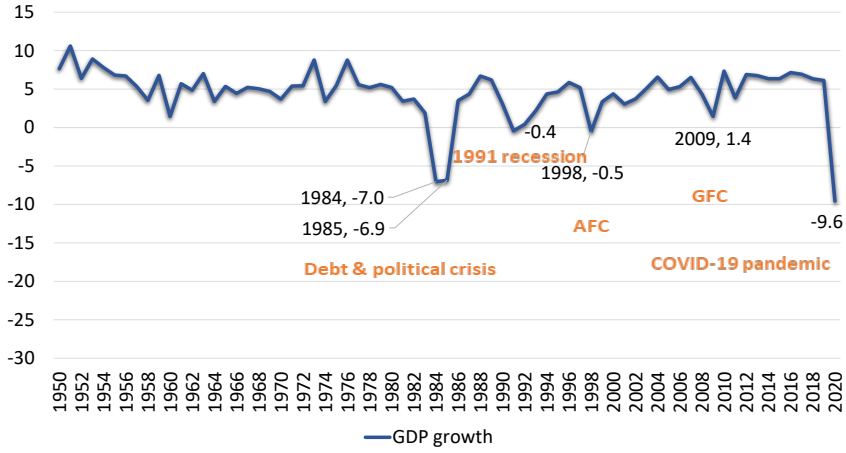
Failure to regain pre-crisis mobility even after a shift to GCQ in June likely traced to closures (full or partial and temporary or permanent) of malls and shopping centers, lack of public transportation, and extended stay-at-home orders for those below 21 years old and 60 years and older, which was well over half of the relevant population. The country inched closer to pre-crisis mobility after restrictions were relaxed in mid-October for those between 15 and 65 years of age.

However, movement only normalized by December for certain locations, such as groceries, pharmacies, and parks, but remained limited for workplaces, retail and recreation areas, and transit stations. This reflects continued stringency of containment measures but also suggests sustained social distancing of Filipinos, whether by choosing to work at home, switching to online-based shopping and dining, or staying at home and exercising stronger consumer restraint, because of lack of money or persistent fear.

The macroeconomic effects of the pandemic standstill

Protracted and strict lockdown policies, which centered on the country's key economic regions, coupled with a dip in remittances (as the pandemic also battered economies around the globe), inevitably took a heavy toll on economic activity. With the Philippine economy essentially frozen for several months, real GDP fell by 9.6 percent in 2020, pushing the country into its deepest recession so far in the post-war period (Figure 4).

Figure 4. Historical GDP performance



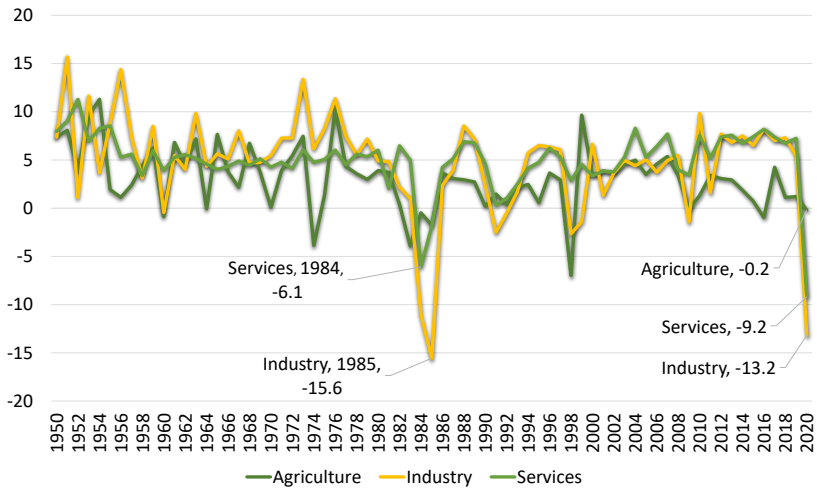
GDP = gross domestic product; AFC = Asian financial crisis; GFC = global financial crisis; COVID-19 = coronavirus disease 2019
Source: PSA (various years)

Rare collapse in services

The decline in services (by 9.2%) was an unusual event historically, with the last declines seen during the mid-1980s (-6.1% in 1984 and -1.9% in 1985), when a debt and political crisis simultaneously occurred (Figure 5). The sector then accounted for less than half of the economy. It has grown steadily through the years to over 60 percent of GDP, providing a dependable buffer during the Asian financial crisis (AFC) and the global financial crisis (GFC) of 1997/1998 and 2008/2009.

However, having a large service sector made the country particularly susceptible to a pandemic shock. The direct share of tourism and transport, the most hobbled by mobility restrictions, amounted to almost 9 percent of GDP, according to estimates of the International Monetary Fund (IMF 2020b). In the national income accounts, the four subsectors that were conspicuously hit by the COVID-19 pandemic because of the quarantines and social distancing by consumers—accommodation and food services, entertainment and recreation services, transport and storage, and wholesale and retail trade—accounted for over a fourth of GDP. The gross value added (GVA) of these subsectors declined by nearly 16 percent on aggregate.

Figure 5. Historical GDP performance, production



GDP = gross domestic product
Source: PSA (various years)

Monetary easing, public spending, and some demand substitution held up growth in certain service subsectors during the pandemic. Despite a drop in insurance GVA (by 8.5 %), financial services still strengthened by around 5.5 percent in 2020, owing to about a 12.3-percent increase in activity among banks. The latter especially benefited from the expansionary measures of the *Bangko ng Sentral ng Pilipinas* (BSP), as declines in the short-term interest rate generated trading gains and widened interest margins. Government services and information and communication services both grew by 4.6 percent and 5 percent, respectively, during the period, with the latter likely sustained by a widespread shift to online and digital platforms.

Industrial output still fell the hardest in this pandemic recession (by 13.2%), like most other crisis episodes, mainly because of a decline in GVA in construction and manufacturing (by about a fourth and a tenth of the previous year's output, respectively).[2] Activities had been temporarily suspended in these subsectors during the initial ECQs. Only producers of essential items, such as medicines, medical supplies and equipment, and basic food, were allowed to operate under the lockdowns, though more industries were allowed to run at full capacity in the shift to GCQ in June and succeeding months.

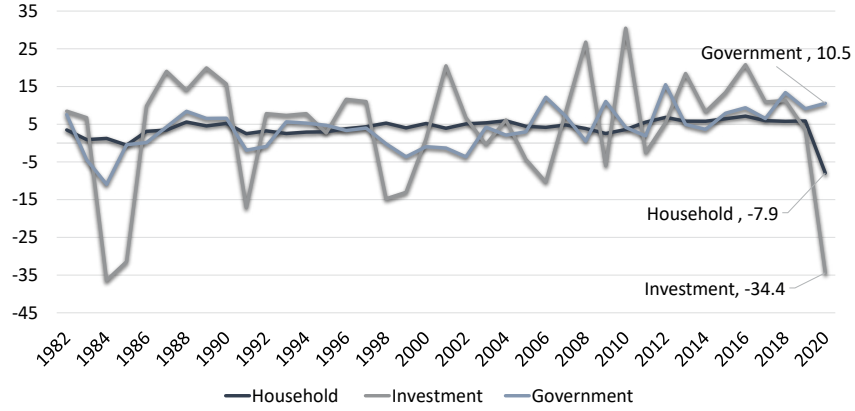
Breakdown in household spending

The environment created by the pandemic precipitated a broad decline in household spending (by 7.9%), which has again seldom happened in the country's history (Figure 6).[3] Household consumption, which accounted for over 70 percent of aggregate demand, held steady through most crisis episodes, except for the mid-1980s (though dipping by just 0.5% in 1985). It had been supported by remittances from OFWs, who had provided substantial external funding for many households since the 1990s. Cash remittances surged in the early 1990s, plummeted in 1999, but had been fairly stable since the 2000s, managing to rise through the turmoil of the GFC (Figure 7). They amounted to about 9 percent of GDP on average in the past decade.

[2] Mining and quarrying output also fell by 18.9 percent.

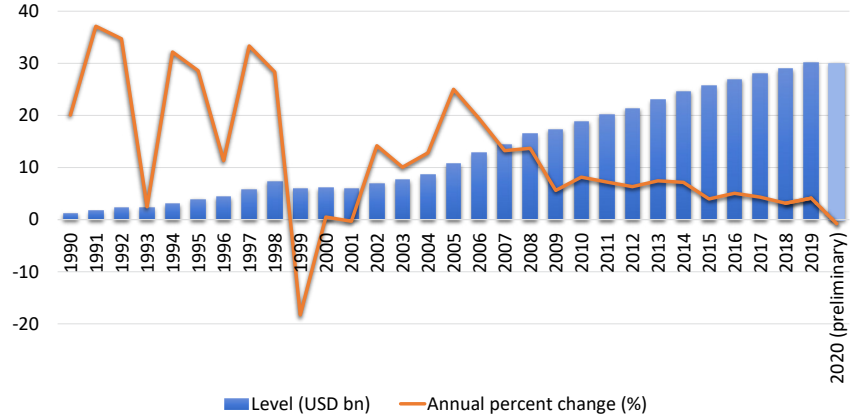
[3] The only sectors that saw some growth were either necessities or substitutes: food and nonalcoholic beverages (5.0%); housing, water, electricity, gas, and other fuels (5.8%); communication (6.1%); and miscellaneous goods and services (1.4%).

Figure 6. Historical GDP performance, spending



GDP = gross domestic product
Source: PSA (various years)

Figure 7. Cash remittances of overseas Filipino workers



USD = United States dollar; bn = billion
Note: Personal remittances are the sum of net compensation, personal transfers, and capital transfers between households. Cash remittances are remittances coursed through banks.
Source: BSP (various years)

Yet, mobility restrictions and the corresponding loss of jobs and income at home and in foreign countries during the COVID-19 crisis unhappily coincided to narrow the opportunities for personal spending and bring down funding for such spending. Remittances fell by about 1 percent annually, squeezing household incomes.

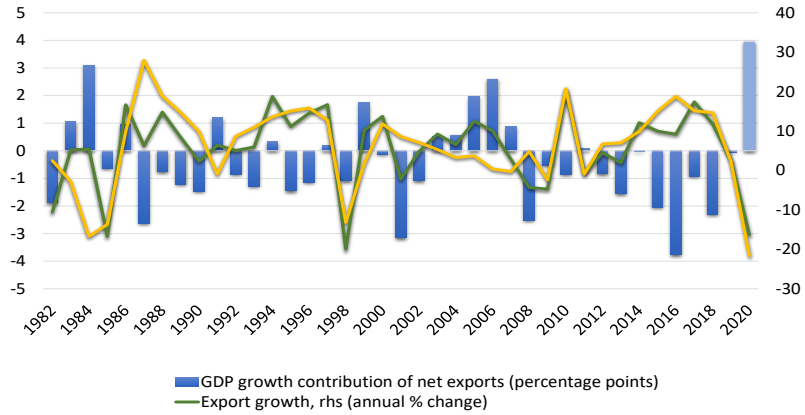
The largest declines in household spending were seen in the case of items that stores were barred from selling during the lockdowns, such as alcohol (down by a fourth), or purchases in sectors with high social contact, such as recreation and culture and restaurants and hotels (down by over 40%). Transport spending also fell during the period (by a third), as transport services were suspended and households, facing an indeterminate future, held off on purchasing vehicles. Some of these are the analogues of what happened earlier in relation to the output of the services sector. Altogether, these spending contractions took away 5-percentage points from GDP growth.

Heightened uncertainty over the nature and path of the COVID-19 pandemic naturally contributed to a sharp decline in investment (by 34.4%), which had already started to lose steam during the previous year. The sharpest drops were in durable equipment and construction (in both private and public projects). This fed into a decline in imports of industrial machinery and transport equipment and, combined with a fall in oil purchases due to mobility restrictions and business closures, to a narrower trade deficit. With imports of goods dropping faster than exports, overall trade has oddly contributed positively to GDP growth in 2020 (Figure 8).

A smaller goods trade shortfall, by offsetting the weakness in services trade (especially in tourism) and remittances, has allowed the country to record consistent current account surpluses since April 2020, after a string of deficits since 2016.[4] This, in turn, has generated bigger balance-of-payments (BoP) surpluses, which already

[4] Oil imports, which account for over a tenth of the value of total imports, also halved during the year (down by 45.7% annually). A drop in oil prices due to a pandemic-induced collapse in global demand contributed to the observed shrinkage of the oil bill. The price of Dubai Fateh, the benchmark for Asia, fell from about USD 63.8 per barrel at the start of the year to below USD 39.7 per barrel by October (IndexMundi n.d.).

Figure 8. Contribution of net exports to GDP growth



GDP = gross domestic product; rhs = right-hand side
Sources: Author's computations; PSA (various years)

amounted to USD 16 billion in December. Dollar loan inflows from financing agreements inked by the national government to support the country's pandemic response have also temporarily bolstered the BoP.[5] Gross international reserves thus rose to a high of USD 110 billion by December, fueling an appreciation of the peso-dollar exchange rate. A rise in the value of the domestic currency in the middle of a recession has been a unique element of the COVID-19 crisis in the country, though the risk of reversal is high.

The Philippine government initially responded to the pandemic by realigning the national budget toward relief, as allowed by the *Bayanihan* to Heal as One Act (Republic Act [RA] 11469 or Bayanihan I) enacted on March 24. The intention was to lessen the harmful effects of the ECQs on low-income households, protect vulnerable and displaced workers, and intensify medical response measures. These

[5] These official loan inflows offset outflows in the financial account from portfolio money and reversals of trade credit and short-term loans. The exit of funds mostly occurred in the first quarter as uncertainty heightened because of the pandemic. Financing agreements inked by the national government to support the country's COVID response have amounted to USD 13.4 billion as of writing.

outlays bumped up government spending by about 21.8 percent in the second quarter of 2020, but the momentum quickly weakened to 5.8 percent and 4.4 percent by the third and fourth quarters.[6]

Mixed impact on inflation

Inflation remained stable and within target during the COVID-19 crisis, despite initial concerns about supply limitations during the lockdowns (Figure 9). Two distinct factors were responsible for low inflation during the year. The first was the impact of a new law that removed quantity restrictions on rice imports and replaced the quotas with tariffs (RA 11203 or the Rice Tariffication Law [RTL]). By expanding rice supply, this policy change led to a softening of rice prices immediately after it was implemented in March 2019, an effect expected to be seen for at least a full year (Figure 10). The other was the collapse in world oil prices at the beginning of 2020, as global demand weakened due to the pandemic.[7]

Table 1 shows that a decline in rice and electricity prices aided by peso appreciation and a slowdown in gas prices brought down headline inflation during the period from January to November by nearly 0.8 of a percentage point (see Column 6). This more than offset price increases due to new excise taxes on petroleum and mineral products (including coal), alcohol, and tobacco.[8]

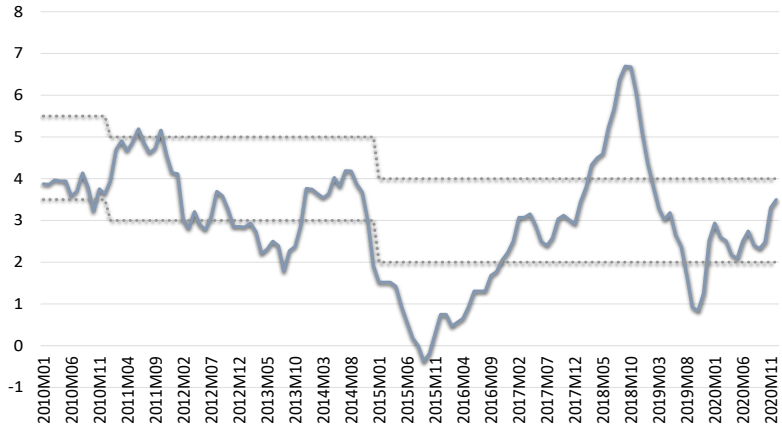
Setting aside these two factors, the impact of COVID-19 on domestic inflation has been more diverse, reflecting the complexity of the pandemic-induced crisis, a mix of both supply and demand shocks. Without yet launching a full econometric investigation to determine the nature of shocks hitting the economy, one can roughly identify which type of shock predominates in different sectors by simply looking at how they have affected prices in those sectors. In industries that faced a collapse in household consumption simultaneous with

[6] The lower figure in the fourth quarter of 2020 was partly due to base effects, as the government greatly accelerated spending during the same quarter of the previous year. Catch-up spending traced to delays in the approval of the 2019 national budget.

[7] Rice accounts for 9.6 percent of the consumer basket in the Philippines, while electricity, gas, and other fuels account for 7.4 percent.

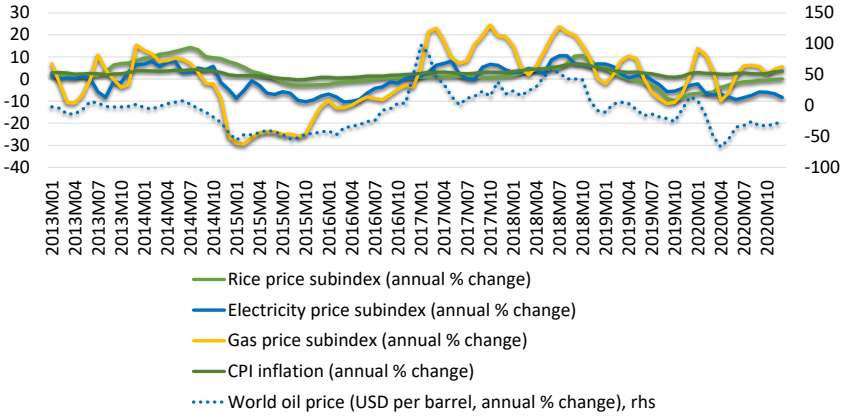
[8] Such were changes based on RA 10963 (TRAIN Law) and RA 11467, a sin tax law signed in January 2020.

Figure 9. Headline inflation and official inflation target



Note: Dotted line refers to the official inflation target of 3% ±1 percentage point.
Sources: PSA (various years); BSP (2020)

Figure 10. Consumer price index (CPI) subindexes for rice, electricity, gas, and other fuel prices



USD = United States dollar; rhs = right-hand side
Note: World oil prices are represented by Dubai Fateh, the benchmark for Asia.
Sources: PSA (various years); IndexMundi (n.d)

Table 1. Change in household spending and consumer prices during the COVID-19 pandemic

	(1) Annual change in HH spending[a] (%)	(2) CPI weights	(3) 2018 inflation	(4) 2019 inflation	(5) 2020 M1 to 11 inflation	(6) Contrib. to 2020 M1 to M11 inflation (ppt)	(7) Q1 inflation	(8) Q2 inflation	(9) Q3 inflation	(10) Q4 inflation	(11) Q3 minus Q1 inflation (ppt)	(12) M9 minus M2 inflation (ppt)
Household consumption	**-12.3**	**100.0**	**5.2**	**2.5**	**2.6**	**2.6**	**2.7**	**2.3**	**2.5**	**3.1**	**-0.2**	**-0.3**
Food and nonalcoholic beverages	4.6	38.3	6.8	2.1	2.5	1.0	2.3	3.0	1.9	3.7	-0.4	-0.6
Food		35.5	6.7	1.8	2.6	0.9	2.3	3.0	1.9	3.8	-0.4	-0.6
Bread and cereals		13.5	5.2	-1.5	-1.4	-0.2	-4.0	-1.4	-0.1	0.3	3.8	4.1
Rice		9.6	5.7	-2.9	-2.8	-0.3	-6.2	-2.8	-1.0	-0.2	5.2	5.7
Corn		0.6	9.9	-2.5	-1.0	0.0	-2.3	-0.2	-0.5	-0.8	1.8	1.7
Other cereals		3.3	2.8	3.3	2.5	0.1	2.6	2.6	2.4	2.1	-0.2	-0.4
Meat		6.2	6.2	3.5	3.8	0.2	3.0	2.7	4.0	7.6	1.0	0.0
Fish and seafood		5.7	12.1	4.2	6.4	0.4	9.3	8.0	3.0	4.1	-6.3	-6.0
Dairy and eggs		3.1	2.5	2.8	3.0	0.1	3.4	3.5	2.9	1.9	-0.4	-1.0
Oils and fats		0.8	4.0	2.4	1.9	0.0	1.0	2.0	2.4	2.6	1.4	1.4
Fruits		1.4	5.4	5.4	8.3	0.1	8.7	11.1	7.2	5.5	-1.5	-1.9
Vegetables		2.6	10.5	4.2	5.3	0.1	8.1	7.4	-0.9	11.3	-9.0	-10.5
Sugar, jam, honey, etc.		1.0	4.8	1.5	-0.6	0.0	-1.7	-0.8	0.1	0.3	1.8	1.9
Other food products		1.1	3.7	5.8	6.0	0.1	6.8	6.6	5.3	4.2	-1.5	-1.4
Nonalcoholic beverages		2.9	9.7	5.6	2.4	0.1	2.8	2.6	2.1	1.9	-0.7	-0.7
Coffee, tea, etc.		1.5	3.8	4.0	2.0	0.0	2.5	2.1	1.6	1.5	-0.9	-1.0

Table 1 *(continued)*

	(1) Annual change in HH spending[a] (%)	(2) CPI weights	(3) 2018 inflation	(4) 2019 inflation	(5) 2020 M1 to 11 inflation	(6) Contrib. to 2020 M1 to M11 inflation (ppt)	(7) Q1 inflation	(8) Q2 inflation	(9) Q3 inflation	(10) Q4 inflation	(11) Q3 minus Q1 inflation (ppt)	(12) M9 minus M2 inflation (ppt)
Mineral water, soft drinks, juices		1.4	15.9	7.2	2.8	0.0	3.1	3.0	2.7	2.3	-0.5	-0.5
Alcoholic beverages and tobacco	-34.3	1.6	19.9	12.8	16.7	0.3	18.5	18.2	16.6	11.9	-1.8	-5.3
Alcoholic beverages		0.7	5.9	3.8	7.9	0.1	5.4	7.6	9.4	9.8	3.9	4.3
Tobacco		0.9	27.0	16.6	20.1	0.2	23.7	22.3	19.4	12.7	-4.3	-9.2
Nonfood		60.1	3.5	2.4	1.9	1.1	2.2	1.0	2.2	2.2	0.1	0.2
Clothing and footwear	-27.1	2.9	2.3	2.6	2.3	0.1	2.7	2.5	2.0	1.7	-0.7	-0.9
Housing and utilities	7.1	22.0	4.0	2.4	1.0	0.2	1.8	0.2	0.9	0.7	-0.9	-0.6
Actual rent		12.9	2.7	3.1	2.8	0.4	3.1	2.9	2.6	2.5	-0.5	-0.6
Water supply		1.2	2.6	4.2	0.7	0.0	0.9	0.6	0.8	0.5	-0.1	-0.2
Electricity, gas, and other fuels		7.4	7.0	0.8	-2.8	-0.2	-0.7	-5.0	-2.7	-2.8	-2.0	-0.7
Electricity		4.8	6.1	-0.2	-6.7	-0.3	-5.2	-8.1	-7.2	-7.0	-2.0	0.4
Gas		1.3	12.3	-1.1	3.5	0.0	9.4	-4.8	5.9	4.1	-3.5	-5.3
Solid fuels		1.2	4.8	6.0	6.1	0.1	6.3	6.3	6.0	5.7	-0.2	-0.6
Household maintenance	-18.0	2.9	3.1	3.2	3.8	0.1	3.6	4.1	3.9	3.5	0.3	0.2
Health	-6.6	3.9	3.4	3.5	2.8	0.1	2.9	2.8	2.8	2.6	0.0	0.0

Table 1 *(continued)*

	(1) Annual change in HH spending[a] (%)	(2) CPI weights	(3) 2018 inflation	(4) 2019 inflation	(5) 2020 M1 to 11 inflation	(6) Contrib. to 2020 M1 to M11 inflation (ppt)	(7) Q1 inflation	(8) Q2 inflation	(9) Q3 inflation	(10) Q4 inflation	(11) Q3 minus Q1 inflation (ppt)	(12) M9 minus M2 inflation (ppt)
Transport	-47.5	8.1	6.5	1.1	2.8	0.2	1.0	-3.1	7.0	7.9	6.0	6.5
Purchase of vehicles		0.8	1.2	1.8	3.8	0.0	3.1	3.0	4.8	4.4	1.7	2.0
Operation of personal transport equipment		2.5	18.4	-0.4	-8.6	-0.2	0.8	-18.9	-6.9	-9.4	-7.7	-9.5
Fuel and lubricants		2.1	23.2	-0.9	-11.1	-0.2	0.7	-23.8	-9.0	-12.2	-9.6	-11.7
Transport services		4.8	2.7	1.8	7.9	0.4	0.9	3.4	13.5	16.5	12.6	14.3
Passenger transport by road		4.3	2.6	3.2	8.7	0.4	0.8	4.5	14.5	18.4	13.7	17.1
Communication	6.9	2.9	0.4	0.3	0.4	0.0	0.4	0.3	0.3	0.3	-0.1	0.0
Recreation and culture	-63.2	1.4	2.0	2.4	0.7	0.0	1.5	1.4	0.2	-0.6	-1.3	-2.0
Education	-18.4	3.3	-0.8	0.3	2.6	0.1	4.7	3.7	0.5	1.1	-4.2	-3.7
Restaurants and hotels	-57.5	8.1	4.3	3.6	2.4	0.2	2.6	2.2	2.2	2.0b	-0.4	-0.6
Miscellaneous goods and services	0.7	4.5	2.4	2.7	2.7	0.1	2.7	2.7	2.7	2.9[b]	0.0	0.0

CPI = consumer price index; GDP = gross domestic product; HH = household; M2 = February; M9 = September; ppt = percentage point; Q1 = first quarter; Q2 = second quarter; Q3 = third quarter; Q4 = fourth quarter

[a] Refers to the year-on-year percentage change of the household financial consumption expenditure component of GDP (constant 2018 prices) and its subcomponents during Q1–Q3 of 2020 versus the same period in 2019

[b] Covers only October and November 2020 inflation

Sources: Author's calculations; BSP (various years); PSA (various years)

a jump in prices, one can surmise that supply shocks have been dominant. In contrast, industries that experienced a synchronized drop in household spending and prices likely confronted mostly negative demand shocks.

Column 1 of Table 1 summarizes the changes in household consumption in the quarters during and immediately after the ECQs, while Columns 11 and 12 provide different ways of presenting the corresponding changes in the price environment. The decline in inflation in restaurants and hotels, recreation and culture, and clothing and footwear, together with the free fall in spending in those industries, indicates that demand has disproportionately plummeted. A similar trend has occurred in the education sector, where spending and inflation also dropped during the pandemic. This was prevalent at the pre-school and primary levels, with many learners needing to stop schooling because of a lack of income and access to online education or to shift to the public school system.

Meanwhile, the transport sector, where public health rules continued to limit operations and constrict capacity, has been dominated by a supply shock. Inflation in transport services, particularly passenger transport by roads, which accounts for over 4 percent of GDP, accelerated after the ECQs were removed and workers were increasingly allowed to report for work.[9] In presenting third-quarter GDP statistics, economic managers noted how the public transport system had been able to accommodate only about a third of workers in the NCR because of social distancing rules and a paucity of public transport operators.[10]

Recessionary forces still appeared to hold sway in certain parts of the economy based on the fourth-quarter Consumer Price Index (CPI), but the risk of stagflation has seemingly increased. However, depressed demand cascading across sectors should help limit headline inflation, even as the downward pull of the RTL on

[9] In the beginning, only tricycles, rail systems, and modern jeepneys with higher fares were allowed to operate in Metro Manila after the ECQ. Traditional jeepneys were allowed to resume services a month after, on July 3.

[10] This is based on a Joint Statement of the Duterte Administration's Economic Managers issued on November 10, 2020, along with the release of the third-quarter national income accounts statistics. See NEDA (2020a).

headline inflation diminishes, world food prices rise, and supply constraints remain in some areas.[11] Meanwhile, COVID-19 persistence may help restrict the rise in world oil prices and, in turn, domestic electricity and fuel prices, even as economic recoveries in areas that have been able to control the virus or launch a strong stimulus response (e.g., China and the US) exert upward demand pressure.

Unemployment after lockdown

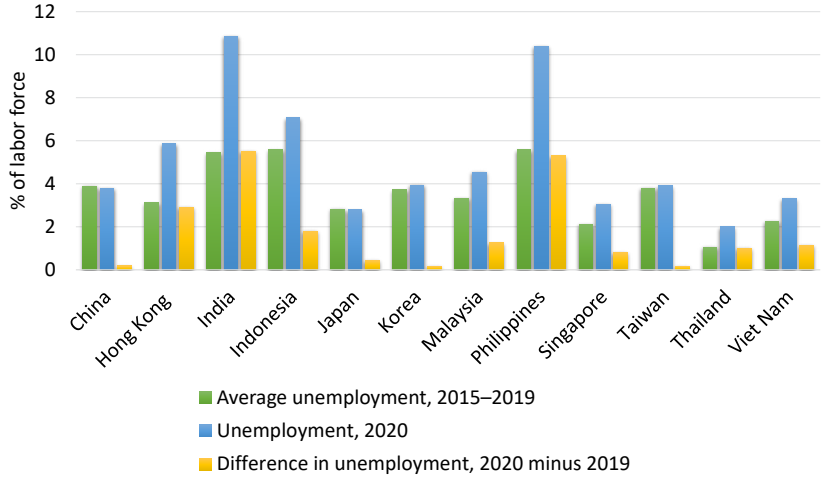
The worst feature of the pandemic in many parts of the world has been the high unemployment it has created. Public health restrictions and resulting changes in the behavior of consumers have created a difficult environment, especially for countries dependent on tourism and other services needing high social interaction.

The impact of the COVID-19 crisis on jobs in the Philippines was dire compared to neighboring Asian economies that had taken better control of the virus (Figure 11). The closest situation in the region was India, which possessed similar features. Both countries have large service sectors, relied heavily on remittances, and faced the tough challenge of controlling the contagion across large populations with public healthcare systems that were unprepared—and under-resourced—for such a scenario.

The unemployment rate in the Philippines rose to a high of 17.6 percent in April of 2020 (about 7.2 million workers out of 41 million), when key parts of the country were under lockdown, from 5.1 percent during the same month a year earlier (Figure 12). Conditions improved after ECQs were loosened near the end of May, when unemployment declined to 10 percent (4.6 million workers) by July, versus 5.4 percent last year, and further to 8.7 percent (3.8 million workers) in October, versus 4.5 percent a year ago. The same pattern held for the underemployed, made up of employed persons expressing a desire to work more hours, with the trend

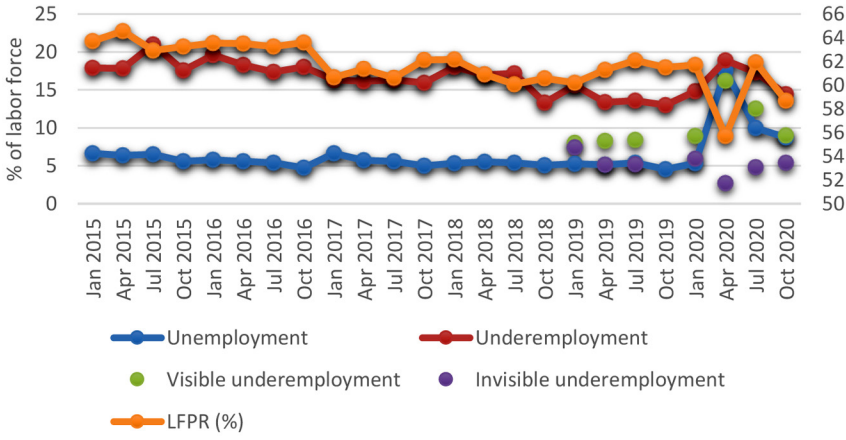
[11] There is still the risk of food prices escalating due to supply factors, with Asian swine fever, for instance, still having an impact on pork prices.

Figure 11. Jobs picture in Asia, unemployment rates



Sources: Centre for Monitoring Indian Economy (n.d.); World Economic Outlook Database (April 2021)

Figure 12. Philippine employment indicators



LFPR = labor force participation rate (in % of total household population 15 years and older)
Note: The definition of unemployment was revised beginning April 2005 to include the availability to work criterion in conformance with international standards.
Source: PSA (various years)

mainly driven by the "visibly underemployed".[12] The latter included workers with jobs but not working during the pandemic, whose ranks had swelled during the lockdowns but partially subsided soon after.

Despite improvements, the employment figures suggest that prolonged unemployment, if not addressed, may still be in the cards. For instance, although the labor force participation rate seemingly returned to normal, from a low of 55.7 percent in April to 61.9 percent in July, it slipped back to 58.7 percent in October, dropping about 2.2 million workers. This suggests a rise in the number of discouraged workers in the country.

Labor force survey statistics also suggest that many workers were unable to return to their old jobs after the ECQs. Although the number of unemployed fell by 2.7 million from April to July, there were still 2.5 million fewer workers than there used to be in services and manufacturing; meanwhile, there were 1.2 million more in agriculture. This corresponded to a diminution in the number of salaried workers, with many joining the informal sector and becoming self-employed. While there had been some recovery in services in October, the industrial sector proceeded to shed nearly half a million jobs.

Tables 2a to 2c, which summarize the year-on-year changes in employment, confirm this emerging jobs picture in the Philippines.[13] In each table, the last two columns indicate the evolution of employment numbers after the lockdowns.

From Tables 2a and 2b, it is evident that only agriculture has seen sizable growth in the number of workers in 2020, with the count expanding at a double-digit pace in July and October (by 16.2% and 13.1% annually, respectively). Farms likely absorbed workers from the construction and services sectors, such as domestic trade and vehicle repair, transport and storage, and accommodation and food, which had been badly hit by the ECQs.

From Table 2c, one can observe sustained employment growth only for own-account workers, particularly those without a family

[12] The Philippine Statistics Authority (PSA 2007, p.5) defines visible (invisible) underemployment as the percentage of the labor force of "employed persons who worked for less than 40 hours (40 hours or more) during the basic survey reference period and still want additional hours of work in their present job or an additional job, or to have a new job with longer working hours."

[13] Annual changes are presented here to sidestep the confounding influence of job seasonality.

farm or business or any paid employee. This is in stark contrast to a continued yearly decline in the number of wage and salary workers, particularly those employed in private establishments. Around 5.5 million of these formal-sector workers lost their jobs at the height of the pandemic lockdowns as reflected in the April survey, with only partial recovery seen in July. This suggests a high level of income and job insecurity in the country.

Outlook for Philippine households and businesses

The available surveys confirm the high job and income uncertainty during the pandemic implied by the macroeconomic statistics. These include household and business surveys conducted by the National Economic and Development Authority (NEDA) in early April of 2020 (NEDA 2020b and 2020c); surveys of households and firms conducted by the World Bank in August and July, respectively (World Bank 2020a and 2020b); enterprise surveys conducted by the Asian Development Bank (ADB) in March–April, April–May, and August–September (Shinozaki 2020); and the quarterly consumer and business expectations surveys of the BSP for the second half of the year (BSP 2020a and 2020b).

Impact on households

In NEDA's online survey for consumers conducted in April (NEDA 2020c), in the middle of the lockdowns, 44 percent of the respondents stated their income was not enough to meet basic needs, such as food, drinking water, and medicine.[14] Of the households reporting worse family incomes during the ECQ (about 38% of the total), many stated that they were laid off from work or had no salary (18%) or lost their source of income (17%). Many families dealt with the income shortfall by reducing food consumption (57%), resorting to borrowing (14%), and availing of government assistance (12%).

[14] NEDA's rapid online assessment for consumers was conducted on April 5–8, 2020, and had 389,859 respondents, of which 48 percent lived in NCR, 18 percent in Region IV-A, and 8 percent in Region III. Of the total, 39 percent worked in government and 35 percent in the private sector. About 45 percent had a monthly income of between PHP 10,000 and PHP 30,000, while about 38 percent earned PHP 30,000 per month or greater.

Table 2a. Year-on-year change in employed workers (level* and percent) by industry

	Jan 2019	Apr 2019	Jul 2019	Oct 2019	Jan 2020	Apr 2020	Jul 2020	Oct 2020
Total employed		1,346	1,872	1,212	1,167	-8,412	-1,215	-2,701
		3.30%	4.60%	2.90%	2.80%	-19.90%	-2.90%	-6.30%
Agriculture	-1,703	-378	352	-262	458	-652	1,139	70
	-15.70%	-3.90%	3.80%	-2.60%	5.00%	-6.90%	11.7	0.70%
Industry	606	66	163	222	-169	-2,351	-268	-827
	8.00%	0.80%	2.10%	2.80%	-2.10%	-29.00%	-3.3	-10.20%
Manufacturing	108	-104	67	-22	-23	-842	-333	-618
	3.00%	-2.90%	1.80%	-0.60%	-0.60%	-23.80%	-9	-17.00%
Construction	493	207	128	266	-132	-1,429	11	-205
	13.50%	5.20%	3.30%	6.80%	-3.20%	-33.90%	0.3	-4.90%
Services	717	1,658	1,356	1,252	878	-5,409	-2,086	-1,943
	3.10%	7.20%	5.80%	5.30%	3.70%	-21.90%	-8.4	-7.90%
Wholesale and retail trade, repair of motor vehicles and motorcycles	-200	654	741	456	517	-2,100	347	-63
	-2.40%	8.30%	9.50%	5.70%	6.40%	-24.50%	4.1	-0.70%
Accommodation and food	84	247	311	150	212	-656	-719	-667
	4.90%	15.00%	18.40%	8.10%	11.80%	-34.70%	-36	-33.20%
Transport and storage, information and communication	140	398	34	350	-50	-1,148	-455	-635
	3.80%	11.00%	0.90%	9.80%	-1.30%	-28.60%	-12.40%	-16.20%

Table 2a *(continued)*

	Jan 2019	Apr 2019	Jul 2019	Oct 2019	Jan 2020	Apr 2020	Jul 2020	Oct 2020
Finance and insurance	93	-16	-17	113	41	-108	-2	-43
	18.90%	-2.80%	-2.90%	21.30%	7.00%	-19.80%	-0.40%	-6.70%
Real estate, professional, scientific and technical, administrative and support	105	118	216	177	13	-289	-307	-39
	5.20%	5.70%	10.30%	8.60%	0.60%	-13.20%	-13.30%	-1.80%
Public administration and defense, compulsory social security	241	293	192	53	131	-323	-262	-312
	10.00%	11.70%	7.30%	2.00%	4.90%	-11.50%	-9.30%	-11.40%
Education	85	56	38	132	77	-17	-86	72
	7.20%	5.10%	3.10%	10.50%	6.10%	-1.50%	-6.70%	5.20%
Human health and social work	41	22	-37	76	41	-105	54	10
	8.50%	4.10%	-7.00%	14.80%	7.80%	-18.60%	11.00%	1.80%
Arts, entertainment, and recreation	28	36	80	3	6	-235	-316	-132
	7.80%	9.10%	22.70%	0.90%	1.50%	-54.40%	-72.90%	-38.20%
Other service activities	104	-147	-200	-254	-115	-425	-343	-134
	3.90%	-5.40%	-7.10%	-9.60%	-4.10%	-16.60%	-13.00%	-5.60%

*in PHP thousands
Source: PSA (various years)

Table 2b. Year-on-year change in employed workers (level* and percent) by occupation

	Jan 2019	Apr 2019	Jul 2019	Oct 2019	Jan 2020	Apr 2020	Jul 2020	Oct 2020
Total employed	-379	1,346	1,872	1,212	1,167	-8,412	-1,215	-2,701
	-0.9%	3.3%	4.6%	2.9%	2.8%	-19.9%	-2.9%	-6.3%
Managers	-1,643	-1,896	-1,782	-1,799	-1,162	-1,509	-1,109	-1,230
	-24.2%	-29.0%	-27.7%	-27.3%	-22.6%	-32.5%	-23.9%	-25.6%
Professionals	107	73	65	250	147	-303	-210	-182
	4.9%	3.3%	2.9%	10.7%	6.4%	-13.4%	-9.1%	-7.1%
Technicians and associate professionals	264	85	10	53	-188	-449	-410	-67
	17.2%	5.1%	0.6%	3.2%	-10.5%	-25.4%	-22.8%	-4.0%
Clerical support workers	181	153	189	316	317	-391	-149	-306
	7.7%	6.4%	8.1%	12.8%	12.5%	-15.3%	-5.9%	-11.0%
Service and sales workers	1,031	1,827	1,963	1,611	1,278	-1,648	-227	-140
	16.7%	30.2%	32.1%	25.4%	17.8%	-20.9%	-2.8%	-1.8%
Skilled agricultural, forestry, and fishery workers	-839	-96	180	-27	217	-237	806	655
	-15.3%	-1.9%	3.7%	-0.5%	4.7%	-4.7%	16.2%	13.1%
Craft and related trades workers	474	-1	-27	76	-184	-1,239	-311	-387
	16.0%	0.0%	-0.8%	2.4%	-5.3%	-36.4%	-9.4%	-11.8%

Table 2b *(continued)*

	Jan 2019	Apr 2019	Jul 2019	Oct 2019	Jan 2020	Apr 2020	Jul 2020	Oct 2020
Plant and machine operators and assemblers	489	866	499	787	303	-803	161	-297
	18.4%	33.9%	18.9%	29.8%	9.6%	-23.5%	5.1%	-8.7%
Elementary occupations	-433	331	785	-40	420	-1,822	202	-764
	-3.8%	3.0%	7.2%	-0.4%	3.8%	-16.3%	1.7%	-7.0%
Armed forces occupations	-10	5	-9	-15	18	-12	30	19
	-10.6%	6.3%	-7.7%	-17.4%	21.4%	-13.7%	27.3%	26.7%

*in PHP thousands
Source: PSA (various years)

Table 2c. Year-on-year change in employed workers (level* and percent) by class of worker

	Jan 2019	Apr 2019	Jul 2019	Oct 2019	Jan 2020	Apr 2020	Jul 2020	Oct 2020
Total employed	-379	1,346	1,872	1,212	1,167	-8,412	-1,215	-2,701
	-0.9%	3.3%	4.6%	2.9%	2.8%	-19.9%	-2.9%	-6.3%
Wage and salary workers	1,434	670	608	929	547	-5,383	-2,207	-2,627
	5.6%	2.6%	2.3%	3.5%	2.0%	-20.1%	-8.1%	-9.5%
Worked for private household	72	-112	-188	-267	-137	-252	-215	-71
	3.8%	-5.8%	-9.3%	-13.9%	-6.9%	-13.9%	-11.7%	-4.3%
Worked for private establishment	975	423	644	1,063	592	-4,770	-1,904	-2,423
	4.8%	2.1%	3.1%	5.1%	2.8%	-22.7%	-8.9%	-11.1%
Worked for government or government corporation	371	399	136	112	128	-355	-44	-97
	10.9%	11.6%	3.7%	3.0%	3.4%	-9.2%	-1.2%	-2.5%
Worked with pay in own-family operated farm or business	15	-41	16	21	-35	-6	-43	-36
	10.9%	-28.1%	12.7%	19.0%	-23.0%	-6.0%	-31.2%	-27.0%
Own account	-872	153	521	209	-78	-2,471	441	368
	-6.7%	1.2%	4.3%	1.7%	-0.6%	-19.3%	3.5%	2.9%
Self-employed without any paid employee	-732	526	878	368	286	-1,942	563	302
	-6.3%	4.7%	8.2%	3.3%	2.6%	-16.6%	4.9%	2.7%
Employer in own family-operated farm or business	-139	-372	-357	-159	-365	-530	-121	66
	-9.2%	-24.5%	-23.1%	-11.4%	-26.7%	-46.3%	-10.2%	5.4%
Worked without pay in own family-operated farm or business (unpaid family worker)	-942	523	742	74	698	-557	550	-441
	-32.6%	24.2%	39.3%	3.1%	35.8%	-20.8%	20.9%	-18.3%

*in PHP thousands
Source: PSA (various years)

The World Bank's household survey a third of a year later (World Bank 2020b), after the lockdowns, still paints a bleak scenario.[15] The survey found that roughly one-fourth of household heads had lost their work and that approximately half of those still working received lower income. Of the households that had benefitted from domestic and foreign remittances before COVID-19 (about 24% of the sample), 60 percent reported receiving less or no remittances after the pandemic.

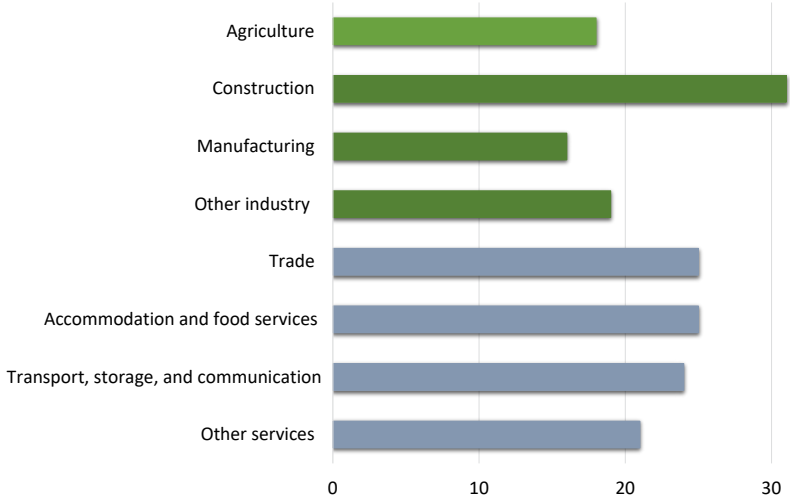
Common coping mechanisms of families during the pandemic included reducing consumption (about 80%), delaying payment of debts (60%), drawing down savings (more than 50%), and borrowing from relatives and friends (about half). Three in four households reported they received income from the government in the form of cash grants and/or food and non-food items.

The World Bank's survey closely matches this section's narration so far of the impact of COVID-19 on the Philippine macroeconomy. Unsurprisingly, households in Metro Manila, Central Luzon, and CALABARZON, which endured stringent lockdowns, also suffered the worst job losses. Nearly a third (31%) of household heads in those regions who had been employed in February reported that they already lost their work. Industry, particularly construction, and services (i.e., trade, accommodation and food, and transport, storage, and communication) were similarly identified by household heads as the most affected sectors in terms of employment (Figure 13), complementing the previous subsection's discussion of the official labor force statistics during the recession.

The household survey also reveals that income losses were most prevalent in agriculture during the pandemic, with close to 70 percent of those working in the sector suffering from a decline in income or no income at all (Figure 14). This trend, while more subtle, is nonetheless wholly compatible with the observation based on aggregate employment statistics of an influx of workers into agriculture, potentially expanding labor supply in the sector and helping push down wages.

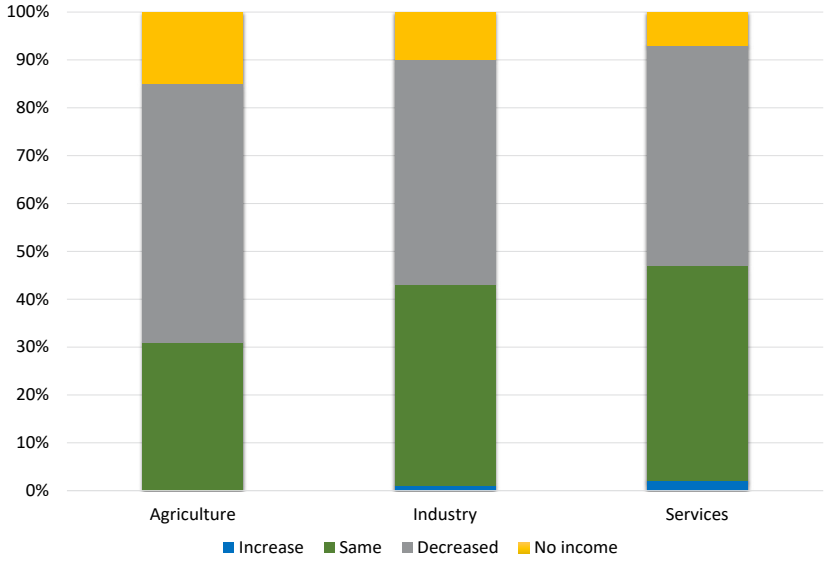
[15] The World Bank's household survey (first round) was conducted on August 1–14, 2020, with 9,448 respondents in the final sample. A mixed method that combined phone- and web-based surveys was used to ensure coverage of respondents with different socioeconomic backgrounds.

Figure 13. Job loss by sector (%), World Bank household survey (August 2020)



Source: World Bank (2020b)

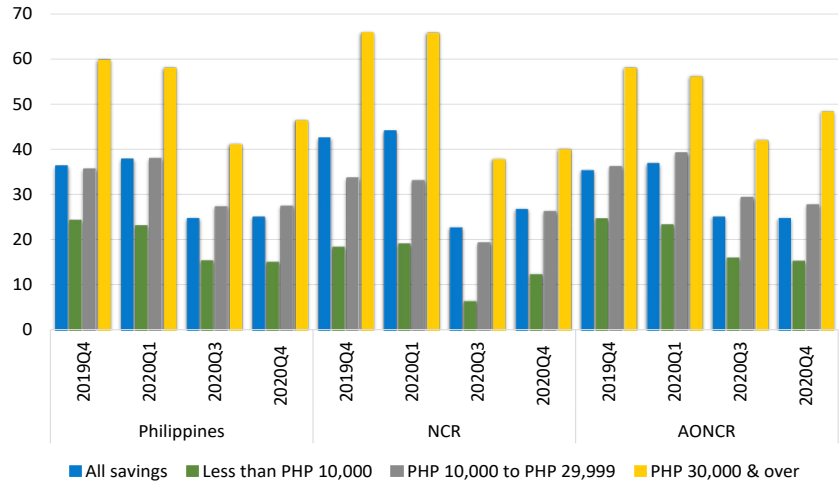
Figure 14. Income loss by sector, World Bank household survey (August 2020)



Source: World Bank (2020b)

The Consumer Expectations Survey (CES), which is conducted quarterly by the BSP, indicates continued pessimism of Filipino families and low near-term spending confidence (BSP 2020c).[16] More tellingly, it reveals a sharp drop in the percentage of households with savings, from 38 percent for the first quarter of 2020 to 25 percent for the second half (Figure 15). The effect is sharper for poorer households (those with savings of less than PHP 10,000), with the percentage falling from 23 percent to 15 percent during the same period. The trend holds true particularly for poorer households in Metro Manila, where the proportion of those with savings dropped from 19 percent for the first quarter to just 6 percent for the third quarter, after the ECQ,[17] before recovering to 12 percent for the fourth quarter.

Figure 15. Percentage of households with savings, BSP Consumer Expectations Survey



AONCR = areas outside of NCR; NCR = National Capital Region; BSP = *Bangko Sentral ng Pilipinas*; PHP = Philippine peso
Source: BSP (2020b)

[16] The BSP was unable to conduct the CES for the second quarter of 2020 on account of the ECQs. The CES had 5,421 respondents in the fourth quarter of 2019, 5,406 in the first quarter of 2020, 5,441 in the third quarter of 2020, and 5,437 in the fourth quarter. The corresponding figures for NCR were 2,730, 2,722, 2,780, and 2,775.

[17] The CES for the third quarter of 2020 was conducted during the period July 1–14, 2020.

The CES also shows a grim picture in terms of remittances, with the percentage of families with members who are OFWs falling from 10 percent for the first quarter of 2020 to less than 7 percent for the second half. Again, the trend is more pronounced in the country's capital, where the proportion has fallen from 9 percent to less than 5 percent, correspondingly.

Of the households with OFWs, the percentage receiving remittances rose from 96 percent for the first quarter to 99 percent for the third quarter, then dipped to 92 percent for the fourth quarter. In Metro Manila, only 87 percent of OFW families were receiving remittances based on the fourth-quarter survey, down from 96.2 percent in the first quarter and 100 percent in the third quarter.

Impact on firms

Over 60 percent of firms in NEDA's online business survey reported that they had temporarily closed during the lockdown in April (NEDA 2020b). Ten percent more implied they would shut down if the ECQ was extended.[18] One-fourth of the sampled firms, 95 percent of which were micro, small, and medium enterprises (MSMEs), indicated that they had already laid off some or all their workers. Firms reported that they managed their finances during the lockdown mainly by deferring payments on taxes and debt (46%), delaying payments to suppliers (43%), and borrowing from family and friends (29%). Main concerns then included a lack of working capital to maintain or restart their businesses (64%); meeting tax payments, Social Security System (SSS), and similar obligations (45%); repayment of loans (44%); and disruption of supply chains and business networks.

The World Bank firm survey (2020a) noted that 15 percent of businesses were already permanently closed by July, while 40 percent

[18] NEDA's online business survey (NEDA 2020b) was conducted on April 4–8, 2020 and sampled 44,097 firms. Respondents were mainly located in NCR (36%), Region IV-A (18%), and Region III (12%). Most of the firms had only 1 to 9 employees (60%) or 10 to 99 employees (32%). One-fourth were in wholesale and retail trade, while about half did not specify their type of business. Around 71 percent were micro firms in total asset size, 17 percent were small firms, and 7 percent were medium-sized firms.

were temporarily closed (of which, 20% by government order).[19] Disruptions were noted in the demand, supply, and financing channels of local firms. With mobility restrictions, a large majority of firms (>70%) experienced sales declines and difficulty in sourcing inputs and raw materials. Many were severely weakened, as they faced a deterioration of cash flows (Figure 16) and narrowed access to funding (Figure 17). About a third of firms reported that they were able to finance their requirements mainly by borrowing from family and friends. Well over a fourth of the respondents needing funds said they were unable to avail of loans from government institutions.

Around 52 percent of businesses reduced payments to employees, while 48 percent laid-off workers. The survey matches the labor force statistics discussed earlier, except for the disproportional decline in employment in education (Figure 18). Widespread manpower cuts, however, were similarly noted in food services, construction, and manufacturing.

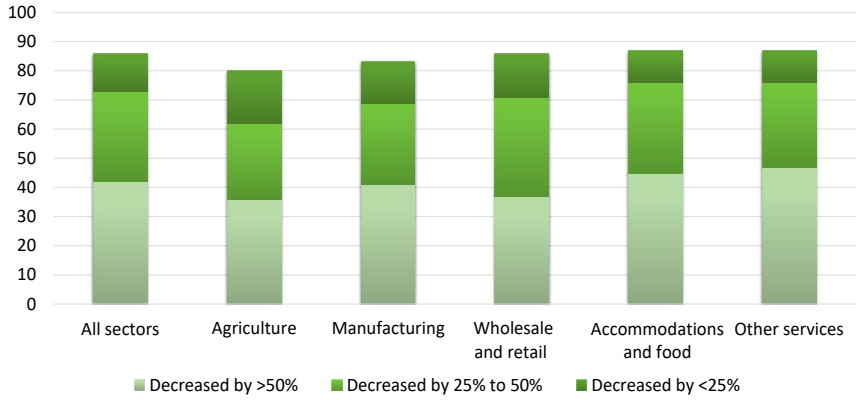
The pandemic predictably created a lot of uncertainty among businesses, as reflected in the survey, with about half stating they did not know what awaited them in the near term. At the time, only one out of five reported receiving support from the national or local government. Those who did benefit most from cash transfers (nearly half of the respondents), with many citing a lack of awareness of the government programs, difficulty in applying to these programs, failure to receive the benefits of the programs, or ineligibility.

The lack of business confidence persists as measured by central bank surveys after the ECQs, notably among the smaller firms (BSP 2020a).[20] Current-quarter expectations of small businesses or those with employees of less than 100 collapsed based on the

[19] The World Bank's online survey of firms was carried out on July 7–14, 2020. It included the responses of 74,031 firms, consisting of micro firms (59.3%), small firms (19.2%), medium-sized firms (12.8%), and large firms (8.7%). Coverage was national, with respondents from NCR (22.7%), Region IV-A (17.7%), Region III (11.8%), Central Visayas (9.1%), Western Visayas (6.5%), and Davao (6.3%), among other regions.

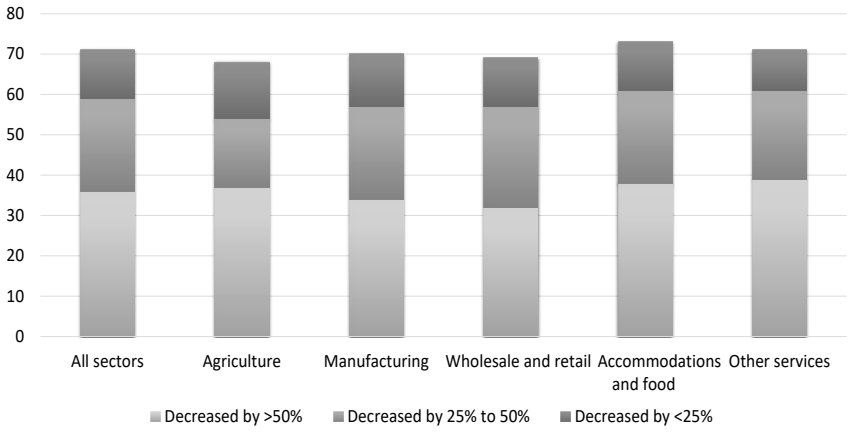
[20] The Business Expectations Survey (BES) for the second quarter of 2020 was canceled due to the ECQs. The BES had 1,205 respondents in the fourth quarter of 2019, 1,111 in the first quarter of 2020, 982 in the third quarter of 2020, and 981 in the fourth quarter. There were more small firms (based on employment) in the sample in 2020, comprising about 40 percent of the total number versus about 30 percent in previous years. Medium-sized firms made up about a third of the sample, on average, while large firms made up around 12 to 14 percent.

Figure 16. Cash flow availability by sector, World Bank firm survey (July 2020)



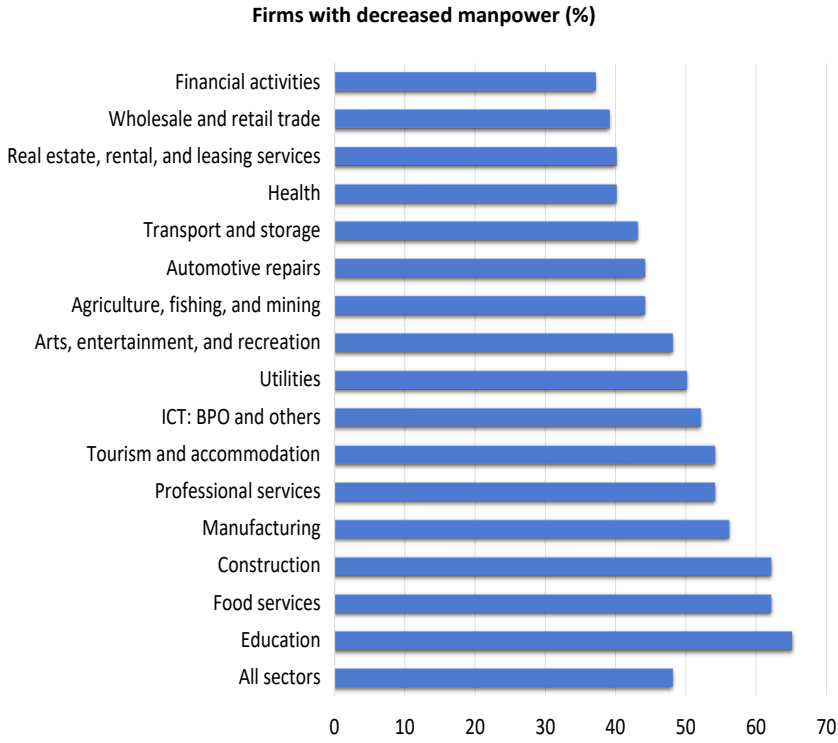
Source: World Bank (2020b)

Figure 17. Funding access by sector, World Bank firm survey (July 2020)



Note: The figures pertain to firms with financing needs.
Source: World Bank (2020b)

Figure 18. Employment impact by sector, World Bank firm survey (July 2020)

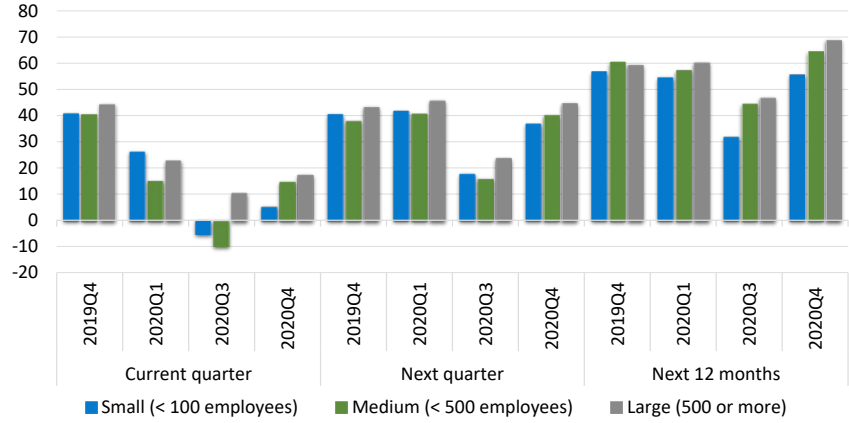


ICT = information and communications technology; BPO = business process outsourcing
Source: World Bank (2020b)

BSP's third-quarter Business Expectations Survey (BES), which was conducted a month after the end of the lockdowns, and optimism remained low even by the fourth quarter (Figure 19).[21] While similar patterns hold for all firms across longer horizons (next quarter and next 12 months), smaller firms have been consistently less optimistic. In contrast, large firms have seemingly experienced a revival of optimism for the coming year.

[21] The BES for the third quarter of 2020 was conducted from July 8 to September 10, while the fourth-quarter round was held from October 6 to November 24.

Figure 19. Business outlook of firms by size of employment



Note: A positive (negative) reading indicates that respondents with a positive (negative) outlook outnumbered those with a negative (positive) outlook.
Source: BSP (2020)

The ADB had kept track of MSMEs in the country over a six-month period through three survey rounds between March and September 2020 (Shinozaki 2020).[22] According to its latest survey, the percentage of micro and small firms that were temporarily closed had already gone down, from about 70 percent in March and April, during the ECQs, to between 9 and 10 percent by August and September.[23] The reduction is even bigger for medium-sized firms, where the proportion fell from 76 percent to 0. This matches the survey of the government's trade and industry department, which noted that 6 percent of the total number of registered businesses in the country remained closed from August to September (Ramos 2020).

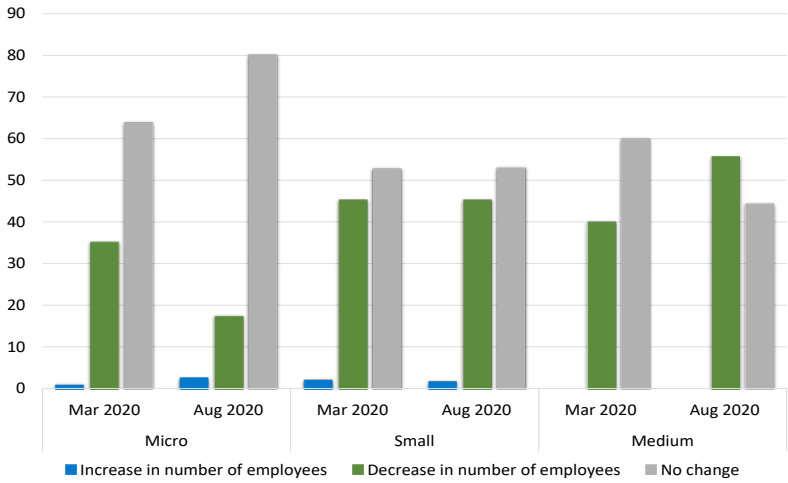
Even though they started to regain some economic activity several months after the lockdowns, MSMEs continued to suffer from sharp revenue declines, according to the ADB surveys. Many

[22] These were: (i) the Rapid MSME Survey in the Philippines (March–April 2020), with a sample size of 1,804; (ii) the Philippine Enterprise Survey (April–May), with 2,295; and the Follow-up MSME Survey in the Philippines (August–September) with 686 (Shinozaki 2020).

[23] The ADB adopted PSA's definition of enterprise size, which is based on the number of employees. MSMEs are defined as follows: (i) micro (1–9 employees), (ii) small (10–99 employees), and (iii) medium (100–199 employees).

firms continued to ask for a postponement of loan repayments and tax payments after the lockdowns to cope with the harsh effects of the pandemic on their finances. Employment somewhat stabilized for micro firms, but decreases in manpower continued for medium-sized firms (Figure 20). By August and September, 44 percent of the medium-sized firms said they had cut their total wage payments by more than 30 percent, up from just over a fourth of the sample in March and April.

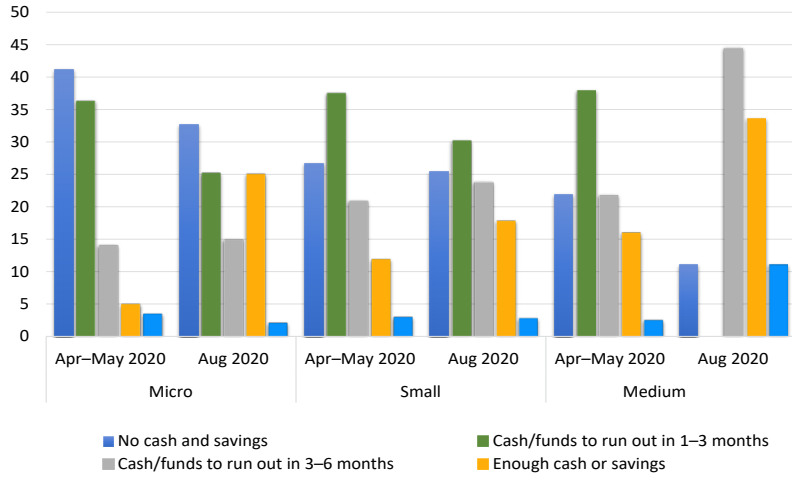
Figure 20. Employment on Philippine MSMEs, ADB surveys



MSME = micro, small, and medium enterprises; ADB = Asian Development Bank
Source: Shinozaki (2020)

MSME's finances generally improved after the ECQs, but many firms remained in a precarious state. About a third of micro firms, a fourth of small firms, and a tenth of medium-sized firms had no cash or savings in August and September, and many still expected a working capital shortage within 6 months (Figure 21). Medium-sized firms saw the biggest improvement in financial condition, with one-third stating that they had enough cash or savings for their operations. Like the smaller firms, they turned to family and friends for funding at the height of the lockdown but have increasingly shifted to internal sources. The proportion of firms applying for bank credit, while increasing, remains quite low among MSMEs, at just over 10 percent.

Figure 21. Financial condition of Philippine MSMEs, ADB surveys



MSMEs = micro, small, and medium enterprises; ADB = Asian Development Bank
Source: Shinozaki (2020)

COVID-19 crisis in perspective

This section provides a quick assessment of the economic and financial vulnerability of the country as it enters the COVID-19 recession. It then presents a pandemic policy primer that is based on the latest research and emerging consensus to provide a more solid framework for assessing policy responses, especially under developing-country circumstances.

Economic and financial vulnerability across crisis episodes

Table 3 presents a detailed historical comparison of indicators of economic and financial vulnerability of the country across different crises.[24] As previously observed, the rare public health shock created a recession of extraordinary depth that came at a time of uninterrupted economic growth and generally good macroeconomic fundamentals.

[24] The mid–1980s crisis is not included in Table 3 because of lack of economic and financial data for the period. The table is an update of portions of Tables 1 and 2 in Debuque-Gonzales and Gochoco-Bautista (2007).

Table 3. Economic and financial vulnerability of the Philippine economy in different crisis periods, 1988–2020

	1988–1990	1991	1992	1993	1994–1996	1997	1998	1999	2005–2007	2008	2009	2010	2016–2018	2019	2020
Growth and external imbalances															
GDP growth (%)	5.3	(0.4)	0.4	2.2	5.0	5.2	(0.5)	3.3	5.6	4.3	1.4	7.3	6.8	6	(9.6)
HH cons. (% of GDP)	70.6	73.3	75.4	75.6	73.3	71.4	75.6	76.1	76.8	75.3	76.1	73.5	73.0	72.4	73.7
HH cons. (ann % chg)	5.1	2.5	3.2	2.5	3.2	4.3	5.3	4.0	4.5	3.9	2.5	3.6	6.3	5.9	(7.9)
Investment (% of GDP)	19.6	18.3	19.6	20.6	21.4	23.3	19.9	16.8	15.2	17.7	16.4	19.9	26.0	26.5	19.2
Investment (ann % chg)	16.5	(17.1)	7.8	7.3	7.4	11.0	(14.8)	(13.1)	(2.1)	26.8	(6.0)	30.5	14.3	3.5	(34.4)
Gov't. cons. (% of GDP)	13.3	13.4	13.3	13.7	13.7	13.4	13.4	12.5	10.3	10.2	11.1	10.8	11.6	12.4	15.1
Gov't. cons. (ann % chg)	7.2	(1.9)	(0.9)	5.6	4.4	4.0	(0.2)	(3.6)	7.4	0.5	11.0	4.2	9.8	9.6	10.5
Exports (% of GDP)	16.1	17.2	18.0	18.7	22.8	27.1	21.8	23.3	27.6	25.1	23.6	26.4	28.4	29.2	27.1
Exports (ann % chg)	8.5	6.4	5.1	5.9	14.8	16.7	(19.9)	10.2	8.5	(4.3)	(4.7)	20.3	12.8	2.4	(16.3)
Imports (% of GDP)	18.6	19.8	21.5	23.3	27.9	32.7	28.6	28.1	29.8	28.2	27.1	30.5	39.0	40.5	35.1
Imports (ann % chg)	14.5	(0.9)	8.7	10.9	14.8	12.8	(13.2)	1.7	1.3	4.8	(2.3)	20.7	16.2	1.8	(21.6)
Current acc't. (% of GNI)	(5.7)[a]	(1.9)	(1.6)	(5.4)	(4.5)	(5.1)	2.3	(4.8)	3.8	0.1	4.3	3.1	(1.1)	-0.8	3.3
BOP (% of GNP or GNI)	(0.2)	4.6	2.8	(0.3)	2.8	(3.9)	2.0	4.8	3.3	0.0	3.3	6.6	(0.4)	1.9	4.1
REER dev'n. from trend	1.0	(2.6)	3.0	(2.7)	0.6	4.7	(7.6)	2.9	0.4	1.3	(1.8)	0.6	(0.7)	-0.3	1.6
Unemployment rate (%)					8.6	8.7	10.3	9.8	7.7	7.4	7.5	7.4	5.5	5.1	8.7
Inflation rate (%)	12.7	19.3	8.7	6.7	8.5	5.7	9.3	6.2	5.0	8.2	4.3	3.8	3.1	2.5	2.6
91-day T-bill rate (%)	19.0	21.4	16.1	12.3	12.5	13.1	15.3	10.2	5.0	5.4	4.2	3.7	2.4	4.7	2.0

Table 3 *(continued)*

	1988–1990	1991	1992	1993	1994–1996	1997	1998	1999	2005–2007	2008	2009	2010	2016–2018	2019	2020
Foreign reserve adequacy															
GIR (billion USD)	2.2	4.5	5.3	5.9	8.9	8.8	10.8	15.1	25.1	37.6	44.2	62.4	80.5	87.8	110.1
Import cover (no. of months, ann ave)	1.6	2.4	3.2	3.4	3.1	2.7	2.5	3.7	5.0	6.5	8.1	9.3	8.4	7.3	9.7
GIR-to-short-term external debt	0.5	0.8	0.9	0.8	1.2	1.0	1.1	1.9	1.9	2.6	3.9	4.0	4.0	4.0	4.9
GIR-to-debt service	0.7	1.6	1.8	1.8	1.9	1.6	2.1	2.3	3.4	5.3	6.4	8.4	10.7	10.1	15.6
Exchange rate flexibility															
Nom. ER depreciation (appreciation) (%)	5.8	13.0	(7.2)	6.3	(1.1)	12.4	38.8	(4.4)	(2.2)	(3.6)	7.1	(5.3)	5.0	(1.6)	(4.2)
ER volatility	2.2	7.2	9.3	11.4	5.0	12.6	46.6	12.1	3.1	8.0	6.4	4.6	3.1	2.7	2.0
GIR volatility	121.3	137.2	98.4	56.1	21.8	28.7	63.5	30.7	8.9	7.1	5.8	5.4	3.4	5.3	4.4
Bank stability															
NPL ratio (% of total, eop)						4.7	10.4	12.3	6.1	3.5	3.0	2.9	1.3	1.6	3.1
Loan loss provision (% of total, eop)						2.2	4.0	5.8	5.1	3.5	3.3	3.4	1.8	1.7	3.3
Indic. of crisis due to:															
Fiscal deficits & debt															
NG surplus (deficit) (% of GDP)	(2.5)	(1.9)	(1.1)	(1.3)	0.6	0.1	(1.7)	(3.4)	(1.2)	(0.8)	(3.6)	(3.3)	(2.5)	-3.4	(7.6)

Table 3 *(continued)*

	1988–1990	1991	1992	1993	1994–1996	1997	1998	1999	2005–2007	2008	2009	2010	2016–2018	2019	2020
NG debt (tr PHP)	0.53	0.67	0.87	1.13	1.13	1.35	1.50	1.78	3.82	4.22	4.40	4.72	6.68	7.73	9.8
% of GDP	51.1	48.7	58.2	68.9	53.5	50.2	50.7	54.7	58.7	52.4	52.4	50.2	40.1	39.6	54.6
Domestic	27.7	24.4	33.3	41.4	33.4	27.9	28.8	30.2	33.4	30.0	29.4	28.9	26.3	26.3	37.3
External	23.4	24.2	24.9	27.5	20.1	22.4	21.9	24.6	25.3	22.4	23.0	21.3	13.8	13.3	17.3
annual % change	10.8	12.1	29.4	29.3	1.0	16.9	10.8	18.7	(0.9)	13.7	4.2	7.3	7.0	6	26.7
External debt (bn USD)	28.8	30.1	30.9	34.8	38.5	43.1	46.3	51.2	63.1	65.2	64.7	73.6	75.6	83.6	98.5
% of GDP	61.2	58.1	51.2	56.2	46.1	45.8	62.2	59.7	49.3	36.0	36.8	35.3	22.8	22.2	27.2
public sector	50.1	47.7	41.5	47.0	35.3	28.5	40.4	40.3	29.3	22.4	24.5	22.2	11.5	11.4	16.1
private sector	11.1	10.4	9.7	9.2	10.8	17.3	21.8	19.4	20.1	13.6	12.2	13.1	11.3	10.8	11.2
Debt service (bn USD)	3.2	2.8	2.9	3.2	4.7	5.6	5.1	6.6	7.3	7.0	6.9	7.4	7.5	8.7	7.1
% of GDP	6.8	5.5	4.9	5.2	5.7	5.9	6.8	7.7	5.8	3.9	3.9	3.6	2.3	2.3	2.0
% of current account receipts	25.2	18.5	16.3	16.5	14.8	11.3	11.5	14.2	12.5	9.9	10.3	9.3	6.2	6.4	6.0
Financial excesses															
Dom. credit (% of GDP)	17.8	18.0	16.5	25.8	44.0	59.9	61.4	54.8	44.6	42.4	46.4	45.1	58.6	62.5	75.0
Central government	0.5	0.7	(2.3)	0.7	11.2	11.3	11.9	10.8	15.2	14.4	15.9	15.4	13.8	15.1	22.3
Private sector	14.2	14.2	15.8	19.0	28.1	43.2	42.8	36.4	26.3	25.6	27.2	26.7	41.7	45.3	51.9
Dom. cred. (ann % chg)	23.5	13.4	(0.7)	71.0	45.1	26.4	12.5	(1.9)	4.1	11.4	14.1	8.7	15.9	8.6	10.3
Central government	129.9	15.4	(463)	(134)	515.4	3.4	14.9	0.5	3.2	13.4	15.4	8.2	9.4	16.0	35.9
Private sector	24.0	12.6	20.3	31.0	41.0	34.8	8.9	(6.7)	4.3	15.0	10.9	9.7	16.9	9.1	5.3
PSEi (ann % chg)	10.6	31.7	30.6	43.3	23.0	(16.8)	(24.5)	22.5	29.5	(23.9)	2.8	43.5	1.9	3.0	-20.9

eop = end of period; ER = exchange rate; GDP = gross domestic product; GIR = gross international reserves; GNI = gross national income; GNP = gross national product; HH = household; NPL = nonperforming loan; PHP = Philippine peso; REER = real effective exchange rate; USD = United States dollar; bn = billion; chg = change; ann = annual; dom = domestic; cons = construction; PSEi = Philippine Stock Exchange Index; NG = national government; tr = trillion

[a] For 1990 only

[p] preliminary

Note: Shaded areas refer to the 1991 recession, 1997/1998 Asian Financial Crisis, and the 2008/2009 Global Financial Crisis.

Sources: BSP, Bureau of the Treasury, and PSA websites

The country had learned much from past crises. The takeaway from the mid-1980s debt crisis was the need for a disciplined public sector. Philippine policymakers have thus imbibed the importance of maintaining fiscal health by keeping budget deficits and debt at sustainable levels. From the 1997/1998 AFC, the lesson had been the importance of having a disciplined financial sector, which was accomplished by a wave of regulatory reforms. The latter included reforms to maintain bank health and check financial excesses through asset clean-ups, better bank risk management, stronger macroprudential policies, bank capital base build-up, and more coordinated financial sector regulation. The country's monetary authorities moved toward greater exchange rate flexibility in response to the AFC but also started accumulating foreign exchange reserves to help insulate the country from another financial crisis, a tricky balancing act that they were able to pull off quite successfully.

The country thus entered this pandemic crisis with a healthy financial sector (low nonperforming loans [NPLs] and ample provisions), large foreign reserves, controlled fiscal deficits, and low public and external debt.[25] Meanwhile, a long period of macroeconomic stability helped fuel continuous high GDP growth, which, in turn, helped bring down the country's stubbornly high unemployment rate. Interestingly, this is the first crisis episode in which the country did not have to deal simultaneously with a domestic-currency freefall and high inflation.

Indeed, high external surpluses and peso appreciation had been the surprise of the pandemic recession. But as previously noted, these were simply artifacts of an unusually deep domestic and global recession, mainly resulting from a sharper collapse of imports than exports and large dollar inflows due to COVID-related financing agreements. Embedded in the current account and payments surpluses had been the much-feared weakening of remittances and business outsourcing flows, which had been resilient during the GFC.

While helpful in terms of external debt sustainability as the government scrapes together dollar loans to be able to provide

[25] Capital buffers of banks are also quite high today, with a capital adequacy ratio of 16.6 percent on a solo basis and 17.1 percent on a consolidated basis as of end-December 2020, exceeding minimum standards set by the BSP and Basel (10% and 8%, respectively).

pandemic-related spending, a strongly appreciating domestic currency runs counter to what is needed to fuel an economic recovery. It lowers the incomes of remittance-dependent households and the competitiveness of exporting firms. While not yet at an overvalued level, the direction of the exchange rate—which carries the risk of a sharp reversal—will be something the country's policymakers will eventually have to take note of as they chart the future course of the economy.

Pandemic crisis policy primer

Unlike past crises, the current one did not begin in the financial sector. The underlying cause is not excessive risk-taking by banks or other financial institutions or players. Rather, it was a highly contagious virus that forced governments to impose stringent public health measures to save human lives. Contact-intensive industries, such as those in the services sector, have had to pause their activities, thus leading to a large drop in earnings at the firm level. This resulted in a large loss of income at the household level and a collapse of GDP at the aggregate level.

The simplest way to model the COVID-19 crisis is by viewing it as a combination of a severe supply shock, with businesses forced to close by regulation or necessity, lowering potential output, and a severe demand shock, where consumers are required to or choose to stay home (Mankiw forthcoming). To come up with a correct set of policies, such an interpretation requires careful attention to which among the two shocks predominate. Applying the same set of expansionary tools meant for largely demand-based recessions, such as from financial crises, may not be a solution if supply shocks prevail and may carry inflationary risk. Conversely, policies that try to boost supply, such as a relaxation of restrictions or exemptions from liabilities (taxes or debt), may not be successful at reviving economic activity if there is generally weak demand (Baqaee and Farhi 2020).

Rationale for macroeconomic stimulus

There are compelling reasons for injecting fiscal and monetary stimulus in a pandemic recession, even while the exact mix of

shocks has not yet been fully determined. As experience has repeatedly shown, swift and strong policy action is critical in any economic crisis because of the inherent nonlinearities in behavior typically involved.

First, there is a strong argument at the outset for responding to COVID-19 as one would to a natural disaster, with ample amounts of relief spending, which naturally have fiscal stimulus elements (see Krugman 2020). This is also how the pandemic has often been viewed in recent conceptual and empirical research. Ludvigson et al. (2020), for example, interpret it as a natural disaster that functions as "an exogenous shock with potentially grave economic consequences," while Baqaee and Farhi (2020) capture the phenomenon as being a natural disaster expressed as a combination of negative supply and demand shocks.[26] Such an interpretation implies support for businesses and individuals directly affected by the disaster, ideally designed to prevent business failures and unemployment (Congressional Research Service 2020).[27]

Second, regardless of the type of shocks involved, negative spillovers to the financial system and the possibility of the crisis turning into a financial one remain as the biggest risk. The harsh impact of the pandemic has wiped out cash flows and diminished savings of firms and households, reducing their capacity to repay their loans, with adverse impacts on banks.

With heightened risk and uncertainty from deteriorating loan portfolios and not knowing who remains creditworthy, especially if the health shock persists, banks consequently become unwilling to lend, impairing the flow of credit to the real economy and starting an adverse macrofinancial feedback loop. Providing liquidity support to the financial system and some regulatory relief, therefore, helps alleviate the credit tightening.

New analytical work has focused on how the pandemic may produce financial market spillovers that magnify the effect on aggregate demand, providing an alternative framework for viewing

[26] See also Bayer et al. (2020) and Gharehgozli et al. (2020).

[27] Since the crisis is not due to any excessive behavior or misbehavior (and moral hazard is not an overriding issue), the emphasis this time is on protection, not punishment.

policy responses. Caballero and Simsek (2020), for example, generalize the impact of COVID-19 as a nonfinancial recessionary shock that nonetheless brings down risky asset prices (not only credit but also equity, real estate, and the like), reducing the wealth of owners of these assets and reducing risk tolerance of investors. This generates downward pressure on asset prices and aggregate demand.

Standard monetary policy helps in this situation by offsetting the decline in market risk tolerance, such as through an interest rate cut.[28] Moreover, nonstandard policy responses such as large-scale asset purchases also help by transferring risk to the government's balance sheet, particularly when there are constraints to conventional policy.

Third, conceptual studies closely modeling the features of the COVID-19 recession argue that supply shocks can trigger demand shortages that are even bigger than the disturbances that created them (notably, Guerrieri et al. 2020).[29] This research notes that economic shocks associated with the pandemic, such as sector shutdowns, firm closures, and worker layoffs, all have this distinct feature—the ability to generate negative changes in aggregate demand. Thus, the result of the complex combination of aggregate supply and demand shocks may still be a predominantly demand-deficient recession.

Much, however, depends on the features of the economy. The bad result is stronger when consumers are cash-constrained, markets (e.g., credit and insurance) are incomplete, and goods and services are highly complementary on account of either preferences (e.g., shutdown of restaurants leading to declining demand for nice clothes) or intersectoral linkages (e.g., a corresponding drop in demand for accounting services) (Guerrieri et al. 2020). On the other hand, it is weaker when there is high substitutability across goods and services (e.g., a strong shift to takeout food).

[28] This is modeled through the Sharpe (reward-to-volatility) ratio, where a monetary cut boosts excess returns and raises the ratio. Meanwhile, large-scale asset purchases lower the required Sharpe ratio by shifting the risk to the government.

[29] These are referred to as Keynesian supply shocks. To present their theory, Guerrieri et al. (2020) make use of a two-sector model where the high contact-intensive sector is closed. In this model, negative supply shocks can have negative demand spillovers if the intersectoral elasticity of substitution is less than the intertemporal elasticity of substitution. Keynesian supply shocks are more likely when markets are incomplete.

Whether the forces are strong enough to generate something closer to a demand-based recession needs to be determined empirically. So far, the evidence appears supportive of the analysis. Employment has contracted across different sectors in afflicted economies, while consumer price inflation has mostly weakened across subcomponents of the consumer price index. There are also signs of the initial supply shock propagating as demand shocks across a wide range of sectors, with household and firm spending and investment falling across a wide range of industries. Studies that have been able to disentangle supply and demand shocks econometrically find the latter to be important in all sectors (Brinca et al. 2020).

However, the emerging consensus in this demand-deficient setting is that fiscal policy would have greater benefits if directed more toward social insurance and protection, in line with a disaster approach, rather than traditional stimulus, which generally aims to raise aggregate demand and restore full employment. This is the prescribed direction *for as long as parts of the economy are closed*. Standard fiscal stimulus, while still desirable, is deemed less effective in a pandemic recession than in a typical recession, as a shutdown of sectors greatly reduces the fiscal spending multiplier.[30]

Guerrieri et al. (2020) highlight that an optimal policy for a pandemic would combine monetary loosening with abundant social insurance for workers in contact-intensive sectors that have been closed or where operations have been limited, such as by social distancing, for public health reasons.[31] Others have similarly placed

[30] Guerrieri et al. (2020) argued this to be so because public spending will not be able to stimulate activity in a (contact-intensive) sector that has been shut down, and money will instead flow to the open sector, where the marginal propensity to consume is presumed to be lower since finances of agents there are not as thinly stretched. The authors place the fiscal multiplier at just 1. Also, using a multisector model but with multiple factors, Baqaee and Farhi (2020) attributed the lower potency of stimulus policies (both fiscal and monetary) in a pandemic recession to possible labor tightness in some sectors, where an increase in aggregate demand is partly dissipated by an increase in wages.

[31] Benefits of monetary policy are magnified in their model, as lower interest rates help prevent businesses from failing by reducing debt payments while providing firms an incentive to hold on to their workers (i.e., because of greater weight placed on future profits).

less emphasis on traditional fiscal policies, for the time being, to be used more widely when multipliers start to function again—when the relief stage is over and recovery starts (Loayza and Pennings 2020, World Bank 2020d, and to some extent, IMF 2020b).

Policies for developing economies

While the above discussion lays out the basic elements of a pandemic recession needed to inform policymaking, not all prescriptions may be feasible for developing countries with weak systems for providing healthcare and social protection services and constrained fiscal space. Observers point to an inevitable trade-off between addressing the health consequences of COVID-19 ("flattening the infection curve") and reducing the severity of the economic outcomes through macroeconomic policy ("flattening the recession curve") (Eichenbaum et al. 2020; Gourinchas 2020). Because of limited fiscal and institutional capacity and greater vulnerability to a pandemic shock (e.g., higher dependence on remittances and services like tourism and a large proportion of informal workers), the trade-off is harsher for developing economies.

The ideal solution logically is to soften the trade-off early on through prompt containment efforts and widespread testing and tracing. Where the opportunity for this has already passed, and when infection risk is not at its peak, an alternative to blanket lockdowns, which cause deep recessions, is to undertake more targeted policies that differ across risk and/or age groups, alongside optimal social distancing and increased testing and isolation of the infected to improve social outcomes, as outlined in Acemoglu et al. (2020). Alon et al. (2020) suggest a similar approach particularly for developing countries, which have younger populations and more hand-to-mouth households, apart from having weaker public health infrastructure, less fiscal capacity, and a larger informal sector.

Given scarce fiscal resources, it is even more important to delineate relief from the recovery phases of the pandemic crisis, as each corresponds to a different set of macroeconomic policy measures. As discussed earlier, a reasonable set of responses would be the provision of targeted relief in the first phase and measures to jumpstart recovery in the second.

In a macroeconomic policy primer for developing countries prepared by Loayza and Pennings (2020), they similarly propose, based on the literature, the following measures for the relief phase: greater spending directed toward building public healthcare capacity; support for affected workers (in the form of unemployment and leave benefits for those in the formal sector), poor households (through targeted cash transfers), and affected businesses (through wage subsidies, temporary tax cuts, moratorium on debt payments, and credit lines); and liquidity support to relieve stress in the financial system (e.g., through policy rate cuts, reduction of reserve requirements, and longer maturities on the discount window).

For the recovery phase, they recommend a switch from crisis management to macroeconomic stimulus to help the economy regain its pre-crisis output growth path. However, they raise caveats on the efficacy of monetary and fiscal policies in developing countries, particularly low-income countries, on account of weak monetary transmission and low fiscal multipliers (range of zero to one), respectively. Alternative goals could be avoidance of procyclicality in the economy; continued provision of public goods and services, including health care; and macroeconomic stability.

So long as there is uncertainty about the path of the COVID-19 pandemic and unsettled issues regarding vaccine rollout and distribution, there will likely be no clear line between the relief and recovery stages of the economic crisis in the near or even medium term. This would mean a delicate balance for policymakers, as both sets of measures will probably have to be in play. A sensible goal of economic policy in the meantime would be to continue to alleviate the harsh effects of the pandemic on vulnerable populations while preventing the amplification of shocks across different sectors (Chang 2020).

Brunnermeier and Krishnamurthy (2020) noted that, in contrast to the GFC, shock amplification in the COVID-19 crisis will most likely be through corporate sector balance sheets, triggered by sharp reductions in the cash flow of firms. Therefore, unlike in previous recessions, policy should focus on the survival of viable firms. They advocate a pause (rather than bankruptcy) for small and

medium-sized enterprises (SMEs), which are less able than larger firms to weather a liquidity shortfall, through ample provision by the central bank of low-cost refinancing for rolled-over loans to stabilize existing businesses. In contrast to previous policies, the goal would be to "evergreen" the SME loans until the pandemic is over.

Didier et al. (2020) similarly talked about how government can work with the country's financial sector to keep firms afloat while the economy enters a period of "hibernation" in a pandemic. The aim would be to prevent inefficient bankruptcies, which could destroy established relationships of firms with their workers and supply chains and lower productivity in the longer run. This would require policy interventions to sustain financing mainly by adjusting the institutional framework (e.g., allowing forbearance for borrowers and avoiding unwarranted increases in borrowing costs) and providing credit to firms. The latter may be through standard monetary policies such as a lowering of interest rates and the extension of liquidity to banks with added incentives to lend to the real economy.

However, such policies might have limited success, given continued public health restrictions, high uncertainty, and heightened credit risk of firms. Thus, some countries have adopted alternative approaches where government absorbs some of the risks in credit provision to ensure that firms have enough resources during hibernation. These include capitalization of state-owned banks, scale-up of credit guarantee programs, and large-scale purchases of portfolios of loans.

These measures have largely been directed towards SMEs, which have few funding sources apart from retained earnings and bank financing and have less bargaining power with creditors. Since they transfer credit risk to the government, Didier et al. (2020) recommend designing them in such a way as to minimize the cost to public resources. This could be achieved, for instance, by allowing sufficient risk diversification (across industries and firms) and setting up the right incentives for both lenders and borrowers.

Government's macroeconomic response to the COVID-19 crisis

This section summarizes the country's monetary and fiscal responses to the COVID-19 pandemic and the government's macro blueprint for economic recovery. Overall, reaction times of policymakers have been rather quick, while measures applied mostly adhered to the emerging consensus about the best policy approach to a pandemic recession.

Monetary policy response

The BSP had responded quickly to COVID-19, mentioning its spread among the reasons it gave for cutting key policy rates (by 25 basis points [bps] or a quarter of a percentage point) as early as February (BSP 2020e). The move was supposedly preemptive, designed to boost confidence in financial markets by preventing negative global spillovers (Diokno 2020). A series of policy rate cuts eventually followed, including three consecutive half-percentage point reductions (150 bps), from the start of the ECQs in the middle of March 2020 until around end-June, after the lockdowns were already lifted (Figure 22).

The measures were meant to "cushion the country's growth momentum", "uplift market confidence amid stronger headwinds", and "mitigate the risk of financial sector volatility in light of unfolding global developments by ensuring adequate domestic liquidity and credit in the financial system as well as lowering borrowing costs for affected firms and households" (BSP 2020f). Another downward policy rate adjustment was made in November (by 25 bps) on account of continued uncertainty because of a resurgence of COVID-19 cases globally and still muted business and household sentiment.

The country's monetary authority launched a variety of measures apart from short-term interest rate cuts. These were grouped into actions that provide relief to borrowers and financial institutions, encourage lending, promote access to financial services, support continued delivery of these services, and offer further backstops for domestic liquidity and economic activity (BSP 2020g; see also Glindro et al. 2020).

Figure 22. BSP's monetary policy responses

Liquidity Support

- **Policy rates cut:**
  - » Key policy rate lowered 5 times in 2020, by 200 bps total (to overnight RRP rate = 2 percent)
  - » On Feb 6 (25 bps), Mar 19 (50 bps), Apr 16 (50 bps, off-cycle), Jun 25 (50 bps), Nov 19 (25 bps)
- **Reserve requirements ratio cuts:**
  - » BSP Governor authorized by MB to cut the RRR by up to 400 bps in 2020 (Mar 23)
  - » RRR lowered by 200 bps to 12 percent for U/KBs (Mar 24, effective Apr 13)
  - » RRR lowered by 100 bps for thrift and rural/cooperative banks to 3 percent and 2 percent, respectively (Jul 21, effective Jul 31)
- **Other measures include:**
  - » Temporarily suspended TDF auctions for certain tenors (Mar 17)
  - » Temporarily reduced the term spread on peso rediscounting loans relative to the overnight lending rate to zero (Mar 19)
  - » Opened daily 1-hour window for purchases of highly traded and liquid government securities in the secondary market (Mar 24)
  - » Expanded range of eligible GS for purchase to cover all peso-denominated GS in the secondary market and reduced the daily overnight RRP volume offering (Apr 8)

Regulatory Relief

- Regulatory relief granted to banks whose clients were affected by the Asian swine fever and COVID-19 (Feb 26)
- Temporary relaxation of BSP rules on compliance reporting by banks, calculation of penalties on required reserves, and SBLs (Mar 19)
- Relaxation of documentary and reporting rules for FX operations of banks (Mar 27)
- Prudential accounting relief measures to reduce the impact of market-to-market losses on the financial condition of BSP-supervised financial institutions (Apr 8)
- Temporary relaxation of the borrowing limit of pawnshops from 50 percent to 70 percent until December 2021 (Jun 18)
- Further easing of regulatory requirements on bank operations until March 2021, including temporarily easing the SBL from 25 percent to 30 percent (Jul 21)
- Exemption of debt securities acquired as a result of market-making activities of BSP-supervised financial institutions from the SBL (Jul 22)
- Increase in the limit on U/KBs' real estate loans from 20 percent to 25 percent (Aug 20)
- Regulatory relief granted to branches of foreign banks by suspending sanctions for breach of SBL (Dec 29)

MSME-related lending support

- Loans to MSMEs permitted to be counted as part of banks' compliance with reserve requirements (Apr 16)
- Relaxation of regulatory capital treatment of banks' exposures to MSMEs (May 5):
  - » Temporary reduction in the credit risk weights of loans granted to MSMEs that are current in status from 75 percent (diversified MSME portfolio with at least 500 borrowers) and 100 percent (non-diversified MSMEs portfolio) to 50 percent (subject to review by end-December 2021)
  - » Assignment of a zero-percent risk weight for MSME loans that are covered by guarantees (by the Philippine Guarantee Corp. and also by the Agricultural Guarantee Fund Pool and the Agricultural Credit Policy Council) as a complement to NG programs that support financing to small farmers and fisherfolk
  - » Deferred implementation of the revised risk-based capital framework for thrift banks and rural/cooperative banks which cater to MSMEs and clients in rural communities (to take effect in January 2023 instead of January 2022)

NG Support/Others

- **NG Support:**
  - » BSP's PHP 20 billion remittance of advanced dividend to the NG even though it was no longer required to make dividend payments to the government under the newly amended BSP charter (Mar 2, Mar 26)
  - » MB approval of PHP 300 billion 6-month repurchase agreement with the National Treasury (Mar 23)
  - » Short-term (3-month) provisional advances to NG amounting to PHP 540 billion after the RRP agreement was fully settled in September (Oct 1)
  - » Extension of PHP 540 billion provisional advances to NG for another 3 months (Dec 28)
- **Others:**
  - » Relaxation of KYC requirements to facilitate access to financial services (Apr 1)
  - » Suspension of fees related to digital financial services (such as through online banking facilities and electronic money platforms) as added relief to BSP-supervised financial institutions affected by COVID-19 (Apr 28)
  - » Ceiling set on credit cards charges (Sep 25, effective Nov 3)

bps = basis points; BSP = *Bangko Sentral ng Pilipinas*; KYC = know-your-customer; MB = Monetary Board; NG = national government; RRR = reserve requirement ratio; RRP = reverse repurchase; SBL = single borrower's limit; TDF = term deposit facility; UKBs = universal and commercial banks; PHP = Philippine peso
Source: BSP (various years); International Monetary Fund (2020)

Figure 22 alternatively organizes some of the more salient measures based on the previous subsection's discussion of the conceptual underpinnings of a pandemic crisis and suitable policy responses to such a crisis. The first group (Column 1 of Figure 22) includes those that help raise liquidity and improve credit flow and market risk perception, including policy rate and reserve requirement ratio cuts and less traditional actions, such as temporarily suspending auctions for the BSP's term deposit facility (TDF) for certain tenors, temporarily reducing the spread on peso rediscounting loans (i.e., the BSP's peso rediscount rate less the overnight lending rate) to zero, opening up a daily 1-hour window for purchasing liquid government securities in the secondary market (and widening the range of eligible securities that may be purchased), and scaling down BSP's daily overnight reverse repurchase (RRP) volume offering.

The second group (Column 2 of Figure 22) comprises measures that allow for some regulatory relief in a crisis, especially one that is due to an exogenous public health disturbance rather than excessive financial risk-taking. Granting temporary relief for banks and quasi banks during calamities in order to aid recovery had already been institutionalized by the BSP through a circular issued in 2018, which allowed coverage to be extended to public health disturbances.[32] Such relief was thus given in February 2020 to financial intermediaries exposed to borrowers, industries, and sectors severely affected by the Asian swine fever and COVID-19.

The range of regulatory relief widened after the public health crisis worsened and mobility restrictions had to be imposed. Ultimately, however, the aim was still to sustain credit flow in the economy. Additional measures included temporary relaxation of documentary and reporting rules, single borrower limits, and macroprudential limits on property loans and prudential accounting relief.

Meanwhile, the third group (Column 3 of Figure 22) encompasses the measures designed to encourage lending to MSMEs,

[32] This refers to BSP Circular 1071 on the Adoption of Policy Framework on the Grant of Regulatory Relief to Banks/Quasi-Banks Affected by Calamities, dated October 10, 2018. Relief measures that may be granted temporarily include staggered booking of allowance for credit losses, nonimposition of penalties on legal reserve deficiencies, and nonrecognition of certain defaulted accounts as past due.

which are the least able to withstand a liquidity shock. As mentioned earlier, the finances of many of the smaller firms remained shaky, and very few had enough working capital. Most relied on internal financing, and only about a tenth considered applying for bank credit. Monetary policy responses in this group include a temporary reduction in credit risk weights attached to MSME loans to just 50 percent and a risk weighting of zero for MSME loans covered by credit guarantees provided by the government (through the Philippine Guarantee Corporation, Agricultural Guarantee Fund Pool, and Agricultural Credit Policy Council).

The fourth group (Column 4 of Figure 22) lists the actions of the central bank to aid the national government (NG) and also the miscellaneous responses meant to increase access of individuals to basic government and financial services, especially digital services, and to lessen the financial burden of households. Initial NG support came in the form of a short-term (maximum of 6 months) PHP 300-billion lending arrangement between the BSP and the National Treasury "to further support the Filipino people during the COVID-19 pandemic" (BSP 2020d) and remittances of advance dividends worth PHP 20 billion meant to "further support the government in its fight against…COVID-19" (BSP 2020b). After the former transaction was settled, the BSP committed PHP 540 billion worth of 3-month provisional advances to the government in October 2020, which was extended for another 3 months by the end of December, as allowed by its charter.

The Bayanihan I, signed on March 24, 2020, and the Bayanihan II (RA 11494 or Bayanihan to Recover as One Act), signed on September 11, 2020, also included provisions that form part of the country's monetary response to the pandemic. The government's forbearance policies were mostly embedded in these laws.

For example, Bayanihan I provided for a 30-day mandatory grace period for the payment of loans (i.e., a moratorium on interest payments, penalties, fees, and other charges), including credit card payments, that fell due within the ECQ period.[33] Subsequently, Bayanihan II allowed

[33] This provision cannot be waived and covers all loans—including but not limited to salary, personal, housing, and motor vehicle loans and credit card payments—by all banks, quasi banks, financing companies, lending companies, and other financial institutions, public and private, including the Government Service Insurance System, SSS, and the Home Development Mutual Fund (Pag-IBIG Fund). The law expired on June 24, 2020.

for a 60-day mandatory grace period for all loans that fell due until the end of 2020.[34] The law also granted regulatory relief to banks and nonbank financial institutions opting to extend or restructure their loans.[35] It notably allowed exemptions of these loans from NPL reports.

Bayanihan II likewise encouraged the BSP and the Securities and Exchange Commission to temporarily relax regulatory and statutory restrictions and requirements to encourage banks and other financial institutions to lend or offer other forms of financial accommodation.[36] This was intended to help businesses recover from the COVID-19 crisis and enable banks to manage their risks better.

Notably, Bayanihan II allowed the BSP to provide greater national government support through further provisional advances equivalent to 10 percent of the government's average income from fiscal years 2017 to 2019 (about PHP 280 billion). This source of funding could be tapped within 2 years from the effectivity of the law, had a longer term of 1 year (versus 3 months in the central bank's charter), and could be extended for another year. However, it could only finance authorized spending that addresses and responds to COVID-19.

Overall, the country has been able to put together an appropriate set of monetary responses to the pandemic, based on the conceptual framework provided. Ample liquidity has helped relieve market stress and avert financial instability, while regulatory relief has lessened the pressure on financial institutions facing radical uncertainty due to the public health shock. Policymakers have also correctly focused on MSMEs and households, which are the ones reeling from the adverse effects of the pandemic and may well be the largest amplifier of the crisis if no support is provided.

[34] This covered loans and payments included in Bayanihan I and additionally mentions commercial loans, amortizations, financial lease payments, and premium payments. The provision also mentions real estate developers, insurance companies providing life insurance policies, preneed companies, entities providing in-house financing for purchased goods and properties, and asset and liabilities management companies. Regulatory relief does not apply to interbank loans and bank borrowings.

[35] This included staggered booking of allowance for credit losses, exemption from loan-loss provisioning, exemption from limits on real estate loans (when applicable), exemption from related party transaction restrictions, and noninclusion in the bank's or nonbank financial institution's reporting on NPLs. The law has been extended until June 30, 2021.

[36] Such relaxation was allowed for a period of not more than 1 year from the effectivity date.

Fiscal policy response

Considering that changes in public spending had to be ratified by Congress, the fiscal response to the COVID-19 pandemic had also been quite swift. The Philippine Senate and the House of Representatives were able to produce Bayanihan I immediately after Luzon was first placed under ECQ, with the bill signed into law after 8 days, on March 24, 2020. Bayanihan I gave the President of the Philippines temporary emergency powers to deal with the pandemic, including the power to alter the national budget.[37]

The Philippine government dealt with the pandemic as one would a natural disaster, with the President declaring a state of calamity a week after it declared a public health emergency upon clear signs of local transmission of the virus.[38] The fiscal policy response correspondingly focused on addressing the public health crisis and providing relief to affected sectors in the initial stages (see Panel 1, Figure 23).

Apart from allowing a stronger health-related response to the pandemic, Bayanihan I notably provided for the government's Social Amelioration Program (SAP), which aimed to provide cash subsidies of between PHP 5,000 to PHP 8,000 a month, for two months, to low-income households.[39] About PHP 211.4 billion was allotted to the program in 2020, equivalent to around 1.1 percent of GDP (DBM 2020b).

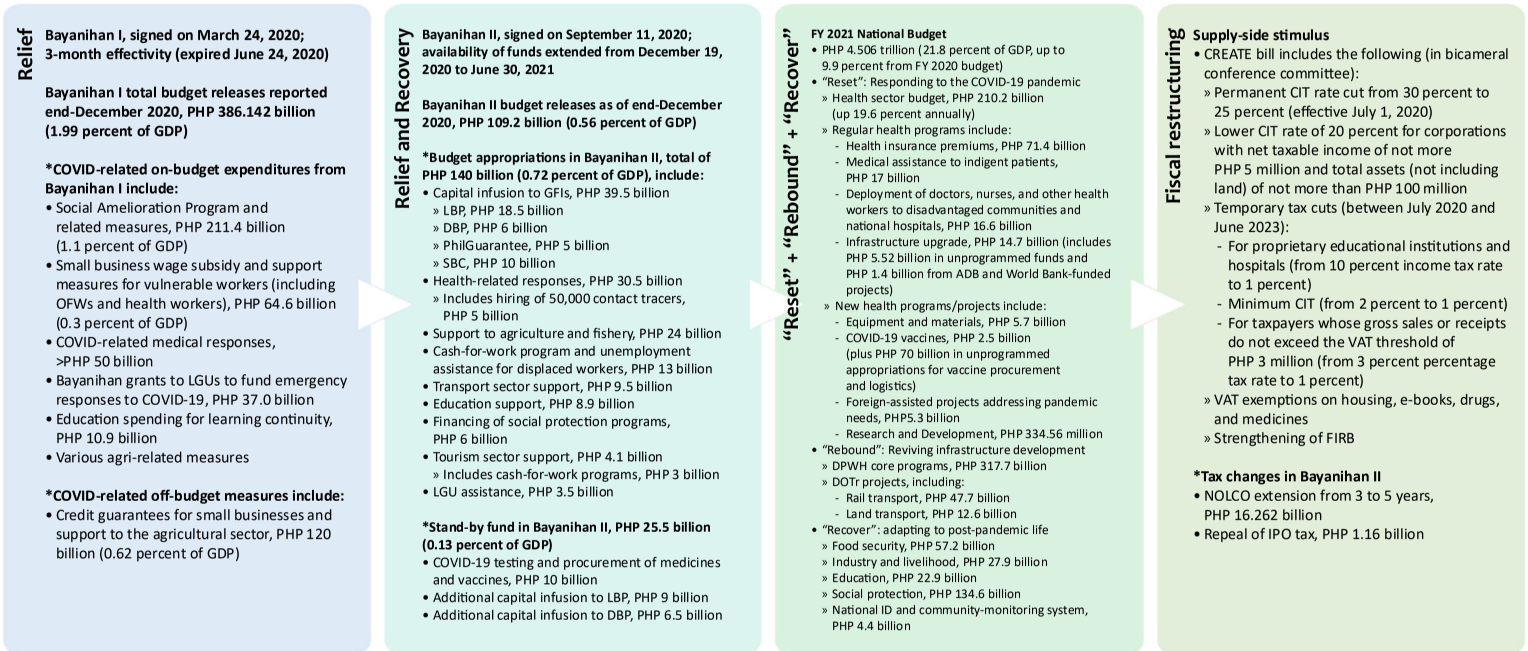
The law also incorporated a wage subsidy for small businesses and support measures for workers, especially those disadvantaged and displaced by the pandemic, including OFWs (nearly PHP 65 billion); greater spending for learning continuity

[37] Under Bayanihan I, funds for the government's COVID-19 response may be obtained from (i) discontinuance of programs, projects, and activities of any agency of the executive department, including government-owned or controlled corporations (GOCCs)—released or not, the allotments for which remain unobligated—in the fiscal years (FYs) 2019 and 2020 General Appropriations Act (GAA); (ii) any unutilized or unreleased balances in a special purpose fund as of the date of declaration of a state of emergency; (iii) savings on other items of appropriations in the FY 2020 GAA in the executive department; and (iv) cash, funds, and investments—including unutilized or unreleased subsidies and transfers—held by any GOCC or national government agency.

[38] See Proclamation numbers 922 and 929 issued on March 8 and 16 of 2020, respectively.

[39] Under Bayanihan I, the President is authorized to provide an emergency subsidy for 18 million low-income households in the Philippines. Given the current population count, this already covers about 80 percent of households in the country.

Figure 23. Fiscal responses



CIT = corporate income tax; CREATE = Corporate Recovery and Tax Incentives for Enterprises; DBP = Development Bank of the Philippines; FIRB = Fiscal Incentives Review Board; FIST = Financial Institutions Strategic Transfer; FY = fiscal year; GDP = gross domestic product; GFIs = government financial institutions; GUIDE = Government Financial Institutions Unified Incentives to Distressed Enterprises for Economic Recovery; IPO = initial public offering; LBP = Land Bank of the Philippines; LGUs = local government units; NOLCO = net operating loss carryover; NPAs = nonperforming assets; OFWs = overseas Filipino workers; PHP = Philippine peso; SBC = Small Business Corp; VAT = value added tax
Source: DBM (n.d.); DOF (n.d.)

in basic education (about PHP 11 billion); support for agriculture through diverse programs; and some regulatory relief (e.g., delay in statutory deadlines for payment of taxes and related fees and charges).[40] The government also offered off-budget support to MSMEs and agriculture in the form of credit guarantees worth a total of PHP 120 billion. All in all, the fiscal package amounted to PHP 506.1 billion during the emergency relief stage, or about 2.6 percent of GDP.

Bayanihan II included more fiscal stimulus measures to smoothen economic recovery (Panel 2, Figure 23). It allowed the President to continue managing the national budget to address the public health emergency and maintain some of the social protection and regulatory relief features of Bayanihan I (e.g., cash subsidies and various payment moratoriums), alleviating some of the uncertainty. It provided for another fiscal package worth up to PHP 165.5 billion (0.9% of GDP), consisting of PHP 140 billion in supplemental spending for 2020 and a PHP 25.5-billion standby fund that can only be used if additional funds can be generated from savings or unused amounts.

The bulk of the fiscal package comprised capital infusion into government financial institutions (GFIs): Land Bank of the Philippines (LBP), Development Bank of the Philippines (DBP), PhilGuarantee, and Small Business Corporation (SBCorp). A total of PHP 24.5 billion in new equity had been earmarked to support wholesale lending of LBP and DBP—with an additional PHP 15.5 billion included in the standby fund—and to allow them to offer low-interest-rate loans to individuals and entities in COVID-stricken industries. Meanwhile, PHP 5 billion had been apportioned to the credit guarantee program of PhilGuarantee and PHP 10 billion to support the low-interest-rate lending program of the Small Business Corporation (SBCorp).[41]

[40] Bayanihan I also granted a 30-day grace period on residential rents falling due within the ECQ period (i.e., no penalties, fees, or interest charges).

[41] The PHP 10-billion fund has been used to expand SBCorp's credit programs, particularly the COVID-19 Assistance to Restart Enterprises lending program, which caters to sectors heavily affected by the pandemic—MSMEs, cooperatives, hospitals, the tourism industry, and OFWs.

Bayanihan II also offered support to sectors severely affected by the pandemic, such as transport (PHP 9.5 billion) and tourism (PHP 4.1 billion), and the disadvantaged in agriculture and fishery (PHP 24 billion) to also raise productivity and ensure food security.[42] It had more traditional job-creating stimulus features than Bayanihan I, such as in the form of cash-for-work programs (>PHP 13 billion) and the hiring of contract tracers to help contain the COVID-19 virus (PHP 5 billion).

Further, Bayanihan II sought to accelerate infrastructure growth by providing a 1-year period of fast-track development, during which permits and licenses would be waived and processing time for requirements significantly shortened. Similarly, regulatory relief was to be provided for private projects considered nationally significant, with high economic returns, or with high employment potential. The law also offered more tax relief, particularly by allowing losses during 2020 and 2021 to be carried over as deductions from taxable income for the next 5 years (and not just 3 years as was originally allowed by law).

As of end-2020, only PHP 109.2 billion of the PHP 140-billion allocation had been released, but the availability of these funds and the remainder of the 2020 national budget has been extended (until end-June and end-December of 2021, respectively).[43] The country's economic managers estimate the total of these funds to amount to PHP 195.3 billion (about 1% of GDP), providing further fiscal stimulus in the coming months apart from key elements of the PHP4.506-trillion 2021 national budget.[44] The latter had supposedly been designed so that the economy could "reset, rebound, and recover"

[42] Support to the transport sector comprised PHP 2.6 billion to assist critically impacted businesses, PHP 5.6 billion for temporary livelihood programs for displaced workers, and PHP 1.3 billion to develop sidewalks and bicycle lanes and procure bicycles and related equipment. Tourism sector support included PHP 3 billion for cash-for-work programs and PHP 1 billion for tourism road infrastructure programs of the government. Agriculture and fishery sector support included cash and loan interest rate subsidies and other forms of assistance to qualified enterprises, farmers, fisherfolk, and cooperatives to ensure food security and raise productivity in the sector (including greater accessibility through farm-to-market roads).

[43] See Proclamations 11519 and 11520 issued on December 29, 2020.

[44] This is based on a Joint Statement of the Duterte Administration's Economic Managers issued on November 10, 2020, along with the release of the fourth-quarter national income accounts statistics. See NEDA (2021).

(see Panel 3, Figure 23). Around PHP 1.1 trillion had reportedly been allocated to infrastructure projects in the 2021 budget, possibly creating around 1.7 million new jobs during the year.

Yet, the country's economic managers place tax cuts under the Corporate Recovery and Tax Incentives for Enterprises (CREATE) bill at the center of their fiscal stimulus package, touting it as "the largest stimulus package for businesses in the country's history."[45] The CREATE bill proposes to cut corporate income taxes from 30 to 25 percent, and further to 20 percent for smaller corporations with lower net taxable income (see Figure 23, Panel 4, for the details). It has already been finalized by the bicameral conference committee composed of members of each House of Congress and is now awaiting the President's signature.[46] The country's economic leaders believe the change in tax structure will benefit MSMEs, which comprise the majority of businesses in the country.

Like the monetary response, the fiscal response of the country, except for the permanent tax cuts, has pretty much followed the accepted playbook, with proper sequencing of measures based on the literature and prevailing wisdom. Fiscal authorities have focused on providing relief to workers, households, and businesses at the height of the pandemic in 2020 through Bayanihan I, with a more targeted approach under Bayanihan II later in the year, and more stimulus elements in the national budget geared toward recovery as the economy gradually reopens. There has also been a conscientious effort to be responsive to the needs of households and firms—mainly cash transfers or grants, payments relief (e.g., from taxes, loans, rents, and utilities), and tax exemptions or reductions—paying special attention to the surveys conducted, by multilateral lending institutions as well as the government's own.

[45] The Department of Finance (DOF) estimates foregone revenues from CREATE to amount to PHP 251 billion in the next 2 years (PHP 133.2 billion in 2021 and PHP 117.6 billion in 2022) if the bill is implemented retroactively to July 2020.

[46] The bill was eventually signed into law on March 26, 2021.

Reviewing the monetary-fiscal policy combination

Before reviewing issues surrounding the current macro policy combination, important parameters of the discussion must be mentioned. First, it must be emphasized that the crisis, while spreading across the economy, is still essentially a public health crisis. This being so, there should be no debate about the need for a strong public health response for a robust economic recovery to take hold. It would naturally be easier to chart a path out of a recession if an end to the virus was clearly within view. Such underscores, at this stage, the need for a well-designed and well-communicated vaccination program for the country, one that has ample funding and clear timelines.

Second, there should also be little argument about the importance of macro fundamentals, even if these had been powerless to prevent a recession in a pandemic when economic activity had to be put to a virtual halt to prevent contagion. Initially healthy balance sheets and high savings of private firms from years of continuous GDP growth, a healthy fiscal position of the government, and managed inflation certainly go a long way in helping to weaken the amplification and propagation channels in an economic crisis.

Indeed, as mentioned earlier, in countries where monetary and fiscal policy transmission mechanisms may be weak, surrogate goals in a recovery include continued public goods delivery, particularly health care, and sustained macroeconomic stability. These go hand in hand with the prevention of procyclical behavior within the economy to prevent a downward spiral, as pulling away from economic activity due to uncertainty further weakens aggregate demand.

Arriving at the best policy mix for the country moving forward in this pandemic crisis requires looking at how the current combination has worked so far. There are both strengths and weaknesses.

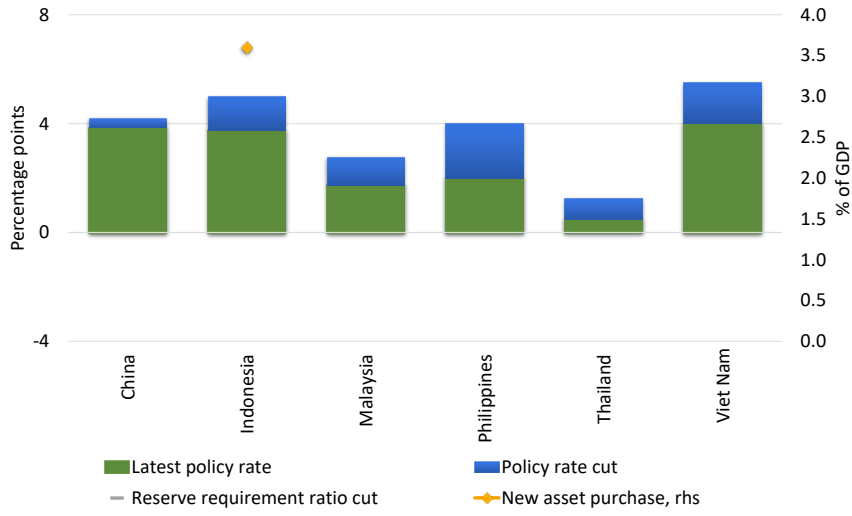
The previous section already narrated the monetary and fiscal policy responses of the Philippine government and how they have largely followed the recommended strategy and sequencing for developing economies based on the literature. Quick action to loosen financial conditions helped avert financial disruption, while earnest

effort to provide relief to the most vulnerable in society helped lessen the pain caused by the pandemic.

Even the novel monetary-fiscal policy measure, originally through a PHP 300-billion repurchase agreement between the national government and the central bank, had been well received. Asset purchase programs of emerging market economies have since been considered a "game changer", as they lowered financial-sector risk and gave country leaders enough breathing room to address the public health crisis (IMF 2020a). They have notably helped sustain bond prices—and keep down yields—without triggering excessive domestic currency depreciation as expected in such economies.

There is wide agreement that policy responses of Philippine monetary authorities during the pandemic had been more than sufficient and quite aggressive compared to policy moves of Asian neighbors (Figure 24). While the concurrent fiscal actions have not

Figure 24. Monetary policy responses of Asian economies

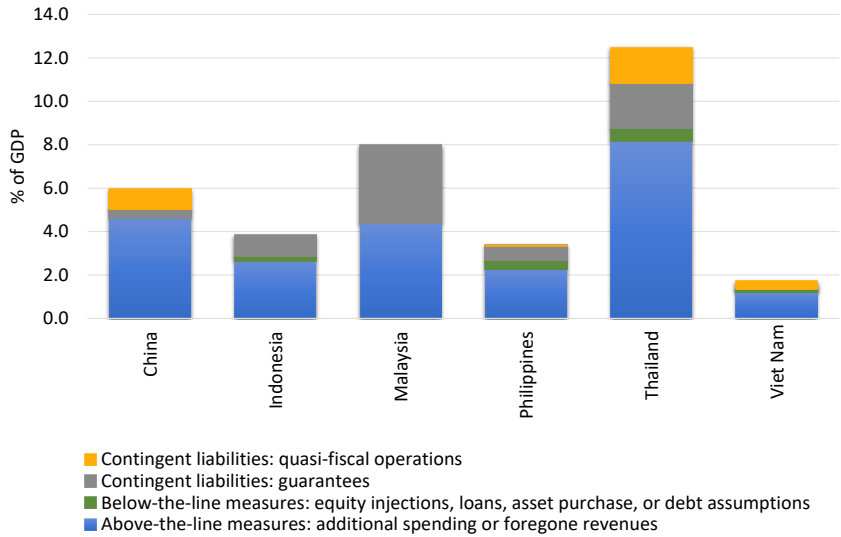


GDP = gross domestic product; rhs = right-hand side
Sources: World Bank (2020d); The Global Economy (2020b)

been as prominent as those of other developing Asian economies (Figure 25), the country's fiscal authorities have been able, thus far, to meet their goal of maintaining a sturdy image of fiscal responsibility and fundamental economic strength. This has allowed the country to keep its sovereign credit ratings despite large output contractions during the pandemic (Table 4) and to continue benefiting from favorable interest rates on its debt.

Yet, the struggle to contain the COVID-19 virus and prolonged mobility restrictions have been making it increasingly hard for the country's policymakers to continue the difficult balance of trying to protect the vulnerable and disadvantaged, fortify the economy, and conserve fiscal resources to ensure the country's needs may be met even with a long-drawn-out pandemic. This becomes clear when one looks at the limitations of each set of policy responses.

Figure 25. Fiscal policy responses of Asian economies



GDP = gross domestic product
Source: IMF (2020a)

Table 4. Philippine credit ratings

	Rating	Action	Outlook		Rating	Action	Outlook		Rating	Action	Outlook
Fitch				**Moody's**				**S&P**			
2003M6	BB	↓	Stable	1995M5	Ba2	↑		1995M5	BB	↑	Positive
2011M6	BB+	↑	Stable	1997M5	Ba1	↑		1997M2	BB+	↑	Positive
2013M3	BBB-	↑	Stable	2004M1	Ba2	↓	Negative	2003M4	BB	↓	Stable
2017M12	BBB	↑	Stable	2005M2	B1	↓	Stable	2005M1	BB-	↓	Stable
2018-19	BBB		Stable	2009M7	Ba3	↑	Stable	2010M11	BB	↑	Stable
2020M1	BBB		DEV	2011M6	Ba2	↑	Stable	2012M7	BB+	↑	Stable
2020M1	BBB		Stable	2012M10	Ba1	↑	Stable	2013M5	BBB-	↑	Stable
2020M2	BBB		Positive	2013M10	Baa3	↑	Positive	2014M5	BBB	↑	Stable
2020M5	BBB		Stable	2014M12	Baa2	↑	Stable	2019M4	BBB+	↑	Stable
2021M1	BBB		Stable	2017-19	Baa2		Stable	2019M8	BBB+		DEV
				2020M1	Baa2		DEV	2020M1	BBB+		DEV
				2020M5	Baa2		DEV				
				2020M7	Baa2		Stable				
				2020M12	Baa2		Stable				

DEV = developing; ↑ = upgrade; ↓ = downgrade
Source: The Global Economy (2020a)

Pushing on a string?

The central bank's strong monetary response helped alleviate initial financial stress, but this has not been able to spur bank lending on a wide scale. Production loan growth slowed from 8.6 percent in the first quarter of 2020 to zero percent by December despite the liquidity support provided (Figure 26). Meanwhile, consumer loan growth slowed from 15.5 percent to 2.3 percent, as motor vehicle loans started to drop beginning September.[47]

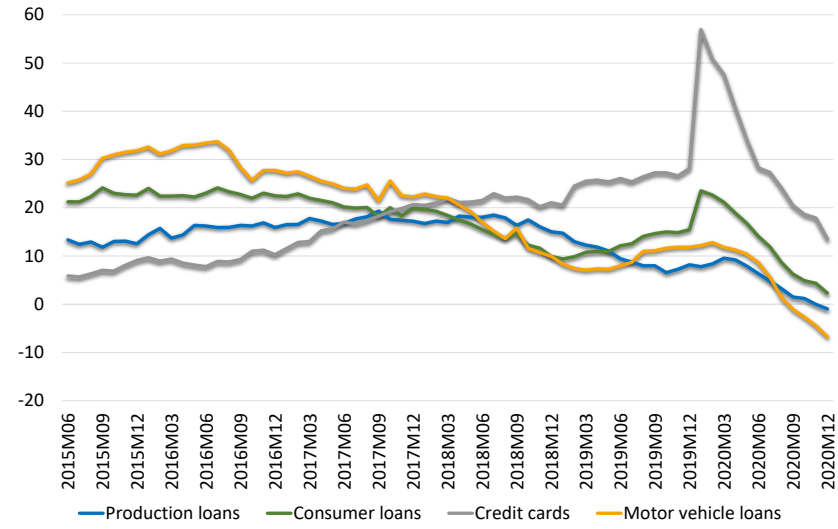
One important reason for the generally slow credit growth is that, despite aggressive monetary loosening, financial conditions for some time remained tight. For instance, an index that summarizes a wide array of financial indicators (Figure 27) shows that despite the level of liquidity, stress, and risk in the financial system improving in April 2020 after collapsing in March, it began to worsen again around August (Debuque-Gonzales 2020a, 2020b). This finding is supported by the BSP's survey of senior bank loan officers, who reported a tightening of credit standards for loans to enterprises (especially MSMEs) and households (especially for credit card loans) in the second quarter of 2020 (Figure 28). Although financial conditions normalized in the subsequent period, bank credit conditions still failed to ease.

The BSP estimates that a total of PHP 1.9 trillion (9.6% of GDP)[48] was injected into the financial system by mid-October 2020, but around PHP 1.5 trillion or greater has been lodged in its liquidity management facilities since June 2020 (Figure 29). Although the BSP temporarily suspended TDF auctions and scaled-down RRP volume offerings to support liquidity at the height of the pandemic, draining those facilities during that period, financial institutions still inundated the remaining (overnight) deposit facility of the central bank with their excess cash.

[47] Growth in credit card debt followed the same trend but remained high, at 13.5 percent, making it a possible exception. There was also some indication that incentives given for lending to smaller businesses gained traction. Preliminary data from the BSP showed a significant increase in MSME loans, from PHP 8.7 billion in April 2020 to PHP 162.8 billion by end-December, accounting for nearly 12 percent of the total required reserves.

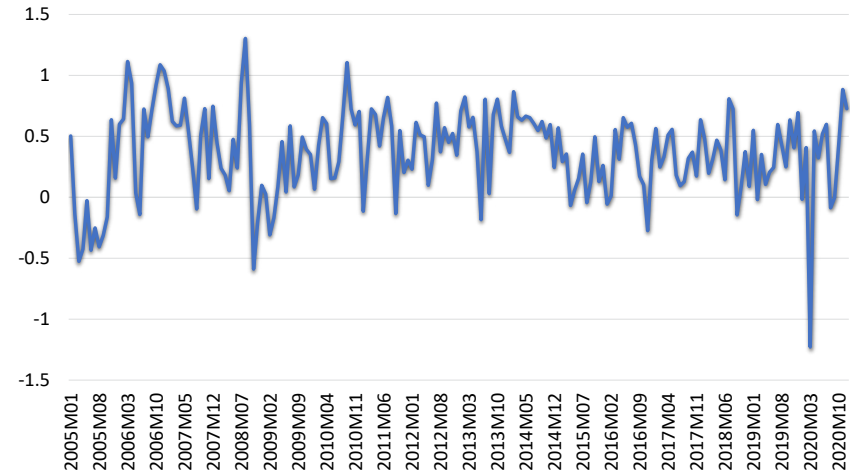
[48] According to the October 2020 issue of the Global Financial Stability Report, the asset purchase program amounted to 7.3 percent of GDP, consisting of secondary market purchases intended to stabilize the bond market and PHP 540 billion in advances to government (about 3% of GDP) to finance the budget deficit. The latter replaced the earlier PHP 300-billion repurchase agreement.

Figure 26. Production and consumer loans, Philippine banking system



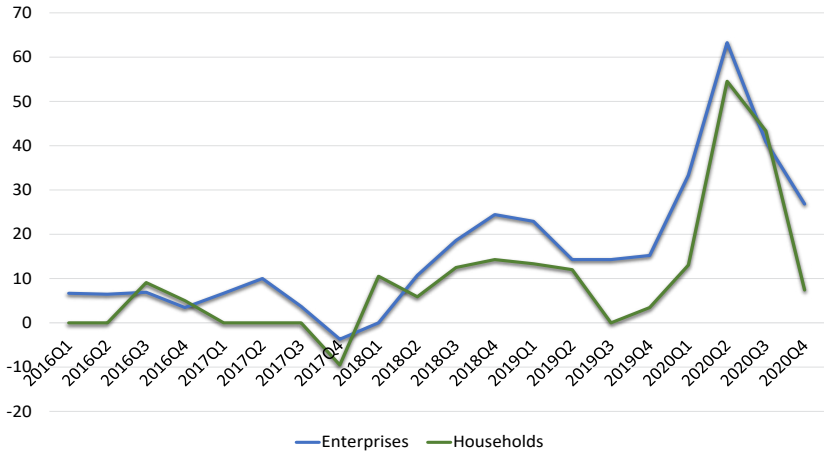
Source: BSP (various years)

Figure 27. Financial conditions index, Philippines



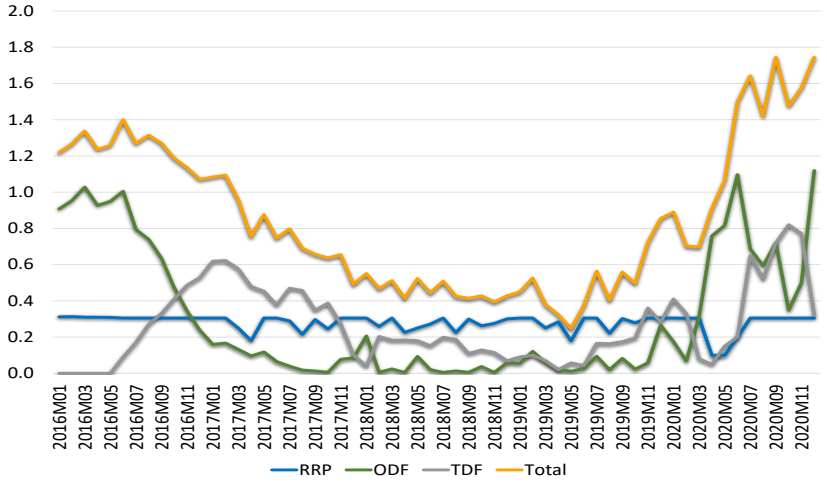
Note: A value of 0 means financial conditions are at average levels of liquidity, stress, and risk, consistent with real activity and inflation levels. A value of -1 suggests worse financial conditions than the average historically by 1 standard deviation; the reverse holds for a value of 1.
Source: Debuque-Gonzales (2020a)

Figure 28. Senior Bank Loan Officers' Survey on credit standards



Note: A positive diffusion index indicates "net tightening" of credit standards (i.e., more banks tightening than easing), while a negative index indicates "net easing".
Source: BSP (various years)

Figure 29. BSP's reverse repurchase and deposit facilities (PHP trillions)

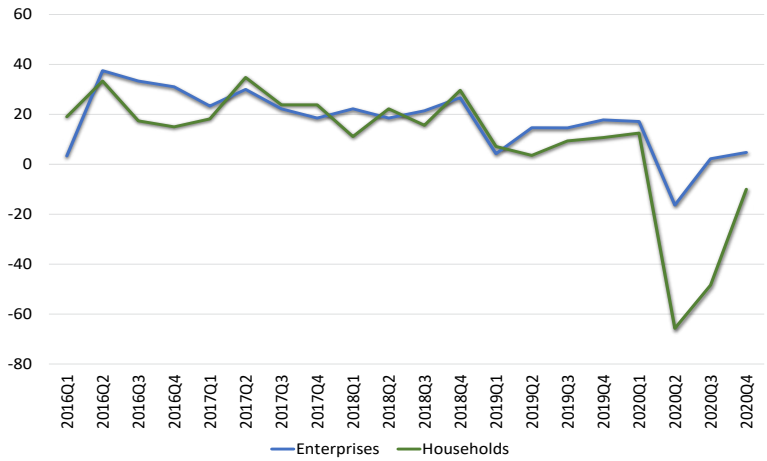


BSP = *Bangko Sentral ng Pilipinas*; PHP = Philippine peso; ODF = overnight deposit facility; RRP = reverse repurchase; TDF = term deposit facility
Source: BSP (various years)

Banks worrying about their balance sheets and bottom lines in a pandemic recession would logically seek the safety of virtually zero-risk instruments. As noted earlier, banks have also been setting aside substantial amounts as loan loss provisions, which also serve to reduce funds that can be lent out for productive uses, to safeguard themselves from a rapidly worsening economy.

Experienced policy observers (e.g., Guinigundo 2020a, 2020b, 2020c) see such procyclical behavior among banks, which are prevented by their risk management systems from taking on excessive risk, as a sign that aggressive monetary easing may already be "pushing on a string". The phrase refers to a situation where the perception of risk is so high that banks are unwilling to lend, while uncertainty is so great that businesses and households would rather save than spend their money. This is not unlikely in a pandemic where some sectors have practically closed. Indeed, as Figure 30 illustrates, slow loan growth was as much a problem of deficient credit demand as it was of credit supply.

Figure 30. Senior Bank Loan Officers' Survey on credit demand



Note: A positive reading indicates a net increase in loan demand (i.e., more banks reporting an increase than a decrease in demand), while a negative reading indicates a net decrease.
Source: BSP (various years)

In such a scenario of weak monetary transmission, maintaining benign monetary conditions will remain important to help avoid unnecessary bankruptcies, incentivize firms to hold on to their workers, and prevent households from being overwhelmed by debt. However, a stronger fiscal response may be needed if aggregate demand continues to weaken.

A hard fiscal push

Although the bannered amount for social protection had been unremarkable compared to those rolled out by some Asian neighbors during the pandemic, the Philippines, in reality, embarked on a rather ambitious relief program for households. In terms of the proportion of the covered population, the SAP counted among the largest cash transfers in the world (Cho 2021).

One might expect a few glitches from a project of that scale anywhere in the developing world. In the case of the Philippines, these stemmed from an incomplete list of beneficiaries, the absence of a national identification system and unified database, and physical handling of cash, which made distribution not only unsafe (in terms of infection) but also prone to corruption and leakage.

However, families covered by the *Pantawid Pamilyang Pilipino* Program (4Ps), the country's flagship safety net program, were able to receive the cash subsidies sooner than those outside of the system (World Bank 2020c). This invites optimism that larger social protection efforts can be made more efficient when needed, with the development of the right, ideally digital, infrastructure for delivery.

Execution of more traditional forms of public spending, such as construction, proved to be even harder, and such spending eventually had to be cut during the pandemic. Following the Bayanihan I law, relevant agencies discontinued or postponed some public works, as they could no longer be implemented or completed because of the pandemic (DBM 2020a). For the remaining projects, the limited operating capacity of agencies due to community quarantine measures led to implementation delays.

The public infrastructure program for 2020 was eventually revised downward from PHP 1.1 trillion to PHP 785.5 billion, or about a 1.6 percentage-point cut in terms of proportion to GDP (World Bank 2020c). Infrastructure and other capital outlays thus

fell sharply during the year (Table 5).[49] Total government spending correspondingly grew by just 10.5 percent (Figure 31), lower than the growth recorded in 2018 (13.4%), or during the years that fiscal packages were also pushed such as in 2012 (15.5%) when the government tried to reverse the impact of underspending, and 2009 (11%) to avert a recessionary fallout from the GFC.

For the credit-related components of the fiscal package, the main weakness so far has been the lack of readily available information on the uptake and performance of these programs. These include the PHP 120-billion credit guarantee program for MSMEs and agriculture implemented by PhilGuarantee and the PHP 39.5 billion worth of equity infusions into the various GFIs. Under the present circumstances, the greater interest is on how these measures are helping solve the problem of weak monetary transmission discussed in the previous subsection. With the government absorbing some of the risks in credit provision and subsidizing some of the interest payments, the intention is to enable credit institutions to lend more freely to enterprises in still viable sectors and help provide these businesses with enough resources to survive the pandemic.

Finally, with respect to tax cuts in the fiscal package, there should be a fair warning that such measures may not be a major source of fiscal stimulus in the near term if faced with continued weakness in aggregate demand. Estimates of foregone revenues over the next couple of years, which supposedly proxies for the injection, may not be realized if firms fail to register profits in a prolonged downturn. Moreover, as noted by independent observers, tax cuts may be saved rather than spent in a period of still high uncertainty (Lim 2020) and are unlikely to create much-needed jobs with continued constraints to both supply and demand (Bernardo 2020).

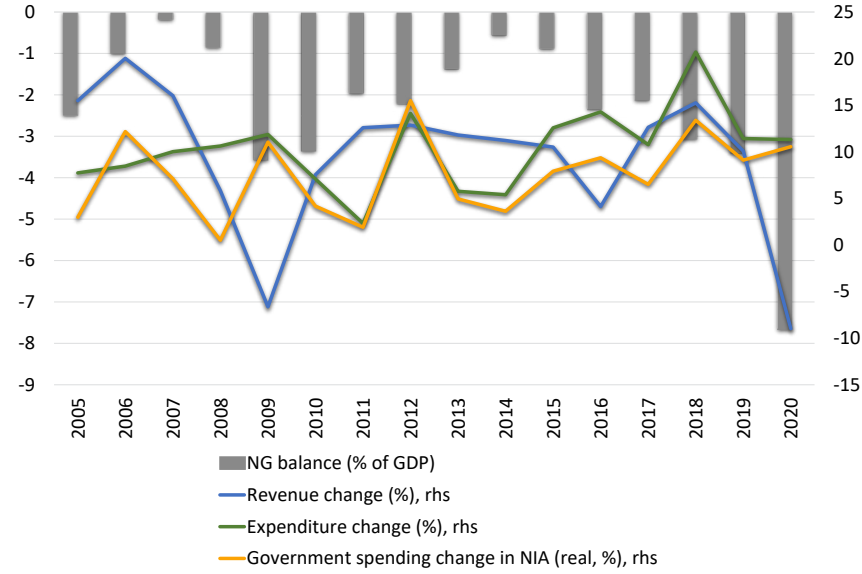
[49] An upsurge occurred mainly for maintenance and operating expenditures, which included the country's cash transfer programs, and in the allotment and capital transfers to local government units (LGUs), bolstered by a one-time COVID-19 Bayanihan grant to provinces, cities, and municipalities (DBM 2020). Equity jumped due to the PHP 10-billion capital infusion to SBCorp. and the subsidies for interest payments on new and existing loans of LGUs from both DBP and LBP, as mandated by the Bayanihan II law.

Table 5. National Government Disbursement Performance (in billion PHP)

Particulars	January to December 2020						
	2019 Actual	2020		Variance		Increase/(Decrease)	
		Program[1]	Actual	Amount	%	Amount	%
Current operating expenditures	2,740.9	3,475.6	3,326.8	(148.7)	(4.3)	585.9	21.4
Personnel services	1,115.0	1,117.8	1,178.0	0.2	0.0	62.9	5.6
Maintenance and other operating expenses	572.9	996.1	885.0	(111.1)	(11.2)	312.1	54.5
Subsidy	201.5	244.1	230.4	(13.6)	(5.6)	28.9	14.3
Allotment to LGUs	463.2	621.6	620.0	(1.6)	(0.3)	156.7	33.8
Interest payments	360.9	421.3	380.4	(40.9)	(9.7)	19.5	5.4
Tax expenditure fund	27.3	14.7	33.1	18.4	125.4	5.8	21.1
Capital outlays	1,039.8	832.7	878.4	45.7	5.5	(161.3)	(15.5)
Infrastructure/other capital outlays	881.7	609.3	681.1	71.8	11.8	(200.6)	(22.8)
Equity	3.3	51.2	12.8	(38.4)	(75.0)	9.5	285.7
Capital transfers to LGUs	154.7	172.3	184.6	12.3	7.1	29.8	19.3
Net lending	17.1	26.9	22.1	(4.8)	(17.9)	5.1	29.6
Grand total	3,797.7	4,335.2	4,227.4	(107.8)	(2.5)	429.7	11.3
Memo Items:							
Infrastructure disbursements[2]	1,049.9	785.5	869.5	84.0	10.7	(180.3)	(17.2)
Revenues	3,137.5	2,519.8	2,856.0	336.2	13.3	(281.5)	(9.0)
Surplus/(Deficit)	(660.2)	(1,815.4)	(1,371.4)	444.0	(24.5)	(711.2)	107.7

PHP = Philippine peso; LGUs = local government units; FY = fiscal year;
DBCC = Development Budget Coordination Committee; NG = national government; GOCCs = government-owned and controlled corporations
[1] Revised FY 2020 Quarterly Fiscal Program approved by the DBCC via ad referendum on July 28, 20202
[2] Include estimated NG infrastructure disbursements and infrastructure components of subsidy and equity to GOCCs and transfers to LGUs
Source: DBM (2020a)

Figure 31. Emerging fiscal picture in the COVID-19 period



COVID-19 = coronavirus disease 2019; GDP = gross domestic product; NG = national government; NIA = national income accounts; rhs = right-hand side
Note: The 2020 figures for NG expenditure and revenue annual percentage change and NG balance are computed using figures from the Medium-term Fiscal Program for fiscal years 2020–2022 (178th DBCC meeting, December 3, 2020).
Sources: Authors' computations using BTr (2020); PSA (various years); NEDA (2020d)

The full benefits of the CREATE law, which brings corporate income tax rates closer to the ASEAN average to make investing in the country more attractive, are more likely to be felt in the longer term, when domestic and global economic conditions have sufficiently normalized. While passage of the law may have lessened business uncertainty, a surge of private investment by either domestic or foreign firms remains unlikely in the short horizon for as long as the economic environment remains weak.

The path forward

This chapter aimed to chronicle the impact of the COVID-19 pandemic on the Philippine economy. The effects of the virus and public health restrictions have no doubt been staggering. The virtual shutdown due

to the ECQs in the first half of the year, prolonged quarantines, and a decline in remittances from OFWs pushed the country into its deepest recession in history. The services sector, which heretofore had been remarkably resilient, collapsed. Jobs were destroyed as firms across different sectors were shuttered, some permanently. The financially weak among households and firms, as could be expected, bore the brunt of the public health and economic crisis.

The country entered the COVID-19 crisis fundamentally strong, thanks to a string of economic reforms over the years. Monetary and fiscal policy responses to the pandemic were quick, and for the large part involved measures considered to be sensible, based on both rigorous analysis and prevailing wisdom about developing economies. Liquidity support and regulatory relief were provided, which calmed financial markets, and efforts were exerted to alleviate conditions for poorer households and smaller businesses. But the struggle to contain the virus and mobility restrictions—and the highly uncertain environment these create—continue, stifling economic recovery.

Lessons from the literature

The literature offers policymakers ways to manage while the country remains mired in the pandemic. New empirical research based on data on modern pandemics finds that countries with larger first-year responses in government spending, especially on health care, exhibited faster GDP growth recovery and a decline in unemployment after the crisis period (Ma et al. 2020). As the public health crisis remains unresolved, there is still an opportunity for the country to improve in this area.

New analytical work calls for providing social insurance and protection to affected workers in contact-intensive sectors that are ordered to close (or where social distancing is implemented) as the best way to prevent supply shocks from creating severe demand shortages (Guerrieri et al. 2020). Relatedly, there is a line of research arguing that a potent way to prevent amplification of the pandemic shock would be to target SMEs likely to remain viable in a post-pandemic economy and provide them the cash or credit they need to weather the crisis (e.g., Brunnermeier and Krishnamurthy 2020).

This growing body of literature suggests crucial areas where scarce fiscal resources can be further allocated for as long as the economy has not fully reopened and aggregate demand remains weak. It also supports what is already intuitively known about the quicker way out of a pandemic slump—through a build-up of consumer and investor confidence (e.g., by more effective virus containment measures and a comprehensive, reliable, and swift vaccine program) or direct injection of demand in the appropriate amounts (e.g., cash grants to protect poor families and cheap credit or grants to protect small firms in sustainable businesses).[50]

There are convincing indicators that demand may remain depressed in the Philippine economy for some time. The latest national income accounts, for example, suggest weak spending across a wide range of sectors and not just the contact-intensive ones, while unemployment remains high even after the lockdowns. Consumers continue to social distance, judging by mobility indicators. Production loans have declined, the first time it has done so in over a decade. BSP surveys reveal a weakening of credit demand as well as a tightening of credit standards. The latter finding underlies the observed weak transmission of the country's monetary responses during the pandemic, i.e., of monetary authorities "pushing on a string".

The dangers of a protracted slump cannot be overstated. One is the risk of the real output crisis morphing into a financial crisis, as bad economic outcomes weaken the portfolios of banks, pushing them to cut their lending further. Another is the much-feared threat of economic scarring, such as through prolonged unemployment, widespread business closures, and disruptions in education and training and planned investment, which could impair a country's long-term growth potential (Boissay and Rungcharoenkitkul 2020; Eichengreen 2020; IMF 2020b; World Bank 2020e). The probability of imbalances forming or worsening may also rise the longer it takes for aggregate demand to recover.

[50] The reference is often the textbook Keynesian slump or "liquidity trap", where no amount of monetary expansion would spur private sector spending, and the solution would be government spending boosted by the corresponding Keynesian multiplier. However, multipliers will likely not work in a pandemic, as some sectors remain closed. The newer literature on pandemic recessions thus focuses more on social insurance and protection aside from healthcare, which is the acknowledged first-order response.

Therefore, it would be a tricky situation for policymakers for as long as public-health-related issues and limitations persist. The country had already started to bend the COVID-19 curve for daily new cases by around October 2020, but this went back up again more recently, after the Christmas holidays, and as a new variant of the disease emerged. The good news is that the government's vaccination program, which aims to vaccinate 60–75 percent of the population by the end of 2021, has already begun. However, many challenges remain in terms of supply, funding, delivery, storage, and logistics at the local government level, especially the drawing up of master lists (Tomacruz 2021).

The new fiscal consensus?

A good development for fiscal and monetary authorities is the current accepting environment for alternative forms of financing even in an emerging market economy, particularly in an emergency like the COVID-19 pandemic. Such includes the country's PHP 300-billion short-term lending arrangement entered by the central bank and the national treasury during the lockdown and the PHP 540 billion worth of short-term provisional advances that followed it (with PHP 280 billion left that can be used). For the BSP, such acceptance of monetary financing rests on the credibility it has built over the years as an independent inflation-targeting monetary authority. For the fiscal authorities, it has similarly been due to the level of discipline exhibited over time. Such temporary financing arrangements could again help tide the government over in case they would need one more fiscal push to spark a robust recovery.

There is also an emerging fiscal consensus that is more tolerant of budget deficits and debt due to the low interest-rate environment globally, especially in the context of a pandemic, when governments need to spend more to protect firms and households (Blanchard and Subramanian 2020). This approach applies even to emerging market economies, provided fiscal space exists. Lower interest rates than potential output growth means debt would remain at sustainable levels, where the debt-to-GDP ratio would eventually decline as

the economy recovers and picks up speed.[51] Prudence of Philippine fiscal authorities has kept the country's risk premia low and risk from contingent liabilities manageable, while interest payments in proportion to GDP and government revenues are now far below where they were a decade and a half ago.[52]

The country's economic managers expect the country's debt ratio to rise to 57 percent in 2021, with the limit set at 60 percent by 2022 (Figure 32).[53] Stochastic simulation results generated by the Debt Sustainability Analysis of the Development Budget Coordination Committee (DBCC 2020) find the national government's debt trajectory to be stable (Figure 33). DBCC analysis reveals only moderate risk that the debt ratio will exceed 60 percent in 2021 and a high likelihood of a return to a downward debt path by 2023, once GDP growth and fiscal deficits return to their long-run averages.

Looking ahead

The framework for a fiscal push is already there if circumstances will require it, as we had seen in Bayanihan I and Bayanihan II. Any additional policy responses can simply follow the same strategy, with improvement in execution (which had already benefited from learning-by-doing for social protection), a finetuning of amounts, and a greater focus on transfers rather than credit if the pandemic or recession worsens.

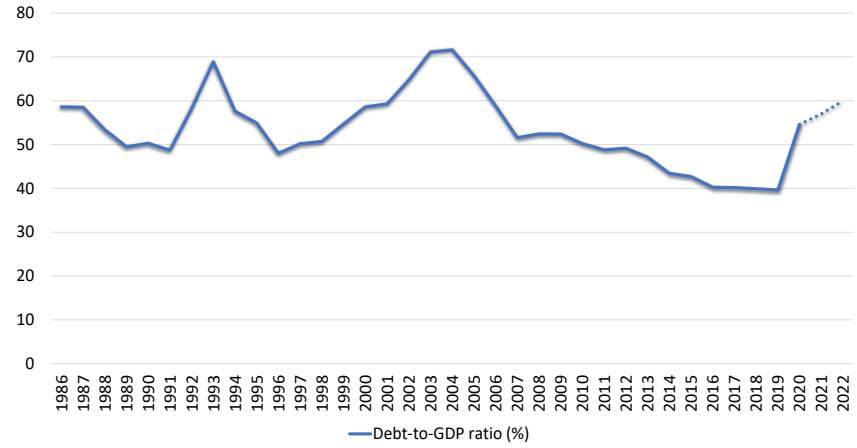
As the Philippines will likely remain within a gray area where both relief and recovery spending will be needed to shore up the

[51] The interest rates on emergency financing for the country's COVID-19 spending averaged 4.7 percent for domestic debt, according to the finance department, and 3.2 percent for external debt.

[52] The national government's guaranteed debt was 2.4 percent in 2020 (evenly split between domestic and external debt). According to the Fiscal Risks Statement 2021 (DBCC 2020), contingent liabilities from public-private partnerships (PPPs) amounted to PHP 311.8 billion in 2020, or about 1.7 percent of GDP. However, some risk areas exist, such as in government pension and insurance schemes. Interest payments in proportion to GDP and total government revenues were at 2.1 percent and 13.3 percent, respectively, in 2020. These figures came from a high of 5.1 percent and 36.7 percent in 2005.

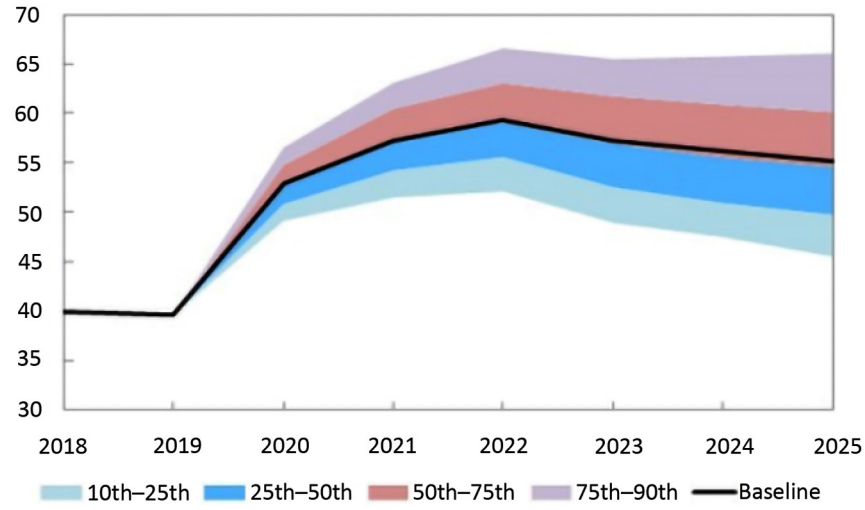
[53] Government disbursements are targeted to accelerate by 10.1 percent, while revenues are estimated to grow by just 1 percent despite assumed GDP growth of between 6.5 to 7.5 percent, likely because of the tax cuts. As a result, the fiscal deficit is expected to widen from an estimated 7.6 percent in 2020 to 8.9 percent in 2021, narrowing only slightly to 7.3 percent in 2022. See also DOF (2021).

Figure 32. Philippine debt ratio



GDP = gross domestic product
Note: Dashed lines are estimates of the Department of Finance.
Sources: BTr (2020b); Dominguez (2021)

Figure 33. Debt Sustainability Analysis by the DBCC



Source: DBCC (2020)

economy, at least for the next year, important areas for public spending will still be infrastructure, which had suffered a cut during the pandemic, and education, aside from health and social protection. Such investments will help minimize the losses in both human and physical capital experienced at the height of the pandemic. They will not only bolster aggregate demand but also prevent economic scarring.

The timely passage of the PHP 4.506-trillion national budget for 2021 has been a good start. Education still received the biggest allocation (at 17% of the total), while health and social spending grew by 14.5 percent and 24.4 percent, respectively. The budget again included PHP 1.1 trillion for infrastructure investment (still from the Build, Build, Build program), which usually has the highest multipliers among the different types of spending.[54] The country's economic managers estimate this will create roughly 1.7 million new jobs. A total of PHP 82.5 billion has already been earmarked for vaccines, with PHP 72.5 billion coming from the national budget in programmed and unprogrammed funds, and perhaps more can be spared for a faster rollout.[55] The annual budget will not grow exceptionally fast this year but will hopefully be money well spent.

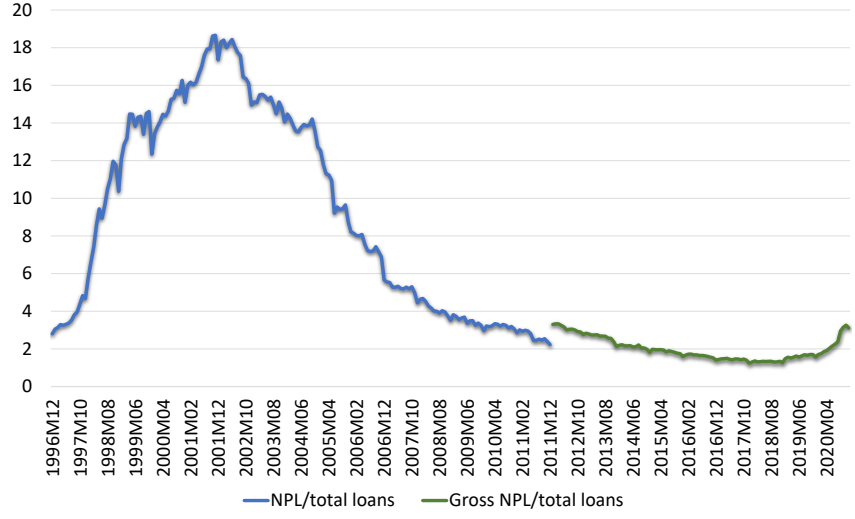
[54] There is surprisingly sparse literature on national fiscal multipliers of Asian economies, and the existing studies find only a limited impact (e.g., Tang et al. 2013; Jha et al. 2014). The Philippines, however, appears to be a marginally better candidate for countercyclical public spending policy among the countries in the region. Based on a simulation from a macro-econometric model, Ducanes et al. (2006) placed the Philippine short-term fiscal spending multiplier at 0.3, which rises to 0.7 for capital spending. The study also found government spending to be more useful than tax cuts. In a more recent paper, Debuque-Gonzales (2021) estimated the Philippines' subnational (regional) fiscal multipliers at 1.2, where a 1-peso increase in local government spending in regions stimulates about a 1.2-peso increase in regional output. Using financial data of LGUs, the regional fiscal multiplier was similarly found to be higher for capital investment. Moreover, spillovers of regional public spending to other regions were observed to be larger, at around 1.8 to 2.

[55] On January 14, 2021, the DOF announced that the government had already secured PHP 75 billion of the required PHP 82.5 billion to vaccinate 55 percent of the population. The breakdown for the vaccination budget is as follows: PHP 2.5 billion in programmed funds in the national budget; PHP 70 billion in unprogrammed funds, to be sourced loans from multilateral lenders (Asian Development Bank, Asian Infrastructure Investment Bank, and World Bank); and PHP 10 billion from Bayanihan II.

The Financial Institutions Strategic Transfer Act (FIST) has also been passed by the bicameral conference committee of the House and Senate and will just need the President's signature to officially become a law. FIST allows banks and other financial institutions to offload their NPLs and other nonperforming assets to newly formed private asset management companies called FIST corporations. This helps preempt financial instability by decreasing the likelihood of financial sector weakness, further bringing down the economy or keeping the country on a low growth trajectory. The NPL ratio has doubled since the start of the pandemic crisis, from 1.6 percent in end-2019 to 3.1 percent in end-2020 (Figure 34).

The NPL ratio climbed after the AFC of 1997/1998 to a peak of nearly a fifth of total loans by 2001, sharply declining only after the passage of the Special Purpose Vehicle (SPV) Act of 2002 (RA 9182). The law granted tax exemptions and fee privileges to SPVs that acquire or invest in nonperforming assets; it was extended for another 2 years in early 2006. The advantage of the FIST this time around is that the country can promptly address any bad asset

Figure 34. Nonperforming loans (NPL) ratio, universal and commercial banks



Source: Author's computations; BSP (2021)

problems likely to develop during the pandemic. This will keep the financial sector fit and enable them to help in the economic recovery.

In a post-pandemic world, the country's policymakers will need to lay down strategies to keep the economy stable after the once-in-a-lifetime shock. A proper exit must be staged, especially in terms of unwinding the measures that, while needed for survival at the height of the public health and economic crisis, carried non-negligible risk.

For monetary authorities, the challenge would be determining the right timing for the reversal of liquidity and credit support measures in a way that would not set back growth. While monetary-fiscal financing arrangements may be useful for emergencies, they must be put back into the policy toolkit when conditions normalize. Extending such arrangements would only raise the risk of perceived fiscal dominance and diminish both monetary and fiscal independence and credibility, and ultimately weaken inflation control.

Meanwhile, fiscal authorities would have the enormous task of bringing down the country's budget deficits after a much-needed pandemic spending, especially health spending, and the permanent tax cuts. While further public investment is needed to address the economic scars of the pandemic, the longer-term goal would have to be to gently place the country on a downward debt trajectory—toward more sustainable levels, ideally through higher growth rather than through inflation and similarly inequitable measures.

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The COVID-19 Pandemic and Food Security in the Philippines

Roehlano M. Briones

Introduction

At the outset, emergency measures implemented to contain COVID-19 would be expected to have a significant impact on the agricultural market chain and food security. Anticipating this, the government classified food and agriculture as essential activities exempted from quarantine measures (IATF-MEID Resolution 38, s. 2020). Nevertheless, at the local level, restrictions reportedly disrupted food supply chains. This paper provides a quick review of the impact of the COVID-19 crisis on agricultural markets, distribution networks, and food availability.

Broader impacts of the COVID-19 pandemic

Quarantine measures

On March 8, 2020, the President declared a State of Public Health Emergency pursuant to Republic Act 11332. On March 16, an enhanced community quarantine (ECQ) was declared over Luzon; subsequently, many provinces and regions of the country were also placed under ECQ.

Soon after the imposition of ECQ, numerous incidents of local government unit (LGU) overreach were reported. In response, the Philippine National Police ordered the takeover of barangay checkpoints, as well as the dismantling of such checkpoints along major highways (Caliwan 2020). For its part, the Department of Agriculture (DA) implemented a Food Lane Pass program, which had already been in place since 2018 but considerably fast-tracked and expanded during the pandemic. Suppliers and truckers of rice, perishable agricultural commodities, frozen meat and processed food products, feeds, fertilizers, and other agricultural inputs, and fishery commodities, were exempted from travel bans as well as allowed ease of passage at checkpoints (Legaspi 2017).

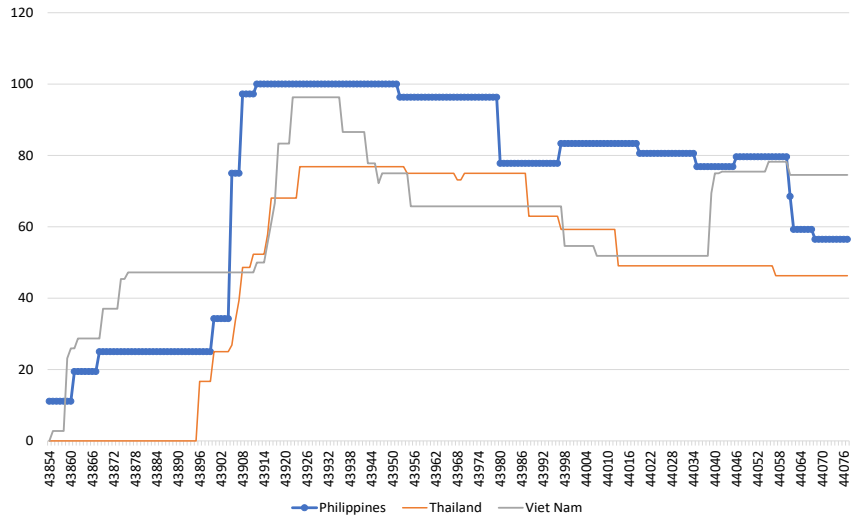
However, the overall government response to the pandemic has been unusually severe compared with the rest of the world. Hale et al. (2020) have compiled a daily index of government stringency response to the pandemic worldwide from January 2020

to September 2020 and found that the Philippines had applied one of the most stringent responses. This is the case when compared with similar indices computed for Thailand and Viet Nam (Figure 1).

Another emergency-related measure was price control. Upon the State of Public Emergency proclamation, an automatic price freeze was imposed for 60 days under the Price Act, with DA implementing provisions of the law covering "basic necessities". Table 1 presents the suggested retail prices adopted by DA before and during the State of Public Emergency.

A sustained extension of community quarantine periods will disrupt food supply chains and endanger households' access to food. On the other hand, constraints on consumption activity (consuming food away from home, entry into marketplaces, etc.) can contract marketing activity and depress sales, and even all the way back to farmgate prices and incomes. The COVID-19 public health measures

Figure 1. Daily government response stringency index, selected countries, January–September 2020



Note: The index is compiled from a number of measures covering the following: school closures, workplace closures, cancellation of public events, restrictions on gatherings, closure of public transport, public information campaigns, stay-at-home measures, restrictions on internal movement, international travel controls, testing policy, and contact tracing.
Source: Hale et al. (2020)

Table 1. Original and expanded list of suggested retail prices (in PHP per kg)

Original List	Price	Expanded List	Price
Imported rice:			
Special	51.00	Pork (*pigue*)	190.00
Premium	42.00	Chicken (dressed)	130.00
Well-milled	40.00	Raw sugar	45.00
Regular	39.00	Refined sugar	50.00
Local rice:		Milkfish (cage-cultured)	162.00
Special	53.00	Tilapia (pond-cultured, fresh-chilled)	120.00
Premium	45.00	Round scad (fresh-frozen, imported)	130.00
Well-milled	40.00	Garlic (imported)	70.00
Regular	33.00	Garlic (local)	120.00
NFA rice	27.00	Red onion	95.00
Round scad	130.00		
Pork (*liempo*)	225.00		
Chicken egg	6.50		

PHP = Philippine peso; kg = kilogram; NFA = National Food Authority
Source: DA Communications Group (2020)

will potentially disrupt both supply and demand sides of the agri-food system and endanger the food security of households and the livelihoods of small farmers and fisherfolk. The following sections thus examine the short-term impacts of community quarantines.

GDP impacts

During the first quarter of 2020, the economy was only beginning to feel the impact of the quarantine restrictions, as gross domestic product (GDP) dipped into negative territory. By the second quarter, however, the economy fell into a sharp downturn. The steepest fall in expenditure components of GDP was absorbed by investments, followed by imports, although there is a similarly large contraction of exports. The degree of contraction was attenuated by the third and fourth quarters, except for net primary income, which worsened over the quarters. By far, the biggest contributor to GDP contraction is household expenditure. This will cause serious effects on the demand side of food markets owing to a decline in purchasing power.

Table 2. Year-on-year growth of quarterly GDP (2018 prices), 2020 (%)

	1st	2nd	3rd	4th
Household consumption	0.2	-15.5	-9.2	-7.2
Government consumption	7.0	22.1	5.4	4.6
Investment	-17.4	-53.5	-39.9	-28.9
Exports	-4.4	-37.0	-15.3	-10.1
Imports	-8.7	-40.0	-20.6	-19.0
Gross domestic product	-0.7	-16.5	-11.6	-8.3
Net primary income	-5.9	-22.0	-32.1	-56.9

GDP = gross domestic product
Source: PSA (2020a)

Agriculture and food security during the pandemic

Production

Table 3 presents growth rates for both number of employed persons and gross value added (GVA). By April 2020, the number of workers employed overall had fallen by 21 percent. The biggest drop occurred in industry, while the least decline was in agriculture. Remarkably, by the third quarter (July round), employment in agriculture had increased relative to July 2019. It appears that agriculture was able to employ some of the workers laid off in industry and services, thereby preventing a steeper drop in overall employment. By the fourth quarter of 2020, however, all the basic sectors had resumed a contractionary trend; even employment generation for agriculture had deteriorated that month, albeit overall employment remained higher than in July 2019.

Employment movements were consistent with trends in quarterly GDP growth. Overall GDP declined by 0.7 percent in the first quarter of 2020. The contraction reached dire levels in the second quarter when GDP fell by 17 percent, led by industry and then by services.

Meanwhile, agriculture posted a positive growth of 1.6 percent. The positive trend continued in the third quarter. By the fourth quarter, the contraction remained least in absolute terms compared to other sectors.

Table 3. Growth rates in GVA and number of workers, 2020 (%)

	Growth Rates in Number of Workers versus July 2019			Year-on-year Growth, Quarterly GVA, 2020 (2018 prices)			
	Apr 2020	Jul 2020	Oct 2020	1st	2nd	3rd	4th
Agriculture	-10.2	11.7	0.3	-0.3	1.6	1.2	-2.5
Industry	-20.6	-2.9	-6.3	-2.5	-21.8	-17.6	-10.6
Services	-28.7	-3.3	-9.4	0.1	-17.1	-10.6	-8.0
Total	-22.1	-8.4	-7.9	-0.7	-17.0	-11.6	-8.3

GVA = gross value added
Source: PSA (2020a, 2020b)

Table 4 provides a breakdown of GVA growth within agriculture. Growth in agriculture (-0.3%) in the first quarter of 2020 was pulled down by contractions in fisheries (2.8%) and crops (1.9%). Meanwhile, growth strengthened in the second quarter to 1.5 percent due to a 5.2-percent expansion in crops along with a 1-percent recovery in fisheries, notwithstanding the contraction of livestock and poultry. Crops finally reversed into growth territory in the third quarter, pulling up overall growth, although poultry and fisheries stayed in a growth rut.

Commodities need to flow from production areas to consumption areas through the food supply chain. Quarantine restrictions had initially caused serious disruptions in these supply chains, despite

Table 4. Year-on-year growth of quarterly agricultural GVA by subsector, 2020 (2018 prices, %)

	1st	2nd	3rd	4th
Crops	-1.9	5.2	4.9	-0.4
Livestock	1.5	-8.2	-7.7	-13.0
Poultry	3.5	-4.8	-3.6	-4.9
Fisheries	-2.8	1.0	2.1	-4.3
Others	4.7	3.5	0.8	1.7
Total	-0.3	1.6	1.2	-2.5

GVA = gross value added
Source: PSA (2020a)

government directives to the contrary. This is evident in the incidence reports frequently posted by the DA COVID-19 Resiliency Task Force from mid-March to mid-April 2020.[1] Examples are as follows:

- In Benguet, decayed broccoli, cauliflower, and cabbage were disposed of as traders found it difficult to access markets and purchase these from farmers.
- At the onset of the pandemic, a broiler production company estimated a 40-percent decline in business owing to the shutdown of restaurants, hotels, and other institutional buyers.
- In March and April, major rice exporters (Viet Nam, Cambodia, and Myanmar) temporarily halted rice exports, contributing to spikes in world market prices of rice. The export restrictions, however, had been mostly lifted by the second half of 2020 (Crismundo 2020; Rivas 2020; Schmidt and Dorosh 2021)

Nonetheless, these reports had petered out by May 2020. The reason is that local governments had already become familiar with movements that are allowed and prohibited under various community quarantine definitions. They had also largely complied with the Department of the Interior and Local Government (DILG) directives on the Food Lane Pass of DA, dismantling of unauthorized checkpoints, and free movement of agriculture-related goods and service workers (FAO 2021).

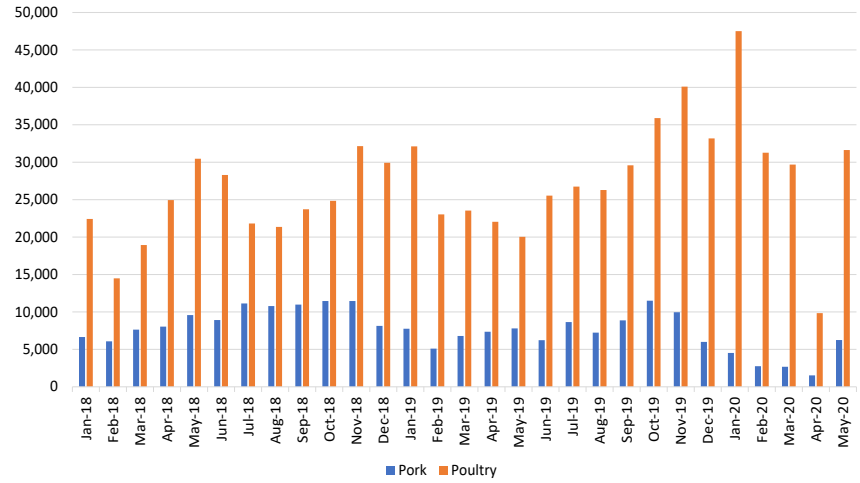
Imports

Aside from domestic production, the other major component of available supply is imports. Monthly imports of meat (pork and chicken) from 2020 onward are shown in Figure 2. The importation issue has proven to be politically fraught as domestic producers see foreign suppliers as competitors in the domestic market (Gomez 2020).

From January to February 2020, imports of both pork and chicken had been on a decline; however, imports began to increase from March onward in the case of chicken, and from April onward in

[1] https://bit.ly/2OAZHvt (accessed on February 25, 2021)

Figure 2. Monthly imports of pork and poultry products, 2020



Source: BAI (n.d.)

the case of pork. Monthly imports trended erratically since then but kept going upward until the fourth quarter of the year. Temporarily, the pandemic had led to logistical problems in obtaining imports, which affected all products (as seen in declining overall trade). In the case of chicken, domestic buyers had already factored in the low domestic farmgate price, as well as high tariffs, tempering the increase in imports. Market forces were already at work to restrict purchases from abroad; additional restrictions from the government would likely undermine its official advocacy to keep the international food export market open (Simeon 2020).

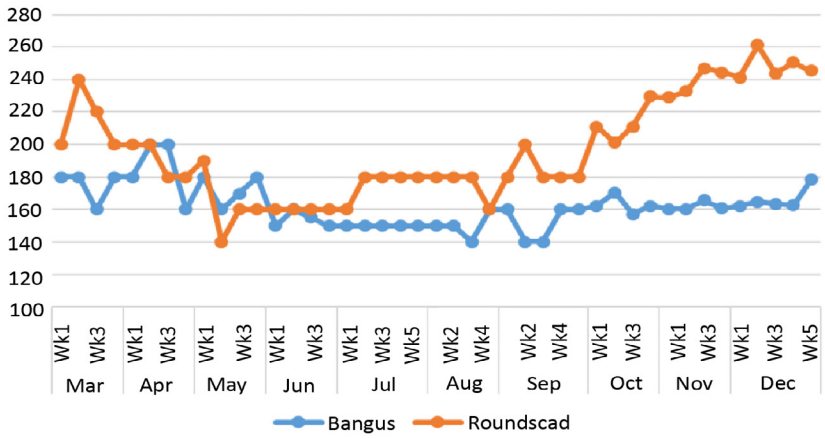
Food prices

The pandemic dealt a blow to both the demand and supply sides of the market. On the demand side, apart from the loss of purchasing power, consumers could no longer access restaurants (at least during the ECQ period) and had limited access to retail outlets. On the supply side, food transportation was also hampered by COVID-19 restrictions. If the effect on demand had been more severe, food prices would decline; conversely, if the effect on supply had been more severe, then food prices would increase.

Figure 3 depicts weekly retail prices in Metro Manila for milkfish and round scad over the period March–July 2020. Erratic price changes are observed from March to May for both products, although that of round scad was on a downward trend. The volatile phase within March can be attributed to panic buying before the lockdowns, while that afterward is supply as well as demand disruptions in the weeks following the ECQ. However, on the supply side, issues in the free movement of food and agricultural products had largely been resolved by May 2020, thereby contributing to price stability by midyear (FAO 2021). The stable trend persisted for milkfish. On the other hand, the round scad price again turned volatile by the fourth quarter, coinciding with a decline in municipal fisheries output owing to several typhoons (Ochave 2021).

Table 5 examines the coefficient of variation (CV), a measure of volatility, for weekly retail prices in Metro Manila for selected agricultural commodities. Note first that whereas an effective price freeze would have kept CV down to zero in April, this was not what happened. Second, among the profiled commodities, the CV tends to rise toward a peak within the interval of March and April (up to June

Figure 3. Retail prices of round scad and milkfish, Metro Manila, March–July 2020 (PHP per kg)



PHP = Philippine peso; kg = kilogram; Wk = week
Source: PSA (2021)

Table 5. Coefficient of variation, weekly retail prices, selected commodities in Metro Manila, March–July 2020 (%)

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rice, well-milled	4.9	4.9	0.0	1.1	0.0	0.0	2.1	0.4	0.1	0.1
Beef	3.7	3.5	3.7	11.6	3.0	1.1	0.0	1.0	0.1	1.8
Pork, belly	4.3	12.8	0.0	7.2	4.6	0.0	4.7	5.9	0.6	3.4
Dressed chicken	3.2	7.4	10.9	6.7	2.8	6.7	3.4	2.1	1.2	3.7
Chicken egg	3.6	3.6	0.0	0.0	3.1	1.9	0.0	0.2	0.1	0.4
Indian mackerel	5.7	0.0	13.4	0.0	9.0	4.3	12.3	4.4	3.8	3.1
Milkfish	5.7	10.4	5.6	3.1	0.0	5.4	7.2	3.4	1.6	4.1
Round scad	8.9	6.1	12.7	0.0	5.1	5.7	4.9	5.5	3.7	3.2
Banana, *lakatan*	6.2	15.7	0.0	5.1	0.0	0.0	0.0	1.2	1.4	1.9
Cooking oil	6.6	0.0	17.8	0.0	0.0	0.0	0.0	0.0	1.8	4.0
Brown sugar	8.3	3.8	1.3	0.0	1.8	1.1	0.0	0.2	0.3	0.6

Source: PSA (2021)

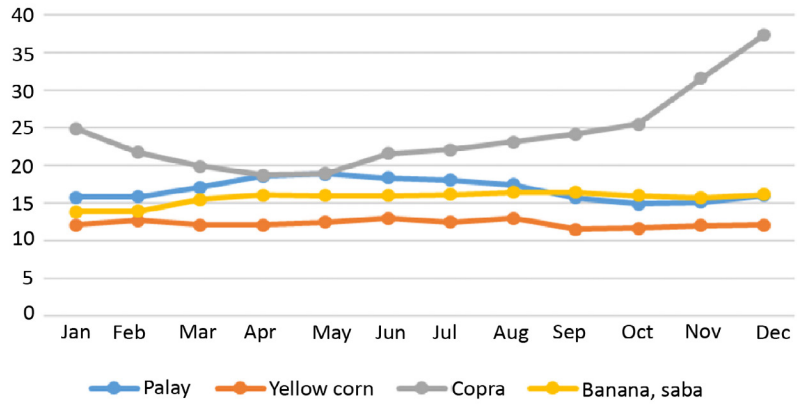
in the case of beef). This is consistent with the high initial volatility immediately before and after the pandemic and the subsequent normalization by around mid-year.

Farmgate prices

In contrast to retail prices, farmgate prices did not exhibit unusual volatility during the pandemic. Figure 4 shows monthly farmgate prices of major crops produced in the country. During the ECQ period, prices were either stable or gently increasing—except for copra, which was declining. The stable trend continued for the rest of the year, except for copra, where the high world price for coconut pulled up prices.

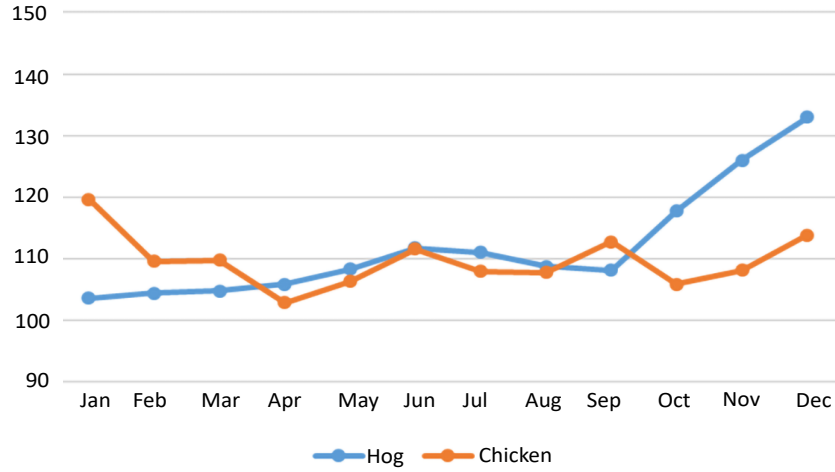
Meanwhile, the farmgate prices for chicken fell during the ECQ periods before somewhat recovering midyear and then remaining fairly stable for the rest of the year (Figure 5). Meanwhile, hog prices started stable but began rising inexorably in the last quarter of 2020, for reasons unrelated to the coronavirus pandemic, but rather owing to another pandemic, this time among pigs—the African swine fever.

Figure 4. Monthly farmgate price, selected crops (PHP per kg)



PHP = Philippine peso; kg = kilogram
Source: PSA (2021)

Figure 5. Monthly farmgate price, hog and chicken (PHP per kg)



PHP = Philippine peso; kg = kilogram
Source: PSA (2021)

Concluding remarks

To contain the COVID-19 pandemic, the Philippine government imposed various emergency measures. While some were ineffective (e.g., price controls), other restrictions were very severe. The lockdown inflicted grave collateral damage on the economy. It also disrupted both the demand and supply sides of the market. By mid-2020, however, market chains had largely normalized on the supply side. Only agriculture posted positive output and employment trends among the basic sectors. However, no growth acceleration for agriculture appears possible in the absence of an overall economic recovery.

In the meantime, the government must ensure that food supply disruptions will not be repeated in the event of future emergencies; that affected households and workers be provided sufficient levels of social protection; that stimulus programs should offer appropriate levels of support for agriculture, targeted to small farmers and fisherfolk; and that it advocates for continued openness of international markets for food products and leads by example in this regard.

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The Impacts of the COVID-19 Pandemic on Filipino Migrant Workers

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Carlos C. Cabaero

Introduction

International remittance earnings from labor migration have been an important lifeline of the Philippine economy for many decades. The *2020 World Migration Report* showed that the Philippines is the fourth-largest remittance recipient in the world in 2018, behind India, China, and Mexico. In 2020, international remittances accounted for 9.2 percent of the gross domestic product, which makes it a key contributor to the Philippine economy, pumping up household consumption. For Filipinos who are unable to find decent jobs at home, labor migration provides a more secure income to sustain the daily basic and educational needs of their families. The National Migration Survey shows a median amount of PHP 26,000 in remittance income received from outside of the country in 2018 (PSA and UPPI 2019). The COVID-19 pandemic, with its wide scope and severe impacts on many countries serving as hosts to many overseas Filipino workers (OFWs), is expected to have a significant impact on the country's level of remittances and to thousands of migrant workers' households. This paper summarizes these reported effects from various sources and reports.

OFW deployment and overseas remittances

In 2020, the deployment of Filipino migrant workers saw its sharpest decline in decades, reaching its lowest level since 1990. From 2,156,742 deployed workers in 2019 (the year before the pandemic struck), official data show that deployment fell to 549,841 in 2020[1] (POEA 2021). This figure is a meager one-third of the annual average in recent years. In the 14 years leading up to the pandemic, the Philippines had deployed an average of nearly 1.7 million land-based and sea-based workers (both new hires and rehires). At its peak from 2016 to 2019, an average of 2 million Filipino workers were sent overseas.

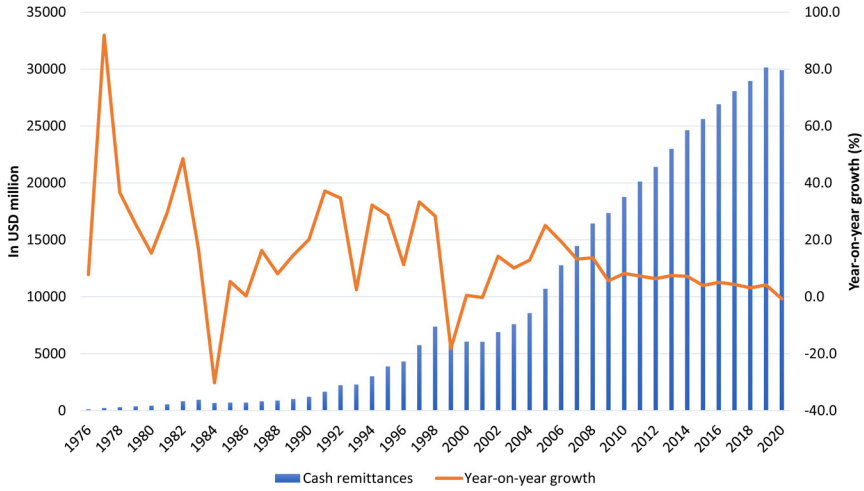
The sharp decline in 2020 is attributed mainly to the government-imposed travel restrictions to prevent the transmission

[1] This figure is based on preliminary data as of January 5, 2021.

of COVID-19 both at the origin and the destination. The Philippine government suspended all types of travel following the World Health Organization's (WHO) declaration of the pandemic in March 2020. To ensure that the healthcare system can bear the effects of the pandemic, it also issued a deployment ban on healthcare workers. Although a deployment ceiling on healthcare workers was later implemented, it was only in December 2020 when the ban was lifted. Aside from these origin-based restrictions, host countries also imposed their own limits. A recent report noted that while Filipino workers have been allowed to work in some 99 countries as of March 2021, there are still 104 countries that restrict the entry of Filipinos, although 77 of these provide exceptions for holders of employment contracts (SEPO 2021).

Despite the crisis, remittance inflow to the Philippines was surprisingly stable. When the pandemic struck, many economists and organizations forecasted a sizable contraction in Filipino migrants' remittances. The World Bank forecasted in October 2020 that remittances going to East Asia and the Pacific, where China and the Philippines are the top recipients, would fall by 11 percent. Indeed, remittance inflows to the region fell by an estimated 7.9 percent in 2020. However, the decline for the Philippines was only 0.8 percent. Contrary to expectations, the Philippines recorded USD 33.2 billion in overseas Filipinos' personal and cash remittances in 2020—a mere 0.8 percent decline from the 2019 estimate of USD 33.5 billion, the highest remittance value recorded thus far. Much of these remittances were sent as cash through banks. The better-than-expected outcome is nowhere near the forecasts made for the country by the *Bangko Sentral ng Pilipinas,* which was -2 percent (a revision from the earlier forecast of -5 percent); by ANZ Research at -7 percent; and by ING Manila at -5 to -10 percent (Villanueva 2020). Although the decline is much bigger in peso terms (which is at 4.8%) due to the strength of the local currency, this is still nowhere near most forecasts. It is important to note that even before the 2019 pandemic, the trend of international remittance inflow had been decelerating through the years. For decades, remittances posted double-digit annual growth rates, but as the magnitude increased, the rate of growth decelerated. Since 2009, the growth rate has stabilized at below 10 percent (Figure 1).

Figure 1. Trends in overseas Filipinos' remittances



USD = United States dollar
Source of basic data: BSP (2021)

BSP data show that the country's top source of remittance is the United States. However, such data do not accurately provide the actual sources due to overseas remittance establishments' common practice of channeling remittances through correspondent banks, mostly located in the United States (Sicat 2018). Moreover, remittances sent through money couriers cannot be disaggregated into their source country as the figures are usually tallied under the location of the money couriers' main offices, which are also usually in the United States. Because banks attribute the source of funds to the immediate source and not the actual origin, the United States would be tagged as the main source of remittances to the Philippines. Therefore, the destination of deployed migrant workers would be a better indication of where remittances are coming from, given the nature of labor migration in the country.[2] Indeed, the 2018 National Migration Survey shows that 65 percent of remittances received in the last 12 months before the survey came from Asia. Only 21 percent came from North America, while 8.1 percent were from Europe.

[2] Households send migrants as part of the risk diversification strategy. Therefore, these members would naturally send remittances to their families back home.

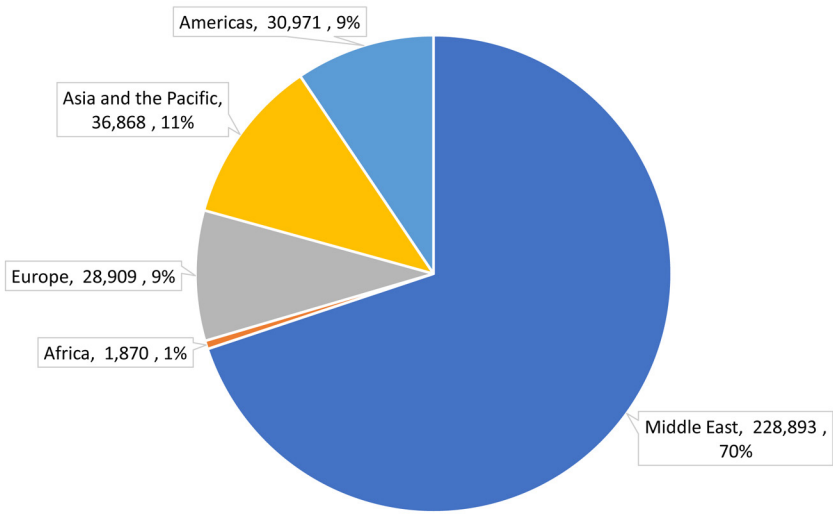
COVID-19 impacts on OFWs

As a direct result of the COVID-19 pandemic, the country has seen the largest repatriation of overseas Filipinos since it started deploying workers overseas in the 1970s. At the end of 2020, some 791,623 Filipinos had returned to the country. Of these, 60.7 percent (or 481,305) were land-based workers, while the remaining 308,332 were sea-based workers, and 1,986 were transferees from Sabah.

Of the total returnees, 327,511 OFWs were repatriated by the Philippines' Department of Foreign Affairs (DFA), where 71 percent were land-based workers from at least 90 countries, and the rest were sea-based workers. Also, of the total repatriated OFWs, 70 percent came from the Middle East, 11 percent were from Asia and the Pacific, 9 percent were from the Americas and Europe, and around 1 percent came from Africa.

OFWs were not spared by the COVID-19 disease. As of August 9, 2021, the DFA reported a total of 21,731 confirmed cases

Figure 2. OFWs repatriated by the Department of Foreign Affairs, 2020



OFWs = overseas Filipino workers
Source: DFA (n.d.)

among OFWs, of which 7,849 were currently undergoing treatment, 12,558 had recovered or been discharged, and 1,325 had died. One hundred countries/territories had Filipino COVID-19 cases (DFA 2021).

Table 1. COVID-19 cases among OFWs (as of August 9, 2021)

Region	Total	Undergoing Treatment	Recovered/ Discharged	Deaths
Asia Pacific	4,818	1,907	2,865	47
Europe	3,566	945	2,491	130
Middle East/Africa	12,332	4,883	6,547	902
Americas	1,015	114	655	246

COVID-19 = coronavirus disease 2019; OFWs = overseas Filipino workers
Source: DFA (2021)

Based on reports made in July 2021, a total of 760,138 OFWs were affected by the COVID-19 pandemic (Abad 2021a). These OFWs experienced work displacement, thus meeting the eligibility requirements of the Department of Labor and Employment-*Abot Kamay ang Pagtulong* (DOLE-AKAP) program's financial subsidy for displaced land-based workers and seafarers. As of July 2021, a total of 518,647 have already received the assistance. However, some 241,000 OFWs are yet to be reached by the DOLE-AKAP program (Abad 2021a). Under this program, however, OFWs need to apply to receive the cash assistance.

A more in-depth study conducted by the International Organization for Migration (IOM) of the United Nations provides important details about the situation of OFW returnees. The IOM conducted phone interviews on 8,332 OFW repatriates, nearly half of whom came from the top destination nations—Saudi Arabia and the United Arab Emirates. Of this number, 67 percent reported that they decided to return due to the pandemic, while some 23 percent noted that they were due to go home regardless of the COVID-19.[3] Despite the repatriation efforts of the Philippine government, the study found that nearly 16 in 100 returnees shouldered the cost of their return journey. This finding was more prevalent among women than men.

[3] The rest (10%) did not respond.

Women were also less likely to receive repatriation support than men and more likely to belong to lower wage groups.

The study shows that majority of the returnees who experienced early termination of their contract did not receive their compensation or separation pay (IOM 2021). Women OFWs were more affected in this aspect than men. Of the total OFW respondents in the analysis, 17 percent did not receive their final wage payments. Nearly half (48%) reported over 60 percent reduction in their household income upon repatriation. Moreover, around 80 percent noted that their biggest concern coming home was finding work or generating income for their families. Meanwhile, 83 in 100 OFW returnees reported being still unemployed after an average of three months since arriving from overseas. Nearly half of the returnees expressed their desire to start their own business, but only over a quarter (27%) reported having the financial capital required to establish one. Programs to improve their skills are indeed important as most (54%) OFW returnees want to elevate their skills mostly through the Technical Education and Skills Development Authority's programs. Amid the global health crisis and the difficulty of finding livelihood in the country, almost half of the returnees noted that they would want to migrate internationally again.

COVID-19 responses

Apart from the massive repatriation efforts conducted by the Philippine government for hundreds of thousands of OFWs, a package of other forms of support has also been provided. Upon repatriation, OFWs are assisted by the Overseas Workers Welfare Administration (OWWA) by providing them airport assistance, counseling, and debriefing. More importantly, the Philippine government continues to shoulder the costs of COVID tests, food, and hotel accommodation of OFWs during mandatory quarantine, and transportation to their respective provinces and cities (DOLE 2021). Such package of assistance accorded to OFWs costs the OWWA some PHP 3,000 per OFW daily on hotel accommodation alone, based on a report dated March 11, 2021 (Patinio 2021). In one instance,

the OWWA had to assemble the massive logistical activity of transporting some 10,000 OFWs to their provinces. As of November 23, 2021, the official website of the OWWA reported that a total of 802,538 OFWs had returned to their home regions.[4]

Upon the arrival of the returnees to their provinces/cities, the local government units take over the responsibility of assigning the OFWs to their local quarantine facility and later transporting them to their homes.

In addition to the full set of repatriation assistance, the Philippine government also rolled out a financial assistance program for eligible returning OFWs. The DOLE-AKAP program, which was initiated in April 2020, provides OFWs displaced by COVID-19 a one-time aid of PHP 10,000 or its equivalent in the local currency of the country where they are working. To be eligible for the AKAP financial subsidy, the OFW applicant must (1) have experienced job displacement as a result of the host country's imposition of community quarantine or lockdown or have been infected by COVID-19 disease; (2) be still on-site in their overseas work, or currently in the country as *Balik-Manggagawa*, or already repatriated; and (3) have not received any financial assistance from the host country's governments or employers.

For the AKAP alone, the Philippine government had already spent PHP 5.09 billion for 502,133 beneficiaries as of April 11, 2021 (Table 2). As of July 2021, there were already 518,647 DOLE-AKAP beneficiaries (Abad 2021). Apart from the DOLE-AKAP, OFWs diagnosed with COVID-19 were also entitled to PHP 10,000 cash assistance as well as medical and food assistance from DOLE's COVID-19 Adjustment Measures Program (Agoncillo 2020).

To help OFWs and their families weather the crisis, DOLE signed a memorandum with the Commission on Higher Education (CHED) to implement *Tabang OFW*. The program allows one college-level dependent of repatriated, displaced, or deceased OFWs to receive PHP 30,000 financial assistance. More than 30,000 dependents are expected to benefit from the scholarship fund (DOLE 2020). A total of PHP 1 billion was allocated to this financial assistance program

[4] https://owwa.gov.ph (accessed on January 4, 2022)

Table 2. AKAP program beneficiaries and cost (as of April 11, 2021)

OFWs	Bayanihan I		Bayanihan II	
	Beneficiaries	Total Cost (PHP Million)	Beneficiaries	Total Cost (PHP Million)
On site	154,700	1,608	28,070	292
Local	189,043	1,890	130,320	1,303
Total	343,743	3,499	158,390	1,595

AKAP = *Abot Kamay ang Pagtulong*; OFWs = overseas Filipino workers; PHP = Philippine peso
Source: DOLE, as cited in SEPO report dated April 2021

by the CHED's Unified Financial Assistance System for Tertiary Education, OWWA, and DOLE. The OWWA also has an iteration of this program called the Educational Assistance through Scholarship in Emergencies (also called Project EASE), which aims to provide PHP 10,000 educational assistance per annum for a maximum of four years to college-level dependents of repatriated OFWs.[5]

In addition to the abovementioned efforts, OFW returnees who are teachers are also taking advantage of the *Sa Pinas, Ikaw ang Maám/Sir* (SPIMS) Reintegration Program. Launched in 2014, the SPIMS program aims to encourage returning OFWs who are passers of the Licensure Examination for Teachers to work in the country as public school teachers. To facilitate the application process of OFWs during the pandemic, the National Reintegration Center for OFWs (NRCO) launched an online application platform. Between its launch in September 2014 and January 2018, the NRCO reported a total of 846 SPIMS beneficiaries actively teaching in 749 schools across the country.[6] However, the number of returnees that benefited from the SPIMS program during the pandemic is yet to be known.

The government also prioritized OFWs in its vaccination program. On May 28, 2021, the Philippine government moved up OFWs to the A1 (or top priority) category—in particular, those who are outbound within the next 4 months from the target vaccination

[5] https://owwa.gov.ph/?page_id=4344 (accessed on January 4, 2022)

[6] http://nrco.owwa.gov.ph/index.php/latest-news/193-846-spims-beneficiaries-actively-teaching-in-749-schools-across-the-country (accessed on January 4, 2022)

date (Ranada 2021). Vaccination is a requirement for those who are going back to their work overseas.

There was also a recent initiative from the government, albeit controversial, that was meant to spare OFWs from shouldering the costs of precautionary protocols upon arrival in their country of destination. Through a memorandum dated May 27, 2021, the Philippine government imposed what became a brief suspension on the deployment of Filipino workers to Saudi Arabia following reports that Filipinos were being required to bear the health and safety protocol costs and insurance coverage premium upon entry to the Kingdom. The said cost amounted to SAR 3,500 (or around PHP 47,000). The temporary deployment ban was lifted on May 29, 2021, as soon as the Philippine government received the official communication from the government of Saudi Arabia that foreign employers and agencies would instead shoulder the cost of quarantine and other safety protocols (Abad 2021b).

Some insights

Although the overseas remittance receipt for 2020 was surprisingly stable, it is unlikely that such will be sustained in the future. Unless the deployment figure bounces back in 2021, the effects of the negative 75 percent change in the annual deployment of workers will soon be felt. Therefore, the government must generate alternative livelihood opportunities for the hundreds of thousands of OFW returnees and those bound for overseas work but unable to proceed with their plans because of the pandemic.

In the meantime, affected OFWs and their families will need to rely on national and local government assistance to cope with the crisis. It is unlikely that most OFW households would be able to successfully withstand the effects of the pandemic without government assistance. The fact that the local economy is also struggling means that returnees are unable to look for a domestic job. If the profile of these returnees is consistent with the overall profile of deployed OFWs, then one can assume that majority of them held elementary occupations and that their overseas remittance

income is spent mostly on the basic needs and education of their children. Without their overseas jobs, OFW families are vulnerable. The 2018 National Migration Survey shows that saving is not a priority in the use of remittances, as only 13 percent of the flows are saved. An overwhelming proportion (75% of total remittances) are spent on food and other household needs (based on a sample of 4,211 remittance flows). The other primary use of remittances is for education (42%). This suggests that many OFW families adversely affected by the pandemic do not have the capacity or buffer to weather this crisis. Given the uncertainty of the situation, both the local and national governments need to devise effective strategies to support them temporarily and to find more long-term solutions.

The pandemic taught the country that a long-term strategy for industry development that can provide decent work for the national workforce was long overdue. The hundreds of thousands of OFWs who were repatriated will now need to look for jobs in the domestic economy, which itself continues to suffer from the adverse consequences of the lockdowns. In the meantime, the government, despite its resources being nearly exhausted, must continue to provide social assistance until the economy is back on track. The recovery plan must therefore include policies focusing on enhancing the domestic industry's competitiveness to significantly generate local jobs.

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Inequality and Human Development in the Philippines in the Time of COVID-19*

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*This chapter is an updated extract from the discussion paper, "Common Country Assessment Update for the Philippines", which was prepared under a memorandum of agreement with the United Nations Development Programme (Navarro et al. 2021). The discussion benefited from comments by the United Nations Country Team.

Introduction

The coronavirus disease 2019 (COVID-19) pandemic has highlighted prevailing inequalities. The pandemic itself and measures implemented to curb it disproportionately inflict heavier impacts on the most vulnerable groups—those left behind. These profound effects come mainly in the form of regression in human development and narrowing of capabilities to access future socioeconomic opportunities.

Families' income losses due to the rolling lockdowns and lower economic activities resulted in widespread hunger and food insecurity, which exacerbated preexisting problems on food security and nutrition in the country. These will have immediate and long-term consequences on the health status of the population. Long-term effects will include undesirable health outcomes on children, on top of the persistent problem of stunting and malnutrition.

The COVID-19 disease itself is already affecting health outcomes as casualties mount while those who survived it are left with side effects, such as lung damage, recurring fatigue, and motor skills impairment, the long-term consequences of which are still under study. Non-COVID-19 health services delivery is also being affected as the pandemic disrupts existing vaccination campaigns, treatment of non-COVID-19 patients, and delivery of non-COVID-19 supplies.

The decline in the enrollment rate in education is worrisome enough, but more disconcerting is the quality of education due to the suboptimal mode of learning that Philippine schools had to adopt. Filipino education service delivery shifted from in-person learning in physical classroom settings to a blended mode of digital classrooms, lectures via television and radio broadcasts, and distribution of paper-based learning modules to prevent learners and teachers from getting infected with the virus.

Food insecurity, health effects, and suboptimal education will have debilitating impacts on Filipinos' potential human development—a factor that must be considered in the country's total response to the pandemic.

Inequality and those left behind

Despite the progress in overall poverty reduction in recent years, the Philippines' inequality indicators remain high. The Gini coefficient—or the measure of inequality within a population, with 1 representing perfect inequality and 0 representing perfect equality—declined from 0.4438 in 2015 to 0.4267 in 2018. While this latest inequality figure showed some improvement, it was not significant.

When analyzed by administrative region, inequality was also seen to have lessened in most regions, except in the Cordillera Administrative Region, Cagayan Valley, Bicol, Caraga, and the Autonomous Region in Muslim Mindanao (ARMM), the precursor of the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)[1] (Table 1).

Behind these Gini coefficient figures are the poor, informal settlers, internally displaced, homeless, informal sector workers, persons with disabilities, indigenous peoples, and women and children in vulnerable situations. They had been left behind even before the pandemic struck and now stand to lose more on their human development potential. To avoid such a disproportionate impact, their current status and vulnerabilities must be highlighted in all stages of COVID-related policy and program interventions—from design to budgeting and eventual implementation.

The poor and disparities in poverty across administrative regions

Recent gains in poverty reduction have been seen in the country as a whole, as in almost every region, except the ARMM (the precursor of the BARMM), which exhibited an increase in poverty incidence of 2.4-percentage points. Disparities across regions in terms of poverty rates also persisted and, in some cases, worsened. For example, poverty incidence in ARMM was 28.1 times that in the NCR in 2018 (Table 2).

[1] The figures for the ARMM are not necessarily the figures for the BARMM because the latter was created only after the 2019 plebiscite and has a wider geographic area as more constituents voted to be part of the region.

Table 1. Gini coefficient by region, Philippines, 2015 and 2018

Region	2015	2018
Philippines	0.4438	0.4267
National Capital Region	0.3908	0.3520
Cordillera Administrative Region	0.4209	0.4437
Region I (Ilocos)	0.3977	0.3893
Region II (Cagayan Valley)	0.4063	0.4278
Region III (Central Luzon)	0.3969	0.3717
Region IVA (CALABARZON)	0.4011	0.3952
MIMAROPA	0.4564	0.4230
Region V (Bicol)	0.3960	0.3967
Region VI (Western Visayas)	0.4361	0.4241
Region VII (Central Visayas)	0.4645	0.4425
Region VIII (Eastern Visayas)	0.4647	0.4457
Region IX (Zamboanga Peninsula)	0.4359	0.4231
Region X (Northern Mindanao)	0.4633	0.4059
Region XI (Davao)	0.4294	0.4108
Region XII (SOCCSKSARGEN)	0.4624	0.4303
Region XIII (Caraga)	0.4336	0.4383
Autonomous Region in Muslim Mindanao	0.2800	0.2819

CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos City
Source: PSA (2019)

Informal settlers, homeless, and internally displaced

Table 3 shows the Philippine data on informal settlers—those who either own a house in a rent-free lot without the owner's consent or enjoy a rent-free house and lot without the permission of the owner. There were about 2.45 million (2.32%) informal settlers in the country in 2018. Official national data on homelessness, however, is lacking. It is not clear if the number of informal settlers measured by the Philippine Statistics Authority (PSA) includes, as a subset, those who may be experiencing transient homelessness and chronic homelessness, or if it captures those who have no roof at all, such as

Table 2. Regional poverty incidence and disparity ratios

	Poverty Incidence (among population, %)		Poverty Incidence Reduction/ Increase (percentage points)	Poverty Incidence Disparity Ratio between Other Regions and NCR	
	2015	2018		2015	2018
Philippines	23.5	16.7	(6.80)		
National Capital Region	4.1	2.2	(1.90)	1.0	1.0
Cordillera Administrative Region	22.7	12	(10.70)	5.5	5.5
Region I (Ilocos)	18.8	9.9	(8.90)	4.6	4.5
Region II (Cagayan Valley)	17.8	16.3	(1.50)	4.3	7.4
Region III (Central Luzon)	10.5	7	(3.50)	2.6	3.2
Region IV-A (CALABARZON)	12.5	7.1	(5.40)	3.0	3.2
MIMAROPA	25.2	15.1	(10.10)	6.1	6.9
Region V (Bicol)	39.8	27	(12.80)	9.7	12.3
Region VI (Western Visayas)	24.6	16.3	(8.30)	6.0	7.4
Region VII (Central Visayas)	29.4	17.7	(11.70)	7.2	8.0
Region VIII (Eastern Visayas)	41.3	30.7	(10.60)	10.1	14.0
Region IX (Zamboanga Peninsula)	37.7	32.7	(5.00)	9.2	14.9
Region X (Northern Mindanao)	38.7	23.1	(15.60)	9.4	10.5
Region XI (Davao)	23.5	19.1	(4.40)	5.7	8.7
Region XII (SOCCSKSARGEN)	38.1	28.2	(9.90)	9.3	12.8
Region XIII (Caraga)	39.7	30.5	(9.20)	9.7	13.9
Autonomous Region in Muslim Mindanao	59.4	61.8	2.40	14.5	28.1

NCR = National Capital Region; CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos City
Source: PSA (2020)

Table 3. Number and percentage of households and individuals who are informal settlers,* 2018

Region	Households		Population	
	Number	Percent	Number	Percent
Philippines	**531,596**	**2.15**	**2,451,968**	**2.32**
National Capital Region	138,542	4.17	604,522	4.49
Cordillera Administrative Region	4,761	1.13	19,508	1.10
Region I (Ilocos)	9,890	0.82	43,176	0.83
Region II (Cagayan Valley)	6,105	0.72	29,518	0.82
Region III (Central Luzon)	31,457	1.13	154,705	1.30
Region IV-A (CALABARZON)	51,902	1.38	227,372	1.47
MIMAROPA	8,731	1.18	39,042	1.26
Region V (Bicol)	20,256	1.58	101,055	1.68
Region VI (Western Visayas)	36,423	1.99	165,962	2.14
Region VII (Central Visayas)	48,544	2.64	216,015	2.79
Region VIII (Eastern Visayas)	21,756	2.06	94,549	2.05
Region IX (Zamboanga Peninsula)	25,372	3.03	121,097	3.25
Region X (Northern Mindanao)	26,615	2.38	125,446	2.56
Region XI (Davao Region)	18,015	1.40	76,270	1.49
Region XII (SOCCSKSARGEN)	24,970	2.21	112,729	2.36
Region XIII (Caraga)	15,471	2.50	72,163	2.68
Autonomous Region in Muslim Mindanao	42,786	6.51	248,838	6.20

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* Informal settlers are those residing in a house and/or lot without the consent of the owner.

Source: PSA (2019)

the street dwellers. Given that the PSA's definition of the "Others" subcategory in the type of building/housing unit in the 2015 Census of Population and Housing includes households living in abandoned buildings, abandoned trucks, kariton (carts), treehouses, caves, and the like, then one can argue that such can be considered as the closest proxy indicator for homelessness. There were 4,718 households categorized under "Others" for the type of building in the 2015 Census of Population and Housing.

The surveys so far—i.e., from the government's own surveys to the ones conducted by international development partners such as the Asian Development Bank (ADB) and private organizations such as the Social Weather Stations (SWS)—have not yet uncovered the impact of the pandemic on homelessness in the Philippines. Thus, there is a need to help the government identify the measurements for homelessness and design programs for homeless families during the pandemic. For this kind of intervention, complementing local government units' efforts in getting data from street dwellers and helping this vulnerable group, especially in big cities like Metro Manila and Metro Cebu, can be a good starting point.

The Internal Displacement Monitoring Centre (2020) reported that by the first half of 2020, the Philippines had 811,000 internally displaced people (IDP) due to disasters and 66,000 IDPs due to violence and conflict. Moreover, all recorded displacements due to violence and conflict occurred in Mindanao.

The COVID-19 pandemic heightens the vulnerabilities of the informal settlers, homeless, and IDPs because their cramped living spaces, food insecurity, and inadequate access to safe water and sanitation expose them to higher risks of virus transmission.

Informal sector workers

The groups that are left behind also include the 13.95 million informal sector workers (as of October 2020) who are concentrated in Central Luzon and CALABARZON (Cavite, Laguna, Batangas, Rizal, and Quezon) regions (Table 4).

Informal sector workers have already been struggling to survive even before the pandemic. Given the mobility restrictions during the community quarantine or lockdowns and the loss of opportunities to offer their services, informal sector workers have fewer income

Table 4. Informal sector workers* by region, October 2020

Region	Number	% Distribution
National Capital Region	1,019,958	7.31
Cordillera Administrative Region	293,649	2.11
Region I (Ilocos)	570,678	4.09
Region II (Cagayan Valley)	517,229	3.71
Region III (Central Luzon)	1,289,954	9.25
Region IV-A (CALABARZON)	1,533,006	10.99
MIMAROPA	529,881	3.80
Region V (Bicol)	940,921	6.75
Region VI (Western Visayas)	987,385	7.08
Region VII (Central Visayas)	996,490	7.14
Region VIII (Eastern Visayas)	803,045	5.76
Region IX (Zamboanga Peninsula)	605,518	4.34
Region X (Northern Mindanao)	838,397	6.01
Region XI (Davao Region)	595,713	4.27
Region XII (SOCCSKSARGEN)	813,356	5.83
Region XIII (Caraga)	525,224	3.77
Bangsamoro Autonomous Region in Muslim Mindanao	1,088,962	7.81
Total	**13,949,367**	

CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos City
* Informal sector operators are either self-employed without any paid employee or employer in own-family operated farm or business.
Source: PSA (2021a)

prospects, hampering their ability to spend on food and health that should protect them from the COVID-19 virus in the first place.

Persons with disabilities

Persons with disabilities (PWDs) belonging to 1.44 million households as of 2010 (Table 5) were also left behind during the pandemic.

No recent census on PWDs has been conducted since 2010, but a National Disability Prevalence Survey in 2016 showed their pre-COVID conditions. According to the survey conducted on 10,464 household respondents and 10,240 individual respondents (PSA and DOH 2016), the prevalence of severe disability among

Table 5. Household population with persons with disability by sex and age group, 2010

Age Group	All PWD ('000)	Male ('000)	Female ('000)
All ages	1,443	734	709
0 to 14	272	149	123
15 to 49	578	312	266
50 to 64	274	141	133
65 years and over	319	132	187

PWDs = persons with disability
Source: PSA (2012)

those 15 years and older is 12 percent while moderate disability is 47 percent, mild disability is 22 percent, and those with no disability is 19 percent. Severe disability is greater among women (60%) than men (40%). By age group, the prevalence of severe disability is highest among those 60 years and older (32%) and least among 15 to 39 years (6%).

Persons with disability tend to suffer more from adverse health conditions, unequal access to work, and other unmet needs. Health conditions common among those with severe disabilities are vision problems, back pain, arthritis, hypertension, and sleep problem. The prevalence of each of these health conditions is over 30 percent.

Of those with severe disabilities, 25 percent face problems with access to education and 34 percent with access to work. Despite the presence of assistance programs, PWDs still have unmet needs. Among those who already have personal assistance, 1 percent of those with moderate disabilities are reported to need additional assistance. Meanwhile, 8 percent of those with severe disabilities also require additional assistance.

It is worth emphasizing that one of the complaints during the early days of the community quarantine in the Philippines is the absence of PWD-friendly announcements and news. Access to information is a low-hanging fruit that the government has started addressing. However, ensuring that PWDs receive the right form and amount of socioeconomic assistance is the bigger challenge.

Indigenous peoples

The plight of the indigenous peoples (IPs), estimated to be around 8.8 million (consisting of 7.9 million non-Muslim IPs and 900,000 Muslim IPs) in the 2010 census, is likely to worsen should the pandemic reach their communities because of their very low levels of access to safe water and sanitation. According to the census, of the 7.9 million non-Muslim IPs, 34.8 percent have no access to safe water, and 20.1 percent have no access to sanitary toilet facilities. Of the 900,000 Muslim IPs, 53.9 percent and 46.5 percent have no access to safe water and sanitary toilet facilities, respectively. Interventions related to safe water and improved sanitation must be given importance in government programs if the IPs, especially the elderly, are to be protected from the coronavirus. It would be devastating if the indigenous population lose their elders, as the latter are their culture bearers and knowledge repositories.

The learning modules that the Department of Education (DepEd) developed during the pandemic require parents, guardians, or siblings to guide the learners at home. However, in poor and remote IP communities, the literacy level among adults tends to be low; thus, self-learning with parents' and guardians' guidance is more challenging. Moreover, the government is confronted with the perennial shortage of licensed IP teachers. Therefore, government education interventions for IPs should focus not only on learners but also on parents, guardians, and teachers.

Women and children in vulnerable situations

Women and children also face a bleaker scenario as the pandemic puts them in highly vulnerable situations. According to a UN Women (2020) report, the lockdowns had the consequence of trapping women and children with abusive family members and perpetrators of sexual or gender-based violence. Citing Philippine National Police and Department of Justice data published in news articles, the report also mentioned the following statistics on sexual and gender-based violence and crimes against women and children since the enhanced

community quarantine in Luzon started on March 17, 2020 up to May 23, 2020:

- On average, eight people a day are sexually assaulted
- Over 1,200 cases of crimes against women and children were reported during March and April
- 602 rape crimes occurred from March 17 to May 23
- A three-fold increase in tips about online sexual exploitation of children was received from March to May.

Quarantine passes designed to limit mobility to curb virus transmission have been used as instruments of sexual harassment by a few law enforcers manning checkpoints, according to the UN Women report. It also notes that women deprived of liberty are at increased risk of contracting COVID-19 and facing gender-based violence, given that jails are severely congested. According to the Bureau of Jail Management and Penology, 467 jails were at 534 percent capacity as of 19 March 2020. Women account for almost 9 percent of the prison population.

The lockdowns forced schools, nurseries, and support services to close and confined economic activities within homes. Thus, the pandemic is also forcing women to take on more of the burden in domestic care than men. Prior to the pandemic, Filipino women's unpaid and largely invisible (i.e., not measured as part of the gross domestic product [GDP]) work was already worth PHP 2 trillion (around 20 percent of the GDP), according to a study by Abrigo and Francisco-Abrigo (2019). An Oxfam survey[2] conducted during the pandemic revealed that over 50 percent of urban poor and marginalized Filipino women reported increased unpaid care work. Internally displaced persons, single mothers, young mothers, those enrolled in the government social protection program called the *Pantawid Pamilyang Pilipino* Program, and older persons reported, on average, an increase of more than five hours of unpaid care and domestic work a day during the pandemic (Oxfam 2020).

[2] The survey consisted in-depth phone interviews and online surveys in urban poor and marginalized communities. There were 951 respondents comprising 614 females, 273 men, 63 self-identifying gender-nonconforming people, and one respondent who gave no response on self-identification.

Regression in human development due to COVID-19

Since 1990, the United Nations Development Programme (UNDP) has been assessing countries' levels of human development by looking at achievements in three key dimensions: attaining a long and healthy life, being knowledgeable, and having a decent standard of living. A summary measure, called the Human Development Index (HDI), captures the average achievements through assessments of life expectancy at birth as an indicator of the health dimension, expected years of schooling and mean years of schooling as indicators of the education dimension, and Gross National Income (GNI) per capita as an indicator of standard of living. As the following discussion shows, the level of the Philippines' HDI had been increasing steadily before COVID-19. The pandemic, however, is putting this positive trajectory at risk. Given the impacts of the pandemic, the country's HDI is expected to regress, and the prevailing inequality exacerbates this expected regression.

Trajectory of the Philippines' HDI before the pandemic

Before COVID-19, the Philippines' HDI, as reported in the *2020 Human Development Report*, exhibited an upward trajectory. Table 6 shows that life expectancy at birth increased significantly pre-COVID. However, access to learning and knowledge, as measured by expected years of schooling for children of school-entry age shows a slight deterioration since 2016. Knowledge level, as measured by mean years of schooling—or the average number of years of schooling received in a lifetime by people aged 25 years and older—indicates an increasing trend. Standard of living, as measured by GNI per capita expressed in constant 2017 international dollars converted using purchasing power parity (PPP) conversion rates, also significantly increased.

In sum, the Philippines' HDI value for 2019 was 0.718. Thus, prior to the pandemic, the country ranked 107th out of 189 countries and United Nations-recognized territories and was among those in the high human development category (or countries and territories with HDI of 0.700–0.799).

Although the Philippines' HDI for 2019 places the country in the high HDI group, its HDI is below the average in East Asia and the Pacific region. Moreover, when the value is adjusted for inequality, the

Table 6. Trajectory of human development indicators before the pandemic

	1990	2000	2010	2015	2016	2017	2018	2019
Philippines								
Life expectancy at birth	66.4	68.8	69.8	70.6	70.8	71.0	71.1	71.2
Expected years of schooling	10.8	11.4	11.7	12.8	12.7	12.7	12.7	13.1
Mean years of schooling	6.6	7.7	8.9	9.3	9.3	9.4	9.4	9.4
GNI per capita (in 2017 PPP USD)	4,157	4,896	6,601	8,144	8,564	9,017	9,414	9,778
HDI	0.593	0.632	0.671	0.701	0.704	0.708	0.711	0.718
Inequality-adjusted HDI								0.587
Overall loss due to inequality								18.2%
East Asia and the Pacific								
HDI								0.747
Inequality-adjusted HDI								0.621
Overall loss due to inequality								16.9%

GNI = gross national income; PPP = purchasing power parity; USD= United States dollar; HDI = Human Development Index
Sources: UNDP (2020a, 2020b)

country's HDI falls to 0.587, which amounts to a loss of 18.2 percent due to inequality. In comparison, the average loss due to inequality for East Asia and the Pacific is lower at 16.9 percent.

Risks posed by COVID-19 on Philippine human development

The upward trajectory of the Philippines' HDI is now at risk as mobility is restricted and family incomes decline, with adverse implications for families' spending on food, health, and education. Services delivery in health and education is also disrupted by the pandemic. Moreover, the economic recession in 2020 resulted in lower income per capita. All these point to expected regression in the key dimensions of human development, namely, life expectancy, education, and standard of living, in 2020. If left unaddressed, these would increase the risk of further degradation of Philippine human development in the coming years.

Food security and nutrition

Mobility restrictions, disruption in economic activities, and income losses gave rise to serious pressures on food security and reduced nutrition among households. In a survey by the Innovations for Poverty Action (2020) conducted between June 18, 2020 and July 1, 2020 on 1,389 respondents,[3] the following findings reveal the plight of Filipino households in terms of food insecurity:

- Twenty six percent of respondents said that they had to limit portion sizes at mealtimes more than once in the past week, more than 20 percent had to reduce the number of meals eaten in a day, and more than 35 percent had reduced the kinds of food eaten in a day more than once in the past week.
- Over 70 percent of respondents reported difficulty buying the amount of food they usually buy because household income had dropped.
- Eighty nine percent of households had received support from the government to mitigate the impact of COVID-19

[3] The respondents came from all regions. However, the sampling method involved random digit dialing of phone numbers in the cellular service network; thus, the sampling frame is not nationally representative.

on their lives; of those who received support, 97 percent received food, and 45 percent received cash; 45 percent of households reported obtaining cash payments they did not usually receive from the government or they were not cash transfer program beneficiaries pre-COVID.

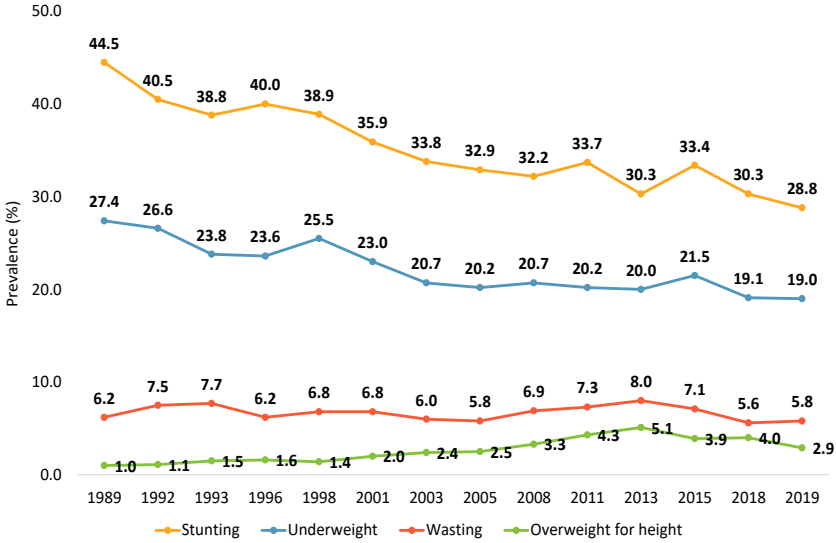
- Seventy percent of respondents said that they had to deplete their savings to pay for food since February 2020.
- Men and women were similarly likely to say they had to deplete their savings to pay for food since February 2020.
- Respondents with school-age children were more likely to say that they borrowed money they were uncertain about paying back on time, skipped making a required payment on a loan, or made fewer purchases than planned so they could pay for food since February 2020.
- Poorer respondents were more likely to say they borrowed money they were uncertain to pay back on time just so they could buy food ever since February 2020.
- Almost 60 percent of respondents reported difficulty going to food markets due to the government's mobility restrictions, and more than 50 percent had difficulty because food markets were closed.
- Of the respondents who received regular government cash transfers (n=128), 38 percent experienced difficulties accessing payments.

Such situations have grave consequences on the nutritional status of family members, especially children. This can reverse trends in or delay the improvements of the nutritional status of children under 5 years old, which is already a serious policy concern even before the COVID-19 pandemic. The declining trends in stunting, being underweight, wasting, and being overweight among children under 5 years old (Figure 1) are put at greater risk by the pandemic.

The pandemic and community quarantines also resulted in involuntary hunger.[4] In a national mobile survey conducted on September 17–20, 2020, the SWS found that a record-high

[4] Hunger due to lack of food to eat

Figure 1. Trends in nutritional status of children under 5 years old



Notes:
1. Stunting: height for age < –2 standard deviation (SD) of the World Health Organization (WHO) Child Growth Standards median
2. Underweight: weight for age < –2 SD of the WHO Child Growth Standards median
3. Wasting: weight for height < –2 SD of the WHO Child Growth Standards median
4. Overweight for height: weight for height > +2 SD of the WHO Child Growth Standards median

Sources: DOST-FNRI (2016, 2020); Mbuya et al. (2021)

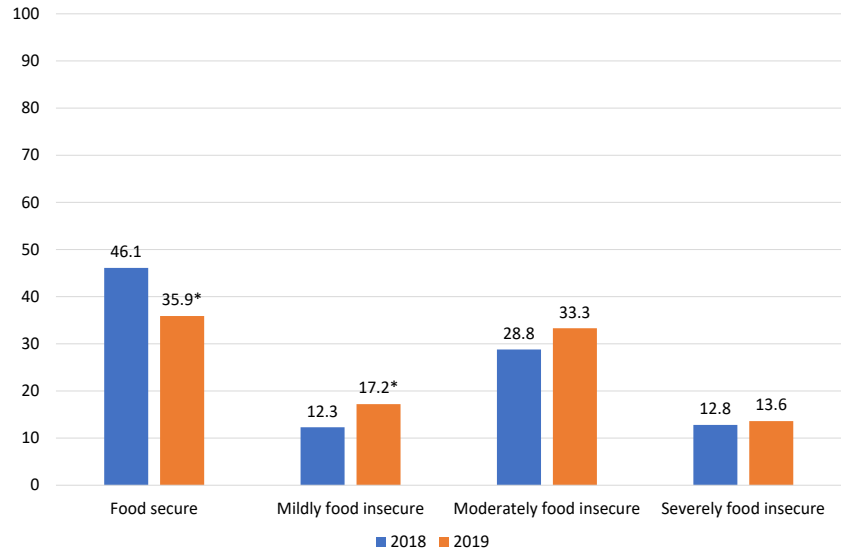
30.7 percent (around 7.6 million families) experienced involuntary hunger at least once in the past 3 months (SWS 2020). This is the highest hunger rate in SWS surveys since the 23.8 percent rate recorded in March 2012. The 30.7 percent hunger rate is further broken down as follows: 22 percent (5.5 million families) experienced moderate hunger (i.e., only once or a few times in the last 3 months), and 8.7 percent (2.2 million families) experienced severe hunger (i.e., often or always in the last 3 months). Overall, hunger was highest in areas far from the National Capital Region (NCR); the rate stood at 40.7 percent in Visayas and 24.2 percent in Mindanao. In comparison, it was 16.3 percent in NCR and 17.8 percent in the rest of Luzon.

Although it is uncommon for the government to use SWS surveys as an official reference because these involve a lot of "noise" or fluctuation in the data, the SWS finding confirmed pre-COVID official nutrition surveys on Filipino households' experience on involuntary hunger. In particular, the Department of Science and Technology-Food and Nutrition Research Institute's (DOST-FNRI) nutrition surveys (DOST-FNRI n.d.) found that 12.8 percent and 13.6 percent of households in 2018 and 2019, respectively, were severely food-insecure. Meanwhile, 28.8 percent and 33.3 percent of households in 2018 and 2019, respectively, were moderately food-insecure (Figure 2). In estimating these food insecurity indicators, the DOST-FNRI used a household food insecurity access scale that assessed the households' experience of nine situations of hunger and food insecurity in the past month, as described in the conceptual framework (see Figure 3).

From a sectoral perspective, aggregate food security is also at risk, given that the pandemic aggravated existing challenges in the Philippines' agri-food system. According to the Food and Agriculture Organization (2020), the Philippines' agri-food system was already beset by short-term challenges such as livestock diseases (e.g., African swine fever and bird flu), crop infestation (e.g., fall armyworm), and typhoons as well as long-term concerns on high logistics costs, weakly connected value chains, and vulnerability to hazards prior to the pandemic.

The restriction measures related to the pandemic exacerbated these existing challenges. Mobility restrictions, quarantine protocols, and establishment closures calibrated based on the community quarantine status are negatively affecting household incomes and causing food accessibility issues. According to the April-May 2020 survey of the National Economic and Development Authority (IATF-TWG for AFP 2020), disruptions in trading and transportation resulted in agriculture sector losses of PHP 94.3 million (about USD 1.9 million) from unsold produce, with the regions of CALABARZON and Central Luzon accounting for 27.9 percent and 26.3 percent of the losses, respectively. The Department of Agriculture, nevertheless, continues to give assurances on the food security status of the country.

Figure 2. Percentage of households by food security status, 2018 versus 2019



*Significant difference between 2018 and 2019
Note: Food insecure households: 53.9 percent (2018) versus 64.1 percent (2019)
Source: DOST-FNRI (n.d.)

Figure 3. Household food insecurity access scale

Situation(s) experienced in the past month	Frequency			
	Never (0)	Rarely (1-2)	Sometimes (3-10)	Often (>10)
1. Worry about food				
2. Unable to eat preferred foods				
3. East just a few kinds of foods				
4. Eat foods they really do not want to eat				
5. Eat a smaller meal				
6. Eat fewer meals in a day				
7. No food of any kind in the household				
8. Go to sleep hungry				
9. Go a whole day and night without eating				

Legend:

Food secure	**Moderately food insecure**
Mildly food insecure	**Severely food insecure**

Source: DOST-FNRI (2020)

Health services delivery

Containing the spread of the virus and enabling quick economic recovery depend not only on lockdowns and the public's cooperation but also on the health system's capacity to respond to the pandemic. The Philippines has to improve significantly in this aspect. Systemic problems in the Philippine health system exist even before the pandemic. Dayrit et al. (2018) cite some of these problems. Data show that physical infrastructure was limited and inequitably distributed. That is, almost two-thirds of the 101,688 hospital beds (distributed in 1,224 hospitals across the country) were in Luzon as of 2016; thus, the NCR had 23 hospital beds for every 10,000 people while the rest of Luzon, the Visayas, and Mindanao had only 8.2, 7.8, and 8.3 beds per 10,000 people, respectively. Moreover, in terms of human resources, the density of nurses per 10,000 population in 2017 was highest in NCR at 12.6 and lowest in ARMM[5] at 4.2.

The study also cites health expenditure issues. The three major flows of public health financing—Department of Health (DOH) funds, local government funds, and Philippine Health Insurance Corporation (PhilHealth) funds—have overlapping coverages. PhilHealth is not yet a strategic purchaser of services and accounts for a small share of total health expenditure, while out-of-pocket spending by Filipinos continues to be the dominant source of financing for health care.[6] The progress of local governments toward the attainment of national health objectives, meanwhile, is highly uneven under an environment of devolved health financing and services delivery. In addition, the country's universal healthcare program requires strong regulatory capacity and leveraging of financing incentives, but the private sector is not yet optimally engaged in healthcare delivery.

[5] Note that ARMM had not transitioned to BARMM yet in 2018.

[6] Recently, this systemic weakness surfaced as PhilHealth officials figured in corruption allegations about a service purchasing scheme called interim reimbursement mechanism, which justifies the extension of cash advances to hospitals (Tadalan 2020).

Moreover, in its preparedness dashboard for South-East Asian countries against COVID-19, the United Nations Economic and Social Commission for Asia and the Pacific shows that the Philippines is in the median group in terms of availability of physicians but fares low in hospital beds availability and number of nurses and midwives. The country's average figures from 2010 to 2018 for physicians is 12.8 per 10,000 people; 10 hospital beds per 10,000 people (which makes the country among the three lowest in this indicator); and 2 nurses and midwives per 10,000 people (landing the country at the bottom in this indicator) (UNESCAP 2020). The government, nevertheless, has upgraded its COVID response by increasing its testing capacity. As of December 15, 2021, the Philippines had 226 licensed RT-PCR laboratories and 73 GeneXpert laboratories and, so far, had tested 23.33 million individuals, increased the intensive care units' bed capacity and availability of mechanical ventilators in hospitals, constructed isolation and quarantine facilities in major cities and local government units (LGUs), and continuously hired health workers (DOH 2021).

In the country's health system strategy to fight the pandemic, the weaknesses seem to be in isolating cases at symptom onset and contact tracing. The government's delays in these could mean longer community quarantines and slowed economic recovery. For instance, on August 17, 2020, the Philippine Red Cross (PRC) reported that the DOH had a backlog of more than 5,000 cases in terms of informing individuals about their positive COVID-19 results (Mocon-Ciriaco and Medenilla 2020). Given that the delay in isolation can result in higher virus transmission, the DOH eventually agreed to allow the PRC to relay the test results to individuals directly.

Delays were further aggravated when PRC had to stop COVID-19 testing on October 14 due to PhilHealth's PHP 1 billion backlog in payments to the humanitarian organization—another symptom of systemic weaknesses in the health system (Mocon-Ciriaco and Medenilla 2020).

Moreover, government-designated contact tracing czar Mayor Benjamin Magalong (of Baguio City, Cordillera Administrative Region) was reported in the media to have stated that the contact tracing ratio in the Philippines is still weak at only 1:7 (*CNN Philippines* 2020). This

means that for every COVID-19 case, LGUs can track only seven close contacts. The ideal ratio, according to Mayor Magalong, is 1:37.

Meanwhile, the hiring of health workers also suffered delays. Only recently was there a narrowing in the hiring backlog. Out of the 16,808 approved slots for emergency hiring of health workers, only 11,672 were hired as of December 5, 2020 (DOH 2021). All these underscore the need for the Philippines to strategically focus on contact tracing, early case isolation, and ensuring the adequacy of the health sector workforce.

The delivery of non-COVID-19 health services has also lagged due to the pandemic. For instance, in August 2020, a DOH official confirmed in a media briefing that the pandemic is complicating the government's polio immunization campaign for children under five years old (Cabico 2020). The DOH reported that the vaccination drive in the NCR and CALABARZON has performed poorly because the COVID-19 transmission in these epicenters hinders the health workers' performance and families' acceptance rate of routine immunization services. Some vaccinators also had to undergo mandatory quarantine after being exposed to the COVID-19 virus, thus further delaying the efforts.

Although the Philippines was declared polio-free by the World Health Organization (WHO) 19 years ago, polio cases reemerged in September 2019—at a time when there was low public confidence in vaccines. In 2019, the DOH acknowledged this public sentiment following the release of the London School of Hygiene and Tropical Medicine (Larson et al. 2018) study that compared 2015 confidence levels toward vaccines vis-à-vis 2018 levels. The Vaccine Confidence Project found that Philippine respondents' view of vaccines as "important" has decreased from 93 percent in 2015 to 32 percent in 2018, and of vaccines as "safe and effective" has declined from 82 percent to 21 percent. The overall vaccine confidence dropped from 93 percent to 32 percent.

The government must also watch out for disruptions in the delivery of services in other non-COVID-19 cases and access to reproductive and maternal health services. The WHO reported in July 2020 that the Philippines counts among 36 countries that experienced a disruption in the provision of services related to human

immunodeficiency virus (HIV), hepatitis, and sexually transmitted infections since April 2020. The Philippines is also among the nations that raised potential stock-outs of supplies for hepatitis B and C. Service delivery disruptions can adversely affect the prevention of new infections and the treatment of currently affected individuals. The cited causes of disruptions among the monitored nations include:

- Drug supply issues and HIV drug manufacturer shutdowns
- Health systems capacity limitations
- Constraints with access to services and financing
- Restriction of movement because of lockdowns (e.g., failure of suppliers to deliver on time and courier service shutdown)

A rise in maternal deaths and unintended pregnancies in the Philippines by end-2020 is also feared because the pandemic has disrupted reproductive, maternal, and neonatal health services. Preliminary results of a study by the University of the Philippines Population Institute and the United Nations Population Fund revealed that the maternal mortality cases (deaths due to complications from pregnancy or childbirth) in 2020 can increase to up to 670 additional deaths (26% increase from 2019 level). The annual number of Filipino women of reproductive age (15–49 years of age) who do not use any contraception—although they do not want to become pregnant—can also increase by another 2.07 million by end-2020 (67% increase from 2019 level). Moreover, the study found that 18,000 more Filipino teenage girls got pregnant in 2020 compared to 2019. It posited that intimate partner violence is expected to increase during the lockdowns because women and girls are more likely to be confined in quarters with their abusers at home. The study estimated a possible 20 percent increase in intimate partner violence, physical or sexual, from 2019 to 2020 (UNFPA 2020).

The trajectory on the use of contraception already shows a decline in access, as shown by the last National Demographic and Health Survey. Contraceptive use for all categories of women fell between 2013 and 2017 (Table 7), and the pandemic is likely to aggravate this situation during lockdowns. Therefore, policymakers and health program implementers must respond to the challenge of increasing access to reproductive health services with greater resolve.

Table 7. Current use of any method of contraception, 1993–2017

Indicator	1993	1998	2003	2008	2013	2017
All women (%)						
15–19 years old	1.3	1.8	2.4	3.1	4.4	3.6
Total, 15–49 years old	24.2	28.9	31.6	32.5	34.6	33.6
Married women (%)						
15–19 years old	17.2	21.8	25.6	25.9	36.5	35.8
Total, 15–49 years old	40.0	47.8	48.9	50.7	55.1	54.3
Sexually active unmarried women (%)						
15–19 years old	–	–	–	–	41.5	31.4
Total, 15–49 years old	20.1	42.4	25.4	45.3	53.2	32.3

"–" = no data available
Note: Data subcategory for sexually active unmarried 15–19-year-old women started only in the 2013 National Demographic Health Survey.
Source: PSA (2018)

Even prior to the pandemic, inequality has hounded the delivery of health services in the Philippines. A 2017 study commissioned by the DOH shows urban-rural health inequities (Haw et al. 2017). Using data from the 2013 National Demographic and Health Survey, the study finds that overall urban rates mask inequalities in health outcomes between slums and non-slums. By examining detailed data, one finds a widening child mortality gap between slum and non-slum areas (where child mortality is measured for children five years old and below). Moreover, although child mortality rates are lower in urban areas than in rural areas, there is no difference in child mortality rates between urban slums and rural areas.

The study also found that Filipinos in urban slums generally have worse health outcomes than their non-slum counterparts and, sometimes, worse than their rural counterparts. Because many of the determinants of the living conditions of slum households are affected by factors outside the health sector, such as governance, physical environment, and social and economic security, interventions to close the health inequities should revolve not only around improving access to health services but also nonhealth interventions.

Education and training services delivery

Although the Sustainable Development Goal (SDG) trajectory for education suggests that significant improvements were happening before the pandemic, the drastic change in education service delivery modes might worsen inequalities unless critical investments in the information and communications technology (ICT) infrastructure are made. A comparison of the 2016 baseline rates and 2018 rates for the SDG indicators (PSA n.d.) on education reveals that school completion rates improved from 93.1 percent to 97.2 percent for primary schools and from 80.9 percent to 88.4 for secondary schools. Likewise, the dropout or school leavers rate improved from 1.5 percent to 0.5 percent for primary schools and from 6.2 percent to 3.4 percent for secondary schools. Such trajectory, however, is constrained by technology and fiscal space. The DepEd is now switching to "blended" learning modes, which include a modular home-based approach, online distance learning, and television- or radio-based instruction. The department estimates that television-based instruction might miss almost 50 percent of the poorest households, while online distance learning might miss around 27 percent of the same group. Such seems to suggest that the modular home-based approach is still the most inclusive of all the delivery modalities but comes with greater risks and would require much time and effort, especially in far-flung areas.

Internet, television, and radio coverage is challenging in some parts of the country. For example, the SDG monitoring on access to the internet reveals that in 2018, only 28.6 percent of primary schools, 40.8 percent of junior high schools, and 70.5 percent of senior high schools have access to the internet. Moreover, according to the 2019 National ICT Household Survey (DICT 2020), less than half (47.1%) of Filipino households have communal radios, 82.7 percent own televisions at home, 17.7 percent have their own internet access at home, 8.2 percent boast of their own fixed telephone line, 24 percent possess communal cellphones, and 23.8 percent have communal computers.

To ensure better delivery of education and other services, the government should fast-track the country's digital connectivity by accelerating investments in expanded, reliable, and more affordable ICT infrastructure. The new common tower policy, which weakens the hold of the existing duopoly (PLDT-SMART and Globe Telecom) on ICT infrastructure, is a step in the right direction. The policy, issued on May 29, 2020, encourages the growth and development of independent tower companies as operators of the shared passive telecommunications tower infrastructure.

In the time of the pandemic and beyond, education and training delivery must also be enhanced through quality educational programs and digital skills training for learners and educators. These interventions will provide higher resilience during crises (ADB 2020).

Income per capita and standard of living

Going by the UNDP metrics, the increasing standard of living of Filipinos pre-pandemic is represented by the high and sustained growth of GDP per capita and gross regional domestic product (GRDP) per capita. However, due to COVID-19, GDP per capita and GRDP per capita declined significantly in 2020, representing the drastic deterioration of the standard of living of Filipinos in the first year of the pandemic (Table 8).

In the COVID-induced economic recession of 2020, the Central Luzon region, CALABARZON region, NCR, and Central Visayas region suffered the worst per capita income declines. This implies a greater deterioration of the standard of living of residents in these regions, which have populous cities and interconnected centers of economic activities.

Spatial inequality across administrative regions is also prevailing. As Table 8 shows, the levels of GRDP per capita show marked disparities between poor and rich regions. For instance, although BARMM had a lower per capita income decline relative to the NCR in 2020, its residents are still worse off given that per capita income in NCR is 7.84 times that in the BARMM.

Table 8. GRDP per capita levels (at constant 2018 prices) and growth rates, 2017–2020

	GRDP per Capita (in PHP)				GRDP per Capita Growth/Decline (%)		
	2017	2018	2019	2020	2017–2018	2018–2019	2019–2020
Philippines	**164,885**	**172,712**	**180,661**	**161,137**	**4.7**	**4.6**	**-10.8**
National Capital Region	415,210	432,181	456,532	405,399	4.1	5.6	-11.2
Cordillera Administrative Region	165,997	173,651	179,544	160,365	4.6	3.4	-10.7
Region I (Ilocos)	108,156	113,471	120,625	110,400	4.9	6.3	-8.5
Region II (Cagayan Valley)	104,093	107,568	113,688	101,392	3.3	5.7	-10.8
Region III (Central Luzon)	165,346	173,452	180,396	152,683	4.9	4.0	-15.4
Region IV-A (CALABARZON)	167,558	175,563	179,868	157,890	4.8	2.5	-12.2
Region IV-B (MIMAROPA)	111,920	119,813	123,356	112,568	7.1	3.0	-8.7
Region V (Bicol)	82,254	86,916	93,050	84,362	5.7	7.1	-9.3
Region VI (Western Visayas)	106,750	110,783	116,631	104,422	3.8	5.3	-10.5
Region VII (Central Visayas)	144,511	152,478	159,686	141,993	5.5	4.7	-11.1
Region VIII (Eastern Visayas)	91,113	96,204	100,261	91,393	5.6	4.2	-8.8
Region IX (Zamboanga Peninsula)	96,610	101,872	105,711	99,411	5.4	3.8	-6.0
Region X (Northern Mindanao)	158,825	167,832	175,018	163,952	5.7	4.3	-6.3
Region XI (Davao)	155,504	164,042	172,912	157,270	5.5	5.4	-9.0
Region XII (SOCCSKSARGEN)	101,425	106,737	108,812	102,767	5.2	1.9	-5.6
Region XIII (Caraga)	103,863	107,932	112,471	103,206	3.9	4.2	-8.2
Bangsamoro Autonomous Region in Muslim Mindanao*	49,170	51,898	53,825	51,736	5.5	3.7	-3.9

GRDP = gross regional domestic product; CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos City

Note: * For the years 2017 to 2018, the figures are for the Autonomous Region in Muslim Mindanao, the precursor of the Bangsamoro Autonomous Region in Muslim Mindanao.

The recently released GRDP figures in constant prices are rebased data wherein the base year was shifted from 2000 to 2018. The Philippine Statistics Authority's backtracking of rebased data has been done so far for 2017–2020.

Source: PSA (2021b)

Table 9. Estimation of the Philippines' 2020 HDI and inequality-adjusted HDI

	Indicator	Dimension Index[a]	Inequality Measure (A)[b]	Inequality-adjusted Dimension Index[c]
Health		0.788	0.153	0.667
Life expectancy (years)	71.2[d]			
Education		0.644	0.101	0.579
Expected years of schooling (years)	13.48[e]	0.749		
Mean years of schooling (years)	8.08[f]	0.539		
Standard of living		0.672	0.281	0.483
GNI per capita (2017 PPP USD)	8,558.595[g]			
HDI		**0.699**		
Inequality-adjusted HDI				**0.571**
Loss in HDI due to inequality				**0.182**

GNI = gross national income; PPP = purchasing power parity; USD = United States dollars; HDI = Human Development Index
[a,c] Author's calculations
[b,d] 2020 Human Development Report
[e,f] Labor Force Survey 2020
[g] World Bank Open Data
Sources: Author's calculations; PSA (2021a); UNDP (2020); World Bank (n.d.)

Estimated worsening of the Philippines' HDI and inequality-adjusted HDI

Using the official 2019 data on HDI in the 2020 Human Development Report as a starting point, this study estimated the 2020 COVID-adjusted HDI for the Philippines based on assumed impacts of the pandemic on the health dimension and actual 2020 data for the education and standard of living dimensions (Table 9). In the estimation, the following inputs were used:

a. The health effects of the pandemic set back life expectancy at birth to its 2019 level, similar to the assumption by the UN Human Development Report Office (HDRO) in its 2020 simulation of the global HDI.[7]
b. The expected years of schooling for 2020 are estimated based on Labor Force Survey (LFS) data.
c. The mean years of schooling are estimated based on LFS data.
d. The 2020 GNI per capita is in 2017 PPP, as calculated by the World Bank (i.e., using the World Bank rebasing done in May 2020).

The estimation results show a steep decline in the Philippine HDI to 0.699 in 2020. This implies that human development in the Philippines in 2020 is estimated to be set back by about 5 years or regress to its pre-2015 level.[8] This result is slightly less than the UN HDRO estimate for the global HDI, which indicated that global HDI would regress by 6 years—an unprecedented decline since the concept of HDI was introduced in 1990 (UNDP 2020c).

The estimation of the inequality-adjusted HDI uses a method based on Foster et al. (2005), which draws on a welfare-based measure of income inequality developed by Atkinson (1970). The Atkinson index varies between 0 and 1; for example, an index of 0.38 means that, assuming a given inequality aversion parameter, 38 percent of total income can be released by society to have equality in incomes. As the Atkinson index increases, inequality increases.

[7] The UN HDRO's results of the global HDI simulation are in UNDP (2020c).

[8] Note that the 2015 HDI of the Philippines was 0.701.

Adjusting for inequality, the estimated 2020 HDI declines to 0.571. This means there is an 18.2 percent overall loss in human development due to inequality, which is greater than the loss in inequality in East Asia and the Pacific region, assuming unchanged inequality measures from 2019 to 2020 HDI calculations.

Concluding remarks

As the pandemic has a disproportionate impact on sections of society that are left behind, there is a need to more closely scrutinize existing inequalities and make the current status and vulnerabilities of the left-behind groups in all stages of the COVID-19 response visible. Considering that the delivery of public services, such as health and education services, to these vulnerable and left-behind groups has highlighted issues in the area of governance, process improvements and accountability measures must be in place for future responses to be effective.

The expected decline in Philippine HDI represents the devastating impact of COVID-19 on the ground. Inequality exacerbates this decline in Philippine HDI, with the loss in human development due to inequality likely greater than the average loss in the East Asia Pacific region. Thus, all policy levers of the government must be employed and greater contribution by development partners be sought to prevent further deterioration in human development in the coming years.

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Mitigating the Impact of COVID-19 Pandemic on Poverty

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Introduction

In December 2019, a novel strain of coronavirus called COVID-19 was first detected in Wuhan, China. The virus is known to attack the respiratory system of the infected individual and is commonly associated with the following symptoms: fever, cough, fatigue, and shortness of breath. People infected with the disease were observed to either exhibit no symptoms or have a range of minor to severe symptoms. Transmission is mainly through droplets generated by an infected person when they are coughing or sneezing. As such, people are forced to adapt to the new normal—practicing physical distancing, wearing masks, and regular handwashing—to lessen the risk of transmission.

Following several instances of sustained community transmission of the disease, the Inter-Agency Task Force for the Management of Emerging Infectious Diseases (IATF-EID) has raised the COVID-19 threat in the Philippines to the highest alert level (i.e., Code Red Sublevel 2) on March 12, 2020. Three days later, the Philippine government carried out a series of community-wide quarantine protocols, first covering the National Capital Region (NCR) on March 15 and the whole area of Luzon on March 17, before restricting the movements in the Visayas as well as Mindanao. Moreover, a state of calamity was declared throughout the country following the issuance of Presidential Proclamation 929 on March 17. These measures, particularly the enhanced community quarantine (ECQ) and stringent social distancing protocols, are designed to curb transmission by minimizing unnecessary physical contact. As such, only individuals working in essential sectors, such as health care, food supply, and banking services, can maintain operations during the said period.

Even though there is an ongoing outbreak, numerous Filipinos do not have the privilege to stockpile resources and miss a day of work. The stringent ECQ measures of the country, although critical in controlling the pandemic, have left more people vulnerable to poverty. Lower-income households often lack the disposable cash necessary to survive the entire period of the ECQ. Moreover, for some daily wage earners, the threat of losing their source of income far outweighs the risk of contracting the virus. Thus, there is an urgent need for the

government to support the country's most vulnerable sector through financial assistance and other relevant programs.

This paper aims to look at the impacts of COVID-19 on the poverty situation in the Philippines and how the government has responded to mitigate these impacts. The next section shows a simulation of the impacts on poverty under different scenarios. Meanwhile, the different emergency assistance programs implemented by both the national and local governments in response to the pandemic are highlighted in the succeeding sections.

COVID-19 impacts in the Philippines

The COVID-19 pandemic has led to a contraction of the Philippine economy. During the second quarter of 2020, the economy declined by 16.5 percent as the country-imposed community quarantines were implemented to contain the spread of the virus. The hardest hit were the accommodation and food service activities and transportation sectors, which contracted by 68 percent and 59 percent, respectively. These were followed by construction, mining, manufacturing, and real estate. On the other hand, a few sectors posted positive growth. Public administration and defense posted 8 percent growth (which means that there were no layoffs in government), followed by information and communications at 6.6 percent, as everyone turned to online streaming platforms for entertainment, and many had to work from home. Agriculture grew by 1.6 percent as the rural areas were not as affected by the community quarantines as the urban areas. Consequently, the economy contracted by 9 percent during the first semester.

As a result of the lockdown, household incomes went down mainly due to suspension and closure of nonessential work. The Department of Labor and Employment (DOLE) recorded a total of 428,701 displaced workers from 26,060 establishments nationwide in 2020, of which 392,768 workers from 25,495 establishments were displaced from March to December. Of the total establishments in 2020, 89.5 percent reduced their workforce, while the remaining 10.5 percent reported permanent closure. Most affected were workers from the NCR (49%), CALABARZON (13.1%), Central Visayas (9.9%),

and Central Luzon (9.4%). Among the sectors, workers in the administrative and support service activities (18.8%), other service activities (18.5%), manufacturing (12.1%), construction (11.2%), and accommodation and food service activities (9.4%) were mostly affected. In addition, a total of 100,290 establishments, majority of which were microenterprises (54.2%) covering 2,398,654 workers, were reported to have temporarily closed. Meanwhile, 62,857 establishments, most of which are micro (40.3%) and small enterprises (43.6%) covering 2,308,763 workers, were reported to have adopted flexible working arrangements (DOLE 2020b).

At the onset of ECQ implementation, unemployment rate was estimated at 17.6 percent in April 2020, equivalent to about 7.2 million unemployed persons (Table 1). This was about three times higher compared to the recorded unemployment rate in the same quarter of the previous year. Latest labor estimates showed a slowly improving employment statistics. Unemployment rate in October 2020 was estimated at 8.7 percent, equivalent to about 3.8 million people. This was mainly due to the gradual opening of some sectors following the easing of community quarantine restrictions.

Table 1. Philippine labor and employment situation, 2019–2020

Employment Statistics	2019				2020			
	Jan	Apr	Jul	Oct	Jan	Apr	Jul	Oct
Labor force participation rate	60.2	61.3	62.1	61.5	61.7	55.7	61.9	58.7
Employment rate	94.7	94.8	94.6	95.5	94.7	82.4	90.0	91.3
Underemployment rate	15.4	13.3	13.6	13.0	14.8	18.9	17.3	14.4
Unemployment rate	5.3	5.2	5.4	4.5	5.3	17.6	10.0	8.7

Source: PSA (2020a, 2020b, 2021a, 2021b)

As the increase in income poverty will only be captured by official government data in the next Family Income and Expenditure Survey in 2021, poverty simulations in two scenarios were done to estimate the impact of the pandemic on poverty. In both scenarios, it is assumed

that the income of the family is linked to the sector of employment of the household head. For the first scenario, no emergency cash subsidies were provided to affected families and individuals. Meanwhile, the second scenario considered a government-provided emergency cash transfer through the Social Amelioration Program (SAP), which is discussed in the succeeding section, to smoothen the consumption of the poor and vulnerable. The SAP provided emergency subsidies for 2 months to 18 million low-income households in the amount of at least PHP 5,000 to a maximum of PHP 8,000 per month, depending on the region where the beneficiary was located. In this scenario, it was assumed that SAP would cover the poorest 73 percent of the households, as the 18 million beneficiaries targeted by the program represent 73 percent of the total number of families.

In both scenarios, it is assumed that there will be a difficult economic recovery, wherein the economic contraction experienced in the first semester of 2020 would persist. This is based on the projection that the economic rebound in the second semester will be slow given the gradual reopening of the economy. Moreover, the second semester performance is assumed to see a decline in output compared to the same period in 2019, but the contraction would be less than that of the second quarter of 2020, which is a -17 percent growth. For these simulations, it is assumed that the annual gross domestic product for 2020 would decline by 9 percent.[1]

The poverty simulation results show that if the government did not implement an emergency subsidy program, an additional 960,000 (or 5 million individuals) will become poor as a result of the pandemic (Table 2). Implementation of the SAP reduces the number of Filipinos who will become poor to about 11,000 families (or 661,000 individuals). Given the projected economic performance for 2020, poverty is projected to still increase despite the implementation of the SAP.

The estimated impact of the pandemic on poverty is almost the same in urban and rural areas. In both urban and rural areas, an additional 480,000 families (or 2.5 million individuals) will fall

[1] The simulations were done in October 2020, when the full-year GDP growth rate was not yet available. The actual GDP growth rate in 2020 is 9.6 percent.

Table 2. Simulation of the impact of COVID-19 on the magnitude and incidence of poverty in 2020 under different scenarios, Philippines

Scenarios	Estimates		Increase/(Decrease)	
	Magnitude ('000)	Incidence (%)	Magnitude ('000)	Incidence (Percentage point)
Poverty incidence among families				
Before COVID-19*	3,004.6	12.1	–	–
In 2020 – without SAP	3,964.4	16.0	959.8	3.9
In 2020 – with SAP	3,015.5	12.2	10.9	0.05
Poverty incidence among population				
Before COVID-19*	17,670.2	16.7	–	–
In 2020 – without SAP	22,697.7	21.5	5,027.5	4.8
In 2020 – with SAP	18,330.8	17.3	660.6	0.6

COVID-19 = coronavirus disease 2019; SAP = Social Amelioration Program
*Official poverty estimates in 2018
Note: "–" = no data available
Source: Authors' estimates

into poverty if no emergency assistance was implemented. With SAP, however, the impact is estimated to be greater in urban areas, where about 150,000 families (or 1 million people) would become poor, compared to rural areas, where about 140,000 families (or 355,000 people) are estimated to fall out of poverty (Table 3).

In the estimates across regions, COVID-19 will mostly cause people residing particularly in the NCR, CALABARZON, and Central Luzon to fall into poverty (Table 4). Since said regions are the center of economic activity, the imposed community quarantine and the stringent physical distancing protocols affect their industries and establishments and leave their workers with less income than usual.

Recovery is expected to be slow in 2021 as the world and the country still struggle with the pandemic. The Philippines is projected to register positive economic growth but not enough to bounce back to pre-COVID level. With the easing of restrictions and gradual opening up of the economy, it is assumed to grow by 6.1 percent in 2021. Table 5 shows the impact on poverty of this economic growth and the provision of cash transfers. The first scenario assumes that there will be no emergency cash subsidies to be provided for the affected families and individuals. The second scenario adopts the SAP distribution scheme implemented in 2020. The third and fourth scenarios assume that there will be a SAP distribution to be provided only to 14 million low-income households in two and one tranches, respectively. The fifth and last scenario assumes a PHP 1,000 cash assistance to be distributed to all families. The challenges faced in implementing targeted programs (e.g., identifying the poorest families in 2020) and the recognition that no one has been spared from the impacts of the pandemic has led to this option of universal cash transfer. This would have bigger budget implications. On the other hand, if there was a fixed budget for the cash transfers, this would mean smaller assistance for each family.

Similar to the previous simulation, the income of the family is also linked to the sector of employment of the household head.

The poverty simulation results show that poverty incidence will slightly decrease to 14 percent among families and 19 percent among the population compared to the 2020 estimates without SAP.

Table 3. Simulation of the impact of COVID-19 on the magnitude and incidence of poverty under different scenarios by urban/rural areas

Scenarios	Urban Areas				Rural Areas			
	Estimates		Increase/(Decrease)		Estimates		Increase/(Decrease)	
	Magnitude ('000)	Incidence (%)	Magnitude ('000)	Incidence (Percentage point)	Magnitude ('000)	Incidence (%)	Magnitude ('000)	Incidence (Percentage point)
Poverty incidence among families								
Before COVID-19*	840.6	6.5	–	–	2,164.0	18.3	–	–
In 2020 (without SAP)	1,318.7	10.2	478.0	3.7	2,645.8	22.4	481.8	4.1
In 2020 (with SAP)	991.2	7.7	150.6	1.2	2,024.3	17.1	(139.7)	(1.2)
Poverty incidence among population								
Before COVID-19*	5,021.3	9.3	–	–	12,649.0	24.5	–	–
In 2020 (without SAP)	7,585.7	14.0	2,564.5	4.7	15,112.0	29.3	2,463.1	4.8
In 2020 (with SAP)	6,036.7	11.1	1,015.5	1.9	12,294.1	23.8	(354.9)	(0.7)

COVID-19 = coronavirus disease 2019; SAP = Social Amelioration Program
*Official poverty estimates in 2018
Note: "–" = no data available
Source: Authors' estimates

Table 4. Simulation of the impact of COVID-19 on the magnitude and incidence of poverty under different scenarios by region

Region	Before COVID-19*		In 2020 (without SAP)				In 2020 (with SAP)			
			Estimates		Increase/(Decrease)		Estimates		Increase/(Decrease)	
	Magnitude ('000)	Incidence (%)	Magnitude ('000)	Incidence (%)	Magnitude ('000)	Incidence (Percentage point)	Magnitude ('000)	Incidence (%)	Magnitude ('000)	Incidence (Percentage point)
Poverty incidence among families										
National Capital Region	47.6	1.4	128.5	3.9	81.0	2.4	87.7	2.6	40.1	1.2
Cordillera Administrative Region	36.3	8.6	42.8	10.1	6.5	1.5	32.3	7.6	(4.1)	(1.0)
Ilocos Region	85.2	7.0	141.7	11.7	56.5	4.7	91.1	7.5	6.0	0.5
Cagayan Valley	106.3	12.5	122.5	14.4	16.2	1.9	89.7	10.5	(16.6)	(1.9)
Central Luzon	143.4	5.2	249.6	9.0	106.3	3.8	177.3	6.4	33.9	1.2
CALABARZON	190.4	5.1	339.1	9.0	148.7	4.0	242.8	6.5	52.4	1.4
MIMAROPA	77.4	10.5	101.4	13.8	24.1	3.3	77.6	10.5	0.3	0.0
Bicol Region	256.3	20.0	318.2	24.9	62.0	4.8	250.8	19.6	(5.5)	(0.4)
Western Visayas	218.3	11.9	304.8	16.6	86.6	4.7	212.0	11.6	(6.3)	(0.3)
Central Visayas	246.2	13.4	332.1	18.1	85.9	4.7	246.0	13.4	(0.2)	(0.0)
Eastern Visayas	253.3	23.9	303.4	28.7	50.1	4.7	242.0	22.9	(11.4)	(1.1)
Zamboanga Peninsula	213.0	25.4	252.6	30.1	39.6	4.7	203.8	24.3	(9.2)	(1.1)
Northern Mindanao	194.2	17.3	252.1	22.5	57.9	5.2	181.7	16.2	(12.5)	(1.1)
Davao Region	178.5	13.9	224.8	17.5	46.3	3.6	168.1	13.1	(10.4)	(0.8)
SOCCSKSARGEN	252.8	22.4	296.8	26.2	44.0	3.9	239.5	21.2	(13.3)	(1.2)
Caraga	149.4	24.1	181.2	29.3	31.9	5.1	143.2	23.1	(6.2)	(1.0)
Bangsamoro Autonomous Region in Muslim Mindanao	356.2	54.2	372.6	56.7	16.4	2.5	329.9	50.2	(26.3)	(4.0)

Table 4 *(continued)*

Region	Before COVID-19*		In 2020 (without SAP)				In 2020 (with SAP)			
			Estimates		*Increase/(Decrease)*		Estimates		*Increase/(Decrease)*	
	Magnitude ('000)	Incidence (%)	Magnitude ('000)	Incidence (%)	Magnitude ('000)	Incidence (Percentage point)	Magnitude ('000)	Incidence (%)	Magnitude ('000)	Incidence (Percentage point)
Poverty incidence among population										
National Capital Region	302.2	2.2	762.8	5.7	460.6	3.4	549.6	4.1	247.5	1.8
Cordillera Administrative Region	213.8	12.0	247.6	13.9	33.7	1.9	196.7	11.1	(17.1)	(1.0)
Ilocos Region	510.1	9.9	808.7	15.6	298.6	5.8	576.4	11.1	66.2	1.3
Cagayan Valley	583.0	16.3	667.1	18.6	84.1	2.4	518.2	14.5	(64.7)	(1.8)
Central Luzon	836.6	7.0	1,418.0	11.9	581.4	4.9	1,066.5	9.0	229.9	1.9
CALABARZON	1,102.0	7.1	1,908.6	12.4	806.5	5.2	1,440.5	9.3	338.5	2.2
MIMAROPA	466.7	15.1	600.3	19.4	133.7	4.3	474.1	15.3	7.4	0.2
Bicol Region	1,621.0	27.0	1,963.6	32.7	342.6	5.7	1,635.4	27.2	14.5	0.2
Western Visayas	1,266.9	16.3	1,699.2	21.9	432.4	5.6	1,283.8	16.5	16.9	0.2
Central Visayas	1,370.6	17.7	1,791.6	23.1	421.0	5.4	1,423.8	18.4	53.3	0.7
Eastern Visayas	1,420.3	30.7	1,664.3	36.0	244.0	5.3	1,406.6	30.5	(13.7)	(0.3)
Zamboanga Peninsula	1,217.8	32.7	1,412.7	37.9	194.9	5.2	1,201.4	32.3	(16.3)	(0.4)
Northern Mindanao	1,129.2	23.1	1,414.3	28.9	285.1	5.8	1,094.6	22.4	(34.6)	(0.7)
Davao Region	978.2	19.1	1,213.1	23.6	234.9	4.6	965.8	18.8	(12.4)	(0.2)
SOCCSKSARGEN	1,348.3	28.2	1,562.0	32.7	213.7	4.5	1,316.4	27.6	(31.9)	(0.7)
Caraga	822.2	30.5	973.6	36.2	151.4	5.6	810.0	30.1	(12.2)	(0.5)
Bangsamoro Autonomous Region in Muslim Mindanao	2,481.5	61.8	2,590.2	64.5	108.7	2.7	2,370.9	59.1	(110.6)	(2.8)

COVID-19 = coronavirus disease 2019; CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SAP = Social Amelioration Program; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos City
*Official poverty estimates in 2018
Source: Authors' estimates

Table 5. Simulation of the impact of COVID-19 on the magnitude and incidence of poverty in 2021 under different scenarios, Philippines

Scenarios	Magnitude ('000)	Incidence (%)
Poverty incidence among families		
Scenario 1: Without SAP	3,465.1	14.0
Scenario 2: 1st tranche for poorest 18M; 2nd tranche for poorest 14M	2,634.0	10.6
Scenario 3: Two tranches for poorest 14M	2,634.0	10.6
Scenario 4: One tranche for poorest 14M	3,019.5	12.2
Scenario 5: PHP 1,000 for all families	3,385.4	13.7
Poverty incidence among population		
Scenario 1: Without SAP	20,107.2	19.0
Scenario 2: 1st tranche for poorest 18M; 2nd tranche for poorest 14M	16,211.9	15.3
Scenario 3: Two tranches for poorest 14M	16,211.9	15.3
Scenario 4: One tranche for poorest 14M	18,073.0	17.1
Scenario 5: PHP 1,000 for all families	19,746.1	18.7

COVID-19 = coronavirus disease 2019; SAP = Social Amelioration Program; PHP = Philippine peso; M = million
Source: Authors' estimates

The reduction in poverty incidence is due to the increase in family incomes resulting from the positive growth in economic activity in 2021, a significant improvement from the 9.5 percent contraction in GDP in 2020. However, the increase in incomes is not as large as the cash transfers provided in 2020 under the SAP. Thus, the poverty estimates in 2021 are higher than the poverty estimates in 2020 with SAP. Providing another round of cash assistance will significantly reduce poverty, bringing it back nearer to pre-pandemic levels in 2018. The provision of cash transfers, however, has fiscal implications. At the time when increased government spending is needed to mitigate the adverse impacts of the pandemic, the pandemic also leads to lower economic activity level, which in turn leads to lower government revenues. This makes the government less equipped to manage the demand for larger funding for social protection programs.

Safety nets in mitigating the impact of COVID-19 on poverty

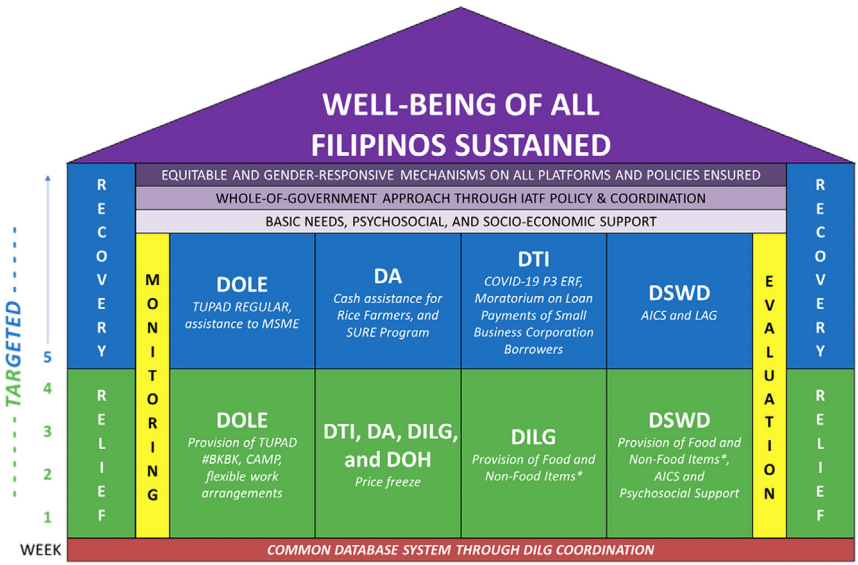
On March 24, 2020, Republic Act (RA) 11469, or the *Bayanihan* to Heal as One Act, was passed by the government in response to the continuing rise of confirmed COVID-19 cases and the severe economic disruption due to the imposition of community quarantine measures across the country.

RA 11469 granted the President emergency powers to carry out various emergency measures to respond to the crisis. Included in this response was the provision of emergency subsidies and other assistance to low-income households. National government agencies, including the DOLE, Department of Social Welfare and Development (DSWD), Department of Trade and Industry (DTI), Department of Agriculture (DA), Department of Finance (DOF), and Department of the Interior and Local Government (DILG), were tasked to implement various social protection programs and projects to mitigate the effects of the current crisis.

To address food insecurity, loss of income, and unemployment brought about by the pandemic, a whole-of-nation approach as detailed in the operational framework of the government's social protection policy was adopted (Figure 1). Government programs and

services to be provided were clustered into (i) relief programs to provide basic needs and other immediate responses to the needs of the people and (ii) recovery programs composed of financial assistance to enable a long-term mitigation or reduction in the economic effects of the quarantines.

Figure 1. Social amelioration framework



IATF = Inter-Agency Task Force; AICS = Assistance to Individuals in Crisis Situation;
LAG = Livelihood Asssistance Grants; CAMP = COVID-19 Adjustment Measures Program;
DA = Department of Agriculture; DILG = Department of the Interior and Local Government;
DOH = Department of Health; DOLE = Department of Labor and Employment;
DSWD = Department of Social Welfare and Development; DTI = Department of Trade and Industry; TUPAD #BKBK = *Tulong Panghanapbuhay sa Ating* Displaced/Disadvantaged Workers *#Barangay Ko, Bahay Ko*;
MSMEs = micro, small, and medium enterprises; COVID-19 P3 ERF = COVID-19 *Pondo sa Pagbabago at Pag-asenso* Enterprise Rehabilitation Fund
Source: DILG et al. (2020)

The emergency assistance programs enacted by the Bayanihan to Heal as One Act and other safety nets implemented to address the effects of COVID-19 are discussed in the succeeding subsections. Descriptions of each program are largely based on different government issuances and joint memorandum circulars involving all concerned national government agencies.

Social Amelioration Program–Emergency Subsidy Program

By virtue of RA 11469, social amelioration programs through the Emergency Subsidy Program (ESP) are to be provided to identified low-income households. Through the SAP-ESP, a monthly emergency subsidy of at least PHP 5,000 to a maximum of PHP 8,000, either in the form of cash or in kind, were provided for two months (April and May 2020) to cover basic food, medicine, toiletries, and other basic necessities of affected household-beneficiaries. The actual amount of emergency subsidies varies depending on the prevailing minimum wage rates of the households' region of residence (Table 6).

Section 4.c of the Bayanihan to Heal as One Act states that a total of 18 million low-income households or those with members in the subsistence and informal economy were eligible to receive emergency subsidies. This includes 4.4 million households who are existing beneficiaries of the Expanded *Pantawid Pamilyang Pilipino* Program (4Ps), workers from the informal economy (e.g., occasional workers, subcontracted workers, homeworkers, house helpers, public utility vehicle drivers, microentrepreneurs and operators, owners of family enterprises, subminimum wage earners, farmers, stranded workers, employees affected by a "no work, no pay" policy), and households with members from vulnerable sectors (e.g., senior citizens, persons with disability, pregnant women, solo parents, indigenous peoples, homeless individuals).

Emergency subsidies provided by the SAP-ESP were distributed through the various social amelioration programs of the DSWD and other government agencies, as discussed below. These social amelioration programs include both cash and in-kind assistance, loans, and other forms of support for the affected populace. Each of the identified targeted beneficiaries may avail of any of these programs, provided that they are qualified and that the total amount to be received would not exceed the prescribed thresholds.

Emergency assistance programs for households/families

Social amelioration programs provide both in-kind (in the form of food packs) and cash assistance to affected families, particularly if at least one member belongs to the identified vulnerable sectors.

Table 6. Monthly subsidies (in PHP) under the Emergency Subsidy Program by region

Region	Daily Minimum Wage	Monthly Subsidy
National Capital Region	537	8,000
Cordillera Administrative Region	350	5,500
Ilocos Region	340	5,500
Cagayan Valley	370	5,500
Central Luzon	420	6,500
CALABARZON	400	6,500
MIMAROPA	320	5,000
Bicol Region	310	5,000
Western Visayas	395	6,000
Central Visayas	404	6,000
Eastern Visayas	315	5,000
Zamboanga Peninsula	316	5,000
Northern Mindanao	365	6,000
Davao Region	396	6,000
SOCCSKSARGEN	326	5,000
Caraga	320	5,000
Autonomous Region in Muslim Mindanao	325	5,000

PHP = Philippine peso; CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos City
Source: DSWD Memorandum Circular 4 (s. 2020)

Food and nonfood items (FNI) distribution. The DSWD, in coordination with the concerned local government units, provided food and essential personal hygiene item packs to augment and sustain the basic needs of affected families. Food packs were distributed until such time that the imposed ECQ was lifted. Given the restrictions brought by the quarantine, the DSWD coordinated with the DTI in procuring the necessary volume of items for the food packs; with the DA in ensuring the supply of rice buffer stock

and other food items; and with the Armed Forces of the Philippines and the Philippine National Police in hauling the FNIs.

Assistance to Individuals in Crisis Situation (AICS). Although it is an ongoing program of the DSWD as part of its protective services for the poor, marginalized, and vulnerable individuals, the AICS program served as a social safety net in the recovery and rehabilitation of individuals adversely affected during the COVID-19 pandemic. Assistance under the AICS comes in the form of outright cash amounting to PHP 3,000 to families with at least one member or PHP 5,000 to families with two or more members belonging to the following vulnerable or disadvantaged sectors:

- senior citizens
- persons with disability
- pregnant and lactating women
- solo parents
- overseas Filipinos in distress
- indigent indigenous peoples
- underprivileged sector and homeless citizens
- informal economy workers

In addition to the abovementioned assistance, families with deceased indigent COVID-19 confirmed cases and persons under investigation[2] were also granted cash aid with a maximum amount of PHP 25,000 per deceased person to cover burial expenses. However, those who have already received assistance from DOLE, particularly under the COVID-19 Adjustment Measures Program (CAMP) and *Tulong Panghanapbuhay sa Ating* Displaced/Disadvantaged Workers (TUPAD) programs, and other assistance programs by the national government will no longer be able to acquire aid from the AICS (Luci-Atienza 2020).

[2] Persons under investigation refers to any person who exhibits COVID-related symptoms (e.g. fever, cough) and has either a history of travel to China or history of exposure 14 days prior to the onset of symptoms (DOH 2020).

Livelihood Assistance Grants (LAG). The LAG is a financial assistance provided by the DSWD to beneficiaries of the Sustainable Livelihood Program (SLP) whose microenterprises or livelihoods were affected by the community quarantine implemented by the government. Through the LAG, SLP beneficiaries may recover from their economic losses during the pandemic, as they may use the assistance as seed capital to start a new or enhance an existing microenterprise, or as payment for employment-related activities. A maximum of PHP 15,000 in the form of cash or individual check may be given to an affected SLP beneficiary family, provided that at least one member is a displaced informal economy worker. A family is qualified to avail of the assistance under the LAG only once, regardless of the number of family members who fit the eligibility criteria.

Expanded and Enhanced 4Ps. The conditional cash transfer program of the DSWD regularly provided to poor households was expanded and enhanced to adapt to the situation brought by the ECQ. Because schools across the country had to close during the lockdown, each beneficiary family of the Pantawid program only received PHP 750 for the health and nutrition grant and PHP 600 for the rice subsidy—for a total of PHP 1,350 monthly subsidy in the months of April and May 2020. This amount was augmented by a top-up monthly emergency subsidy amounting from PHP 3,650 to PHP 6,650 from the SAP-ESP to reach the mandated thresholds, depending on the region of residence as listed in Table 5. Conditionalities of the 4Ps program, such as the attendance to Family Development Sessions and other gatherings, were suspended. This was in compliance with the physical distancing protocols and Section 16 of the implementing rules and regulations of the 4Ps Act, which states that full compliance to the conditionalities of the program is deemed waived during force majeure.

Emergency assistance programs for individuals

Aside from family- or household-level assistance through various emergency programs of DSWD, some of the social amelioration programs of the government provide for cash aids, wage subsidies, and temporary employment to eligible individuals from identified sectors.

COVID-19 Adjustment Measures Program (CAMP). A program spearheaded by DOLE, CAMP offers support to workers in the formal sector who have been affected by the crisis to mitigate the economic impact of lesser income. Through the CAMP, a one-time nonconditional financial assistance of PHP 5,000 is granted, regardless of the formal sector workers' employment status. Moreover, they may be given access to available labor opportunities through referral, job matching, employment coaching, and placement services (DOLE 2020a).

To be eligible, workers must be employed in a private establishment implementing flexible work arrangements or experiencing momentary closure because of the pandemic. Moreover, the concerned establishments must submit the following documents to the DOLE: (i) establishment report on COVID-19 pursuant to Labor Advisory 9 (s. 2020) and (ii) company payroll for the month before the application for flexible work arrangement or temporary closure.

Tulong Panghanapbuhay sa Ating Displaced/Disadvantaged Workers #Barangay Ko, Bahay Ko Disinfection/Sanitation Project (TUPAD #BKBK). The TUPAD #BKBK is a community-based program of the DOLE that provides temporary wage employment for uprooted informal economy workers, particularly those underemployed, self-employed, seasonal workers, and marginalized workers who have lost their earning potential and/or livelihoods because of the implementation of the community quarantine. However, those who are under the Expanded 4Ps, those who have availed of the assistance from the CAMP and AICS, and rice farmers who have already received cash assistance from the DA are no longer eligible for TUPAD #BKBK. Meanwhile, beneficiaries of other cash and noncash assistance from the national and local government may still qualify for the TUPAD #BKBK, provided that the combined amount received by each beneficiary would not exceed the prescribed threshold as specified in Table 1.

The nature of work provided for by the TUPAD #BKBK program consists of disinfection/sanitation of the beneficiaries' living quarters, including those in the immediate vicinity. The duration of work is designed to last for a minimum of 10 days but not to exceed 30 days.

The following assistance are also included in the package: (i) wages equivalent to the prevailing highest minimum wage in the region; (ii) enrollment in group microinsurance; and (iii) conduct of basic orientation on safety and health through distribution of brochures.

Cash assistance for rice farmers. Smallholder rice farmers with farm sizes of 1 hectare and below and who are listed under the Registry System for Basic Sectors in Agriculture (RSBSA) were given one-time monetary assistance amounting to PHP 5,000 under the Financial Subsidy for Rice Farmers (FSRF) of the DA. For the first weeks of April 2020, the Land Bank of the Philippines was assigned to distribute the FSRF cash aid to 600,000 farmers (DA 2020). Aside from small farmers, the 600,000 farmers who are tilling up to 2 hectares were also given cash assistance worth PHP 5,000 under the Rice Farmers Financial Assistance program.

Survival and Recovery Assistance for Marginalized, Small Farmers and Fishers. Marginalized small farmers and fisherfolk whose livelihood and income were affected by the government-enforced quarantine measures may avail of an interest-free loan amounting to PHP 25,000 per borrower. This loan assistance is payable for up to 10 years and does not require any collateral or security. This program aims to provide emergency and production assistance so that beneficiaries can continue operations, ultimately ensuring that food sufficiency is not compromised despite prolonged periods of lockdown (ACPC 2020). To be eligible, beneficiaries must be registered in the RSBSA and included in the validated list as endorsed and certified by the municipal agriculture office.

Emergency assistance programs for enterprises

Other social amelioration programs, particularly those provided by the DTI, offer loans, moratoriums, and other types of assistance to affected micro and small enterprises.

COVID-19 Pondo para sa Pagbabago at Pag-asenso Enterprise Rehabilitation Fund (P3-ERF). Micro and small enterprises (MSEs) whose businesses have suffered a reduction in sales during the current crisis may avail of the COVID-19 P3-ERF, which is a PHP 1-billion financing program established by the Small Business Corporation of the DTI. Eligible enterprises must have at least a

year of continuous operation prior to March 2020. Loan amounts that can be availed through the COVID-19 P3-ERF program range from PHP 10,000 to PHP 200,000 for microenterprises and from PHP 10,000 to PHP 500,000 for small enterprises with an asset size not exceeding PHP 10 million. Loans under this program have a 0.5 percent monthly interest rate. Proceeds of the loan must only be used by the affected MSEs to update their loan amortizations for their fixed asset loans, to replace damaged perishable stocks in inventory, or to replace their working capital to restart the enterprise.

Moratorium on loan payments of Small Business Corporation borrowers. Borrowers of loan programs of the Small Business Corporation, whether regular or P3-ERF loan programs, are entitled to a payment moratorium, provided that they are situated in areas declared under community quarantine. Through this moratorium, affected borrowers are allowed to pay only for their loan's interests that will be due for the succeeding six months. However, the accrual of the interest rate will continue throughout the moratorium, and the loan term will also be extended based on the number of months covered by the moratorium.

Recovery Package for Micro and Small Enterprises Engaged in Agriculture and Fisheries Food Production, and other Supply Chain Activities in Accordance with the Agripreneurship Development Fund/Program of the Agricultural Credit Policy Council. This recovery package taps both government and nongovernment financial institutions to offer another loan assistance for micro and small enterprises engaged in agricultural and other supply chain activities. Borrowers may avail of a loan amounting from PHP 300,000 up to 90 percent of the projected costs of the enterprises or PHP 15 million, whichever is lower. This loan aims to ensure available and continuous food supply and help owners of these microenterprises recover their losses brought by the quarantine measures.

Livelihood Seeding Program/Negosyo Serbisyo sa Barangay (LSP-NSB). Microentrepreneurs affected by the pandemic may avail of assistance under the LSP-NSB of the DTI. Assistance is in the form of livelihood kits amounting from PHP 5,000 to PHP 8,000, enterprise development training, and business counseling or mentoring.

Most of these programs (e.g., AICS, 4Ps, and TUPAD) are existing programs of national government agencies that have only been modified as part of the COVID-19 response. For instance, those under the regular AICS were financial and/or material assistance that can be used to cover transportation, hospitalization, funeral, and school-related expenses of individuals adversely affected by any sudden crisis. As modified for COVID-19 response, these programs mostly provided outright cash for households with at least one member from the identified vulnerable and/or eligible sectors. Meanwhile, some of the assistance extended to enterprises, particularly loans, were created and designed as recovery programs for long-term mitigation or reduction of the economic effects of the quarantine.

Small Business Wage Subsidy (SBWS)

Under the SBWS program, the national government, through the Social Security System (SSS), provides wage subsidies to affected private sector employees of small businesses to augment income losses experienced during the quarantine imposed in Luzon and other local government units (LGUs). Based on the prevailing regional minimum wage rates, a wage subsidy of between PHP 5,000 and PHP 8,000 may be provided for up to 2 months per eligible employee. When compared with Table 6, Table 7 shows that the amount per region—except for Central Luzon and CALABARZON—is similar to the subsidy thresholds provided by the SAP-ESP. In the case of Central Luzon and CALABARZON, the SBWS is higher because many of the workers in the NCR who were provided the maximum subsidy reside in these two regions.

Applications for the wage subsidy under the SBWS need to be accomplished by the employers on behalf of their employees. Applying businesses must not be listed in the Large Taxpayer Service list of the Bureau of Internal Revenue (BIR). Moreover, "nonessential" businesses[3] that were forced to stop their operations either through temporary closure or work suspension, or "quasi-essential"

[3] Nonessential businesses are those involved in nonfood raw materials, nonessential manufacturing, tobacco, construction, airlines, nonessential services, hotels and restaurants, rental and leasing of personal goods, and entertainment sectors (DOF 2020).

Table 7. Wage subsidy amount (in PHP) per employee provided by the Small Business Wage Subsidy program

Region	Monthly Subsidy
National Capital Region	8,000
Cordillera Administrative Region	5,500
Ilocos Region	5,500
Cagayan Valley	5,500
Central Luzon	8,000
CALABARZON	8,000
MIMAROPA	5,000
Bicol Region	5,000
Western Visayas	6,000
Central Visayas	6,000
Eastern Visayas	5,000
Zamboanga Peninsula	5,000
Northern Mindanao	6,000
Davao Region	6,000
SOCCSKSARGEN	5,000
Caraga	5,000
Bangsamoro Autonomous Region in Muslim Mindanao	5,000

PHP = Philippine peso; CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos City
Source: DOF (2020)

businesses[4] that were allowed to continue operations under a skeleton workforce are eligible for the program. However, priority will be given to small businesses that are registered with the BIR and SSS, have complied with their tax obligations, and have paid SSS contributions during the past three years. On the other hand, employees must satisfy the eligibility requirements listed in Table 8 to receive wage subsidies.

[4] Quasi-essential businesses are those involved in electronics manufacturing, retail trade, public transportation, trucking and cargo handling, business process outsourcing, banks, personal service and domestic activities, and textiles, wearables, and leather for export (DOF 2020).

Table 8. Eligibility criteria for employee beneficiaries of the Small Business Wage Subsidy program

Who Is Eligible?	Who Is Not Eligible?
An employee who fulfills **all** of the following criteria is eligible: • Must be an employee of an eligible small business • Must be employed and active as of March 1, 2020 but unable to work due to the ECQ • Did not get paid by their employer for at least two weeks during the temporary closure or suspension of work in accordance with Labor Advisory 1 (s. 2020) • Can be of any contract status (e.g., regular, probationary, regular seasonal, project-based, fixed-term) • Must be certified by the employer in the application as having met the above criteria	The following employees are not eligible: • Working from home or part of the skeleton force • Those who voluntarily went on the following types of leave: maternity leave, paternity leave, study leave, sabbatical leave, and leaves of the same type, for the entire duration of the ECQ, whether with or without pay • Already a recipient of SSS unemployment benefits due to COVID-19 (to avoid duplication) • Those who have settled or currently processing SSS final claims (funeral, retirement, death, and total disability)

COVID-19 = coronavirus disease 2019; ECQ = emergency community quarantine; SSS = Social Security System
Source: DOF (2020)

Eligible employees who have received the one-time cash assistance worth PHP 5,000 through the CAMP program may still receive the wage subsidy under the SBWS. In this case, employees will receive the full amount of PHP 5,000–PHP 8,000 during the first tranche plus a top-up amount to the PHP 5,000 of CAMP in the second tranche to reach the prescribed subsidy threshold of the SBWS.

Programs of local governments

In comparison to the sector-specific action of the national government when it comes to distributing assistance, LGUs are given the freedom to address what they perceive as the immediate concern of their constituents and decide on what measures they will employ. During the COVID-19 pandemic, LGUs can access the funding in their Local

Disaster Risk Reduction and Management Fund (LDRRMF) and their Local Development Fund (LDF). These can be utilized to finance assistance programs, produce timely responses, as well as procure the necessary materials related to COVID-19. In case the abovementioned allotment is still insufficient, LGUs are given the option to get a loan from domestic banks or government financial institutions.

The most common assistance provided by LGUs is the distribution of relief packages consisting of canned goods and rice. Some have provided financial assistance to low-income families. A few LGUs also arranged necessary services, such as community kitchens, mobile and online markets, transportation services, and disinfection services.

Some local financial assistance, as listed in Table 9, mainly focus on providing aid to vulnerable sectors, such as workers of the informal economy, solo parents, and senior citizens. Students were also target beneficiaries for a few LGUs, particularly in Taguig City and Makati City. Although the national government has provided a separate aid for low-income families, local governments have opted to provide similar aid since not all qualified citizens have benefited from the national-level program.

Other assistance programs to combat the effects of COVID-19

Given the imposition of a nationwide state of calamity, the prevailing prices of basic necessities were frozen, as provided for by Joint Memorandum Circular 1 signed by the DTI, DA, and DOH on March 18, 2020. Also, in accordance with the Price Act, this measure was meant to protect consumers against hoarding and profiteering with respect to the supply, distribution, marketing, and pricing of goods. Upon the declaration of a state of calamity on March 16, 2020, the prize freeze for basic necessities and prime commodities was initially implemented until May 15, 2020.

Meanwhile, the national government initiated the *Balik Probinsya, Bagong Pag-asa* program to decongest highly populated urban areas, particularly the NCR, and lessen the risk of contracting COVID-19 and future infectious diseases. As a step toward the new normal initiative, this program, as institutionalized in Executive Order 114, aims to

Table 9. Financial assistance programs of selected local government units

Local Government Unit	Coverage	Target Number of Beneficiaries	Financial Assistance Provided
Pasig City	All households not covered by the SAP-ESP[1]	160,000 families	PHP 8,000
	PUV drivers[2]	5,800 jeepney drivers, 12,000 tricycle drivers, 700 PUV drivers	PHP 3,000
	Market stall owners[3]		PHP 4,000
	Barangay Health Workers, Pasig Health Aid, and Barangay Tanod[4]		PHP 2,000
Quezon City	PUV drivers, market vendors, and those belonging to vulnerable sector[5]	100,000	PHP 2,000
	SAP-qualified residence not covered by SAP[6]		PHP 4,000
Taguig City[7]	Market vendors, senior citizens, and PWDs	68,000 senior citizens, 12,000 PWDs, 2,800 vendors	PHP 4,000
Makati City	Residents of Makati[8]	500,000 residents	PHP 5,000–PHP 20,000
	PUV drivers[9]	1,826 jeepney drivers, 5,952 tricycle drivers, 598 pedicab drivers	PHP 2,000

Table 9 *(continued)*

Local Government Unit	Coverage	Target Number of Beneficiaries	Financial Assistance Provided
Makati City	PWDs[10]	13,181	PHP 1,000
	Solo parents[11]	2,049	PHP 1,000
	Public school graduates (elementary and high school)[12]	11,713 students	PHP 1,000 to 5,000
Manila City	Eligibility assessed by the barangay[13]	First tranche: 568,000 Second tranche: 680,000	PHP 1,000
Tanauan City	Families that did not receive any monetary assistance[14]		PHP 3,000
Cebu City	Senior citizens[15]	82,000	PHP 3,000

SAP = Social Amelioration Program; ESP = Emergency Subsidy Program; PUV = public utility vehicle; PWD = persons with disability

Sources:

[1] Kabagani (2020)
[2] Pasig City (2020)
[3] The Sangguniang Panlungsod ng Pasig Official Facebook Page (2020a)
[4] The Sangguniang Panlungsod ng Pasig Official Facebook Page (2020b)
[5] ABS-CBN News (2020)
[6] Casilao (2020)
[7] Consuelo (2020)
[8] City Government of Makati (2020a)
[9] City Government of Makati (2020b)
[10] City Government of Makati (2020c)
[11] City Government of Makati (2020d)
[12] City Government of Makati (2020e)
[13] Manila Bulletin (2020)
[14] Tanauan City Information Office Official Facebook Page (2020)
[15] Ayuman (2020)

address the uncontrolled upsurge in urban population by promoting a more equitable distribution of opportunities and social services for both urban and rural areas. The program's main objective is to encourage individuals in Metro Manila, especially informal settlers, to return to their home provinces, where they will be provided with the necessary support and incentives on transportation, family, livelihood, housing, subsistence, and education, among others. Interested applicants may apply online or through the nearest *Balik Probinsya* center. Upon their return to their respective provinces, those qualified are to be offered housing units and assisted with livelihood/employment opportunities, skills training, and health needs support. As of May 2020, around 33,000 Metro Manila residents have enrolled in the program. In the upcoming six months, around one million residents in Metro Manila are expected to join the program (Gonzales 2020).

Program implementation: Guidelines and issues

The Bayanihan to Heal as One Act provides for emergency subsidies through various social amelioration programs for a total of 18 million low-income families nationwide. The total budget for SAP, as provided for by the Department of Budget and Management, was PHP 196 billion. In addition, the DSWD has modified its budget by adding PHP 10.6 billion to the SAP budget, thus bringing the total budget allocation for SAP to PHP 206.7 billion (DSWD 2020b).

The 18-million target number of family-beneficiaries for the SAP-ESP was based on the number of poor households listed in the National Household Targeting System for Poverty Reduction or *Listahanan* 2015. This list, which is also being used as a targeting tool for other poverty reduction programs of the government, has identified about 15 million poor families. Factoring in the population growth based on the official data from the Philippine Statistics Authority, another 3 million families were added to the target, bringing the total target beneficiaries of the emergency subsidies to 18 million (OP 2020a). Local government units were then assigned to identify and list family-beneficiaries within their jurisdictions and to submit such to the DSWD for validation.

Table 10. Target number of families for the social amelioration programs by region

Region	Total Number of Families	Informal and Poor/Near Poor
Philippines	**24,550,003**	**17,956,093**
National Capital Region	3,260,399	1,788,604
Cordillera Administrative Region	434,209	318,707
Ilocos Region	1,263,607	999,531
Cagayan Valley	881,440	698,042
Central Luzon	2,707,342	1,807,929
CALABARZON	3,511,076	2,249,567
MIMAROPA	752,804	614,100
Bicol Region	1,362,596	1,146,914
Western Visayas	1,835,555	1,472,683
Central Visayas	1,806,056	1,346,613
Eastern Visayas	1,053,680	875,246
Zamboanga Peninsula	890,346	721,841
Northern Mindanao	1,111,803	892,577
Davao Region	1,248,805	953,521
SOCCSKSARGEN	1,139,025	953,853
Caraga	625,663	492,758
Bangsamoro Autonomous Region in Muslim Mindanao	665,597	623,607

CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos City
Source: OP (2020a)

Beneficiaries seeking to avail of the social amelioration programs need to submit the documentary requirements listed in Table 11. They must also bring a photocopy of their valid identification cards and the original or certified true copy of the other applicable documentary requirements to their respective barangays to avail of any assistance under the SAP-ESP.

Each barangay shall then identify and list all qualified family-beneficiaries within their jurisdiction based on the eligibility requirements for each emergency assistance program. Social Amelioration Card (SAC) forms, which are to be distributed to each

Table 11. Documentary requirements to avail of the social amelioration programs

Beneficiary	Specific Documentary Requirements
Senior citizen	Senior Citizen's ID
Persons with disability (PWD)	PWD ID; or Certificate of separation from or suspension of work
Pregnant/lactating women	Valid ID; Certificate from Rural Health Unit, or Birth certificate of child, if available
Solo parents	Solo parent's ID; or Certificate of employment, separation from or suspension of work
Overseas Filipinos in distress	Valid passport bio page, and a copy of any of the following: • Passport arrival stamp; • Proof of departure ticket; • Overseas Employment Certificate; • Employment contract; or • Any other documents to prove repatriation or being banned from traveling outside the Philippines within the prescribed period
Underprivileged sector and homeless families, indigent indigenous peoples, and other vulnerable groups	As applicable: • Certification from barangay or from the P/M/CSWDO • Certificate from NCIP or the tribal chieftain/council of elders that the beneficiaries are IPs and are on subsistence economy
Workers in the informal workers, and self-employed	As applicable: • Driver's license; • TODA ID; • Certification of membership from the organization/association; • Certificate of Public Convenience; • Certification from the barangay/municipality (for TODA only); • Employment ID;

Table 11 *(continued)*

Beneficiary	Specific Documentary Requirements
Workers in the informal workers, and self-employed	• Kasambahay ID; • Certificate of employment, separation from or suspension of work from the employer; • Proof of business; • Any other document showing employment/occupation/ enterprise
Employers	Establishment report and company payroll
Rice farmers	• RSBSA enrollment stub (for cash assistance) • Notice of cash grant (for cash assistance) • Loan application (for SURE aid) • Any government-issued ID with picture • Duly accomplished simplified promissory note
Service-conduit borrower	Pre-release: • Loan application • List of eligible rice farmers • Board resolution for financial assistance and designating at least two authorized signatories to execute loan documents with identified government financial institution • Standard promissory note • Authority to debit deposit account Post-release: • Liquidation report on the disbursed loans • Deed of assignment of sub-promissory notes
Funeral support for COVID-19 related deaths	Death certificate; and certificate of indigency

ID = identification card; RSBSA = Registry System for Basic Sectors in Agriculture; TODA = Tricycle Operators and Drivers' Association; PWD = person with disability; NCIP = National Commission on Indigenous Peoples; P/M/CSWDO = provincial/municipal/ City Social Welfare and Development Office; SURE = Survival and Recovery
Sources: DSWD Memorandum Circular 4, series of 2020; DILG-DBM-DOLE-DSWD-DA-DTI-DOF Joint Memorandum Circular 1, series of 2020

household in the barangay, shall serve as a mechanism for both the barangay and the various government agencies providing emergency assistance to identify and profile all the beneficiaries of any of the social amelioration programs. This will also help ensure that there will be no duplication of assistance provided to a single family.

While the targets and implementation guidelines are well detailed in various government issuances and other circulars from the implementing agencies, the distribution of emergency assistance has experienced various issues.

As early as March 28, 2020, the IATF-EID had approved the Joint Memorandum Circular 1, which details the implementation guidelines for the distribution of the SAP-ESP. However, the actual distribution encountered a slight delay starting on April 2. First to be given assistance, distributed through bank accounts, was the 3.7 million beneficiaries of the Pantawid program. Physical distribution started the following day.

As of November 23, a total of 17.6 million families had been provided with emergency assistance for the first tranche release of SAP-ESP, equivalent to about 98.1 percent of the target. Of these, 4.3 million were 4Ps beneficiaries, while 13.3 million were non-4Ps beneficiaries. A total of PHP 99.2 billion was disbursed for the first tranche of assistance (DSWD 2020a).

However, like in a quota system, the number of beneficiaries was pre-allocated per LGU. This system of distribution met numerous complaints from LGUs. That is, the LGU saw the system's failure to capture the actual number of individuals who should have been qualified for the program (Chiu 2020). This gave rise to a new category called "waitlisted beneficiaries", referring to families with eligible members as per guidelines but were not included in the first tranche of distribution.

In the distribution of SAP-ESP, some duplicates and ineligible beneficiaries were identified, despite the implementation of the SAC. Therefore, the target for the second tranche of distribution was trimmed down to 14.3 million to account for duplication, ineligible beneficiaries, and families who voluntarily returned the cash assistance they received. In a virtual presser on the status report of the SAP-ESP distribution, the DSWD reported 675,933 duplicate recipients, 239,859 ineligible beneficiaries, and 58,725 families who returned their cash aids (Cudis 2020). Moreover, the trimming down

of the target was also due to a shortage of waitlisted beneficiaries submitted by the LGUs. The DSWD reported that only 3.2 million waitlisted families were put forward by the LGUs, which was way below the 5-million target.

The latest DSWD report shows that about 14.1 million families were provided with the second tranche of emergency cash assistance. This is equivalent to 97.7 percent of the 14.3-million target (Table 12). A total of PHP 83.8 billion was disbursed for the second tranche (DSWD 2020a).

In addition to these issues, the distribution also encountered major delays. While the law and issued guidelines mandate that the SAP-ESP should cover the months of April and May 2020, both the first and second tranche distribution were yet to be finished by November 2020. This delay defeats the purpose of the emergency cash assistance as a temporary relief from the impacts of the pandemic, particularly during the earlier stages of the community quarantine, where the impact was most felt.

The DSWD field offices cited the following issues that contributed to delays: (i) some LGUs persistently requested adjustments in the list of beneficiaries to increase the number of beneficiaries and/or to include a number of sectors; (ii) some LGUs refused to help in the distribution of the SAP; (iii) DSWD and LGU personnel experienced threats and harassment from constituents; and (iv) exposure to COVID-19 cases among staff and personnel in the community (OP 2020e).

Moving forward

The poverty simulations suggest that the COVID-19 pandemic will increase the number of poor families. Social safety nets implemented by the government, in coordination with national government agencies and local government units, will therefore help the families cope with the effects of COVID-19 and smoothen their consumption, particularly during the initial stages of the national lockdown, albeit temporarily.

Since these emergency assistance programs are only temporary, other measures, such as wage subsidies or low-interest loans, are

Table 12. Summary of selected national government programs under Bayanihan 1

Program	Agency	Target Beneficiary	Total Allocated Amount (in billion PHP)	Number of Target Beneficiaries
SAP-ESP	Department of Social Welfare and Development	Low-income households	1st tranche: 101.5 2nd tranche: 83.5	1st tranche: 17,946,554 2nd tranche: 14,117,957
CAMP	Department of Labor and Employment	Formal sector workers	3.2	657,201
CAMP-AKAP	Department of Labor and Employment	OFWs	2.5	250,000
TUPAD #BKBK	Department of Labor and Employment	Informal sector workers	1.2	337,198
Expanded SURE Aid and Recovery Project	Department of Agriculture-ACPC	Marginal small farmers and fishers (MSFF) and Agri-fishery based MSEs	2.5	40,150
Financial Subsidy to Rice Farmers	Department of Agriculture	Rice farmers	3	591,246
SBWS	Social Security System/ Department of Finance	Formal sector workers	51	1st tranche: 3.09M 2nd tranche: 3.05M

CAMP = COVID-19 Adjustment Measures Program; CAMP-AKAP = COVID-19 Adjustment Measures Program - *AbotKamayAngPagtulong*; SAP-ESP = Social Amelioration Program - Emergency Subsidy Program; SBWS = Small Business Wage Subsidy; SURE = Survival and Recovery; TUPAD #BKBK = Tulong Panghanapbuhay sa Ating Displaced/ Disadvantaged Workers Barangay Ko, Bahay Ko; ACPC = Agricultural Credit Policy Council; MSEs = micro and small enterprises; PHP = Philippine peso; M = million
Source: OP (2020b, 2020c, 2020d, 2020e)

needed to enable those who lost their jobs or closed their businesses to bounce back from the crisis. If they do not recover quickly, the new poor can become part of the chronic poor. The new poor may also adopt coping mechanisms that may have adverse impacts on other dimensions of welfare. For instance, some of the new poor may withdraw their children from school, and this would have longer-term implications on the welfare of the household. Therefore, it is important to ensure that the economic recovery process is inclusive.

Although the availability of funding is especially significant, other factors such as leadership and data-driven decisionmaking are necessary for moving ideas forward and executing effective local programs and assistance. While emergency assistance programs have provided temporary relief to affected individuals, there is a need for decisionmakers to think about the long-term impact of the pandemic, including chronic poverty, school dropouts, and other non-COVID health concerns.

Moving forward, a universal health insurance with greater benefits, including testing and vaccination, will help in future health-related public emergencies. As one of the building blocks of a healthcare system, a stronger health financing is a step toward greater healthcare access, which then leads to improved health status and better financial protection.

Moreover, as the country frequently encounters various forms of disasters, it is important for the government to launch more sustainable, sufficient, and efficient response and recovery packages. The government must establish stronger infrastructure so that responses against future shocks and hazards of any nature will be executed more efficiently. Establishing interoperable databases across all government departments and agencies will help identify and target potential beneficiaries more easily and accurately. Current databases of all agencies providing support programs may be utilized to create a consolidated database.

Lastly, expanding, modifying, or improving current assistance programs with established implementation processes might be a more efficient approach than having to create new programs and laying out new mechanisms for implementation.

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Poverty, the Middle Class, and Income Distribution amid COVID-19*

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*This report was written in April to May 2020 during the imposition of the community quarantine in Luzon.

Introduction

In its official estimates of poverty based on the results of the 2018 Family Income and Expenditure Survey (FIES), the Philippine Statistics Authority (PSA 2019a) shows that the poverty incidence—that is, the proportion of people in poverty—across the country stands at 16.6 percent. This is much lower than the corresponding (revised) estimate of 23.3 percent poor Filipinos in 2015. Furthermore, the subsistence poverty rate, representing the proportion of Filipinos in extreme poverty who belong to households with (per capita) incomes lower than food needs, is estimated at 5.2 percent in 2018, nearly half of the 9.1 percent extremely poor Filipinos in 2015.

Such improved welfare conditions have led to an expanding middle class, although a larger share of the middle class still belongs to the lower part of the middle-income bracket (see Albert et al. [2018] for typology on the income distribution, including a definition of the middle class).

There are concerns that the country's gains in improving welfare conditions during the period 2015 to 2018 can be easily wiped out in the wake of the coronavirus disease 2019 (COVID-19) pandemic. In an attempt to manage the spread of the COVID-19 virus, the government has adopted several measures, including a Luzon-wide enhanced community quarantine (ECQ) from March 17, 2020 to April 30, 2020. The ECQ covers Metro Manila, CALABARZON (Region IV-A), Central Luzon (except Aurora, which is under a general community quarantine [GCQ]), and other select provinces and cities. The ECQ and GCQ protocols, particularly with regard to travel restrictions, closures of schools, and other limits in gathering places, have resulted in a drastic slowdown in economic activities. The coronavirus-related morbidity and mortality, the inability of COVID-19-infected employees to work for at least several weeks, and the drastic slowdown of economic activities have reduced labor supply. Economic losses between PHP 276.3 billion and PHP 2.5 trillion representing about 1.5 percent to 13.3 percent of the 2019 gross domestic product (GDP) are expected, largely as a result of the dip in labor supply of between 7.4 percent and 19.7 percent (Abrigo et al. 2020).

Regardless of when the "lockdowns" will be lifted throughout the country, the efforts meant to contain the virus have rapidly changed how people live, work, and learn, and a new normal is emerging. This study aims to examine the limited publicly available microdata from the 2018 FIES to look into possible scenarios on poverty and the entire income distribution accounting for some scenarios on reduction of incomes. The next section reviews some literature on the outlook on the macroeconomy and poverty. The third section describes the official poverty methodology as well as the methods used to profile various segments of the income distribution, especially the poor and middle class. It also provides empirical findings based on the 2018 FIES. The fourth section shows simulation scenarios on income contractions as well as the effects of social protection programs during the COVID-19 pandemic. This report concludes with a summary of the findings, policy issues, and recommendations.

The economic impact of COVID-19

Outlooks on the Philippine and world economies released by various international organizations reflect dampened prospects following the spread of COVID-19. For instance, the Asian Development Bank (ADB 2020) expects the Philippine economy to grow at 2 percent in 2020, while the International Monetary Fund (IMF 2020) forecasts GDP growth at 0.6 percent for 2020. On the other hand, the World Bank (2020) projects growth in the Philippines to decline from 5.9 percent in 2019 to 3 percent (2020 baseline) and a negative 0.6 percent in the 2020 lower-case scenario given the prospects of shrinking external demand, a decline in tourism revenues, and reductions in remittances (Table 1). All these reflect reduced expectations on the country's economic performance, which contrasts the upward growth trajectory prior to the pandemic.

Even local researchers have pointed out huge losses in the economy (Abrigo et al. 2020; Habito 2020). The National Economic and Development Authority (NEDA) has thus slashed its GDP

Table 1. GDP growth outlook in 2020 for ASEAN member-economies

	2019	Baseline 2020	Lower Case 2020
Indonesia	5.0	2.1	-3.5
Malaysia	4.3	-0.1	-4.6
Philippines	5.9	3.0	-0.6
Thailand	2.4	-3.0	-5.0
Viet Nam	7.0	4.9	1.5
Cambodia	7.1	2.5	1.0
Lao PDR	4.8	3.6	2.2
Myanmar	6.3	3.0	2.0

GDP = gross domestic product; ASEAN = Association of Southeast Asian Nations; PDR = People's Democratic Republic
Source: World Bank (2020)

growth projections and is now expecting growth to fall between -0.6 percent and 4.3 percent for 2020. It has also estimated economic losses from the six-week Luzon ECQ at PHP 767.19 billion (equivalent to 3.85% of GDP), with CALABARZON (PHP 314.6 billion) taking the biggest hit across regions, followed by NCR (PHP 269.2 billion) and Central Luzon (PHP 103.8 billion). Across economic sectors, losses from retail are estimated at PHP 97.9 billion; industry at PHP 583 billion; and agriculture at PHP 73 million. Schools are estimating total losses ranging from a low of PHP 55 billion to a high of PHP 142 billion. Banks also expect PHP 368 billion loan defaults.

The PSA (2020) has also released information on the first quarter 2020 economic performance, which suggests that GDP for 2020 has contracted by 0.2 percent. Given the likely drop in incomes and expenditures of households as well as businesses, poverty conditions are expected to worsen.

Several estimates have been made on the impact of COVID-19 on poverty incidence (using international poverty lines[1]), either using

[1] To monitor extreme monetary poverty across the world, the World Bank uses an international poverty line of USD 1.90 in purchasing power parity (PPP) 2011 prices. The World Bank also makes use of other international poverty lines, such as poverty lines for lower-middle-, upper-middle- and high-income countries at USD 3.20 PPP, USD 5.50 PPP, and USD 21.70 PPP a day, respectively. For the Philippines, the World Bank's estimates of the proportion in poverty for 2015 are 6.15 percent and 26.04 percent using USD 1.90 PPP and USD 3.20 PPP, respectively. Official estimates of poverty are at 23.3 percent for 2015, suggesting that the national poverty lines are between the two international poverty lines of USD 1.90 PPP and USD 3.20 PPP (see World Bank n.d.).

(i) computable general equilibrium (CGE) model developed by the International Labour Organization (ILO 2020) and the International Food Policy Research Institute (IFPRI) in Vos et al. (2020a, 2020b); or (ii) assumptions regarding the contraction of per capita household income or consumption (Sumner et al. 2020). The CGE models estimate how supply and demand shocks, output contractions, or changes in trade or production factors feed into monetary poverty.

- The ILO (2020), which regularly estimates the working poor (i.e., the proportion of the working population earning less than the international poverty lines) estimates that for 2020, there will be between 9 million and 35 million new working poor at a poverty line of USD 3.20 per day in 2011 purchasing power parity (PPP) prices for lower middle-income countries across the developing world.
- The IFPRI simulations (Vos et al. 2020a, 2020b) suggest that a global GDP slowdown of 1 percent would increase the proportion of the population living below USD 1.90 per day (in 2011 PPP prices) from 1.63 percent to 3.02 percent (corresponding to 12–22 million more people in extreme poverty) depending on the transmission channel. For the Philippines, the increase in extreme poverty rates is expected to be between 3 percent and 6 percent from the baseline (corresponding to an increase of between 270,000 to 600,000 in the number of extremely poor Filipinos) (Table 2). Across the whole of Southeast Asia, the proportion of individuals living below USD 1.90 can rise from 2.2 percent to 5.1 percent.
- In its *World Economic Situation and Prospects* report, the United Nations (UN 2020) forecasts a 3.2 percent reduction in global GDP this year and, using its World Economic Forecasting Model, expects an estimated 34.3 million people to fall into extreme poverty (with incomes below USD 1.9 per person per day in 2011 PPP prices).
- Sumner et al. (2020) make use of three simulation scenarios: low, medium, and high contractions of (i) 5 percent, (ii) 10 percent, and (iii) 20 percent to estimate the impact on the poverty headcount using the international poverty

Table 2. Poverty impact of 1 percent global economic slowdown for ASEAN member-economies: Percentage increase from baseline values

ASEAN Member-Economies	Scenarios		
	Labor Productivity Shock	Total Factor Productivity Shock	Trade Shock
Indonesia	4.14	4.86	7.46
Philippines	2.97	2.52	6.64
Thailand	2.36	2.22	2.89
Viet Nam	1.92	9.42	19.32
Cambodia	3.48	5.3	19.82
Lao PDR	2.97	2.52	6.64
Myanmar	2.97	2.52	6.64
ASEAN-wide	**2.24**	**2.62**	**5.09**
Worldwide	**1.63**	**1.88**	**3.02**

ASEAN = Association of Southeast Asian Nations; PDR = People's Democratic Republic
Source: Vos et al. (2020a, 2020b)

lines of USD 1.90, USD 3.20, and USD 5.50 per day in 2011 PPP prices. Extreme poverty, estimated at 10.1 percent for a poverty line of USD 1.90, is shown to rise to 11.2 percent or even 15.7 percent at a reduction in incomes of 5 percent and 20 percent, respectively. Using a higher poverty line of USD 3.20, the proportion of individuals in poverty would rise by at least 1.8-percentage points (i.e., from 25.2% to 27%), with a reduction of 5 percent in incomes (or as much as 4.8-percentage points at 33%).

Mahler et al. (2020) make use of the most recent data from PovcalNet (World Bank n.d.) and extrapolate forward using the growth projections from the recently launched *World Economic Outlook* of IMF (2020), and project global output to contract by 3 percent in 2020. Their study suggests that global poverty can increase from 8.2 percent in 2019 to 8.6 percent in 2020—or an equivalent increase from 632 million to 665 million people in poverty. The simulations on the impact of COVID-19 on poverty for ASEAN member-economies are shown in Table 3.

Table 3. Increase in number of people in poverty in ASEAN member-economies using IMF growth projections resulting from COVID-19

ASEAN Member-state	Increase in People Living Below (in millions)		
	USD 1.90 per day	USD 3.20 per day	USD 5.50 per day
Cambodia	0.04	0.11	0.27
Lao PDR	0.10	0.25	0.20
Indonesia	1.91	5.47	6.29
Malaysia	0.00	0.00	0.06
Myanmar	0.05	0.82	1.85
Philippines	0.77	2.63	2.74
Singapore	0.00	0.01	0.01
Thailand	0.00	0.14	1.88
Viet Nam	0.19	0.58	0.97

ASEAN = Association of Southeast Asian Nations; IMF = International Monetary Fund; COVID-19 = coronavirus disease 2019; PDR= People's Democratic Republic; USD = United States dollar
Source: D.G. Mahler (personal communication, May 12, 2020)

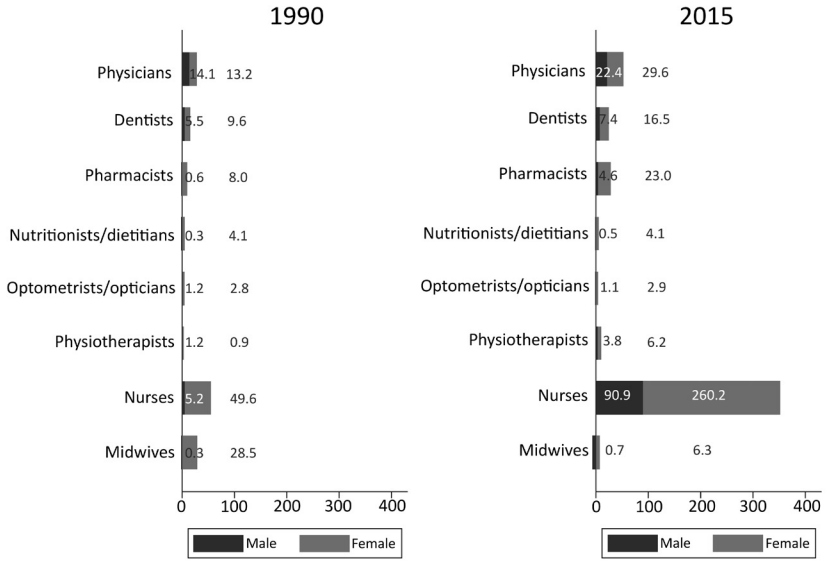
Mahler et al. (2020) also look into the robustness of their forecasts by examining what will happen to poverty under slightly more optimistic or pessimistic scenarios (either with 1-percentage point lower or higher values than the *World Economic Outlook* projections [IMF 2020], or increased or decreased Gini inequality by 1 percent in all countries in 2020). Their simulation shows that global poverty could range between 8.4 percent and 8.8 percent. This means that the number of people pushed into extreme poverty will be roughly between 40 million and 60 million. The IFPRI estimates (Vos et al. 2020a, 2020b) on poverty assume a global GDP slowdown of 1 percent. However, if one assumes a GDP slowdown of 3 percent (consistent with IMF and new UN projections) instead, then the number of extremely poor Filipinos could increase by between 810,000 and 1.8 million, which is more or less consistent with the results of Mahler et al. (2020).

In all these estimates of poverty, the impact of the pandemic on specific groups of people (e.g., women and men) have not yet been

factored in. Many studies have suggested that COVID-19 affects especially the elderly. Moreover, across the world, it appears that men are hit harder by the virus than women. This is particularly true in the Philippines. As of April 7, men outnumber women (58 versus 42) among people who tested positive (Abrigo et al. 2020). Also, men appear twice more likely to die from COVID-19 than women (i.e., 70% among men versus 30% among women). These empirical results appear to be due to traits of men that make them more vulnerable to the pandemic (e.g., having certain medical conditions such as asthma, diabetes, hypertension, and chronic respiratory diseases, because of their lifestyles).

Prior to the onset of the pandemic, women and men have been situated differently across occupations. Figure 1 illustrates that as of 2015, 72.6 percent of health professionals (73.3% if other human resources are included) are women (Abrigo and Ortiz 2019). These figures were much higher two and a half decades prior to 2015,

Figure 1. Health human resources in the Philippines (in thousands) by sex, 1990 and 2015



Source: Abrigo and Ortiz (2019)

suggesting that these occupations are moving more toward gender parity, although the gap continues to be rather wide.

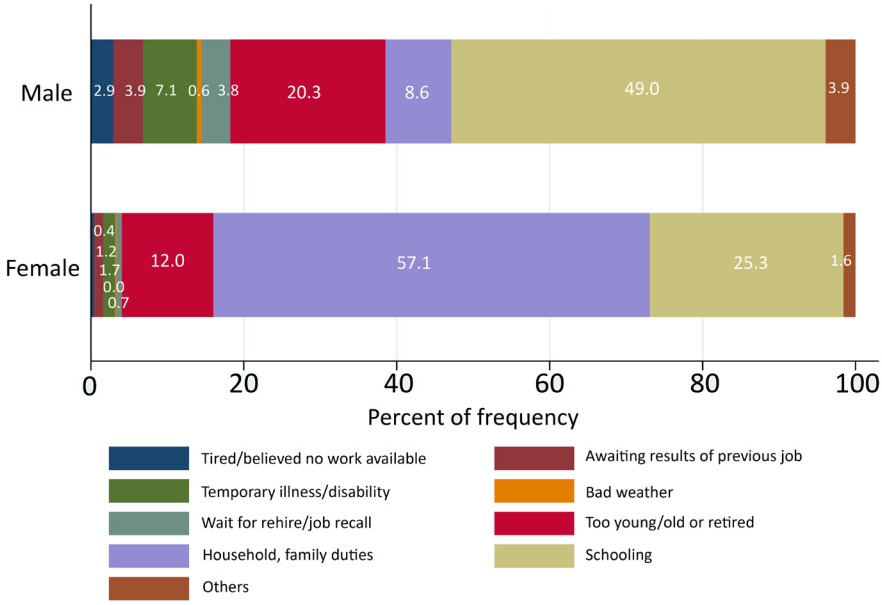
On the other hand, only a quarter (25.3%) of workers in science and technology (S&T) are women. Also, working women in the S&T sector tend to drop out of work much faster than women in other sectors (Albert et al. 2020). Men tend to dominate in the entire agriculture and industry sectors, while women dominate the services sector (David et al. 2018).

Furthermore, the country's leadership roles in both the public and private sectors are still dominated by men (David et al. 2018). As of 2016, women occupy only about a third (32.7%) of senior and middle management positions. Even if more women are getting visible in certain occupations (e.g., board members in the private sector, chief executives, or even the president of the country), the number and proportion of women who have broken such glass ceilings are still far from achieving gender parity. Cabinet secretaries have remained largely male dominated from 1986 to the present—even during the years when the country had female presidents. The downgrade in the performance of the Philippines in the *2020 Gender Global Gap Report* is almost entirely due to the lower female representation in the cabinet, which declined from 25 percent in 2017 to 10 percent in 2019 (WEF 2019).

The starting issue surrounding women in the workplace is that there is a barrier to their participation in the labor force. According to data from the January 2018 Labor Force Survey (PSA 2018), three in five working-age women cited unpaid care work as the principal reason for being economically inactive. In contrast, more than half of their male counterparts give "schooling" as the primary reason for being outside the labor force (Figure 2). Thus, opportunities for women and men to participate in the economy remain unequal because of the disproportionate share of unpaid care and domestic work women undertake. Even when women join the workforce, a much larger share are in vulnerable jobs.

In response to the pandemic and other sources of vulnerabilities, the government has adopted a three-pronged macro policy strategy involving (i) containing the spread of the virus, (ii) providing social protection to the poor and vulnerable, and

Figure 2. Reasons for not joining labor market (%) by sex, January 2018



Source: Authors' calculations

(iii) increasing demand to boost economic activity. Current policies are meant to mitigate demand externalities and finance constraints through monetary and fiscal instruments and social protection to dampen the impact of adverse shocks to livelihood and the economy (Box 1).

All these macro policies are supported by a COVID-19 war chest amounting to PHP 1.7 trillion—PHP 58.6 billion for expanded medical resources to fight the disease and ensure frontliners' safety; PHP 595.6 billion as emergency support for the poor, low-wage workers, the informal sector, and other vulnerable groups; and PHP 1.1 trillion for monetary and fiscal initiatives, including an economic stimulus. Theoretically, shocks would yield a V-shaped trajectory on growth, but in the real world, COVID-19 can produce a prolonged and deep recession and sharp economic volatility (either in an L, U, or W shape).

Box 1. Philippine government's macro policy responses to COVID-19

Policy	Strategies and Programs
1. Contain the spread of the virus	• Implement detect-isolate-treat-reintegrate strategy to fight catastrophic impact of COVID-19 • Provide PHP 35.7 billion in expanded medical resources
2. Provide social protection	• Provide people relief from sudden shock • Offer (through LGUs) food packs • Allocate (in cooperation with LGUs) PHP 583.8 billion for the Social Amelioration Program and Small Business Wage Subsidy Program
3. Reboot and boost demand	• Allocate (in cooperation with LGUs) PHP 583.8 billion for the Social Amelioration Program and Small Business Wage Subsidy Program

COVID-19 = coronavirus disease 2019; LGUs = local government units; PHP = Philippine peso
Source: Authors' summary

The next section describes the income distribution in the Philippines, as reflected in the 2018 FIES results, and focuses on the gaps across various income segments in the country. This is an update of the work of Albert et al. (2018) on the profile and determinants of the middle-income class based on the available microdata from the 2018 FIES.

Profile of poverty and the middle class

In this study, the underlying framework for describing poverty (and inequality) is a monetary approach in identifying and measuring poverty (and income inequality). This common approach views persons in poverty in monetary terms (i.e., as those that belong to families with per capita incomes that are less than some poverty threshold).

The poverty threshold represents the minimum level of income per person deemed adequate for meeting food and nonfood needs. Data on total household income can be gathered by identifying all possible income sources (e.g., incomes from salaries and wages, interests, dividends, and self-employment). Income inequality, which is the asymmetry in the distribution of income within society, is to be viewed in the context of the gaps in various statistics across various income groups (as defined by Albert et al. 2018).

Countries have put poverty at the heart of their development agenda. In 2015, 193 UN member-states, including the Philippines, committed to achieving the Sustainable Development Goals (SDGs) by 2030. The agenda on the SDGs is a continuation and expansion of the Millennium Development Goals framework to put poverty reduction and related goals at the center of development priorities. The first goal of the SDGs—SDG1: "end poverty in all its forms everywhere"—is about eradicating extreme poverty; it involves targeting the most vulnerable to poverty, increasing basic economic resources and social protection services, formulating pro-poor and inclusive policy frameworks, as well as supporting communities affected by conflict and climate-related disasters. In the Philippines, medium-term national development plans have mainstreamed poverty reduction, and even incorporated the country's aspiration to become a predominantly middle-class society by 2040, where no one is poor (NEDA 2015; NEDA 2016).

As pointed out earlier, this study makes use of available income data from the 2018 FIES to describe poverty, the middle class, and the entire income distribution. The study also recognizes the likely reduction in incomes brought about by COVID-19 and the attempt to reduce the contagion. The discussion, however, starts first with a review of concepts in the official poverty measurement methodology.

Official poverty measurement system

To develop the proper policy framework and instruments for reducing poverty, countries need a credible poverty measurement system. Official poverty measurement systems involve three steps (UNSD 2005; Albert 2008; Haughton and Khandker 2009):

- *Defining a welfare indicator.* Most countries make use of money-metric measures based on income or consumption.

In the Philippines, the PSA uses income per capita. China and Malaysia also use welfare indicators based on income. Most developing countries, however, make use of consumption expenditure-based measures rather than income based owing to difficulties in obtaining accurate income data, as reported income tends to be biased downward, especially among households relying on farming income and self-employment, and income from housing services or capital gains.

- *Setting a poverty line.* The typical scheme in developing countries, including the Philippines, for setting poverty lines involves the basic needs approach, which attempts to identify the cost of absolute minimum food and nonfood requirements for long-term well-being. The details for implementing this approach, however, vary across countries.
- *Summarizing the poverty data.* All national statistics offices (NSOs) that measure poverty release poverty incidence estimates—i.e., the proportion of people (or households) with income per capita below the poverty threshold. The PSA also releases the subsistence incidence—i.e., the proportion of people (or households) whose incomes per capita do not even reach the food component of the poverty line (also known as subsistence threshold).

For its poverty measurement system, the PSA makes use of data on per capita income (i.e., the total household income divided by the family size, sourced from the triennial FIES). In the FIES, total household income is the aggregate of incomes from all sources, including employment, social transfers, home production, informal support, and income from rent. In other countries, data on aggregate consumption/expenditure consist of adding up expenditures of all items purchased from market sources and other sources (e.g., gifts and home-produced items that are consumed by the household) using imputed values at local market prices.

The FIES is traditionally designed to yield reliable information at the regional level, although the design of the 2018 FIES (and subsequent rounds of the FIES) has been changed to adopt self-weighting schemes

as well as to make use of four times the previous years' sample sizes to obtain more precise survey-based statistics at the provincial level.

For several years, the PSA had released first-semester poverty data based on the FIES. Furthermore, it experimented with a release of poverty statistics sourced from another survey, the Annual Poverty Indicator Survey (APIS), which used several income questions from the FIES module. Due to criticisms that income data from APIS and FIES are fundamentally different (Albert et al. 2015), this practice, including comparing APIS-sourced poverty data with first semester FIES-sourced poverty, appears to have been discontinued.

Which one then is a better welfare indicator: income or expenditure/consumption? As pointed out in Albert (2008), poverty analysts generally view consumption-based measures of poverty as providing a more adequate picture of well-being than those based on income, especially in low- or middle-income countries. Income typically fluctuates from year to year and changes across one's lifetime, whereas consumption remains relatively unchanging. Also, consumption/expenditure is viewed to be a more accurate measure than income: Survey respondents may be more able and willing to remember what they spent rather than what they earned, especially when their memories are jogged with more detailed questions. Income is likely to be underreported due to either biases from memory recall or reluctance to reveal accurate income data because of tax concerns or when such came from illegal sources. In addition, the accuracy of some components of income, especially agricultural income, may be difficult to defend.

On the other hand, the extent of bias in income data is likely to be higher in the upper part of the income distribution, which is not of particular concern in poverty analysis. Salaried and fixed-income earners can accurately account for their incomes (perhaps even better than their expenditures).

The direction and extent of bias on expenditure data, however, is unclear. The poor can have prestige biases when asked about their expenditures. Even jogging the memory of respondents with detailed questionnaires has its limitation: Respondents may suffer from information fatigue after long hours of being interviewed. Interviews with respondents for the FIES are reported to take an average of four

to five hours, with the household needing to be visited twice—in July and in January of the following year. This can seriously erode the quality of survey data (for both expenditure and income). The PSA should look into its entire poverty measurement methodology soonest, given the likely changes in income and consumption patterns, especially in the post-COVID-19 world.

Some NSOs, including the PSA, are experimenting with the use of a multidimensional poverty index (i.e., one where various poverty indicators are put together into a composite measure). While there may be some attraction to the idea, this is not without its complications as one has to develop a framework for identifying what indicators to consider, what weights to give to the indicators, and what thresholds to use for each indicator (Albert and Vizmanos 2018b).

When NSOs, such as the PSA, generate poverty statistics, they also determine national poverty lines—or the value of the chosen indicator of welfare (e.g., per capita income for the Philippines) deemed necessary to maintain a minimal standard of well-being. For monetary welfare indicators that use income or expenditure data, the poverty line is the amount needed to purchase a basket of basic food and nonfood goods and services. Meanwhile, there are also nonmonetary indicators of welfare, such as the years of schooling of an individual aged 15 and above.

When official statistics make use of either income or consumption-expenditure indicators in poverty measurement, monitoring, and analysis, the official poverty lines are referred to as "absolute" poverty lines. That is, these poverty lines are comparable yardsticks across time whose changes in nominal values merely reflect price changes, and whose differences in subnational areas indicate the differences in cost of living across these areas. Most developing countries, the Philippines included, set their poverty lines with the cost-of-basic needs (CBN) approach, a methodology that (i) obtains the food component of the poverty line by a food bundle anchored on minimum calorie requirements (typically 2,100 calories per person per day) and (ii) adjusts these food poverty lines upward to incorporate nonfood needs.

In the Philippines, 2,000 calories per person per day is used as the nutrition benchmark. This benchmark is already quite generous

as results of the Food Consumption Survey by the Food and Nutrition Research Institute (FNRI) suggest that more than 90 percent of Filipinos do not consume/reach this benchmark in a day. The Philippines also vastly differs in its implementation of the CBN approach as it uses "low-cost" menus for rural and urban areas in each province as an artifice for estimating the food poverty line. In contrast, most countries make use of a food basket with prices based on the costs incurred by a reference population (typically between the second and fifth deciles of the food consumption distribution). Thus, the reported PHP 7,528 monthly for a family of five for 2018 represents the average food poverty line in the entire country.

Furthermore, the food menus in the Philippines are one-day menus valued at "low-cost" provincial prices at the urban/rural areas in each province. These menus are also meant to meet the 100 percent recommended dietary allowance (RDA) adequacies for energy and protein, as well as 80 percent RDA adequacies for other nutrients and vitamins. The FNRI prepared these one-day menus, reportedly validated through extensive consultations with stakeholders. The menus are also adjusted to account for the availability of food commodities that FNRI deemed cheap and nutritious. Food items that can be costly are also included in the food menu but only in as far as these items are the only sources of the nutrient requirements (say, for iron adequacy). The food menus can be attractive as far as their ability to be formulated to satisfy other nutrient requirements besides calories.

Ever since a decade ago, the food menus have started with a national menu (previously, regional menus could vary considerably in food composition) to ensure that there are relatively comparable food items priced for the food poverty lines across the country. The alternative approach of using a food bundle has been advocated for use (Albert and Molano 2009) in estimating the food threshold and could be worth exploring.

In a few developing countries, a nonfood basket is used to value the nonfood requirements. On the other hand, most countries estimate nonfood needs indirectly using Engel's coefficient (i.e., the food share of those near the food poverty line). In the Philippines, those at the bottom of the income distribution spend around 70 percent on food;

thus, the inverse of this food share (i.e., 1/0.7=1.43) is used to adjust the food poverty line upward for nonfood needs. The average monthly poverty threshold in 2018 of PHP 10,727 for a family of five is an adjustment upward of the food threshold.

For several decades, developing countries have adopted a view of poverty as monetary deprivation. However, poverty ultimately has to resonate with society's views. Recently, netizens expressed surprise with the official poverty line figure, noting that a family of five in 2018 could not survive with the poverty line figure of PHP 10,727 a month (Ordinario 2019). Some have even challenged PSA officials and staff to try surviving with such an amount. This strong reaction on social media might have also been partly related to an earlier statement of a NEDA official on the PHP 10,000-a-month figure while remarking about a "decent" quality of life (albeit the quote was taken out of context by the public).[2] What should have been pointed out to the public is that "survival" means different things to different people: An extremely wealthy Filipino will not "survive" with PHP 100,000 a month, even if this is a huge amount of money for more than half the population. All NSOs across the world attempt to measure poverty to help describe the extent to which poverty changes so that decisionmakers can appropriately carry out interventions to improve the plight of the needy.

Although NSOs, such as the PSA, have not yet come up with an international standard on poverty measurement similar to the national accounting practices (that took decades for countries to agree on), the approaches for counting the poor across countries are quite similar, as per literature developed by the World Bank and by the United Nations Statistics Division (UNSD 2005; Haughton and Khandker 2009). These approaches are based on the estimate of the cost of "basic needs" (and not how much one needs to survive). However, this idea still causes confusion as the term "basic needs" may not be commonly defined. For instance, would one consider internet use as a basic need? How exactly should the cost of these "basic needs" be computed?

[2] The hypothetical figure of PHP 10,000 was only used to explain inflation. See Punongbayan (2018).

Those familiar with the food menus of the PSA have also wondered why food items with the least-cost prices are the ones used in the menus. Also confusing is the fact that the daily costs incurred by those in the "middle class" (and even those in the upper-income class) do not match the official poverty thresholds on a per-person, per-day basis. What PSA should be explaining is that the expenditures (and consumption baskets) of the average Filipinos are very different from those of the low-income class. The PSA needs to develop better communication messages so that people will not equate their spending (and the prices they pay) with the condition of the poor.

The World Bank has been monitoring poverty globally, making use of another "absolute" poverty line. During the Millennium Development Goals period, the World Bank initially used an international poverty line of USD 1.00 per person per day in 1991 PPP indices. Subsequently (with more recent price data from the International Comparison Program), it updated this poverty threshold to USD 1.25 per day in 2005 PPP prices, and then to USD 1.90 per day in 2011 PPP prices. The latter figure is now meant for monitoring the SDGs.

While the PSA's official poverty lines are not tied to the USD 1.90 per-day poverty line, the national poverty line is comparatively higher. Thus, PSA's official income poverty headcounts are higher than the World Bank estimates of people in poverty for the Philippines (at USD 1.90 a day poverty line) although the trends in the two sets of poverty incidence figures tend to be the same (Table 4). It should be noted, however, that the USD 3.20 poverty line suggested by the World Bank to track poverty across lower middle-income countries yields poverty headcount estimates that are higher than the country's national poverty headcount figures. This suggests the need for PSA to reexamine its poverty line methodology in the wake of improved living conditions across time (i.e., before the onset of COVID-19) that should lead to higher poverty thresholds (and poverty counts) today.

Whether or not these official poverty lines are unrealistic, what should ultimately be of concern is that around 3 in 20 Filipinos (16.6%) are from families with incomes below PHP 10,727 a month (for a family of five) and that 1 in 20 (5.2%) are part of families

Table 4. Poverty headcount rates (%) in the Philippines using international and national poverty lines: 2010–2015

Year	International Poverty Line		National Poverty Lines
	USD 1.90 a Day	USD 3.20 a Day	
2015	6.15	26.04	21.6*
2012	10.51	33.55	25.2
2009	10.87	34.24	26.3
2006	14.54	38.42	26.6
2003	13.16	36.29	
2000	13.89	38.15	

USD = United States dollar
*According to PSA (2019a), the official poverty incidence estimate of 21.6 percent in 2015 has been revised to 23.3 percent to reflect rebased prices from a base year of 2006 to 2012 and to incorporate counts from the 2015 Census of Population.
Sources: World Bank Povcalnet (n.d.); PSA (various years)

whose incomes are 30 percent less than the said threshold (around PHP 7,528 a month). The threshold should thus be viewed as a mere artifice. It is important for the PSA to start reviewing its poverty line methodology[3] as ultimately, poverty metrics, just like any set of statistics, must be "credible" to society.

Finally, as regards summaries on poverty data, the PSA regularly releases the poverty (and subsistence) thresholds and the poverty incidence. These statistics are the simplest way of summarizing poverty data. Data users, however, have to realize that it is not enough to compare poverty rates across areas because the total population also varies across areas. Some areas that have high poverty incidence do not have as much share of total poverty on account of population size. Similarly, some areas with low poverty incidence may have a high share of total poverty because of population size. This issue will be discussed in detail in the next subsection.

It should also be noted that while poverty incidence rates provide a readily understandable summary of poverty conditions, they are unable to show the intensity of poverty and describe the severity of poverty. Other poverty measures, such as the poverty gap

[3] The PSA is planning to review its official poverty methodology (Ordinario 2020).

and poverty squared gap, are being monitored for such purposes, respectively. The PSA regularly generates the poverty gap index, but the extent of explanation of these figures is not adequate to help data users. The poverty squared gap is even more difficult to interpret; hence, these figures are used mostly only in academic research reports and hardly for practical field work.

Poverty profile

As indicated in the previous subsection, various poverty measures can be calculated to aggregate and summarize poverty data from a household survey on living standards. The most common descriptive measure of poverty is poverty incidence (also called the poverty rate or headcount poverty index), which gives the proportion of the population in poverty.

As of 2018, the estimated poverty rate in the Philippines based on the 2018 FIES of 16.8 percent is slightly different from the PSA-released figures on account of the incorporation of a revised urban/rural definition in the 2018 FIES microdata, which reflect information gathered from the 2015 Census of Population (PopCen). In terms of families/households,[4] the poverty incidence is 12.4 percent (corresponding to 2.9 million households living in poverty). Among the 17.7 million poor Filipinos, 5.6 million are estimated to be in subsistence or extreme poverty. Furthermore, around 830,000 Filipino households are extremely poor in that their per capita incomes are less than the subsistence threshold.

Table 5 shows the distribution of Filipinos and households in the country by poverty status in 2018. The Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) has the highest poverty incidence and share of total poverty in the country, whether in terms of population or households. Also, the National Capital Region (NCR) or Metro Manila has the least poverty. Such a portrait of disparities across regions has remained unchanged, although many regions appear to have reduced poverty (Albert et al. 2015).

[4] A household is a set of people who reside together, using the same kitchen and cooking utensils. This report does not differentiate a household from a family.

Table 5. Distribution of population and households (in thousands) by poverty status and region, 2018

Region	Population					Households				
	Poor			Total Nonpoor	Total	Poor			Total Nonpoor	Total
	Food-poor	Poor but Not Food-poor	Total Poor			Food-poor	Poor but Not Food-poor	Total Poor		
Region I (Ilocos)	93	421	514	4,665	5,178	13	74	86	1,142	1,228
Region II (Cagayan Valley)	154	432	586	2,994	3,580	26	82	108	750	858
Region III (Central Luzon)	180	663	842	11,048	11,890	26	112	138	2,532	2,670
Region IV-A (CALABARZON)	232	873	1,105	14,314	15,419	36	148	185	3,353	3,537
Region IV-B (MIMAROPA)	136	334	470	2,624	3,094	20	55	76	641	717
Region V (Bicol)	424	1,195	1,619	4,387	6,006	59	197	256	1,027	1,282
Region VI (Western Visayas)	331	944	1,275	6,489	7,764	48	162	210	1,555	1,765
Region VII (Central Visayas)	372	991	1,363	6,382	7,745	59	172	232	1,487	1,718
Region VIII (Eastern Visayas)	463	962	1,425	3,195	4,619	71	174	246	788	1,034
Region IX (Zamboanga Peninsula)	465	756	1,222	2,503	3,725	72	135	207	587	793
Region X (Northern Mindanao)	295	838	1,133	3,759	4,893	43	147	190	887	1,077
Region XI (Davao)	291	691	982	4,147	5,129	45	125	171	1,041	1,211
Region XII (SOCCSKSARGEN)	544	806	1,350	3,428	4,777	90	151	241	831	1,071
National Capital Region	55	254	309	13,145	13,454	8	37	45	3,014	3,059
Cordillera Administrative Region	61	155	217	1,559	1,775	10	26	36	367	403
Bangsamoro Autonomous Region in Muslim Mindanao	1,207	1,276	2,483	1,531	4,015	164	220	384	330	714
Region XIII (Caraga)	271	553	824	1,868	2,692	42	98	140	439	578
Philippines	**5,574**	**12,145**	**17,719**	**88,036**	**105,755**	**830**	**2,117**	**2,947**	**20,770**	**23,717**

CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos
Source: Authors' calculation from PSA (2019a, 2019b)

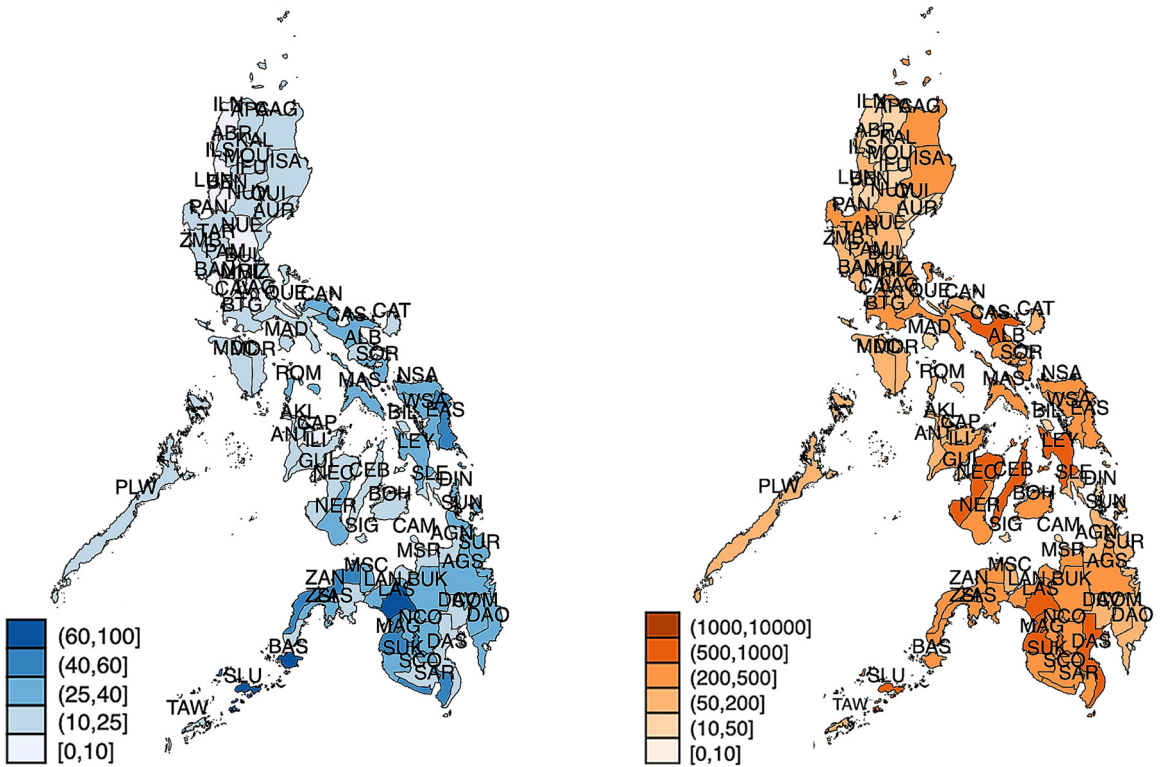
As mentioned in the previous subsection, the 2018 FIES has four times the sample size of previous FIES rounds, which allows the survey to generate more reliable estimates of poverty at the provincial level. The poverty maps on poverty incidence and the magnitude of poor Filipinos show disparities across the country (Figure 3).

Box 2 summarizes the list of Philippine provinces with the best and worst cases in terms of poverty incidence and share to total poverty (or the equivalent number of poor Filipinos). Full data on the distribution of the population and across families are found in Appendix Tables 1 and 2. All provinces with poverty rates of 50 percent or above (including Isabela City) account for only 10.4 percent of the total poverty in the country. These areas, together with those with poverty rates between 30 to 50 percent, account for about a third (31.6%) of all the poor in the country. In contrast, provinces with more than 500,000 poor Filipinos account for nearly a fifth (17.9%) of the country's poor. Provinces with more than 500,000 poor Filipinos and those with between 250,000 and 500,000 poor Filipinos account for more than half (55.3%) of the country's poor. These results underscore that poverty data users should be cautious when attempting to focus solely on poverty incidence, as they might be missing out on those populated areas that have a small poverty incidence but are composed of a significant number of poor people.

However, the headcount index does not indicate how poor the poor are. The poverty gap index, which is the average over all people of the gaps between poor people's income and the poverty line, expressed as a ratio to the poverty line, shows the average depth of poverty. However, this is not sensitive to the distribution of living standards among the poor. To make the poverty gap index more sensitive to the distribution of income among the poor, the poverty gaps of the poorest people can be given a bigger weight when calculating the index. One such weighted average (that uses the relative gaps as the weights) is the Poverty Severity Index; the higher the value of this index, the more unequal is the distribution of income among the poor.

Table 6 shows that the poverty comparisons across regions in relation to the poverty incidence, gap, and squared gap measures

Figure 3. Poverty across provinces in 2018 in terms of poverty incidence (%) and number of poor Filipinos (in thousands)



Note: The maps slightly differ in their presentation of where poverty is least and worst since some provinces have a bigger share of the country's total poverty due to their population sizes.
Source: PSA (2019b)

Box 2. Summary of poverty conditions across provinces

Poverty incidence	High poverty: with incidence of 50 percent or more in (Isabela City*), Lanao del Sur, Basilan, and Sulu Moderately high poverty: with rates between 30 percent to 50 percent in Camarines Norte, Sultan Kudarat, Dinagat Island, Masbate, Northern Samar, Surigao del Norte, Zamboanga Sibugay, Davao Oriental, Agusan del Sur, Davao Occidental, Sarangani, (Cotabato City*), Zamboanga del Norte, Maguindanao, and Eastern Samar Least poverty: with rates of 5 percent or below in (NCR*), Pampanga, Laguna, Rizal, La Union, and Ilocos Norte
Number of poor people	High poverty: with more than 500,000 poor people in Camarines Sur, Leyte, Negros Occidental, Maguindanao, Sulu, Cebu, and Lanao del Sur Moderately high poverty: with between 250,000 to 500,000 poor in Misamis Oriental, Sultan Kudarat, Basilan, Agusan del Sur, Lanao del Norte, Bohol, Isabela, Davao de Sur, Albay, South Cotabato, Quezon, Masbate, Batangas, Negros Oriental, Pangasinan, Bukidnon, Iloilo, Cotabato, Zamboanga del Sur, and Zamboanga del Norte Least poverty: with 50,000 poor or less in Batanes, Siquijor, Guimaras, Camiguin, Apayao, Quirino, Kalinga, Ilocos Norte, Ifugao, Biliran, Marinduque, Aurora, La Union, Mountain Province, (NCR-4th District*), Dinagat Island, Abra, and Benguet

* Refers to highly urbanized cities
Source: Authors' summary

Table 6. Poverty incidence, poverty gap, poverty squared gap (%) among Filipinos by region, 2018

Region	Index Estimates			Share to Total (%)		
	Poverty Incidence	Poverty Gap	Poverty Squared Gap	Poverty Incidence	Poverty Gap	Poverty Squared Gap
Region I (Ilocos)	9.92	1.76	0.49	2.90	2.22	1.78
Region II (Cagayan Valley)	16.37	3.28	0.98	3.31	2.87	2.47
Region III (Central Luzon)	7.08	1.33	0.41	4.75	3.86	3.46
Region IV-A (CALABARZON)	7.17	1.38	0.42	6.24	5.17	4.52
MIMAROPA	15.19	3.43	1.17	2.65	2.59	2.56
Region V (Bicol)	26.96	5.65	1.77	9.14	8.27	7.52
Region VI (Western Visayas)	16.42	3.40	1.09	7.19	6.44	5.96
Region VII (Central Visayas)	17.60	3.79	1.27	7.69	7.17	6.92
Region VIII (Eastern Visayas)	30.84	7.32	2.53	8.04	8.25	8.25
Region IX (Zamboanga Peninsula)	32.81	8.41	3.07	6.90	7.64	8.09
Region X (Northern Mindanao)	23.16	4.80	1.49	6.40	5.72	5.14
Region XI (Davao)	19.14	4.32	1.46	5.54	5.40	5.29
Region XII (SOCCSKSARGEN)	28.25	7.79	3.10	7.62	9.08	10.45
National Capital Region	2.29	0.36	0.10	1.74	1.19	0.92
Cordillera Administrative Region	12.20	2.71	0.89	1.22	1.17	1.12
Bangsamoro Autonomous Region in Muslim Mindanao	61.86	18.59	7.33	14.02	18.20	20.79
Region XIII (Caraga)	30.62	7.26	2.51	4.65	4.77	4.77
Philippines	**16.76**	**3.88**	**1.34**	**100.00**	**100.00**	**100.00**

CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos
Source: Authors' calculation from PSA (2019a, 2019b)

are consistent generally, although not fully. For instance, BARMM is consistently the poorest across regions. Zamboanga Peninsula is the second poorest by poverty incidence and poverty gap in terms of the actual estimates of the indices, but it holds only the seventh and fifth places by share to total poverty incidence and total poverty gap, respectively. Thus, as was pointed out earlier, policies and practices to reduce poverty should not focus solely on poverty incidence.

The middle class

As pointed out in Albert and Vizmanos (2018a), the scope of poverty assessments and social protection interventions must go beyond profiling poverty and look into various segments of the income distribution given people's vulnerabilities to future poverty. This is particularly relevant in the wake of the impact of COVID-19 on the incomes of households. The nonpoor is a huge portion of society with a lot of inherent heterogeneity.

For this purpose of examining inequality among the nonpoor and in relation to the poor, one may consider the income group typology espoused by Albert et al. (2018), which identifies the low-, middle-, and high-income classes in the country, especially since the middle class plays a crucial role in society (Murphy et al. 1989; Huntington 1991; Banerjee and Duflo 2008; Chun et al. 2017; Kharas 2017). This provides a good metric that determines whether the long-term aspiration for the country to become a largely middle-class society is being met (NEDA 2015). Table 7 shows the updated thresholds for seven income groups (and three income classes) as proposed by Albert et al. (2018) using the 2018 poverty data from the PSA.

Thus, a Filipino family of five would be in the middle class if its monthly family income falls between PHP 22,000 and PHP 131,000 in 2018 (or around PHP 25,000 and PHP 150,000, respectively, in 2020 prices). Table 7 also provides estimates of the sizes of the income classes, both in terms of population and households, sourced from the 2018 FIES. In particular, 47.7 percent of households are low income, about half (50.25%) are middle income, and 2.1 percent are high income. As regards the middle-class households, these can be broken down into the lower-middle group (about 7.6 million households or about a quarter [26.2%]), the middle-middle group (3.1 million), and

Table 7. Income groups in the (per capita) income distribution, income thresholds, and sizes of income groups, 2018

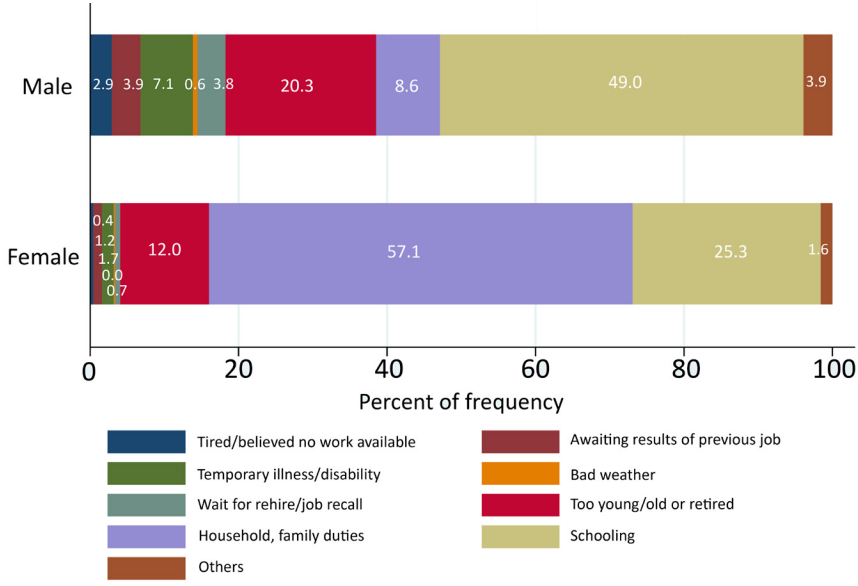
Income Group	Definition	Range of Monthly Family Incomes (for a Family of Five) in 2018 Prices	Size of Income Group	
			Number of Households	Number of Persons
Poor	Per capita income less than official poverty threshold	Less than PHP 10,957 per month	2.9 million	17.7 million
Low income (but not poor)	Per capita incomes between the poverty line and twice the poverty line	Between PHP 10,957 and PHP 21,914 per month	8.4 million	40.7 million
Lower middle income	Per capita incomes between twice the poverty line and 4 times the poverty line	Between PHP 21,914 and PHP 43,828 per month	7.6 million	31.0 million
Middle-middle class	Per capita incomes between 4 times the poverty line and 7 times the poverty line	Between PHP 43,828 and PHP 76,699 per month	3.1 million	11.2 million
Upper middle income	Per capita incomes between 7 times the poverty line and 12 times the poverty line	Between PHP 76,699 and PHP 131,484 per month	1.2 million	3.8 million
Upper income (but not rich)	Per capita incomes between 12 times the poverty line and 20 times the poverty line	Between PHP 131,483 and PHP 219,140	358,000	1.0 million
Rich	Per capita incomes of at least equal to 20 times the poverty line	At least PHP 219,140	143,000	360,000

Note: There are slight differences in the representation of the poverty line from a family of five with those given by the PSA in its December 2019 release of poverty thresholds for 2018 (PSA 2019a), as the average here makes use of the released FIES microdata that redefines the urban-rural thresholds with data from the 2015 Census of Population.
Source: Authors' computations from microdata of the 2018 Family Income and Expenditure Survey (PSA 2019b) using the income group typology of Albert et al. (2018)

the upper-middle group (1.2 million). Thus, if the Social Amelioration Program (SAP) for 18 million households (out of 24.4 million estimated households in 2020) had been targeted well, it would have provided benefits for all of the low-income class and a sizeable portion of the lower middle-income group.

As of 2018, urban households are predominantly middle class: 3 in 5 (61.3%) urban households are middle class, while only 3 percent are high income. Among rural households, only 38.5 percent are middle class, while more than 60.2 percent are low income (Figure 4). In urban areas, the proportion of households belonging to

Figure 4. Share of population (%) in urban and rural areas across income classes

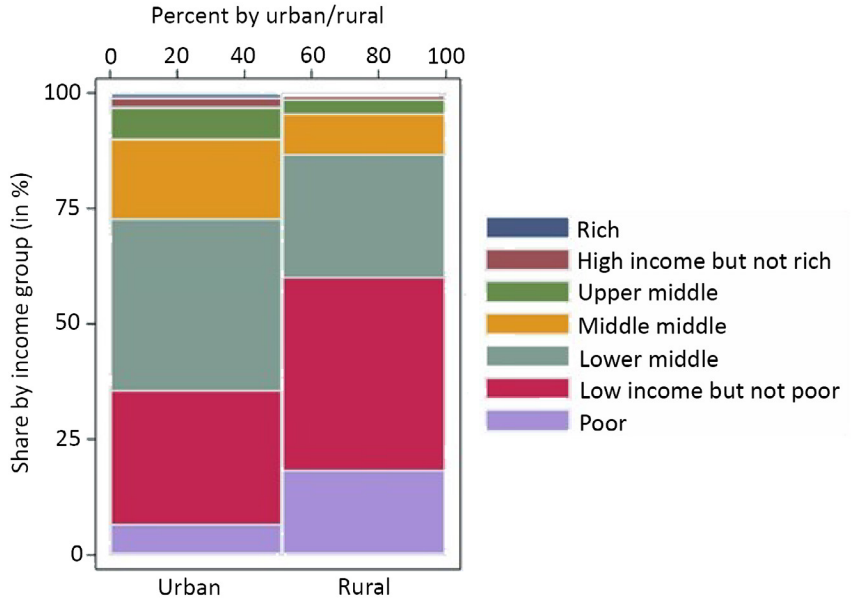


Source: Authors' computations from microdata of the 2018 Family Income and Expenditure Survey (PSA 2019b) using the income group typology of Albert et al. (2018)

low-, middle-, and high-income classes are 35.8 percent, 61.3 percent, and 3.0 percent, respectively.

Figure 5 shows that the bulk of the income groups in urban areas are in the lower middle class (36%), followed closely by the

Figure 5. Share of income groups (%) by urban and rural areas, 2018



Source: Authors' computations from microdata of the 2018 Family Income and Expenditure Survey (PSA 2019b) using the income group typology of Albert et al. (2018)

low-income (but not poor) Filipinos (33.8%). Nearly 7 in 10 (69.8%) persons in urban areas are in these two income groups. On the other hand, in rural areas, the low-income (but not poor) Filipinos (43.3%) and the poor (24.6%) are the dominant income groups, which when combined make up two-thirds (67.9%) of the rural population.

Slightly more than half (51.3%) of all the middle-class households in the country reside in NCR, CALABARZON, and Central Luzon (Table 8). These three regions also have around three-fifths of their households belonging to the middle class, with NCR having the biggest proportion (74.1%). Meanwhile, the respective shares of the middle class among the household distribution in CALABARZON and Central Luzon are 63.7 percent and 59.5 percent, respectively.

While family sizes tend to vary across the income distribution, those in the low-income class not only tend to have a larger family (with more children) than those in the middle- and high-income classes; they also have much more variability in family sizes (Figure 6). Thus, decisions on fertility and reproductive health tend to be associated with income levels.

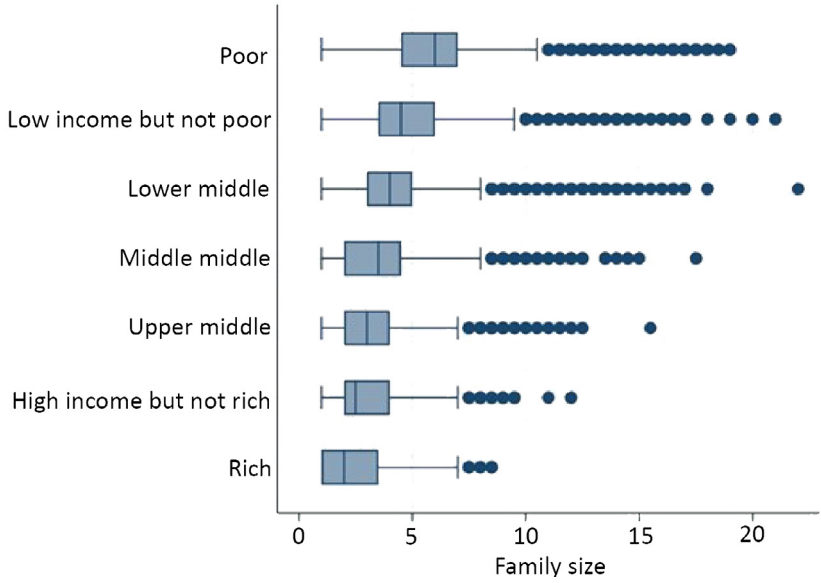
Table 8. Percentage distribution of households among income classes by region, 2018

Region	Low	Middle	High	Total
Region I (Ilocos)	5.05	5.30	5.22	5.18
Region II (Cagayan Valley)	3.83	3.45	2.73	3.62
Region III (Central Luzon)	9.21	13.35	7.64	11.26
Region IV-A (CALABARZON)	10.59	18.94	16.97	14.92
Region V (Bicol)	7.32	3.66	3.73	5.41
Region VI (Western Visayas)	8.33	6.61	7.05	7.44
Region VII (Central Visayas)	7.78	6.72	7.62	7.25
Region VIII (Eastern Visayas)	6.00	2.83	3.72	4.36
Region IX (Zamboanga Peninsula)	4.84	1.99	1.72	3.35
Region X (Northern Mindanao)	5.74	3.44	3.65	4.54
Region XI (Davao)	5.72	4.58	3.76	5.11
Region XII (SOCCSKSARGEN)	5.86	3.3	2.93	4.52
National Capital Region	5.91	19.04	24.87	12.9
Cordillera Administrative Region	1.42	1.91	2.88	1.70
Bangsamoro Autonomous Region in Muslim Mindanao	5.65	0.63	0.07	3.01
Region XIII (Caraga)	3.41	1.54	1.92	2.44
MIMAROPA	3.34	2.7	3.52	3.02
Philippines	100.00	100.00	100.00	100

CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos
Source: Authors' computations from microdata of the 2018 Family Income and Expenditure Survey (PSA 2019b) using the income group typology of Albert et al. (2018)

Also, fertility decisions and time poverty explain why women from low-income families, especially the poor, tend not to join the labor force. That is, women in this group are expected to be spending more time taking care of younger children at home. This is confirmed by the results of the PSA's labor force surveys, which show that unpaid care work is the main bottleneck to women's labor force participation. For instance, according to the January 2018 round of labor force surveys, unpaid care work is the principal reason given by about three-fifths of working-age women for being economically inactive. In contrast, more than half of the men

Figure 6. Distribution of family size by income group, 2018



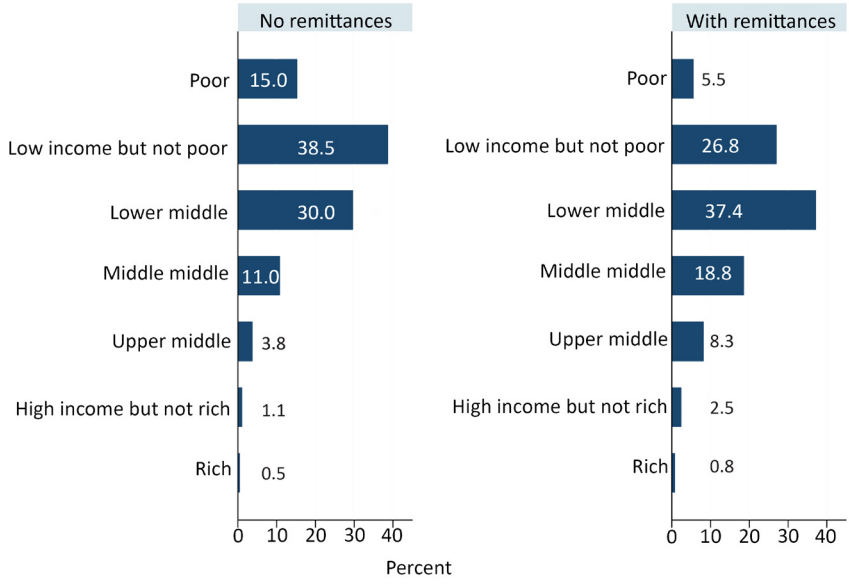
Source: Authors' computations from microdata of the 2018 Family Income and Expenditure Survey (PSA 2019b) using the income group typology of Albert et al. (2018)

surveyed said "schooling" is the primary reason they are outside the labor force (Figure 2).

Among the estimated 24.7 million households in 2018, 3 in 10 (29.9%) had overseas remittances. Their remittances averaged PHP 101,027—slightly more than a quarter (26.4%) of the total household income. Figure 7 shows that more than half of these households with remittances were either from lower middle income (37.3%) or low income but not poor (26.8%). In contrast, only 1 in 20 households with remittances were poor (5.5%). Lower middle-income families received an average of PHP 80,807—double the levels of the low income but not poor group and four times the average remittance levels received by poor households. In the wake of the COVID-19 pandemic, these households would have reduced overseas remittances due to the slowdown in economic activities in their senders' host countries.

Figure 8 shows that the middle class spends nearly double (2.8%) on health compared to the low-income class (1.5%) but more

Figure 7. Households without and with overseas cash remittances by income group, 2018

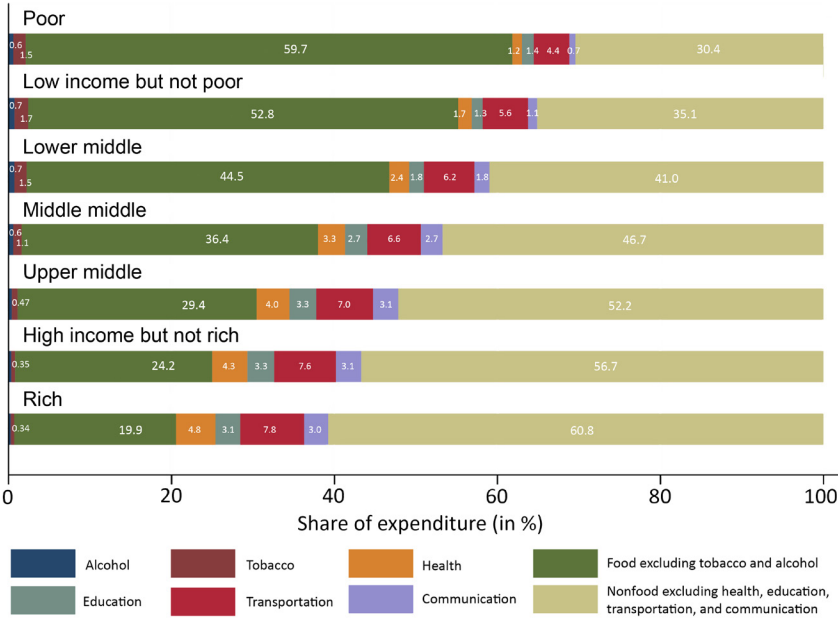


Source: Authors' computations from microdata of the 2018 Family Income and Expenditure Survey (PSA 2019b) using the income group typology of Albert et al. (2018)

than a third less than the high-income class (4.5%). Expenditures on education, transportation, and communication also rise with income. The low-income and middle classes spend about 2 percent of their total expenditures on alcohol and tobacco, while the high-income class spends less than 1 percent. Results of the 2018 FIES also confirm Engel's Law, which states that the share of food expenditures decreases with increasing income levels: The low-income class spends about three-fifths (56.9%) of its total expenditures on food, while the middle- and high-income classes spend about two-fifths (42.8%) and a fifth (22.9%) of total expenditures, respectively.

When compared with earlier middle-class profiles in the Philippines (Albert et al. 2018), the profile in 2018 suggests that this income group continues to be mostly residing in urban areas and has grown slightly in size. Also, a larger proportion of the middle class still belongs to the lower end of the distribution.

Figure 8. Share (%) of food, alcohol, tobacco, education, health, and transportation expenditures to total household expenditure by income classes, 2018



Source: Authors' computations from microdata of the 2018 Family Income and Expenditure Survey (PSA 2019b) using the income group typology of Albert et al. (2018)

Never and Albert (2021) make use of a simple protocol for identifying the middle class, and based on survey data collected on the households, suggest that the middle class is predominantly less wealthy. They point out that many middle-class households own their houses, a fan, a smartphone, a television, and a refrigerator—consistent with the profiles from the FIES (Albert et al. 2018). Middle-class households score high on environmental knowledge and have carbon consumption patterns that are more driven by wealth than by any other factors. The authors suggest that as the wealth increases, the income group's knowledge and concern over the environment lead to sustainable behaviors, which may provide entry points for either changing their current (or avoiding their future) carbon-intensive consumption patterns (Never and Albert 2021).

Poverty and the middle class in the wake of COVID-19

To estimate the impact of COVID-19 on overall income poverty in the Philippines, this report follows the Sumner et al. (2020) approach by simulating low, medium, and high contractions (i.e., 5%, 10%, and 20%, respectively) of the entire income distribution. This may be a simplistic approach given the varying income reductions amid the pandemic, depending on the nature of work and health risk factors of household members and the consequent effects on labor supply. There are also important nonmonetary poverty impacts of COVID-19 on health (e.g., immunization coverage, breastfeeding, malnutrition), education (both school participation and quality of learning), and other dimensions of poverty not captured in assumed income losses.

This study also acknowledges the several social protection programs the government has introduced in response to the pandemic, most notably cash transfers and food aid. Through the SAP, the national government led by the Department of Social Welfare and Development (DSWD) initiated a cash transfer of PHP 5,000 to PHP 8,000 per month for two months for 18 million households (75% of around 24.4 million estimated households in the country). Also, through the Small Business Wage Support (SBWS) program, around 3.4 million workers among micro, small, and medium enterprises (MSMEs) in the formal economy will be provided support. Local government units (LGUs), with the support of the DSWD, have also been providing food aid either to their general constituents or to selected households. However, the monetary value and distribution schemes (including frequency) of such food assistance have varied considerably.

What to expect from various income contraction scenarios

Table 9 summarizes the poverty estimates (i.e., rates and magnitude) under various scenarios of income contractions due to COVID-19, incorporating the effects of income support from the SAP and the SBWS (but not the food aid of LGUs). The estimates are based on the assumption that the government targets effectively the cash support for SAP based on the SAP guidelines of the DSWD (2020). Note that the SAP guidelines differentiate support across regions based on the regional minimum wages. Similarly, for the SBWS, it is assumed that the

Table 9. Poverty scenarios assuming income contractions and effective social protection targeting

Scenario	Poverty Incidence (%)		Estimated Number of Poor Persons (in millions)	
	Using Food Poverty Line as Threshold	With Total Poverty Line as Threshold	Belonging to Families with Income below Food Poverty Line	Belonging to Families with Income below Total Poverty Line
(Status quo: baseline 2018 data)	5.3	16.8	5.6	17.7
A0: income contraction of 5%	6.4	19.2	6.7	20.3
A1: income contraction of 5% with SAP and SBWS	4.4	15.5	4.7	16.4
B0: income contraction of 10%	7.7	21.9	8.2	23.2
B1: income contraction of 10% with SAP and SBWS	5.6	18.2	5.9	19.2
C0: income contraction of 20%	11.4	28.0	12.0	29.7
C1: income contraction of 20% with SAP and SBWS	8.6	24.2	9.1	25.6

SAP = Social Amelioration Program; SBWS = Small Business Wage Support
Note: There are slight differences in baseline data figures as the microdata released by the PSA incorporates revised urban-rural definitions from the 2015 Census of Population
Source: Authors' computations using income data from the 2018 Family Income and Expenditure Survey (PSA 2019b) and national poverty lines

support goes to the 75th to the 90th percentiles of households across the per capita income distribution (with the same SAP parameters).

Estimates show that the proportion of extremely poor Filipinos can increase by 1.1-percentage points from 5.3 percent under the assumption that there is an income contraction of 5 percent across the income distribution or even double to 11.4 percent if incomes decrease by 20 percent.

The social protection programs, if well-targeted to the bottom 90 percent of households, can further reduce extreme poverty (i.e., subsistence poverty) if income contractions are 5 percent only. The middle-case scenario (i.e., a contraction of 10 percent in incomes coupled with counter effects of the SAP and SBWS) can manage the change in poverty incidence rates to an increase of 1.4-percentage points from the baseline figure of 16.8 percent (thus, increasing the number of poor Filipinos by 1.5 million rather than 5.1 million more poor without the government financial assistance). The worst of the three scenarios can put poverty to roughly the poverty incidence in the 2006–2012 period when poverty stood at around a quarter of the population. The middle-case scenario of increased poverty by 1.5 million Filipinos appears consistent with the projections of Mahler et al. (2020), who estimated that poverty could increase by about 770,000 using a poverty line of USD 1.90 per person per day (or 2.63 million using a higher poverty line of USD 3.20 per person per day) (Table 3).

Disaggregated data by region on 2018 poverty rates (status quo) and poverty simulations based on assumed income contractions and effective social protection assistance are shown in Table 10. Results suggest that under the medium case (B1) scenario (i.e., incomes drop by 10%, but there are effective social protection programs in place), all regions would have increased poverty incidence, with as much as 3.1-percentage point increases in Bicol. For the worst (C1) scenario where income contracts by 20 percent in the entire distribution, although the SAP and SBWS funds have been distributed to everyone except the upper 10 percent of households, poverty incidence could increase by over 10-percentage points in six regions. These regions are Bicol (11.5), Eastern Visayas (11.3), Zamboanga (11.2), Caraga (10.7), BARMM (10.6), and Northern Mindanao (10.0). This is on account of a considerable share of those

Table 10. Poverty incidence estimates by region assuming various scenarios

Region	Status Quo	A0	A1	B0	B1	C0	C1
Region I (Ilocos)	9.9	13.1	9.4	15.5	12.2	22.1	18.3
Region II (Cagayan Valley)	16.4	18.6	14.8	22.0	17.5	29.0	24.5
Region III (Central Luzon)	7.1	8.5	6.1	10.4	7.7	15.2	12.1
Region IV-A (CALABARZON)	7.2	8.7	6.3	11.1	8.0	14.9	12.4
MIMAROPA	15.2	31.0	25.4	21.7	17.5	28.8	24.2
Region V (Bicol)	27.0	19.5	14.7	34.7	30.1	43.4	38.4
Region VI (Western Visayas)	16.4	20.2	15.7	22.1	17.8	30.5	24.9
Region VII (Central Visayas)	17.6	34.6	29.2	23.0	19.0	30.0	25.7
Region VIII (Eastern Visayas)	30.8	36.4	31.2	38.6	33.1	46.8	42.2
Region IX (Zamboanga Peninsula)	32.8	26.6	20.7	40.5	35.1	48.6	44.0
Region X (Northern Mindanao)	23.2	21.8	17.3	30.9	24.7	38.7	33.2
Region XI (Davao)	19.1	31.7	27.3	24.9	20.3	32.3	27.7
Region XII (SOCCSKSARGEN)	28.3	3.1	1.9	35.2	30.6	42.7	38.1
National Capital Region	2.3	14.4	11.5	4.0	2.6	6.8	4.8
Cordillera Administrative Region	12.2	65.4	60.5	16.9	13.4	22.5	19.2
Bangsamoro Autonomous Region in Muslim Mindanao	61.9	34.1	29.0	69.1	64.5	76.2	72.4
Region XIII (Caraga)	30.6	18.1	14.5	38.1	33.0	46.4	41.3
Philippines	**16.8**	**19.2**	**15.5**	**21.9**	**18.2**	**28.0**	**24.2**

A0 = income contraction of 5%; A1 = income contraction of 5% with Social Amelioration Program (SAP) and Small Business Wage Support (SBWS); B0 = income contraction of 10%; B1 = income contraction of 10% with SAP and SBWS; C0 = income contraction of 20%; C1 = income contraction of 20% with SAP and SBWS; CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos

Source: Authors' calculations using microdata from the 2018 FIES (PSA 2019b)

in low-income but not poor group in 2018 (i.e., households with per capita income between the poverty line and twice the poverty line) in these regions.

It should be noted that while only Luzon is on ECQ, reduced economic activity in regions outside of Luzon is expected to have reduced incomes too, although perhaps not exactly at the same magnitude as in Luzon. The microsimulation scenarios in this essay have been developed only to show the overall income contractions in the country.

Table 11 examines the distribution of poor people under different scenarios. Under the medium case (B1) scenario of income contractions of 10 percent, but with effective social protection programs in place, Bicol would have the largest increase in the number of poor at close to 200,000 people. Under the worst (C1) scenario where income reduces by 20 percent, and the SAP and SBWS are distributed to households belonging to the first nine income deciles, the number of poor would increase by over 500,000 in each of the following regions: CALABARZON (800,000), Bicol (690,000), Western Visayas (660,000), Central Visayas (630,000), Central Luzon (590,000), and Eastern Visayas (520,000). These six regions combined would contribute to nearly half of the 7.9 million poor Filipinos.

The SAP and SBWS are expected to help nearly all households recover from income losses. Table 12 provides estimates of the average household monthly incomes of various income groups under different simulation scenarios. The income groups are based on the typology of Albert et al. (2018). Under the worst-case scenario, the SAP and SBWS are clearly not enough to bring average incomes to baseline levels.

More scenarios may be examined by other researchers under assumptions of differentiated income shocks to households. For instance, take the impact on rural households. Agricultural households may have experienced less income contractions, especially since they were allowed to sell their agricultural products, and thus reported losses in agriculture were far less than those in other sectors and subsectors of the macroeconomy. Hence, this could be an area for research in the future, when more data may be made available, including information on the impact of COVID-19 on the labor market as may be gleaned from the Labor Force Survey.

Table 11. Estimates of number of poor Filipinos (in millions) by region assuming various scenarios

Region	Status Quo	A0	A1	B0	B1	C0	C1
Region I (Ilocos)	0.51	0.68	0.49	0.80	0.63	1.14	0.95
Region II (Cagayan Valley)	0.59	0.67	0.53	0.79	0.63	1.04	0.88
Region III (Central Luzon)	0.84	1.01	0.73	1.23	0.91	1.81	1.44
Region IV-A (CALABARZON)	1.10	1.34	0.97	1.71	1.24	2.30	1.90
MIMAROPA	0.47	0.56	0.45	0.67	0.54	0.89	0.75
Region V (Bicol)	1.62	1.86	1.53	2.09	1.80	2.61	2.31
Region VI (Western Visayas)	1.27	1.51	1.14	1.72	1.38	2.37	1.93
Region VII (Central Visayas)	1.36	1.57	1.22	1.78	1.47	2.33	1.99
Region VIII (Eastern Visayas)	1.42	1.60	1.35	1.78	1.53	2.16	1.95
Region IX (Zamboanga Peninsula)	1.22	1.36	1.16	1.51	1.31	1.81	1.64
Region X (Northern Mindanao)	1.13	1.30	1.01	1.51	1.21	1.90	1.62
Region XI (Davao)	0.98	1.12	0.89	1.27	1.04	1.66	1.42
Region XII (SOCCSKSARGEN)	1.35	1.52	1.30	1.68	1.46	2.04	1.82
National Capital Region	0.31	0.41	0.26	0.53	0.36	0.91	0.64
Cordillera Administrative Region	0.22	0.26	0.20	0.30	0.24	0.40	0.34
Bangsamoro Autonomous Region in Muslim Mindanao	2.48	2.63	2.43	2.77	2.59	3.06	2.91
Region XIII (Caraga)	0.82	0.92	0.78	1.03	0.89	1.25	1.11
Philippines	**17.72**	**20.30**	**16.43**	**23.18**	**19.22**	**29.66**	**25.60**

A0 = income contraction of 5%; A1 = income contraction of 5% with Social Amelioration Program (SAP) and Small Business Wage Support (SBWS); B0 = income contraction of 10%; B1 = income contraction of 10% with SAP and SBWS; C0 = income contraction of 20%; C1 = income contraction of 20% with SAP and SBWS; CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos

Source: Authors' calculations using microdata from the 2018 FIES (PSA 2019b)

Table 12. Estimates of average monthly income (in PHP thousand) for a family of five by income groups, assuming various scenarios

Income Group	Scenarios						
	Status Quo	A0	A1	B0	B1	C0	C1
Poor	9.9	9.7	10.5	9.5	10.3	8.9	9.6
Low income but not poor	15.4	15.1	15.6	14.9	15.3	14.4	14.7
Lower middle	25.2	24.9	24.9	24.6	24.5	23.8	23.7
Middle middle	41.1	40.5	39.4	39.8	38.7	39.1	38.0
Upper middle	62.1	60.9	60.9	60.1	60.1	58.7	58.7
High income but not rich	95.3	94.9	94.9	92.8	92.8	88.8	88.8
Rich	195.0	193.7	193.7	195.7	195.7	199.4	199.4
Philippines	**25.9**	**24.6**	**25.4**	**23.3**	**24.1**	**20.7**	**21.4**

PHP = Philippine peso; A0 = income contraction of 5%; A1 = income contraction of 5% with Social Amelioration Program (SAP) and Small Business Wage Support (SBWS); B0 = income contraction of 10%; B1 = income contraction of 10% with SAP and SBWS; C0 = income contraction of 20%; C1 = income contraction of 20% with SAP and SBWS
Source: Authors' calculations using microdata from the 2018 FIES (PSA 2019b)

Is a middle-class society still attainable by 2040?

Finally, this section explores the likely effects of COVID-19 on the *AmBisyon Natin 2040* goal of a middle-class society (NEDA 2015). Albert et al. (2018) used an approach to simulate how long the low-income but not poor group as well as the poor could transition into the middle-income class, assuming a constant growth rate per year. If z is the lower threshold for the middle-income class and if the per capita income of a low-income person, y_i , grows at a constant positive rate g (in percent) per year, then the number of years it will take him or her to reach the middle-class threshold z is:

$$t_i^g = \frac{ln\left(\frac{z}{y_i}\right)}{g}$$

The average transition time of a low-income person is simply t_i^g averaged over all low-income persons. Here, the methodology is replicated but using the 2018 FIES data and taking into consideration the simulation scenarios in the previous subsection. These results essentially assume that conditions will be ripe for a V-shaped recovery, which will allow the country to get back to its economic trajectory prior to COVID-19, which may be a very optimistic assumption given the many uncertainties in the business climate.

Table 13 shows the average transition time (in years) for low-income persons to reach the middle-class income threshold. For instance, a growth rate in real income per capita of 2.5 percent per year (given a V-shaped recovery)—assuming it is continuous and uniform across the population—would, on average, allow a low-income person to transition to the middle class in approximately 21.2 years. It should be noted that annualized growth rates of household income per capita in the Philippines among the bottom 40 percent of the population were 1.8 percent between 2012 and 2015, and 3.5 percent between 2015 and 2018.

Under the medium-case scenario[5] made in the previous subsection of this chapter, the average transition time increases but only by a quarter of a year from the baseline scenario if income growth is at 2.5 percent annually. This highlights why the government's financial assistance to groups beyond the poor is important. However, under the worst-case scenario,[6] where incomes rise by 2.5 percent annually, the average transition time increases to nearly 24 years (or about three years more than the baseline scenario). For lower growth rates that could happen under prolonged stress (i.e., if a W-, U-, or L-shaped recovery results) then the transition of the low-income individual to middle class will even take much longer, even if the current cash assistance is given by the national government to most households.

[5] A scenario where there is a 10 percent income reduction in the wake of COVID-19 but supported by effective social protection mechanisms.

[6] A scenario where there is a 20 percent income contraction but financial assistance is provided to the bottom 90 percent of households.

Table 13. Number of years for a typical low-income person to transition to middle class given constant annual growth in (real) income and under different scenarios

Growth in Household per Capita Income (%)	Growth Rate of GDP per Capita (%)	Scenarios						
		Status Quo	A0	A1	B0	B1	C0	C1
0.5	1.0	106.28	111.25	102.34	116.51	107.49	128.76	119.40
1.0	2.0	53.14	55.62	51.17	58.26	53.74	64.38	59.70
1.5	3.0	35.43	37.08	34.11	38.84	35.83	42.92	39.80
2.0	4.0	26.57	27.81	25.58	29.13	26.87	32.19	29.85
2.5	5.0	21.26	22.25	20.47	23.30	21.50	25.75	23.88
3.0	6.0	17.71	18.54	17.06	19.42	17.91	21.46	19.90
3.5	7.0	15.18	15.89	14.62	16.64	15.36	18.39	17.06
4.0	8.0	13.29	13.91	12.79	14.56	13.44	16.10	14.92
4.5	9.0	11.81	12.36	11.37	12.95	11.94	14.31	13.27
5.0	10.0	10.63	11.12	10.23	11.65	10.75	12.88	11.94
5.5	11.0	9.66	10.11	9.30	10.59	9.77	11.71	10.85
6.0	12.0	8.86	9.27	8.53	9.71	8.96	10.73	9.95
6.5	13.0	8.18	8.56	7.87	8.96	8.27	9.90	9.18
7.0	14.0	7.59	7.95	7.31	8.32	7.68	9.20	8.53
7.5	15.0	7.09	7.42	6.82	7.77	7.17	8.58	7.96
8.0	16.0	6.64	6.95	6.40	7.28	6.72	8.05	7.46
8.5	17.0	6.25	6.54	6.02	6.85	6.32	7.57	7.02
9.0	18.0	5.90	6.18	5.69	6.47	5.97	7.15	6.63
9.5	19.0	5.59	5.86	5.39	6.13	5.66	6.78	6.28
10.0	20.0	5.31	5.56	5.12	5.83	5.37	6.44	5.97

A0 = income contraction of 5%; A1 = income contraction of 5% with Social Amelioration Program (SAP) and Small Business Wage Support (SBWS); B0 = income contraction of 10%; B1 = income contraction of 10% with SAP and SBWS; C0 = income contraction of 20%; C1 = income contraction of 20% with SAP and SBWS
Source: Authors' calculations using microdata from the 2018 FIES (PSA 2019b)

The growth in incomes of the bottom 40 percent (or the entire lower middle class) depends on both the average GDP per capita growth and the pattern of its distribution. Also, the distributional consequences of growth in income matter. From 2012 to 2015, the GDP per capita grew at an annualized rate of 4.8 percent, while income per capita among the bottom 40 percent grew by 1.8 percent per year in the same period. On the other hand, GDP per capita grew annually by 5.1 percent in the period 2015 to 2018, with income per capita among the bottom 40 percent increasing by 2.2 percent per year.

According to Dollar et al. (2013), the variation in growth in incomes of the poorest quintiles is accounted for by 78 percent of the growth in average incomes, while the remainder is explained by changes in the distribution and the differences in the growth elasticity of poverty (GEP).[7] Using national accounts data and official poverty incidence figures, Albert and Vizmanos (2018a) estimate the GEP at 0.15 from 2006 to 2009, at 0.32 percent from 2009 to 2012, and at 0.99 percent from 2012 to 2015.

Recent national accounts and official poverty data put GEP at much higher figures between 2015 and 2018 (Table 14). For the entire period from 2006 to 2015, GEP can be estimated at 0.5 percent. From 2003 to 2015, the bottom 40 percent had incomes that grew by 2.1 percent per year, and GDP per capita had an annualized growth of 4.2 percent; thus, GEP is 0.5. This is why the implied overall GDP per capita growth rates in Table 13 are twice the household per capita income growth rates.

Data in this section indicate the effects of COVID-19 on the *AmBisyon Natin 2040* aspiration for a middle-class society and underscore how critical the social protection programs have been not only for the poor but more so for the nonpoor who have also been affected by income contractions amid the pandemic. The SBWS as well as the SAP and other forms of social protection assistance is meant to be short term in nature, sending a message to those affected by the reduced economic activities that the government acknowledges their difficulties and is there to care for and support them through these times.

[7] GEP refers to the percentage reduction in poverty rates associated with a percentage change in mean (household per capita) income.

Table 14. Poverty elasticity estimates for 2003–2018

	2003	2006	2009	2012	2015	2018
Official poverty headcount		26.56	26.27	25.23	21.6 (23.3*)	16.6*
Per capita gross domestic product (GDP) (constant PHP)	48,954.05	54,225.58	58,198.60	65,266.08	74,832.64	86,369.7
Total percent change	2003–2006	2006–2009	2009–2012	2012–2015	2015–2018	
in official poverty headcount		-1.1%	-4.0%	-14.3%	-28.8%	
in per capita GDP	11.2%	6.8%	13.2%	14.5%	15.4%	
Growth elasticity of poverty		**-0.16**	**-0.30**	**-0.98**	**-1.87**	

GDP = gross domestic product; PHP = Philippine peso

*Uses rebased Consumer Price Index market basket prices from 2006 to 2012 and adopts the 2015 Census of Population results for the weights in the FIES (PSA 2019b)

Source: Authors' calculations based on national accounts and official poverty estimates; differences with Albert and Vizmanos (2018a) on account of revisions in national accounts from rebasing

Summary of results, policy implications, and ways forward

To manage the spread of COVID-19, the government has adopted ECQ and/or GCQ measures since March 17, 2020, resulting in a drastic slowdown in economic activities. Huge economic losses are expected (Abrigo et al. 2020). The GDP figures for the first quarter of 2020 already showed a contraction in the economy. Likewise, figures for the second quarter of 2020 were expected to show a contraction relative to the same period in 2019. Given the likely drop in incomes and expenditures of households as well as businesses, worsening poverty conditions are expected.

As of 2018, the estimated poverty rate in the Philippines, based on the 2018 FIES, is 16.8 percent (or 17.7 million Filipinos in poverty). This is slightly different from the PSA-released poverty headcount figures on account of the incorporation of a revised urban/rural definition in the 2018 FIES microdata reflecting information gathered from the 2015 PopCen. In terms of families/households, the household poverty incidence stands at 12.4 percent (corresponding to 2.9 million households in poverty). Among the 17.7 million poor Filipinos, 5.6 million are estimated to be in subsistence or extreme poverty. Furthermore, around 830,000 Filipino households are extremely poor in that they have per capita incomes that are less than the subsistence threshold.

This study, however, cautions poverty data users from focusing solely on poverty incidence, as they might be missing out on populated areas that have a small poverty incidence but actually cover a huge number of poor people. Provinces that have poverty rates of 50 percent or above as well as those with rates of between 30 percent and 50 percent account for about a third (31.6%) of all the poor in the country. Meanwhile, provinces with more than 500,000 poor Filipinos contribute a combined share of nearly a fifth (17.9%) of all poor Filipinos. Provinces with more than 500,000 poor Filipinos and those with between 250,000 and 500,000 poor Filipinos account for more than half (55.3%) of the country's poor.

- The PSA must prioritize its study of the entire official poverty measurement methodology, with guidance from experts on poverty diagnostics to ensure that poverty statistics remain credible. While the PSA currently has an Inter-Agency Committee on Poverty Statistics, it should be reconstituted as a technical committee composed of experts. Some of the areas to look into are:
  - » *Current poverty line methodology.* A review of the agency's current poverty line methodology is warranted in the wake of criticisms that its poverty data do not reflect actual poverty conditions in the country. It may be helpful for the Philippines to shift to using consumption data over income data to track poverty, especially since many households, particularly those engaged in the agriculture and informal sectors, do not have regular wages. Thus, income data may be unreliable as far as these households are concerned.
  - » *Communication strategy.* While the PSA has been following good global practices in statistical measurements, some focus should also be given to communication strategies. With the advent of technology, especially the increased use of social media platforms, the data landscape is changing rapidly. Infographics, videos, and various visualizations may need to be used when explaining statistical data to the public, particularly on poverty, and their underlying estimation methods.
  - » *Release dates on poverty statistics.* It is observed that the release of the first semester FIES-based poverty data comes too close to the election season. The PSA may need to reexamine its release dates on poverty statistics.
- Using the income typology espoused by Albert et al. (2018), which identifies the low-, middle-, and high-income classes in the country, this study provides the updated thresholds for the seven income groups (and three income classes). It also includes estimates of the sizes of the income classes, both in terms of population and households. In particular, 47.7 percent of households are low income, 50.1 percent are middle income, and 2.1 percent are high income.

In particular, middle-class households can be further broken down into the following groups: lower-middle group (63.6% or 7.6 million households), middle-middle group (26.2% or 3.1 million households), and upper-middle group (10.1% or 1.2 million households). Thus, if the SAP for 18 million households (out of 24.4 million estimated households in 2020) has been targeted well, it could have provided benefits to all in the low-income class and to a sizeable portion of the lower middle-income group.

- This study also undertook a nowcasting simulation exercise based on scenarios about income contractions on the entire distribution. The simulation results provide a concrete indication of how the country's aspiration as articulated in *AmBisyon 2040* can be affected. The results suggest that poverty conditions can revert to how it was more than a decade ago and that targets for the country to attain its aspirations to become a largely middle-class society can be pushed back. If everyone's incomes contract by 10 percent, the number of poor Filipinos could rise by about 1.5 million from the baseline figures, even with the SAP and SBMS in place. Without the SAP and SBMS, the number of poor people would rise even by 5.5 million.

Assuming that the country gets a V-shaped recovery and manages to provide a growth rate of real income per capita of 2.5 percent per year (or an effective 5% growth in GDP per capita per year), the average transition time for the low income (in 2018) to become middle class would be approximately 21.25 years if this growth rate were continuous and uniform across the population. Under the medium-case (simulation) scenario (10% income reduction but supported by effective social protection mechanisms), the average transition time increases but only by a quarter of a year. However, under the worst-case scenario (20% income contractions but with the social protection cash transfers), the average transition time increases to nearly 24 years.

- There is an imminent risk that the inequalities across income classes, made worse by the COVID-19 pandemic,

may further be impacted by the glaring digital gap and other divides existing in the country. Social protection should be at the core of government policy, whether or not amid a pandemic. Progressive universal social protection is particularly important. An unconditional cash transfer for all (i.e., a universal basic income) could have been a faster opportunity for the government to provide support amid the economic slowdown, although the government opted to focus only on *Pantawid Pamilyang Pilipino* beneficiaries, farmers, indigents, and senior citizens (a total of 90% of all households) in the absence of a full database of information of all households regarding their incomes (or income proxies).

» The government has yet to put more attention into investing in data (and the quality of data), including having interoperable databases. Quality data on infections is important to build a trustworthy mapping of areas that are most critical to ease and have a relatively low risk of facilitating the transmission of the virus.

» Suffice to say, it is time to seriously strengthen digitalization efforts and improve access to and cost of technology, especially the internet, to help both citizens and firms retrofit amid current uncertainties. The Department of Information and Communications Technology (DICT 2019) estimates that the number of towers in the country is less than 20,000 as of 2019—far lower than Viet Nam's 70,000 and Indonesia's 90,000 towers. Efforts have to be made to substantially increase the number of cell towers, which can be employment-generating in the short term.

» During the pandemic, cashless transacting may reduce the risk of infection. In this regard, the government has the power to leverage various financial innovations to reach the unbanked. For instance, it can promote digital payments, particularly in government services (e.g., the provision of civil registration documents, passports).

Such a transformative shift can also have a concomitant effect in terms of employment opportunities. Thus, even if the government is limited in its capacity to generate employment, it can provide an environment that is conducive to the creation of quality jobs.

» Unlike many countries that have harnessed the digital economy and are at the frontiers of innovation, the Philippines still has to systematically invest in its human capital. There is room not only for improving the health system but the entire formal education system as well. Through education, the workforce—especially the poor and low-income individuals—will be prepared for possible changes in the entire economy, whether among big businesses or MSMEs, due to the pandemic. While the government is working toward a stimulus package in the neighborhood of 10 percent of GDP, it will have to find a proper balance of support between big and small businesses.

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Appendixes

Appendix Table 1. Distribution of Filipino population (in thousands) by province and by income groups, 2018

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Persons
Ilocos Region	Ilocos Norte	28.7	241.0	223.1	80.1	22.1	7.6	3.2	605.8
	Ilocos Sur	54.1	285.4	247.4	81.2	24.9	8.8	4.2	706.0
	La Union	36.8	243.9	342.5	107.7	59.7	16.7	5.2	812.6
	Pangasinan	394.1	1,545.1	807.1	234.0	56.1	17.2	0.4	3,054.0
	Total	**513.7**	**2,315.5**	**1,620.1**	**503.0**	**162.8**	**50.4**	**13.0**	**5,178.4**
Cagayan Valley	Batanes	1.7	7.2	5.7	1.6	1.0	0.3	0.0	17.6
	Cagayan	201.4	470.1	380.0	135.6	43.4	11.6	3.3	1,245.4
	Isabela	282.7	743.6	442.0	124.9	44.2	9.4	4.1	1,650.9
	Nueva Vizcaya	75.6	172.8	142.0	53.3	20.3	5.0	2.3	471.3
	Quirino	24.8	85.0	56.3	17.0	7.4	2.8	1.1	194.5
	Total	**586.1**	**1,478.7**	**1,025.9**	**332.5**	**116.4**	**29.1**	**10.9**	**3,579.7**
Central Luzon	Bataan	64.3	297.8	292.1	106.5	32.5	11.6	2.9	807.6
	Bulacan	178.6	1,257.7	1,337.2	539.3	165.4	32.4	1.3	3,512.0
	Nueva Ecija	192.2	996.8	737.7	228.2	91.5	8.9	14.9	2,270.0
	Pampanga	83.6	1,062.7	1,252.4	318.6	53.3	9.5	6.0	2,786.1
	Tarlac	152.8	618.6	472.2	137.0	33.3	7.5	3.2	1,424.6
	Zambales	134.3	358.5	259.1	83.7	24.0	6.1	2.0	867.5
	Aurora	36.3	101.4	52.5	21.7	7.1	1.8	1.7	222.5
	Total	**842.1**	**4,693.4**	**4,403.2**	**1,435.0**	**407.0**	**77.8**	**31.9**	**11,890.3**

Appendix Table 1 *(continued)*

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Persons
CALABARZON	Batangas	330.3	1,216.6	951.3	277.7	81.5	25.3	7.8	2,890.6
	Cavite	211.2	1,314.3	1,580.1	656.2	205.8	35.9	4.1	4,007.6
	Laguna	125.0	810.2	1,288.3	686.9	242.2	50.1	24.1	3,226.9
	Quezon	300.8	952.5	643.8	205.8	76.8	22.2	6.4	2,208.3
	Rizal	137.6	845.3	1,347.0	481.9	199.6	44.3	29.8	3,085.6
	Total	**1,105.0**	**5,138.8**	**5,810.5**	**2,308.5**	**805.9**	**177.8**	**72.3**	**15,418.9**
MIMAROPA	Marinduque	35.1	108.6	62.1	20.7	8.3	2.0	1.5	238.3
	Occidental Mindoro	109.8	218.6	107.1	37.9	18.9	8.6	3.8	504.6
	Oriental Mindoro	96.6	383.7	267.1	82.1	31.2	11.9	6.9	879.6
	Palawan	144.3	589.8	314.4	84.1	30.0	8.5	2.5	1,173.7
	Romblon	84.4	138.3	51.7	14.2	6.3	1.4	1.8	298.1
	Total	**470.1**	**1,439.0**	**802.4**	**239.0**	**94.8**	**32.5**	**16.5**	**3,094.4**
Bicol	Albay	287.2	628.2	282.7	112.4	44.3	7.5	2.9	1,365.3
	Camarines Norte	185.2	277.1	102.0	27.5	12.3	2.3	1.4	607.6
	Camarines Sur	573.6	877.0	362.7	135.1	50.4	15.3	4.8	2,018.9
	Catanduanes	54.5	126.8	58.0	18.3	7.6	2.6	0.7	268.4
	Masbate	303.3	432.4	126.7	36.0	12.5	7.2	2.0	920.1
	Sorsogon	215.6	416.4	130.1	41.2	17.0	4.3	1.1	825.7
	Total	**1,619.3**	**2,758.0**	**1,062.1**	**370.5**	**144.1**	**39.1**	**12.8**	**6,005.9**

Appendix Table 1 *(continued)*

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Persons
Western Visayas	Aklan	72.1	282.4	164.8	46.0	19.7	6.3	2.7	593.9
	Antique	118.0	272.6	141.3	42.7	20.5	5.0	0.9	600.9
	Capiz	50.1	419.2	237.8	51.3	19.1	6.8	1.4	785.7
	Iloilo	411.0	994.4	660.7	268.0	91.7	35.1	10.5	2,471.4
	Negros Occidental	606.7	1,412.7	741.2	256.4	81.9	22.5	9.2	3,130.8
	Guimaras	16.8	94.2	51.3	11.6	4.8	1.8	0.6	181.2
	Total	**1,274.7**	**3,475.6**	**1,997.1**	**675.9**	**237.8**	**77.5**	**25.3**	**7,763.9**
Central Visayas	Bohol	277.5	563.1	316.8	119.9	50.5	15.6	2.2	1,345.6
	Cebu	723.3	1,973.2	1,473.3	503.9	184.9	45.3	10.0	4,913.8
	Negros Oriental	352.3	582.2	278.5	93.4	49.3	26.6	4.6	1,386.9
	Siquijor	10.3	42.3	27.9	10.7	5.2	1.3	1.0	98.8
	Total	**1,363.4**	**3,160.7**	**2,096.5**	**727.9**	**290.0**	**88.8**	**17.8**	**7,745.0**
Eastern Visayas	Eastern Samar	241.9	163.6	52.4	23.1	5.2	2.0	0.1	488.3
	Leyte	586.1	835.1	378.6	154.6	71.6	25.0	7.4	2,058.4
	Northern Samar	223.9	273.8	99.7	38.8	12.0	4.4	2.3	654.9
	Samar (Western)	234.2	371.3	136.5	44.7	16.3	1.5	1.7	806.3
	Southern Leyte	103.6	201.8	85.0	30.8	10.1	2.6	1.1	434.9
	Biliran	34.8	84.1	36.1	12.2	5.8	2.5	0.9	176.4
	Total	**1,424.6**	**1,929.8**	**788.3**	**304.1**	**120.8**	**38.0**	**13.5**	**4,619.2**

Appendix Table 1 *(continued)*

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Persons
Zamboanga Peninsula	Zamboanga del Norte	470.5	371.0	131.7	46.4	12.1	1.1	0.9	1,033.7
	Zamboanga del Sur	454.6	882.8	399.8	114.1	40.5	11.6	3.7	1,907.0
	Zamboanga Sibugay	234.8	263.7	96.7	41.8	15.5	6.6	2.8	661.8
	Isabela City	61.9	37.3	15.3	5.9	1.6	0.0	0.0	122.0
	Total	**1,221.8**	**1,554.8**	**643.5**	**208.1**	**69.7**	**19.2**	**7.3**	**3,724.6**
Northern Mindanao	Bukidnon	407.1	694.6	255.9	82.6	21.5	9.3	3.0	1,474.1
	Camiguin	22.0	41.9	18.8	5.2	2.3	0.4	0.2	90.9
	Lanao del Norte	276.7	476.9	214.7	70.9	20.5	4.8	1.8	1,066.3
	Misamis Occidental	166.3	277.2	114.3	42.6	12.2	4.3	0.7	617.7
	Misamis Oriental	261.1	667.2	459.2	154.3	73.2	20.1	8.6	1,643.5
	Total	**1,133.3**	**2,157.8**	**1,062.9**	**355.6**	**129.7**	**38.9**	**14.3**	**4,892.5**
Davao Region	Davao del Norte	139.5	517.5	291.1	71.6	12.8	5.5	3.1	1,041.2
	Davao del Sur	287.1	885.9	749.8	343.9	113.6	22.2	10.9	2,413.4
	Davao Oriental	124.4	146.7	42.4	10.2	5.2	0.9	0.5	330.4
	Compostela Valley	191.2	370.4	145.1	35.0	10.9	5.8	1.4	759.7
	Davao Occidental	239.7	247.8	72.7	16.9	4.3	2.2	1.1	584.7
	Total	**982.0**	**2,168.4**	**1,301.1**	**477.7**	**146.7**	**36.5**	**17.0**	**5,129.3**

Appendix Table 1 *(continued)*

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Persons
SOCCSKSARGEN	Cotabato	428.2	577.8	351.6	79.5	17.8	4.3	11.9	1,471.2
	South Cotabato	288.3	682.1	418.1	140.6	44.1	14.8	5.1	1,593.1
	Sultan Kudarat	264.3	340.8	166.4	40.9	19.1	5.8	1.5	838.8
	Sarangani	239.8	220.6	83.7	21.4	1.9	1.3	0.0	568.8
	Cotabato City	129.1	128.1	36.4	10.9	0.5	0.6	0.0	305.6
	Total	**1,349.8**	**1,949.4**	**1,056.3**	**293.2**	**83.5**	**26.8**	**18.5**	**4,777.4**
National Capital Region	Manila	55.3	463.5	888.3	322.1	89.3	25.5	6.0	1,849.9
	NCR-2nd District	111.0	1,184.8	2,102.6	957.7	342.9	114.7	28.2	4,841.9
	NCR-3rd District	100.2	970.5	1,304.4	414.0	89.7	18.5	2.5	2,899.7
	NCR-4th District	42.2	832.1	1,752.8	819.3	296.5	85.6	33.8	3,862.2
	Total	**308.6**	**3,450.8**	**6,048.0**	**2,513.2**	**818.3**	**244.2**	**70.6**	**13,453.7**
Cordillera Administrative Region	Abra	47.1	108.2	60.6	20.1	7.7	1.2	0.1	245.1
	Benguet	49.9	214.2	297.0	161.5	75.0	21.1	8.4	827.0
	Ifugao	30.0	86.3	59.9	23.9	5.1	1.8	0.6	207.7
	Kalinga	26.9	96.2	59.8	20.7	10.1	2.5	1.1	217.3
	Mountain Province	38.7	65.9	34.5	11.3	3.6	1.4	0.6	156.1
	Apayao	24.0	52.2	32.3	8.5	3.4	1.2	0.5	122.1
	Total	**216.6**	**623.0**	**544.1**	**246.0**	**104.9**	**29.2**	**11.2**	**1,775.2**

Appendix Table 1 *(continued)*

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Persons
Bangsamoro Autonomous Region in Muslim Mindanao	Basilan	271.8	77.7	17.3	2.2	0.5	0.2	0.0	369.7
	Lanao del Sur	787.3	255.9	51.4	5.9	3.5	0.0	0.0	1,104.0
	Maguindanao	612.4	512.1	114.5	17.2	3.2	0.0	0.2	1,259.6
	Sulu	721.7	135.5	18.0	1.0	0.0	0.0	0.0	876.2
	Tawi-Tawi	90.2	233.7	69.5	9.6	1.9	0.0	0.2	405.0
	Total	**2,483.4**	**1,214.8**	**270.7**	**35.9**	**9.0**	**0.2**	**0.4**	**4,014.6**
Caraga	Agusan del Norte	177.3	318.6	144.8	50.2	20.8	6.7	2.4	720.9
	Agusan del Sur	274.2	294.1	94.4	37.6	14.2	4.2	3.1	721.9
	Surigao del Norte	175.3	215.5	75.9	26.3	14.7	1.9	0.6	510.1
	Surigao del Sur	155.1	263.5	120.8	41.9	19.1	7.2	2.2	609.8
	Dinagat Island	42.4	57.9	20.3	5.8	2.2	0.4	0.3	129.4
	Total	**824.3**	**1,149.6**	**456.2**	**161.9**	**71.0**	**20.4**	**8.7**	**2,692.1**
PHILIPPINES	**Grand Total**	**17,718.8**	**40,658.2**	**30,989.1**	**11,188.0**	**3,812.5**	**1,026.6**	**362.1**	**105,755.2**

CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos
Source: Authors' calculations using microdata from the 2018 FIES (PSA 2019b)

Appendix Table 2. Distribution of Filipino households (in thousands) by province and by income groups, 2018

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Households
Ilocos Region	Ilocos Norte	4.7	48.1	56.6	24.5	7.2	3.4	1.7	146.1
	Ilocos Sur	9.1	57.6	60.2	23.9	7.9	3.6	2.0	164.2
	La Union	5.6	47.8	80.8	31.6	17.7	5.7	2.1	191.4
	Pangasinan	66.2	326.7	218.6	70.1	22.5	6.6	0.4	711.2
	Total	**85.6**	**480.3**	**416.2**	**150.0**	**55.4**	**19.3**	**6.3**	**1213.0**
Cagayan Valley	Batanes	0.3	1.8	1.8	0.6	0.4	0.2	0.0	5.1
	Cagayan	36.0	100.8	94.7	37.7	13.2	3.5	0.9	286.9
	Isabela	52.2	162.4	124.2	37.2	12.2	3.7	1.6	393.6
	Nueva Vizcaya	14.2	40.1	41.2	17.4	6.3	1.9	0.7	121.7
	Quirino	4.1	17.5	15.1	5.3	2.0	0.9	0.3	45.2
	Total	**106.8**	**322.6**	**277.0**	**98.3**	**34.1**	**10.1**	**3.6**	**852.5**
Central Luzon	Bataan	10.9	60.3	70.4	31.9	9.9	3.6	0.7	187.8
	Bulacan	28.6	244.1	316.1	156.5	52.4	11.1	1.3	810.0
	Nueva Ecija	34.8	211.3	188.6	63.9	29.7	3.5	4.3	536.1
	Pampanga	13.9	202.0	314.8	99.6	21.6	3.9	2.4	658.2
	Tarlac	25.7	125.0	118.3	41.1	12.4	3.1	1.2	326.8
	Zambales	23.5	79.4	69.1	28.3	9.2	2.5	0.8	212.8
	Aurora	6.1	22.0	14.7	5.7	2.2	0.7	0.4	51.8
	Total	**143.5**	**944.0**	**1092.0**	**427.0**	**137.5**	**28.4**	**11.1**	**2783.5**

Appendix Table 2 *(continued)*

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Households
CALABARZON	Batangas	58.4	258.3	245.2	81.6	27.7	6.8	2.9	681.0
	Cavite	36.8	273.8	398.8	192.7	74.6	12.8	2.5	991.9
	Laguna	23.2	174.8	329.0	208.1	92.1	20.4	12.1	859.8
	Quezon	48.8	197.0	173.7	61.0	25.3	8.0	3.5	517.3
	Rizal	23.7	159.1	306.5	137.8	60.1	12.6	10.0	709.8
	Total	**190.9**	**1063.1**	**1453.2**	**681.1**	**279.8**	**60.6**	**31.1**	**3759.9**
MIMAROPA	Marinduque	5.6	23.0	16.9	6.5	2.8	0.8	0.5	56.2
	Occidental Mindoro	19.3	48.2	30.6	11.9	6.4	2.7	1.3	120.4
	Oriental Mindoro	14.8	76.6	69.6	23.5	10.3	4.0	2.3	201.2
	Palawan	23.9	129.5	88.6	28.3	11.9	3.9	1.2	287.3
	Romblon	14.2	33.8	15.8	4.6	2.1	0.7	0.7	71.9
	Total	**77.8**	**311.1**	**221.5**	**74.8**	**33.6**	**12.0**	**6.0**	**736.8**
Bicol	Albay	43.2	127.7	74.0	28.1	12.9	3.1	1.4	290.4
	Camarines Norte	30.9	61.6	29.9	9.7	4.3	1.0	0.5	137.8
	Camarines Sur	88.3	174.4	96.2	39.4	17.6	4.4	1.3	421.6
	Catanduanes	8.2	24.6	15.3	5.3	2.3	1.0	0.4	57.0
	Masbate	51.1	96.9	33.2	9.9	3.8	2.2	0.9	198.0
	Sorsogon	34.4	86.5	35.3	12.1	4.8	2.1	0.5	175.5
	Total	**256.0**	**571.6**	**283.9**	**104.5**	**45.7**	**13.7**	**4.9**	**1280.3**

Appendix Table 2 *(continued)*

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Households
Western Visayas	Aklan	12.6	60.9	47.2	13.4	5.8	2.7	1.1	143.8
	Antique	18.2	58.6	39.2	13.2	6.2	1.5	0.5	137.5
	Capiz	8.0	89.4	69.4	16.8	5.7	2.3	0.5	192.2
	Iloilo	69.2	219.1	170.4	69.5	28.7	10.4	3.6	570.9
	Negros Occidental	108.1	314.4	202.6	79.7	26.2	9.3	3.6	743.9
	Guimaras	2.9	19.8	15.0	3.6	1.5	0.6	0.2	43.7
	Total	**218.9**	**762.2**	**543.9**	**196.3**	**74.2**	**26.9**	**9.5**	**1831.9**
Central Visayas	Bohol	46.7	124.0	82.7	33.1	14.2	4.9	0.8	306.4
	Cebu	133.4	422.4	389.0	153.3	62.1	19.0	4.6	1183.7
	Negros Oriental	62.9	135.8	72.4	28.6	15.2	8.3	2.1	325.4
	Siquijor	1.7	8.8	7.9	3.0	1.6	0.5	0.4	23.9
	Total	**244.7**	**690.9**	**552.0**	**218.1**	**93.0**	**32.8**	**7.9**	**1839.4**
Eastern Visayas	Eastern Samar	48.0	43.4	15.9	7.1	2.0	0.9	0.1	117.4
	Leyte	107.6	197.8	110.5	44.1	22.0	8.4	3.9	494.3
	Northern Samar	37.1	57.8	24.6	9.5	3.6	1.1	0.7	134.5
	Samar (Western)	39.1	82.9	37.1	12.4	4.2	0.6	0.6	176.9
	Southern Leyte	16.4	42.4	22.6	8.6	3.0	1.0	0.4	94.5
	Biliran	5.7	18.8	10.2	3.6	1.7	0.8	0.3	41.1
	Total	**253.9**	**443.1**	**220.9**	**85.2**	**36.5**	**12.9**	**6.0**	**1058.5**

Appendix Table 2 *(continued)*

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Households
Zamboanga Peninsula	Zamboanga del Norte	87.4	95.6	35.6	13.0	3.7	0.4	0.3	236.0
	Zamboanga del Sur	74.7	192.8	106.9	32.9	12.7	4.0	1.6	425.6
	Zamboanga Sibugay	41.3	63.4	28.7	11.5	4.6	2.1	1.0	152.5
	Isabela City	10.2	8.8	3.7	1.4	0.5	0.0	0.0	24.6
	Total	**213.6**	**360.5**	**174.9**	**58.8**	**21.5**	**6.4**	**2.9**	**838.7**
Northern Mindanao	Bukidnon	73.6	155.9	67.3	22.1	7.0	2.8	1.0	329.5
	Camiguin	3.8	9.4	5.0	1.8	0.9	0.2	0.1	21.2
	Lanao del Norte	44.4	100.4	58.2	20.6	6.4	1.9	0.7	232.6
	Misamis Occidental	27.4	62.1	32.7	11.4	4.0	1.9	0.7	140.2
	Misamis Oriental	45.6	147.9	121.5	47.5	24.1	7.1	3.2	396.9
	Total	**194.8**	**475.6**	**284.8**	**103.3**	**42.5**	**13.8**	**5.6**	**1120.4**
Davao Region	Davao	24.9	112.0	78.5	21.2	4.4	1.5	1.0	243.4
	Davao del Sur	52.1	200.7	219.3	112.0	39.8	8.1	4.6	636.8
	Davao Oriental	21.5	37.2	13.7	3.1	1.5	0.5	0.2	77.8
	Compostela Valley	33.2	85.6	42.8	11.0	3.5	2.0	0.6	178.8
	Davao Occidental	47.3	67.1	24.7	5.1	1.7	1.2	0.4	147.5
	Total	**179.0**	**502.6**	**379.1**	**152.5**	**50.9**	**13.4**	**6.7**	**1284.3**

Appendix Table 2 *(continued)*

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Households
SOCCSKSARGEN	Cotabato	82.9	134.6	98.5	25.5	5.9	2.0	3.2	352.7
	South Cotabato	54.2	153.0	119.3	44.7	15.0	5.7	1.7	393.6
	Sultan Kudarat	46.5	77.6	45.6	13.7	5.8	1.8	0.5	191.5
	Sarangani	48.5	53.9	24.1	6.1	0.8	0.4	0.0	133.9
	Cotabato City	20.9	26.8	8.3	2.9	0.1	0.2	0.0	59.2
	Total	**253.0**	**445.9**	**295.9**	**92.9**	**27.7**	**10.1**	**5.4**	**1130.8**
National Capital Region	Manila	9.0	94.4	213.6	99.9	35.2	10.1	3.6	466.0
	NCR-2nd District	16.5	220.3	491.8	258.7	108.3	44.7	14.2	1154.5
	NCR-3rd District	15.8	193.0	314.6	129.6	32.4	7.4	1.1	693.8
	NCR-4th District	7.2	167.0	423.8	244.4	107.6	36.4	17.8	1004.2
	Total	**48.4**	**674.8**	**1443.9**	**732.6**	**283.5**	**98.6**	**36.7**	**3318.5**
Cordillera Administrative Region	Abra	8.4	23.1	16.0	5.5	2.2	0.5	0.1	55.8
	Benguet	9.2	45.6	74.0	48.3	25.1	8.4	3.6	214.2
	Ifugao	4.4	16.8	15.3	6.1	1.6	0.6	0.2	44.9
	Kalinga	4.1	17.6	13.3	5.1	2.7	0.7	0.3	43.9
	Mountain Province	6.3	14.9	10.1	3.4	1.3	0.5	0.3	36.8
	Apayao	4.3	11.1	7.9	2.2	0.8	0.3	0.1	26.8
	Total	**36.7**	**129.0**	**136.7**	**70.7**	**33.7**	**11.0**	**4.6**	**422.5**

Appendix Table 2 *(continued)*

Region/ Province		Poor	Low Income but Not Poor	Lower Middle Income	Middle Middle Income	Upper Middle Income	High Income but Not Rich	Rich	All Households
Bangsamoro Autonomous Region in Muslim Mindanao	Basilan	42.0	16.8	3.9	0.4	0.1	0.1	0.0	63.3
	Lanao del Sur	109.2	48.9	9.5	1.7	0.7	0.0	0.0	170.1
	Maguindanao	84.6	94.1	25.3	3.2	0.7	0.0	0.2	208.1
	Sulu	109.8	32.4	3.7	0.3	0.0	0.0	0.0	146.1
	Tawi-Tawi	10.5	40.3	15.6	2.7	0.5	0.0	0.1	69.6
	Total	**356.0**	**232.5**	**57.9**	**8.3**	**2.0**	**0.1**	**0.2**	**657.1**
Caraga	Agusan del Norte	31.9	71.3	39.4	14.7	6.4	2.5	0.9	167.0
	Agusan del Sur	50.7	70.2	27.6	9.7	4.7	1.2	1.0	165.2
	Surigao del Norte	32.8	51.0	21.9	7.6	4.2	0.7	0.4	118.5
	Surigao del Sur	26.6	57.5	33.6	12.4	5.4	2.3	1.0	138.8
	Dinagat Island	7.9	13.6	5.7	1.7	0.5	0.2	0.1	29.6
	Total	**149.9**	**263.6**	**128.2**	**46.1**	**21.1**	**6.9**	**3.4**	**619.1**
PHILIPPINES	**Grand Total**	**3009.6**	**8673.6**	**7962.0**	**3300.5**	**1272.6**	**377.1**	**151.9**	**24747.2**

CALABARZON = Cavite, Laguna, Batangas, Rizal, and Quezon; MIMAROPA = Occidental Mindoro, Oriental Mindoro, Marinduque, Romblon, and Palawan; SOCCSKSARGEN = South Cotabato, Cotabato, Sultan Kudarat, Sarangani, and General Santos
Source: Authors' calculations using microdata from the 2018 FIES (PSA 2019b)

Basic Education during the COVID-19 Pandemic: What Do Enrollment by Learning Modality and Household Characteristics Tell Us?

Aniceto C. Orbeta Jr.

Introduction

The COVID-19 pandemic disrupted almost all aspects of Filipinos' life, including education. In response, the country's leaders decided to continue the education delivery last school year (SY) and this school year on a remote learning basis with meager time to prepare for the shift. Thus, foremost on everyone's mind is the question: What kind of learning has happened last year and will continue to happen this year given the decision? With the low average test scores in the recently released 2018 Programme for International Student Assessment (PISA) and 2019 Trends in International Mathematics and Science Study (TIMSS), continuing education via remote learning during a pandemic adds to the education sector's challenges. Analyzing the implications and insights from last year's remote learning experience can inform policy choices as the country continues to deliver education remotely this school year.

This paper describes the responses of the education sector to the pandemic. It also recounts how the students reacted through their use of the offered learning modalities. In addition, it attempts to explain the pattern of learning modalities used by students based on household data. Finally, from students' patterns of learning modalities and explanations of these patterns, insights and recommendations are drawn to guide the implementation of remote learning.

The Basic Education Learning and Continuity Plan (BE-LCP) released in May 2020 and the subsequent department orders of the Department of Education (DepEd) guide the education delivery during the pandemic. They support remote learning through printed modules, TV or radio, or a combination of these.

Enrollment data show that most public school students use printed modules. On the other hand, a considerable proportion of students in private schools employ pure online and blended modes. Such implies that even if it is a desirable long-term objective, providing online learning in public schools will not be the most effective remote learning mode. Instead, it would be more helpful to complement printed modules—the most popular mode—with methods that will increase the interactions among teachers, pupils, and parents, such as by using cell phones, which are almost universally available.

Another important finding is that even though there is a high proportion of ownership of TV and radio, learning through these media is not commensurate to the indicated availability—implying that there are constraints to their uses besides availability at home.

Another important dimension to emphasize is the disparity in the quality of home support as indicated by parents' education by income quintiles. Left unaddressed, this can cause further inequity in education. Finally, there is still no available data that measure the extent of learning happening with these different modes during the remote learning period. The low average test scores in the recent PISA and TIMSS and the push for the *Sulong Edukalidad* program should be reasons enough to be concerned about having a measure of learning during the pandemic.

The next section of this paper describes the methodology and data used in the study. This is followed by a description of how the education sector and households responded using the enrollment distribution by modality. The reachability of students with remote learning modes is then described. A discussion on home support follows. Finally, the last section provides the summary and recommendations.

Methodology and data

This paper uses secondary data analysis, consisting of the enrollment data by learning modality from DepEd and the nationally representative household survey—the Annual Poverty Indicators Survey (APIS)—to provide insights into basic education during the pandemic, particularly during SY 2020–2021.

The DepEd Planning Service's data on school-level enrollment by learning modality in SY 2020–2021 indicate the learning modality used by students. The distribution of learning modality used may be the result of (a) the preferences and the capacity of students to benefit from the different modalities, on one hand; and (b) the capacity of schools to offer the different modalities, on the other hand.

The APIS is conducted every year when the Family Income and Expenditure Survey is not undertaken to provide estimates of the non-income indicators related to poverty. The 2020 APIS household data on the availability of the technologies that enable students to avail of the different learning modalities are studied in this paper to explain the modality used. This information includes access to the internet, TV, radio, and cell phone.

The APIS also has enrollment data by type of school available that may be analyzed to determine the difference in the distribution of modalities between public and private schools.

This study did a regression analysis to provide estimates on the correlates between having internet at home (using 2020 APIS data) and the availability of broadband (using data from the 2019 National ICT Household Survey [NICTHS] of the Department of Information and Communications Technology [DICT], as described in Albert et al. [2021]). Results are expected to help explain the availability of internet at home.

Both the distribution of students under the remote learning modality and the proposed explanations provide insights into the state of Philippine education during the pandemic.

However, this study's analysis is limited because the enrollment by modality and household characteristics came from two separate datasets. It would have been better if the enrollment by modality and household characteristics came from the same data sets. An integrated dataset will enable the estimation of the direct correlation between learning modality and household characteristics.[1]

Basic education during the pandemic

The country's leaders decided to cut short the classes in SY 2019–2020 at the onset of the pandemic in March 2020. Where it was possible, students were asked to go online for the remaining months of the school year after the onset of the pandemic. Fortunately for students, the school year was just about to end.

[1] While it is possible to merge the dataset by region, the variation will be limited to 17-region data points.

Meanwhile, for SY 2020–2021, the government decided to turn to remote learning modality in late October 2020 rather than at the start of the usual school year (which is sometime in June) to allow students time to prepare for the shift in the learning delivery method.

This section describes the responses of the government as well as of the students as indicated in the learning modality they used.

Government responses

The BE-LCP, issued in May 2020, guided the education sector's response to the pandemic. It identified several learning delivery modes, including (i) face-to-face in areas where there are low risks; (ii) distance learning modes by print, online, TV, and radio; (iii) blended learning, which combines face-to-face and distance learning; and (iv) homeschooling (DepEd Department Order 12). When the President disallowed face-to-face classes until a vaccine is found, the educational system for the whole of SY 2020–2021 resorted to distance learning. To provide some room for adjustments, the opening of the school year was moved from June to October. The current SY 2021–2022 will also be on remote learning, although face-to-face classes were pilot-tested from November 15 to December 20, 2021 and progressive expansion started in February 2022.

Among the main features of the BE-LCP is the streamlining of the K–12 curricula from the original 14,171 competencies to 5,689—or a reduction of 60 percent. This streamlined curriculum, called Most Essential Learning Competencies (MELCs), is designed to lower the load for both teachers and students who are adjusting to the new learning environment and the uncertainties created by the pandemic.

During SY 2020–2021, several DepEd department orders were issued to further guide the implementation of remote learning. Department Order 31 s. 2020 provides guidelines for assessment and grading following the implementation of the BE-LCP. It reminds teachers to be flexible and "set realistic expectations and use their professional judgment to find a good balance between what is effective and what is feasible to accomplish" (DepEd Department Order 31 s. 2020, p.10). It also recommends that while quizzes and long/unit tests are to be administered, performance tasks that include skill demonstrations, group work and presentation, reports, and research work should be considered.

Another significant intervention is Republic Act 11494—*Bayanihan* to Recover as One Act (or Bayanihan 2)[2]—which allocated PHP 4.35 billion to basic education, and DepEd, in turn, assigned as follows: (i) provision of laptops for teachers (PHP 2.4 billion [55%]); (ii) internet connectivity load (PHP 1.2 billion [28%]); (iii) DepEd TV and radio (PHP 300 million [7%]); (iv) learning modules (PHP 150 million [3%]); and (v) basic education subsidies and allowances (PHP 300 million [7%]).

Another essential aspect of Bayanihan 2 is the authorization given to DepEd to "hire teacher-assistants for the production or reproduction of modular learning materials for K–12" (Section 4) to support the implementation of the BE-LCP. Such learning support aides (LSAs) can assist in producing or reproducing learning modules and other instructional materials, distributing and retrieving activity and remediation sheets, and tracking the learners' accomplishments of tasks. They can also guide and assists learners and parents/guardians in following the protocols stipulated in the BE-LCP on distance learning modalities. At the minimum, the LSAs should be senior high school graduates or have completed at least two years of college. Department Order 32 s. 2020 provides guidelines on the utilization of LSAs.

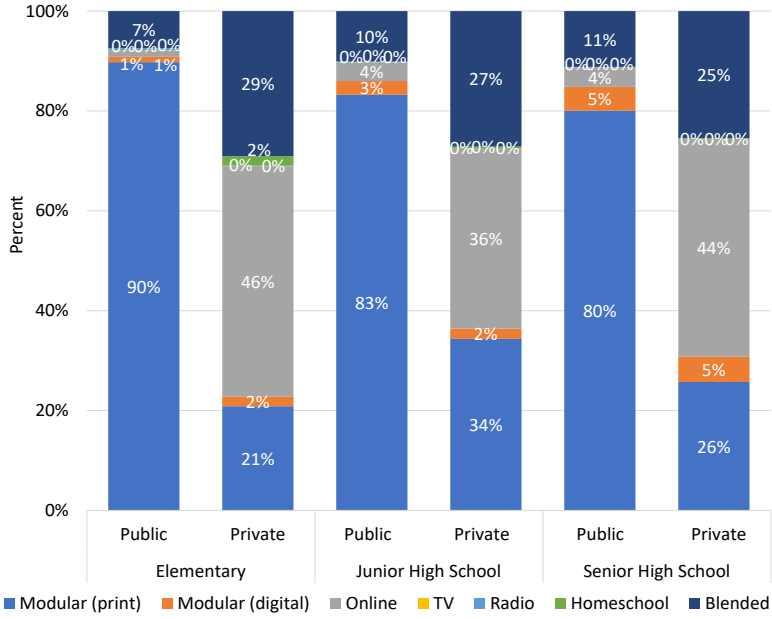
Household responses: Enrollment by mode of delivery

The DepEd tried to anticipate the different modalities students will use if face-to-face classes will be disallowed. Therefore, together with the preenrollment listing, the DepEd also surveyed the incoming students, asking about their learning mode preferences.

Figure 1 summarizes the most recent data on enrollment by mode of delivery. It is essential to note that the results here are the combination of the schools' capacity to deliver on one hand, and the households' capacity to utilize the offered learning modalities on the other hand (i.e., some supply-demand matching). The distribution of students by learning modality used reveals several patterns. For instance, while a considerable proportion of students in private schools use online learning, public school students rely mostly on printed modules. Specifically, 90 percent of public elementary school

[2] There was Bayanihan 1, but there was no education sector-specific provision in the law.

Figure 1. Distribution of students by level, type of school, and mode of learning, SY 2020–2021



SY = school year
Source of basic data: DepEd (2021)

students use printed modules, 7 percent employ blended learning, and 1 percent use digital modules and online learning. For private schools, on the other hand, the modal group is on online learning (46%), followed by blended learning (29%), printed modules (21%), digital modules (2%), and homeschooling (2%).

In junior high school, public schools have 83 percent of students on printed modules, 10 percent on blended mode, 4 percent on online learning, and 3 percent on digital modules. For private schools, 36 percent are on online learning, 34 percent on printed modules, 27 percent on blended learning, and 2 percent on digital modules.

Finally, for senior high school, 80 percent of students in public schools rely on printed modules, 11 percent are on blended learning, 5 percent work with digital modules, and 4 percent attend online classes. For private schools, 44 percent are on online learning, 26 percent rely on printed modules, 25 percent are on blended learning, and 5 percent use digital modules.

It is also shown that blended learning is popular in schools where the online mode is largely availed. This might be because of the unreliable internet connection in these areas. For instance, 29 percent of private elementary, 27 percent of private junior high school, and 26 percent of private senior high school students are on blended learning, where there are also considerable proportions of students using the online learning modality.

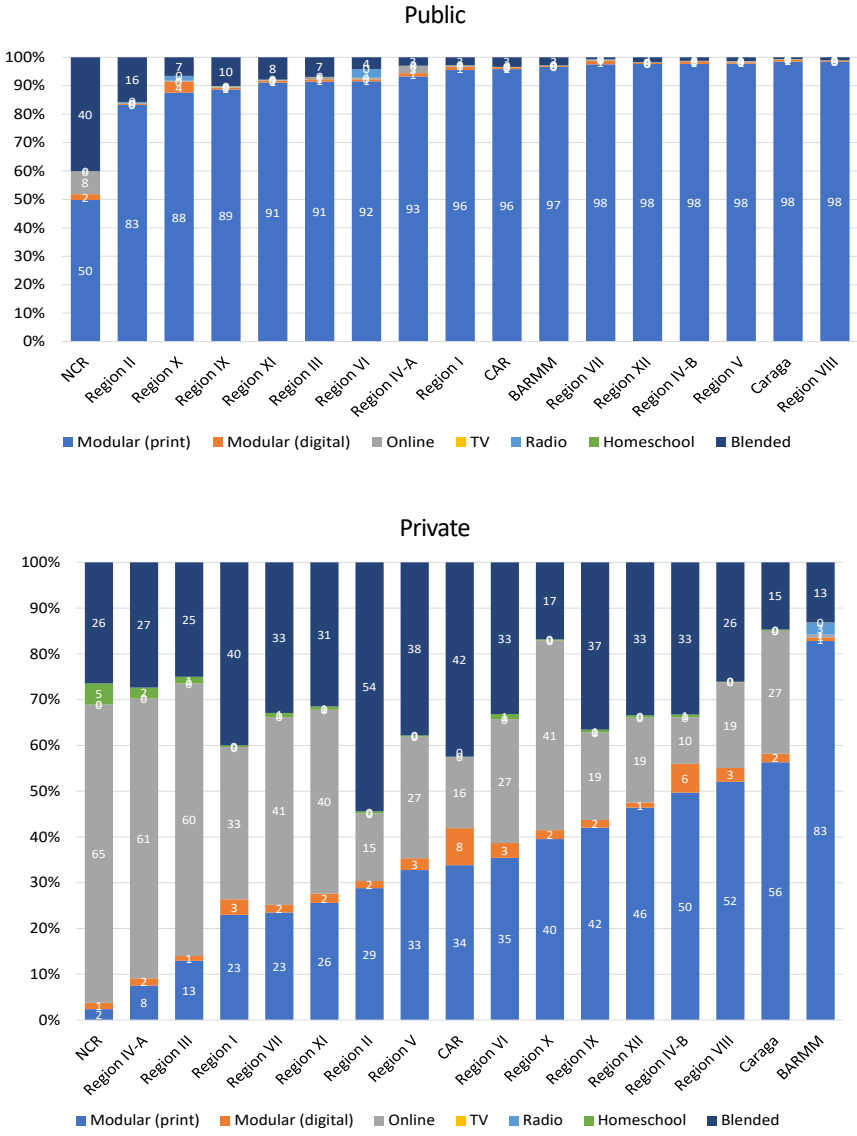
Another interesting pattern to note is that neither TV nor radio figured prominently as the mode of delivery utilized by students in public and private schools.

Distribution of mode of learning by region

A national average alone may often not show disparities across regions. However, the enrollment distribution by mode of learning is surprisingly similar across the regions, although there are differences in levels. Public school students for all regions are predominantly using printed modules. Only public junior high school and senior high school students in the National Capital Region (NCR) are mostly not using printed modules. On the other hand, private schools have a considerable proportion of students using online and blended learning modes. In fact, in NCR, Region III, and Region IV-A, online mode is the modal group for elementary, junior high school, and senior high school.

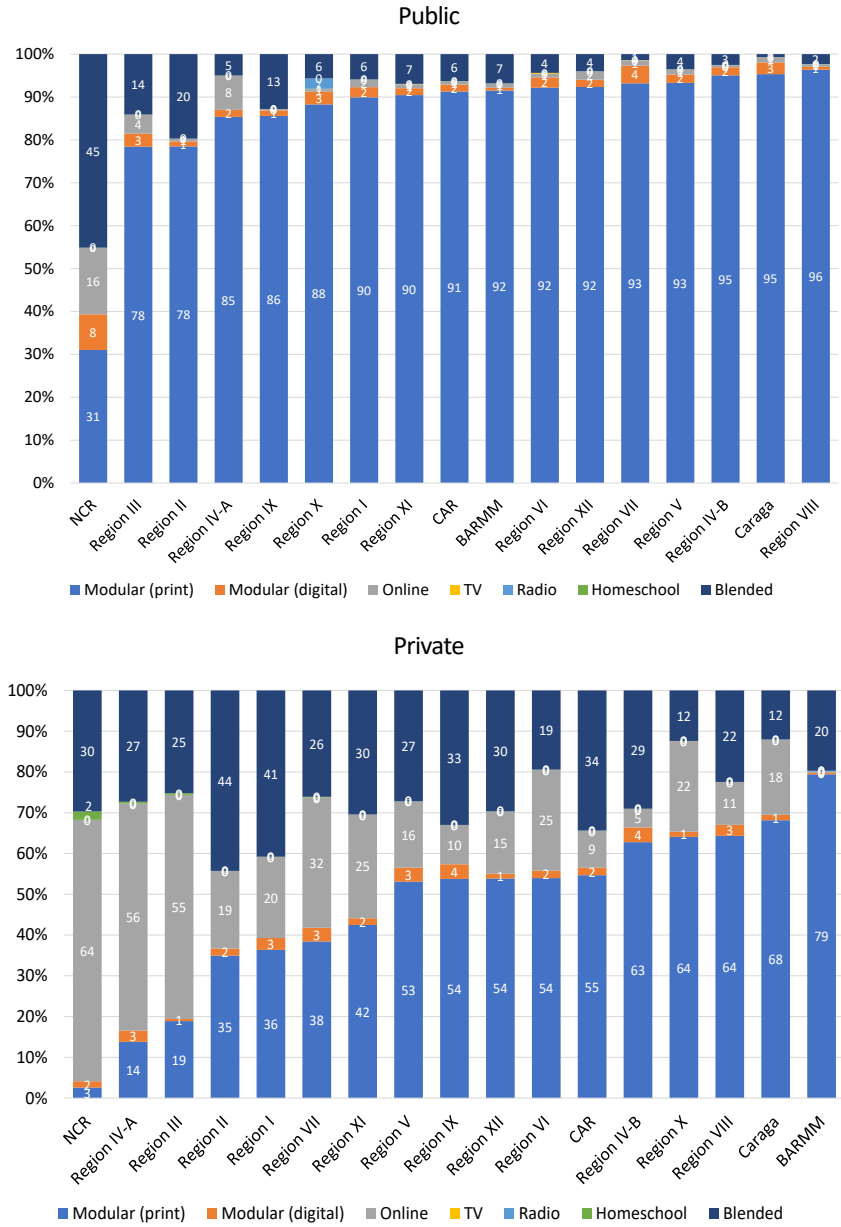
It is worth noting that even in the NCR, where the internet is widely available and reliable, 50 percent of public elementary, 31 percent of public junior high school, and 22 percent of public senior high school students rely on print modules (Figure 2). On the other hand, private schools have 65 percent of their elementary, 64 percent of junior high school, and 65 percent of senior high school students on online mode (Figures 3 and 4). This significant disparity in modality used by public school students and their private counterparts can be seen repeatedly across regions.

Figure 2. Distribution of elementary students by learning modality by type of school and by region, SY 2020–2021



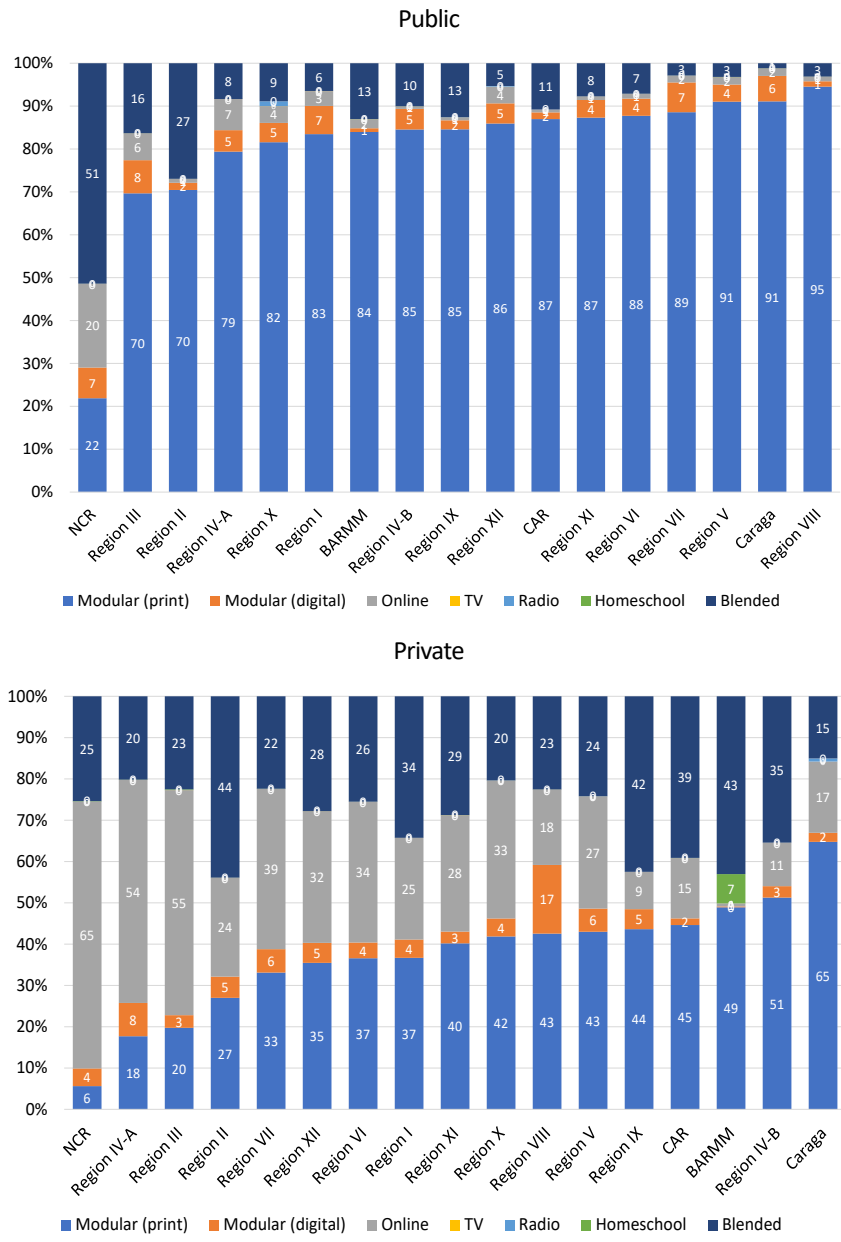
SY = school year; CAR = Cordillera Administrative Region; NCR = National Capital Region; BARMM = Bangsamoro Autonomous Region in Muslim Mindanao
Source of basic data: DepEd (2021)

Figure 3. Distribution of junior high school students by learning modality by type of school and region, SY 2020–2021



SY = school year; CAR = Cordillera Administrative Region; NCR = National Capital Region; BARMM = Bangsamoro Autonomous Region in Muslim Mindanao
Source of basic data: DepEd (2021)

Figure 4. Distribution of senior high school students by learning modality by type of school and by region, SY 2020–2021



SY = school year; CAR = Cordillera Administrative Region; NCR = National Capital Region; BARMM = Bangsamoro Autonomous Region in Muslim Mindanao
Source of basic data: DepEd (2021)

These results illustrate the critical point that the modality used by the students is not only a function of the availability of the internet in the area or of the school's capacity to provide online learning but also of the students' capacity to avail of the same. Even in areas where internet availability is high (e.g., NCR), the proportion of students in public schools that are relying on printed modules is still very high compared to those in private schools.

This underscores that the distribution of learning modalities used also reflects the economic status of the students each type of school is serving. For example, public school students mostly use printed modules because they are unlikely to have digital devices and internet connection at home. On the other hand, a higher proportion of students use online modes of learning in private schools because their access to electronic devices and internet connection is more prevalent.

Since there is no data on the capacity of schools to provide the different modalities, this study turns to the reachability of students using household data to explain such a general pattern of use by learning modality.

Reachability of students under remote learning modalities

The success of remote learning is dependent on the reachability of students by remote learning modes. Avanesian et al. (2021, p.3) define reachability as "the share of school children that can be potentially reached by remote learning policies adopted by governments to ensure learning continuity in a country". As mentioned in the BE-LCP, distant learning modes include print, online, TV, and radio. Given this, reachability may be measured using the availability at the household level of (i) internet connection, (ii) TV, and (iii) radio for households with students enrolled at different levels and by type of school (i.e., public or private). Avanesian et al. (2021) use these indicators and data[3] from 100 countries to show that wealth and place of residence are the two most important factors determining students'

[3] They used a combination of household surveys, such as the Multiple Indicators Cluster Surveys (MICS), Demographic and Health Surveys (DHS), STEP Skills Measurement Household Surveys, and other national household surveys.

reachability. Furthermore, by using MICS data from different countries, it is also shown that household wealth is the essential determinant of home internet access (Hereward et al. 2020).

Data from the 2020 APIS show that even though there are some differences in the levels, access to the internet[4] is very much higher among students in private schools than students in public schools. This difference provides a good explanation behind the high proportion of students using the online mode in private schools compared to those in public schools. On the other hand, there is not much difference in terms of their access to TV and radio. Also, the high prevalence of access to TV and radio did not generate a commensurate proportion of users of these media as a mode of learning. Likewise, while there is a high availability of cell phones, the difference in access to such between public and private school students is not significant.

Home internet access by students

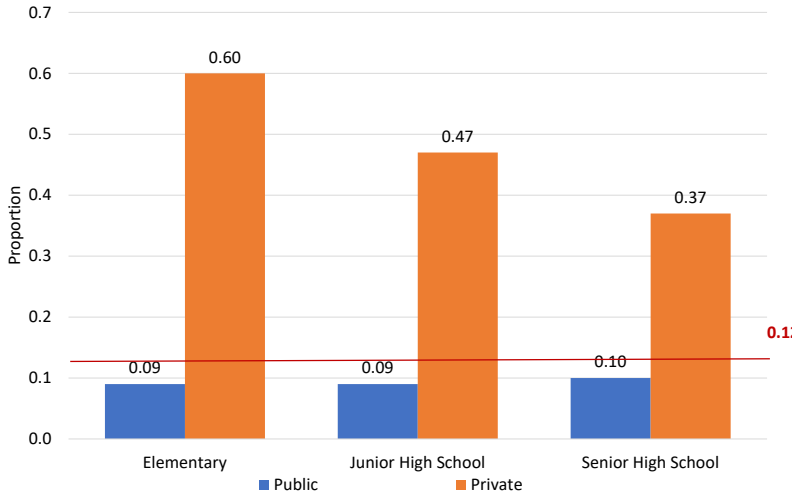
Aggregate level

Using data from the 2020 APIS, Figure 5 shows the proportion of students that have internet access at home by level of education and by type of school. Results show that the mean proportion of basic education students with internet connection at home is 12 percent.[5] Also, 60 percent of elementary students in private schools have internet connection at home, while only 9 percent of students in public schools have access to the same. Among students in junior high school, 47 percent in private schools and 9 percent enrolled in public schools have internet access at home. At the senior high school level, 37 percent and 10 percent of those in private and public schools, respectively, have internet at home.

[4] Internet access specifically refers to subscription to broadband, fiber, or digital subscriber line (DSL) connection.

[5] The 2019 NICTHS estimated the average household with internet access at 17.7 percent (DICT 2019). The difference lies in the definition as this pertains to households with enrolled students (based on the 2020 APIS) that have subscription to broadband, fiber, or DSL.

Figure 5. Proportion of students with internet connection at home by type of school and by level, 2020



Source of basic data: PSA (2020)

Again, while the extent of disparity varies across levels, findings consistently reveal that a considerably higher proportion of private school students have internet access at home. This disparity in access to the internet explains why most public school students use printed modules while a considerable proportion of private school students are online.

Another observation is that among students in private schools, a larger proportion of those in the elementary level have internet connection at home compared to those in the higher levels. This result indicates that households that keep their elementary school-age children in private schools may be more affluent.

Regional level

At the regional level, data also show that even though the educational levels may differ, the pattern in the disparity in access to the internet between public and private students is similar. Table 1 presents the proportion of students with access to the internet in their homes by type of school and by region. It shows that 70 percent of private elementary school students and only 10 percent of public school students in Region IV-A have access to the internet at home.

Table 1. Proportion of students with access to internet at home by level, type of school, and region, 2020

Region	Elementary			Junior High School			Senior High School		
	Public	Private	Difference	Public	Private	Difference	Public	Private	Difference
NCR	0.21	0.68	0.47	0.19	0.68	0.49	0.23	0.47	0.24
CAR	0.09	0.39	0.30	0.12	0.19	0.07	0.08	0.26	0.18
Region I	0.09	0.63	0.54	0.07	0.33	0.26	0.10	0.48	0.38
Region II	0.07	0.46	0.39	0.05	0.43	0.38	0.09	0.40	0.31
Region III	0.11	0.58	0.47	0.11	0.52	0.41	0.13	0.35	0.22
Region IV-A	0.10	0.70	0.60	0.13	0.56	0.43	0.18	0.46	0.28
Region IV-B	0.04	0.65	0.61	0.06	0.43	0.37	0.05	0.08	0.03
Region V	0.07	0.41	0.34	0.07	0.23	0.16	0.05	0.19	0.14
Region VI	0.06	0.49	0.43	0.05	0.34	0.29	0.04	0.27	0.23
Region VII	0.07	0.67	0.60	0.05	0.39	0.34	0.05	0.27	0.22
Region VIII	0.06	0.62	0.56	0.06	0.54	0.48	0.06	0.34	0.28
Region IX	0.03	0.44	0.41	0.03	0.37	0.34	0.04	0.28	0.24
Region X	0.09	0.62	0.53	0.10	0.50	0.40	0.10	0.32	0.22
Region XI	0.05	0.41	0.36	0.05	0.50	0.45	0.08	0.43	0.35
Region XII	0.06	0.50	0.44	0.06	0.32	0.26	0.10	0.23	0.13
Caraga	0.05	0.54	0.49	0.06	0.22	0.16	0.04	0.24	0.20
BARMM	0.01	0.24	0.23	0.02	0.07	0.05	0.04	0.06	0.02

CAR = Cordillera Administrative Region; NCR = National Capital Region; BARMM = Bangsamoro Autonomous Region in Muslim Mindanao
Source of basic data: PSA (2020)

The proportions for Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) are 24 percent (private schools) and 1 percent (public schools). The table also shows that the disparity in internet access can be as wide as 60-percentage points (Region IV-A, Region VII) to as narrow as 23-percentage points (BARMM).

It is also worth noting that a similar pattern is shown for junior high and senior high schools, although the difference between private and public school students is narrower.

Correlates of internet availability at home

To better understand internet availability at home, the correlation of connectivity to broadband at home with household characteristics was estimated using the 2020 APIS data. To proxy for broadband service availability in the area, this study used the proportion of surveyed barangays with the presence of all broadband infrastructure at the regional level[6] in Albert et al. (2021). Because the interest is in the relative strength of the variables, Table 2 shows standardized coefficients. Results reveal that the most important correlate is the presence of broadband infrastructure. This is followed by the variables: income, family size, and either parent having a high school education. This result validates a study by Avanesian et al. (2021) in the case of income but not for the location as it did not include infrastructure availability among the variables.

Home access to TV and radio by students

On the availability of TV and radio as a variable, findings indicate that the disparity is not wide between public and private school students across all levels.

Another observation is that a high proportion of students have TV (above 79%, Figure 6) and radio (above 35%, Figure 7) at home. However, the data on enrollment by modality do not show a commensurate proportion of users for these modes. This result is consistent with the findings of a series of surveys on households conducted between December 2019 to October 2020, which showed that only about a tenth of the children watched TV or listened to

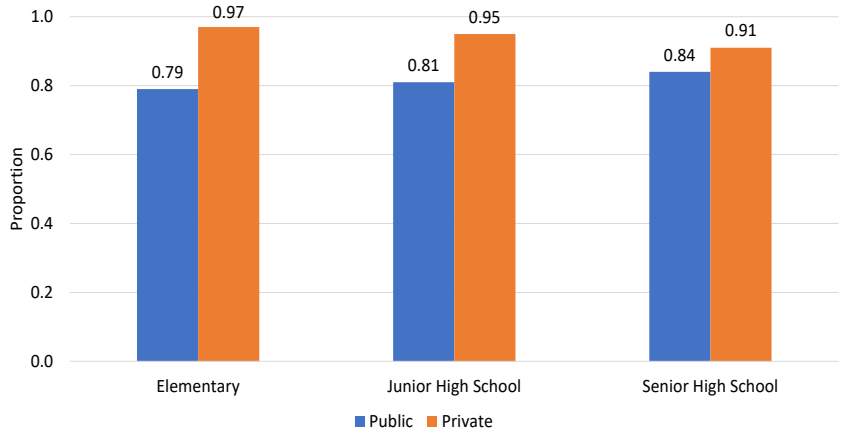
[6] The data available is at the regional level. The aggregation may have affected the results.

Table 2. Regression of internet availability and household characteristics

Variables	Standardized Coefficient
Log monthly per capita income	0.3430***
Family size	0.1891***
Parents have HS education	0.1132***
In urban	0.0786***
Male head	-0.0392***
Log age of head	0.0401***
Head working	-0.0000
Prop of family are children 6–11 years old attending elementary	-0.0024
Prop of family are children 12–15 years old attending HS	0.0032
Presence of broadband infrastructure	0.4536***
Observations	41,839

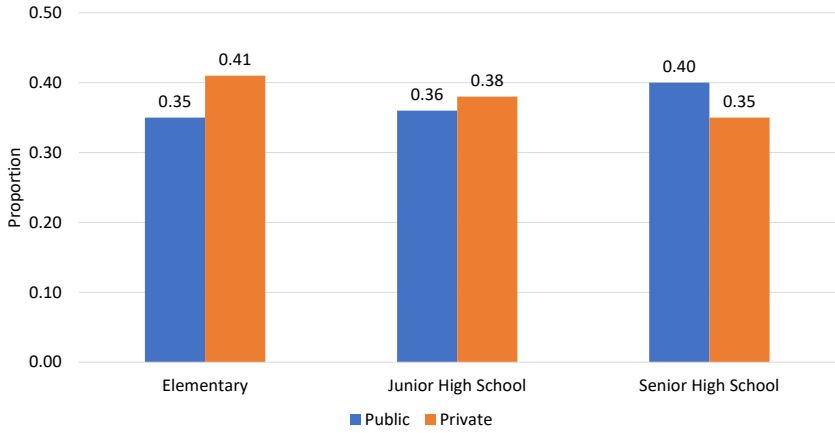
HS = high school; Prop = proportion; Log = logarithm
Note: Standardized beta coefficients *** $p < 0.001$
Source: Author's computation using PSA (2020)

Figure 6. Proportion of students with access to TV by type of school and by level, 2020



Source of basic data: PSA (2020)

Figure 7. Proportion of students with access to radios by type of school and by level, 2020



Source of basic data: PSA (2020)

radio even though two-thirds of the households owned TVs or radios (Cho et al. 2021). Therefore, it is worth studying why, despite the high availability of TVs and radios for public and private school students, the use of these devices as a mode of learning is not popular among students.

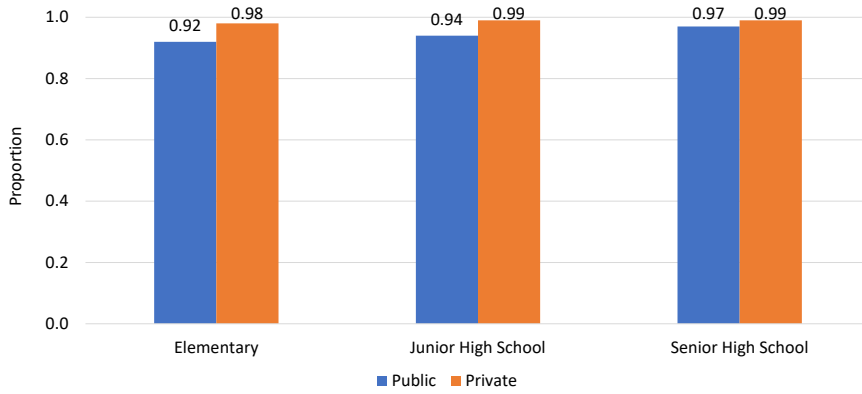
Since there is not much difference in the numbers between public and private schools at the national level, neither is there a significant difference expected at the regional level.

Access to cell phones by students

Another accessible device is cell phone. Figure 8 shows that there is not only near-universal access to cell phones; it also appears that there is no significant disparity in access between public and private school students unlike that for the internet. This finding indicates that cell phones are promising as access devices for remote learning.

Again, since there is not much difference in the results between public and private school students at the national level, there is no difference expected either at the regional levels.

Figure 8. Proportion of students with access to cell phones by type of school and level, 2020



Source of basic data: PSA (2020)

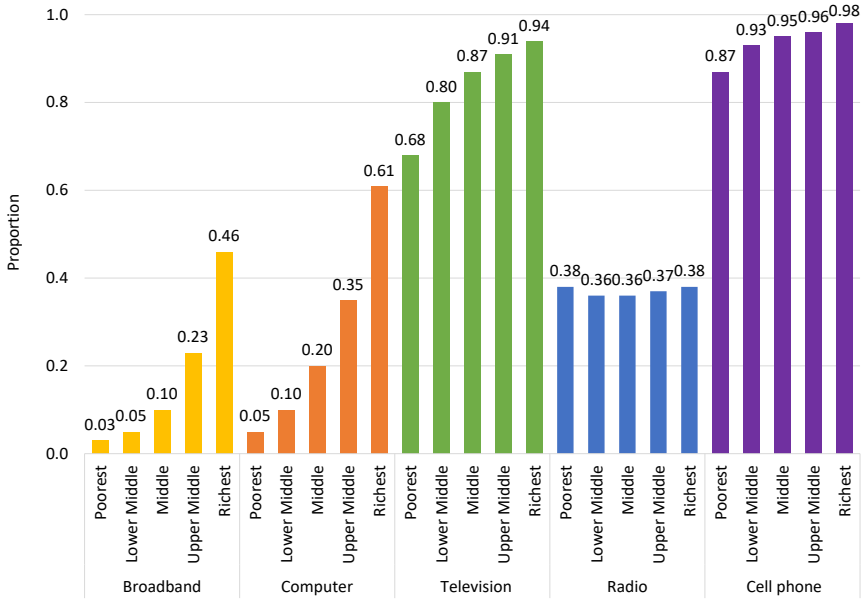
Reachability and socioeconomic status

The disparity in reachability by income class shows a wide gap in access to the internet and having a computer compared to TV, radio, and cell phone. Only 3 percent in the poorest quintile have access to the internet at home compared to 46 percent in the richest quintile (Figure 9). On average, 15 percent of Filipino students nationwide have access to the internet.[7] Having a computer has similar distribution with 5 percent for the poorest quintile and 61 percent for the richest quintile.

Meanwhile, 82 percent have access to TVs on average. When compared by income class, 68 percent of the poorest quintile and 94 percent of the richest quintile have access to TVs. In terms of radios, 37 percent of Filipinos on average have access. Also, the disparity in the case of radios is not as pronounced, with 38 percent of the poorest and the richest quintile having access.

[7] The 2019 NICTHS estimates that 18 percent of households have internet connection at home. Of these, 54 percent are subscribed to a fixed wired broadband network, 23 percent have mobile broadband network, 22 percent have fixed wireless broadband network, and 3 percent have satellite broadband network (Albert et al. 2021).

Figure 9. Distribution of households with access to broadband internet, computer, TV, radio, and cell phone by per capita income quintile, 2020



Source of basic data: PSA (2020)

Finally, 93 percent of households have cell phones. When analyzed by income class, one finds that 87 percent of the poorest and 98 percent of the richest have access to this electronic communication device.

Home support

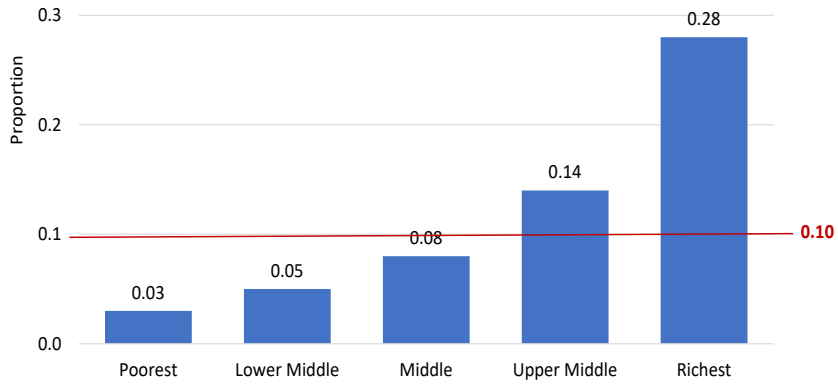
When teachers are not available to guide students, home support will be critical in students' learning. Home support greatly influences students' learning attitude, self-regulation, and intrinsic motivation (OECD 2020). Even in face-to-face classes, the quality of home support has a strong correlation with test scores (Orbeta and Potestad 2020).

This reality is much more pronounced in remote learning, where teachers are unavailable to answer students' questions. The quality of home support will be affected by the availability and the ability of parents to support their children's education needs.

The level of education of parents is an essential indicator of the quality of home support. Data from the 2020 APIS show that the average proportion of households with household heads who are at least high school graduates is 10 percent. But what is more telling is the distribution by income quintile. This proportion is 28 percent among the wealthiest quintile and only 3 percent among the poorest quintile (Figure 10).

In addition to the capacity to help their children with school requirements, parents may need to be away to work. One can expect that such necessity to be away because of work is greater among poorer households. These are two reasons why the quality of home support is lower among children in more impoverished families and subsequently, remote learning's inequitable effects by income class.

Figure 10. Proportion of parents who are at least high school graduates by per capita income quintile, 2020



Source of basic data: PSA (2020)

Summary and recommendations

This paper utilized the SY 2020–2021 enrollment data by learning mode from DepEd's Planning Service to describe students' distribution of learning modalities. It shows that most of the students in public schools use printed modules for all levels of basic education—elementary, junior high school, and senior high school. Only in private schools does one find a considerable proportion of students on online and blended learning.

Using data from the 2020 APIS, this paper highlights the significant disparity in internet access at home between students enrolled in private and public schools across different education levels. Even though levels differ, the pattern of disparity is generally repeated across regions. The availability of the internet at home is correlated to the presence of broadband infrastructure and income. The availability of TV and radio is high although there is not much difference between public and private school students. This result is also true for cell phone availability.

While there is a wide disparity in internet availability and having a computer by income quintile, such gap is not as wide for TV, radio, and cell phones. Finally, the distribution of households where either parent is a high school graduate also shows a wide disparity across income quintiles.

These patterns in enrollment by modality and household characteristics support the following insights and recommendations to improve remote learning going forward.

First, even if available in public schools, the online mode will not reach most public school students as most do not have access to the internet at home. This reality means that the desire to build online learning capacity in public schools will not be the most effective at present. This also means that, for now, preparing teachers to teach online is not a critical problem in public schools. The primary and exigent concern is to find ways to support learning through the most popular mode: printed modules. This support may, for instance, include using cell phones to improve the interaction among teachers, students, and parents. After all, the country has higher ownership of cell phones than internet connectivity on average. The disparity

between richer and poorer households regarding phone ownership is not as wide. This fact implies that using cell phones to improve the interaction of the teachers, students, and their parents will not bring inequitable effects compared to encouraging online learning.

Thus, it is important to highlight recent rigorous evidence on the impact of cell phone use on education. For instance, Angrist et al. (2020) have shown that a low-technology intervention where weekly SMS messaging is combined with twenty-minute phone calls to support a child improves learning by 0.12 standard deviations. On the other hand, Hassan et al. (2021) have shown that over-the-phone mentoring and homeschooling improve learning outcomes by 0.75 standard deviations. The authors also found that the academically weaker children from lower socioeconomic backgrounds benefited the most from telementoring.

Providing teachers with cell phone load to enable them to do over-the-phone interaction with and, if possible, to mentor students is the most promising complement to printed modules as a mode of learning. Cho et al. (2021) highlighted the lack of interaction between students and teachers in their survey that covered the pandemic period. Other phone-based interventions can also be developed provided that they consider the limitations in the capacity of students' and teachers' cell phones and user charges.

Second, education delivery through TV and radio needs to be improved. Data show that even though a high proportion of households own TV and radio, enrollment data by modality does not show commensurate use of these modes of delivery. Thus, the issues that prevent greater use of these broadcast modalities need to be identified and addressed.

Third, remote learning is highly dependent on the quality of home support. In the absence of teachers, home support is critical in students' learning. This need is more acute the younger the children are. To the extent possible, the use of LSAs to provide targeted learning support at home—particularly for households with lowly educated parents—needs to be explored. Families with low education parents can be clustered and provided with organized home support.

Fourth, learning disparity by socioeconomic class is expected to widen with remote learning. The lower quantity and quality of

home support among poorer households is an obvious consideration. In addition, one can also expect home conditions of more impoverished families to be less conducive to learning, and this becomes more critical when education happens at home.

Fifth, since synchronous learning through online modality is better than asynchronous one using paper modules, there can be disparities in learning between students from affluent households and those from poorer ones. Counteracting this tendency should be the top agenda when implementing remote learning. This underscores the importance of (i) enabling greater interactivity between teachers, pupils, and parents using printed modules; and (ii) providing home support for children of lowly educated parents.

Finally, the above points discussed so far only pertain to access to the different learning modalities. Because of the lack of data, this study cannot comment on the extent of learning happening from the various learning modalities. However, the low average test scores in the recent PISA and TIMSS and the call to focus on quality through *Sulong Edukalidad* should encourage all stakeholders and policymakers to be concerned about learning rather than just access. Low test scores indicate a need to do remedial measures—with or without the pandemic. The remote learning during the pandemic will likely add to the poor educational outcomes the country needs to recover from.

There is no clear verdict and few rigorous comparisons on whether the online mode will result in better outcomes than face-to-face classes. An exception is the experimental evidence with West Point students showing that online mode has lowered learning by as much as 0.2 standard deviations (Kofoed et al. 2021). According to the post-course survey, online students had problems concentrating in class and felt less connected with teachers and classmates. This result talks about online learning and not printed modules that most Filipino students rely on during the pandemic. Nonetheless, such a result should encourage the country's stakeholders in education to implement some learning measurements to understand the quality of learning that has happened since 2020. Without a precise measure, they cannot craft effective interventions to help students recover from the learning losses during the pandemic.

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Crisis and Risk Communication: What We Can Learn from the COVID-19 Pandemic

Sheila V. Siar

Introduction

The COVID-19 pandemic is one of the most serious health issues that has confronted the modern world. It has posed an enormous challenge for governments in many aspects, given its massive socioeconomic impacts. In the Philippines, the outbreak has put into the spotlight the capability of the national and local governments to craft and implement an effective crisis response.

A vital component of an effective crisis response in times of a health emergency is consistent, coherent, and timely communication. Dealing with a massive health crisis requires a different kind of communication intervention. Crisis communication and risk communication fall under this ambit. A more blended approach has emerged in recent years that combines both disciplines—one that aims to mitigate the adverse outcomes of a crisis (crisis communication) and to encourage the public to adopt certain behaviors to reduce risk (risk communication). The United States Centers for Disease Prevention and Control (US CDC) initiated such merging in its model called "Crisis and Emergency Risk Communication", or CERC, launched as an innovative course in October 2002 for public health officials (Veil et al. 2008).

This paper revisits the theory and practice of the CERC model in the context of the COVID-19 pandemic response in the Philippines. It discusses and analyzes how crisis and risk communication was undertaken by the Philippine government, particularly in the early months of the pandemic. The paper does this by reviewing official documents, COVID-19-related messages that circulated on social media and communication strategies used, and news articles from reputable media sources. In the process, the paper identifies useful approaches that can form part of a crisis and risk communication toolkit for the Philippines. The paper also discusses examples of communication practices to avoid and provides some recommendations for improving communication interventions.

Crisis and risk communication: As separate and blended concepts

Risk communication and crisis communication, though interrelated, differ in their objective. Seeger (2005, p.45) refers to risk communication as public messages usually delivered in mainstream media that "seek to inform the public and change behavior in ways that protect and improve the public health and safety". At the heart of the message are the threat and the action that can mitigate a threat through behavior modification (Witte et al. 2000). With behavior change as the goal, risk communication is persuasive and intentional (Seeger 2005; Reynolds and Quinn 2008; Veil et al. 2008); thus, high trust and credibility of the source are essential to make the message believable. Tapping technical health experts who have high credibility and can explain complex, technical information to lay audiences is a common strategy in risk communication (Seeger 2005).

Meanwhile, in explaining crisis communication, Coombs (2014) delved into the topic of crisis management, where communication is part of the process. He noted that it is "designed to prevent or lessen the damage a crisis can inflict on an organization and its stakeholders". The damage, he added, can be of three types: (1) public safety, such as loss of lives; (2) financial loss; and (3) reputation loss. In a previous paper, the same author explained that crisis communication involves directing stakeholders on what to do to protect themselves, which is also the aim of risk communication, and how to cope with the crisis (Coombs 2007). Crisis messages, according to Seeger (2005), are more informative than persuasive, and more spontaneous than polished to provide a quick response.

For Saliou (1994), another difference between crisis communication and risk communication is that the former is reactive while the latter is preventive. Explaining the concept in the context of a flu pandemic, he explained that crisis communication is crucial "to allay individual and collective fears, to prevent the circulation of uncontrollable rumors, and to stem generalized panic which could spread from one country or even one continent to the next" (p.516).

In 2002, the US CDC initiated the blending of both concepts "in response to a recognition that health communication in an era of bioterrorism, as well as other emerging global threats to public health, must be strategic, broad-based, responsive, and highly contingent" (Seeger 2005, p.49). The CERC was conceived with health emergencies in mind—natural or humanmade (e.g., bioterrorism)—that may evolve from a national to a global health crisis of unprecedented proportion (Seeger 2005). This makes the CERC model highly relevant to use in tackling a large-scale pandemic such as COVID-19.

The CERC recognizes that a crisis has several stages and effective communication is crucial in all phases. The traditional work of health risk communication is usually present in the pre-crisis stage; however, when a crisis occurs, communicating risk should be sustained to manage the risk and prevent further harm, while the postcrisis and recovery phase still requires continuous risk communication to ensure general well-being. Veil et al. (2008, p.28) said that "the increasingly complex demands on public health officials during emergencies make the dynamic blending of risk and crisis communication both essential and practical."

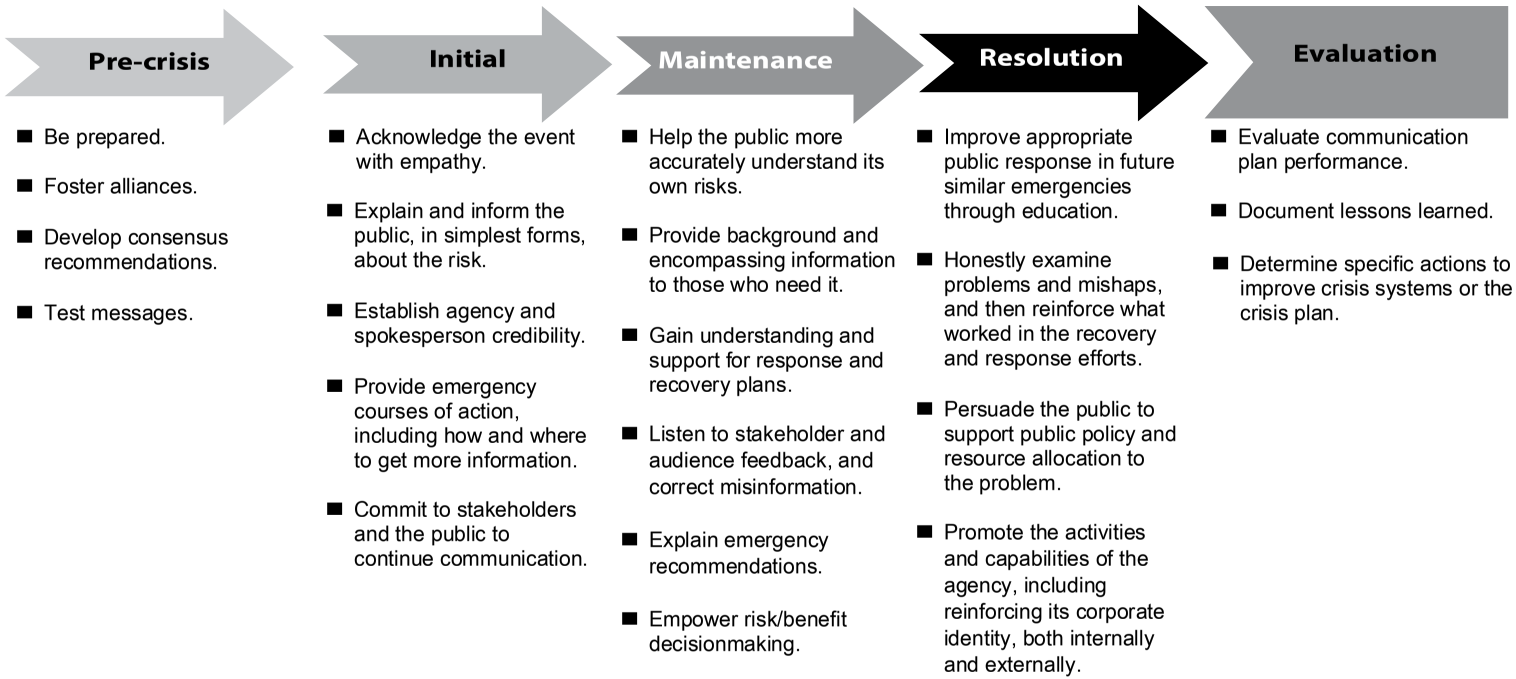
How crisis and risk communication is carried out using the CERC model is elaborated in its Communication Lifecycle (Figure 1). It is called a lifecycle since it comprises a series of stages from pre-crisis to evaluation, whereby "communication must evolve through the changes" from one stage to the next (CDC 2014, p.9). Each stage requires specific types of information that need to be created and delivered to the audience. The bullet items in Figure 1 show the communication objectives that must be met for each stage and the recommended messages to accomplish those objectives.

The following section analyzes how crisis and risk communication was undertaken in the first three stages, particularly before the pandemic and during the early months of the outbreak in the Philippines, when an effective pandemic response was most crucial.

An initial review of the country's COVID-19 communication response

Since the pandemic is still underway, this section focuses only on the first three stages of the pandemic—namely, pre-crisis, initial, and maintenance phases.

Figure 1. The CERC lifecycle



CERC = Crisis and Emergency Risk Communication
Source: CDC (2014)

Pre-crisis stage

A crucial element in this stage is a crisis and risk management plan that must be prepared if an emergency occurs. A communication plan is usually part of a general risk or crisis strategy or an emergency or disaster plan.

Before the COVID-19 pandemic, the closest risk management plan available for health emergencies is the *Disaster Risk Reduction and Management in Health (DRRM-H) Plan* developed by the Department of Health (DOH) through its Health Emergency Management Bureau. The DRRM-H framework has three main objectives: "uninterrupted health service delivery during emergencies and disaster; averted preventable morbidities and mortalities and other health effects secondary to emergencies and disasters; and no outbreaks secondary to emergencies and disasters" (DOH n.d.). The importance of a disaster risk communication plan is underscored in the guidelines issued by DOH in August 2020 to institutionalize the DRRM-H in the province- and city-wide systems (DOH 2020).

The Secretary of Health signed the DRRM-H Plan on October 29, 2019 (DOH 2019)—four months before the pandemic ensued. Meanwhile, DOH Administrative Order 36—the department order for the DRRM-H Plan's institutionalization (DOH 2020)—was released only on August 4, 2020, when the COVID-19 outbreak was already in full swing. The policy stipulated the following:

a) The DRRM-H Plan applies to all public and private health facilities in the local government units (LGUs), DOH central office, DOH hospitals, DOH Centers for Health Development, and DOH attached agencies; national government agencies; local and international organizations; and the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM);
b) Its implementation requires managerial, technical, and financial integration of resources and capacities in the local health systems; and
c) Each of the responsible agencies is expected to perform its roles and responsibilities. These agencies include the DOH, Ministry of Health-BARMM, members of the National Disaster Risk Reduction and Management

> Council (NDRRMC), Department of the Interior and Local Government (DILG), provincial/city-wide health systems, private institutions, nongovernment organizations, and civil society organizations.

The delayed institutionalization of the DRRM-H Plan was a serious misstep on the part of the health department. Given the critical gaps in the pandemic response of the government on the ground, such as the lack of coordination and synergy between and among various levels of government, the lack of protocols or manual of operation to deal with a similar crisis, and the weak and outdated information systems (Tabuga et al. 2020), these gaps could have been effectively addressed had the DRRM-H plan been already part of the local government systems before the pandemic. The whole-of-society approach advocated in the plan, as emphasized in DOH Administrative Order 36, was an essential ingredient in ensuring convergence during the pandemic, which many opined was lacking in the pandemic response.

Another risk management plan present before the pandemic is the *National Disaster Risk Reduction and Management Plan (NDRRMP) 2011–2028*, which serves as the national guide for strengthening the capacity of the national government and LGUs to build the disaster resilience of communities, reduce disaster risks, and enhance disaster preparedness and response capabilities at all levels (OCD 2011). Compared with the DRRM-H Plan, which is mainly focused on health emergencies, the NDRRMP 2011–2028 also covers natural disasters, such as earthquakes, floods, and typhoons. Nevertheless, the priority areas of disaster management that the NDRRMP espouses—namely, preparedness, prevention and mitigation, response, rehabilitation, and recovery—are applicable in managing health emergencies. The development of an advocacy and risk communication plan is part of the NDRRMP.

In 2020, the Office of Civil Defense (OCD) released NDRRMP 2020–2030, an updated version of the previous plan which considers the lessons learned from the pandemic (OCD 2020). Based on a Facebook post of the OCD, the updated plan was approved by the NDRRMC on October 30, 2020. The revised plan uses a

more comprehensive definition of disaster events—natural or human-induced—and includes public health and medical emergencies as part of the list. It also mentions the DRRM-H institutionalization and the value of the Universal Healthcare Act (Republic Act [RA] 11223) to strengthen the health system to meet the law's objective of guaranteed access to quality and affordable health services for all Filipinos. The NDRRMP 2020–2030 likewise underscores the Mandatory Reporting of Notifiable Diseases and Health Events of Public Health Concern Act (RA 11332), which provides the general policies for responding to all types of public health threats, with the DOH as the lead implementing agency.

Initial and maintenance stages

Based on the timeline of events compiled by *CNN Philippines* (Bautista and Lopez 2021), the first COVID-19 case in the country, which was reported by the DOH on January 30, 2020, was a 38-year-old female Chinese national. However, it was only on January 23, or a week before the reported COVID-19 death, that the country stopped accepting flights from Wuhan, China, where the outbreak was first reported on December 31, 2019. The convening of the Inter-Agency Task Force (IATF) for the Management of Emerging Infectious Diseases took place on January 28, 2020. On January 31, a travel ban on all flights from China was issued, which was extended to Taiwan on February 10.

Within the Philippines, daily activities proceeded amid the looming pandemic. Religious celebrations that often draw thousands of pilgrims were carried out as usual, such as the Feast of the Black Nazarene on January 9, with its procession finishing that year after 16.5 hours (Baclig 2021).

Starting in the middle of February, there were initial efforts by the government to control mass gatherings, such as the cancellation by the city government of the annual flower parade (*Panagbenga*) in Baguio City. Later that month, a nationwide mall sale was also postponed.

By the first week of March, cases of local transmission began to appear, which finally prompted the President to declare a State of Public Health Emergency on March 8. This was followed by the March 11 announcement of the World Health Organization (WHO)

of the global COVID-19 outbreak as a pandemic. Thereafter, the Philippines expanded its travel ban to all countries with local transmission. To contain the epidemic, the government placed Metro Manila and the entire Luzon under enhanced community quarantine (ECQ) from March 17 to April 13 and later extended it to April 30. Moreover, RA 11469, also known as the *Bayanihan* to Heal as One Act, was signed into law on March 24, giving the President additional authority to implement urgent measures to respond to the national health emergency. The ECQ was later extended to May 15 in Metro Manila, CALABARZON, and other areas with still high rates of COVID-19 cases, but it was later eased to a modified lockdown beginning May 16. On June 1, Metro Manila was placed under a general community quarantine. Subsequently, quarantine classifications were modified depending on transmission rates, and localized lockdowns were also introduced to mitigate the adverse impacts of business shutdowns on the national economy arising from wide-scale lockdowns.

The initial phase of the crisis (i.e., from the official pronouncement of a public health emergency on March 8 to the first month of the COVID-19 pandemic) saw the country suddenly thrown in a VUCA environment. VUCA is an acronym that stands for "volatility, uncertainty, complexity, and ambiguity". It is a buzzword that figured in the literature and popular media referring to the dynamic yet chaotic situation the world faces given the increasing pace of technological innovations and the interrelated risks that threaten the world's economic, social, and environmental well-being.

The following section discusses some of the communication issues seen in the content and delivery of messages in the first year of the pandemic.

Late, incoherent messages

During the initial stage of the crisis, several messages circulated from the government, foremost of which was the official announcement of the lockdown on March 12 (*CNN Philippines* 2020c; PCOO 2020). In the said public address, the President announced the imposition of a community quarantine in Metro Manila to combat the threat of COVID-19 based on the recommendations of the IATF. Among the

topics he mentioned were the suspension of classes, prohibition of mass gathering, formation of skeleton workforce in government offices to ensure uninterrupted delivery of public services, continuous operation of rail transport services, suspension of land and domestic air and sea travel to and from Metro Manila beginning March 15, and observance of health protocols. He also explained that the lockdown is not a martial law. He cautioned the public to "avoid trouble with the law, avoid trouble with anybody, just in the meantime, follow… Better just stay home and study" (PCOO 2020) and added that students who may be found violating the stay-home policy would be brought to the police station "for record purposes, that you are disobeying, that you are intransigent and that you are not fulfilling your duty" (*CNN Philippines* 2020).

The sudden announcement of the lockdown on March 12 created panic and confusion among the people. This did not just result from the threat posed by the pandemic on public health and safety. It also stemmed from the lack of details from the President's pronouncement, such as how people can avail of basic necessities if they are not allowed to go out, how they can travel outside of Metro Manila (which is a critical concern for those whose families are in the provinces), and other similar apprehensions. On March 11, amid rumors of a lockdown, people resorted to panic buying for alcohol and other hygiene essentials, disinfectants, and food supplies (Garcia 2020).

Moreover, fearful of being stranded in Metro Manila when the suspension of domestic travel takes effect on March 15, a "mass exodus" to the province ensued after the March 12 lockdown announcement (*Rappler* 2020). It was not impossible that this sudden influx to the provinces of large numbers of people from Metro Manila, which was the epicenter of the outbreak, contributed to the spread of the virus to the provinces by asymptomatic patients who unknowingly were carriers of COVID-19.

In addition, it was observed that the public address fell short on empathy. Aside from the lack of information on how and where to get more information, the announcement also sowed fear and anxiety with the mention of words such as "avoid trouble with the law" and sanctions for those who will be found disobeying the stay-home policy.

It was also not clearly explained why the police and military would be at the forefront in implementing the quarantine, which roused security concerns for many, given past incidents of alleged human rights violations of police officers under the government's "war on drugs".

The Office of the President released the memorandum outlining the guidelines for the implementation of the community quarantine over the entire Luzon (Office of the Executive Secretary 2020) on March 16. By then, four days had already passed since the President's official declaration of a lockdown in Metro Manila that lacked clarity and assurance of the public's access to essential services, which was necessary to assuage public fears. The effects of the delayed and incomplete messages from the administration had already been absorbed by the affected areas.

Late, confusing, and conflicting messages

Several confusing and inconsistent messages also circulated during the ECQ. An example is the warning of the DOH against spraying and misting and its subsequent interpretation by the DILG.

On April 10, 2020, the DOH released an advisory on its social media page announcing that it discourages the use of spraying and misting as disinfection methods given the lack of evidence supporting their effectiveness to kill the virus as well as the possible unintended consequence of further spreading the virus during the spraying or misting process (*ABS-CBN News* 2020). This created confusion in the minds of the public as LGUs and establishments had been using spraying and misting as disinfection methods. Such confusion can be attributed to the delayed release of the DOH's advisory, which came out close to one month after the start of the ECQ and when said methods had already been widely implemented.

In reaction to the advisory, the DILG advised all LGUs to stop disinfection drives and instead focus on "contact tracing, establishment of isolation facilities and implementation of the social amelioration program" (Cabrera 2020). Such an announcement sent a conflicting message as the health department did not oppose disinfection activities but only certain methods.

The two conflicting and inconsistent messages reflect the lack of a unified and coherent message from the concerned departments.

Vague and fragmented information

One of the features of the Bayanihan to Heal as One Act was the implementation of social amelioration measures to aid the vulnerable sectors. One such measure was the Social Amelioration Program (SAP), which amounted to PHP 5,000 to PHP 8,000 per qualified beneficiary. Based on Memorandum Circular 04, series of 2020, released by SAP's implementing agency, the Department of Social Welfare and Development, the target beneficiaries included current recipients of the *Pantawid Pamilyang Pilipino* Program (4Ps), informal economy workers, and other household members from the vulnerable sectors (DSWD 2020). A few days later, the Inter-Agency Task Force on Emerging and Infectious Diseases (IATF-EID) clarified that the SAP was not intended for 4Ps beneficiaries as they had already received an emergency subsidy on top of the regular cash grants under the conditional cash transfer program (Panti 2020).

When the first payout was made, there were reports on social media of 4Ps beneficiaries returning the SAP financial assistance. This meant that their names were included in the list that the barangay officials drew up. It could be intentional or by mistake. If it was the latter, this indicates poor communication and coordination between the DSWD and the LGUs and between LGU officials at the higher and lower (barangay) levels. The absence of a verified list of SAP beneficiaries exacerbated the problem.

Moreover, anecdotal evidence showed gaps in the information disseminated by the barangay officials as to who qualifies for the SAP, which can be an indication of the vague and insufficient information cascaded to them. Armed with vague guidelines, dishonest officials had easy avenues for corruption.

Varying directives

Policy shifts and retractions cause public confusion and breed mistrust in the competence of the government. They also reflect the absence of a unified stance among the administration officials on addressing the crisis. This weakness is apparent despite the presence of the *We Recover as One* report of the IATF for the Management of Emerging Infectious Diseases–Technical Working Group for Anticipatory and Forward Planning led by the National Economic and Development

Authority (NEDA). The report contains recommendations on how to mitigate the economic impact of the crisis as well as policies to enable the country and all Filipinos to adapt to the new normal.

Several months after the health emergency ensued, the government announced on September 11 that it had approved the proposal of the Department of Transportation to relax physical distancing rules in public transport. The one-meter distance recommended by WHO would be reduced to 0.75 meters and further to 0.5 meters after two weeks, and down to 0.3 meters after another 14 days (*CNN Philippines* 2020a). Approved by the IATF, the said proposal was intended to increase the ridership in public transportation.

However, just one week after its announcement, the policy was revoked and terminated on September 18 (*CNN Philippines* 2020b). This was amid calls from health experts to continue the strict enforcement of the recommended one-meter distancing rule in public places and the wearing of masks and face shields. The strict enforcement of health protocols in public transportation was a key recommendation emphasized in the *We Recover as One* report.

Useful messages and communication strategies

Despite the aforementioned shortcomings, there were noteworthy messages that circulated from the government (either from the national level or LGUs) and useful communication approaches used by the public and private sectors in conveying messages related to COVID-19. The extent of their effectiveness, however, requires a detailed study, which this paper does not cover. The list may have also overlooked other approaches.

Traditional media such as television (TV), newspaper, and radio

The ubiquity of these mass media platforms makes them reliable sources of local and global information about the COVID-19 pandemic. Media networks sustained their regular programming on TV and radio, particularly for news, interview, and talk-show formats. Videoconferencing has become the norm for most interviews and press conferences, which were broadcast to the general public through TV and radio.

The online streaming on TV of entertainment programs and even community gatherings, such as activities of worship and concerts, using a limited format (i.e., no live audience; guests engaged through videoconferencing) was also a helpful way to maintain a sense of normalcy during the ECQ. These programs not only served as sources of entertainment and support for mental and emotional well-being; they were also convenient vehicles to amplify messages (e.g., importance of staying home, physical distancing, proper handwashing), gather support (financial and in-kind donations), and foster community spirit.

Sign language interpreters in TV broadcast

While used in a limited way by media networks before the health emergency, the presence of sign language interpreters in newscasts, press conferences, and interviews had been intensified not just in the Philippines but in other countries. Having sign language interpreters was a good way to reach persons with disabilities and send the message that they are an indispensable part of society in the fight against COVID-19. This approach helped make the dissemination of critical health information more broad-based and inclusive.

Social media

With the popularity of social media, particularly Facebook and Twitter, it was not surprising that these were the most common means used by national and local government agencies to communicate updates on COVID-19 cases; advisories on physical distancing, proper hygiene, and environmental sanitation; COVID-19 symptoms to watch out for; testing protocols; distribution of relief goods and other forms of assistance; support services available; sanitation schedule; and programs/interventions related to the ECQ.

In many cases, social media became the public's primary source of information as news traveled faster through this channel than traditional media. Government officials also released clarificatory messages first on social media before these were broadcast on TV or radio.

Certain groups, public figures, and ordinary citizens also used social media to solicit donations for the most affected segment of

the population, such as daily wage earners, low-income families, informal settlers, and frontliners.

Messaging and chat applications

Communicating public announcements and reminders in the form of text or short messaging service (SMS) is not a new phenomenon. Before the pandemic, government agencies (e.g., DILG, Philippine Atmospheric, Geophysical and Astronomical Services Administration, Philippine Institute of Volcanology and Seismology) used these tools to circulate public advisories, such as earthquake and fire drills, typhoon alerts, and ashfall and volcanic eruption warnings, through the National Telecommunications Commission.

These efforts continued during the pandemic with mobile phones receiving text messages from DOH about updates on COVID-19 alert levels, reminders on physical distancing and proper hygiene, and symptoms to watch out for; from the IATF-EID, on its contact tracing and health condition reporting system called StaySafe.ph; and from the Department of Information and Communications Technology, on the issuance of the RapidPass, an electronic identification system issued to frontliners and essential workers in Metro Manila to ease their passage through checkpoints during the ECQ (See Appendix 1).

Also, the use of internet-based chat and calling applications facilitated direct and two-way communication between the government and the public. Before the ECQ, the DOH created the chat group "DOH PH COVID-19" on the messaging platform Viber where registered users received official COVID-19 information from the health department. At the same time, users can post messages and inquiries to the DOH. By May 3, 2020, this chat group had garnered nearly 1.5 million members (See Appendix 2).

Crowdsourcing

Getting the public's pulse and engaging them in planning and decisionmaking are vital in crisis response. This approach can promote buy-in of development interventions, thus increasing the likelihood of success, as stakeholders feel valued and their voice appreciated.

Crowdsourcing, or the use of technological tools, typically the internet to obtain information from a large group of people, was an

innovative strategy implemented by the government during the ECQ. It was used by NEDA, chair of the IATF Technical Working Group for Anticipatory and Forward Planning on COVID-19, in rolling out the rapid consumer assessment, the survey for all business owners, and the rapid business assessment for the agriculture and fisheries sector. The DOH also resorted to crowdsourcing in the early days of the ECQ. It circulated a brief online survey to gather concerns and questions from the public regarding the implementation of the ECQ.

Local language

Filipino was the primary medium used in the press conferences of the health department. It was also used by DOH to post messages about self-care, COVID-19 symptoms, treatment protocols, and questions and answers on disease testing and COVID-19 vaccination, which the department circulated through its official webpage (Department of Health–Philippines), *Healthy Pilipinas* Facebook page, and the DOH-PH COVID-19 Viber group.

Surveys conducted by the government and circulated by NEDA were also translated into Filipino to reach more people.

Many local governments also used the local language in their social media posts on updates about the number and status of COVID-19 cases, reminders on physical distancing, proper hygiene and sanitation, and schedule of support services (See Appendix 3).

Infographics

Government agencies switched to more graphic and visual images to communicate information. Many of these infographics were also written in Filipino. This was observed in the messages released by the DOH on its social media pages (see Appendix 4) and other government agencies.

Infographics have certain advantages, especially in communicating numbers and figures as well as steps and procedures related to the management of COVID-19 cases. Compared to plain text messages, infographics are also more eye-catching and can be easily understood and remembered.

Promotional messages through hashtags

Hashtags are helpful in organizing information in social media for the benefit of one's followers to locate a post with ease. They are also an excellent way to send a message, enhance recall, and strengthen the branding of a campaign.

Used in the social media posts of the DOH are hashtags such as #WeHealAsOne, #BeatCOVID19, #FightCOVID19, and #StayHome. As these short phrases are charged with meaning, they have a positive psychological value of promoting unity, cooperation, and resilience.

Action campaigns

The campaign on clapping or applause for frontliners was a useful avenue to engage the community in expressing their support and appreciation for the sacrifices of the country's health workers and other frontliners. Videos played on TV that showed ordinary citizens and public figures participating in the campaign or conveying their gratitude reinforced messages of cooperation and mutual support and served as an emotional boost for frontline workers. The DOH was also active in instilling appreciation of the critical role played by health workers through its social media page (see Appendix 4).

This campaign also helped address reported cases of discrimination against frontliners, which reflected contradictory attitudes and behaviors on the ground.

COVID-19-dedicated portals/websites

The absence of a government portal dedicated to COVID-19 was apparent at the start of the ECQ. People relied on individual information from different agencies. There was no single government portal containing all the relevant information.

In early April, the Presidential Communications Operations Office launched the COVID-19 government portal (https://www.covid19.gov.ph), which functions as a one-stop shop providing information on the government's efforts to combat the COVID-19 pandemic. It contains news updates, videos on public briefings, price

watch of essential commodities, timelines of government actions and decisions, and the so-called "Accomplishment and Transparency Tracker" for the Bayanihan to Heal as One Act.

In addition, government agencies, international organizations, and some academic institutions also put up their respective websites dedicated to COVID-19 information resources or created a special section in their official websites. Below are some examples:

- World Health Organization (https://www.who.int/emergencies/diseases/novel-coronavirus-2019)
- Philippine Department of Health (https://doh.gov.ph/2019-nCoV)
- PhilHealth (https://www.philhealth.gov.ph/covid)
- DILG (https://www.lguvscovid.ph)
- Department of Labor and Employment (https://www.dole.gov.ph/covid-19-mitigating-measures)
- Philippine News Agency (https://www.pna.gov.ph/categories/anti-covid-19-pandemic)
- University of the Philippines (https://endcov.ph/dashboard)
- De La Salle University (https://www.dlsu.edu.ph/research/covid-19-research-portal)

Fighting fake news

False information or fake news during a health emergency can expose individuals and communities to further risks. It can also instigate public panic, fear, anxiety, and even chaos if not controlled.

Schulman and Siman-Tov (2020) distinguished between two kinds of fake news: (1) misinformation or "the dissemination of false information, even if not deliberate or malicious, based on unsubstantiated conjecture and in light of various considerations", and (2) disinformation or "false information [that] is spread deliberately and maliciously for personal gain or to cause damage to another party" (p.2).

In the current pandemic, Schulman and Siman-Tov (2020) identified the various perpetrators or sources of fake news, namely: (1) states, as a means of concealing domestic situation or diverting people's attention from the way they handle the issue; (2) civilians; (3) conspiracy theorists; and (4) media.

However, even famous personalities may unknowingly be circulating false information. For example, in the early days of the pandemic, former US President Donald Trump repeatedly mentioned the efficacy of the antimalarial drug hydroxychloroquine as a possible cure for COVID-19 (Samuels and Kelly 2020). The message was further amplified when he spoke of it again in his succeeding news conferences. It was also spread via social media (Twitter) by his allies, including his son and personal attorney. The diffusion of such false information caused spikes in the social media mentions of hydroxychloroquine and sparked misleading hopes as vaccine trials were still underway at the time.

In the Philippines, among the fake news that circulated included alleged preventive measures against COVID-19, such as eating bananas, sucking ginger or garlic, and drinking alcohol, bleach, and disinfectants. That the virus cannot stand high temperatures, that it is a biological weapon, and that treatments are already available were also part of the myth. Elsewhere, other examples of fake news have proliferated. A list compiled by a news organization shows the assortment of disinformation and misinformation related to the pandemic—from how the virus is transmitted, to possible cures, conspiracy theories, quarantine methods, and infected officials (Lytvynenko 2020).

The Bayanihan to Heal as One Act, which expired in June 2021, contained a fake news provision with corresponding fines and imprisonment. The said provision was absent, however, in the succeeding Bayanihan law.

Even before the pandemic, the dissemination of fake news was already considered illegal. The Revised Penal Code of the Philippines (RA 10951) stipulated that the publication by any person of "false news which may endanger the public order, or cause damage to the interest or credit of the State" is punishable by law (Article 154, item 1).

There had been increasing efforts from tech and media companies to curb the dissemination of fake news. These included the fact-checking initiatives of Google and Facebook (Ong and Cabanes n.d.) and media organizations, and the use of technological tools like internet browser add-ons and platforms, some of which are based on

artificial intelligence (Schulman and Siman-Tov 2020). The COVID-19 health emergency saw these initiatives intensify in what can be considered a concerted international response to prevent fake news from inflicting harm on an already fragile situation.

Below are examples of interventions carried out by different actors to control the spread of fake news about COVID-19 and related health topics.

Deletion of fake news and fake accounts

Google and other technology and online media companies (Facebook, Twitter) deleted fake accounts and fake news. They also gave warnings against misleading information.

Facebook also provided a regular report on coordinated inauthentic behavior and the actions it has taken (e.g., March 2020 Coordinated Inauthentic Behavior Report 2020). As explained by Facebook's head of cybersecurity policy, coordinated inauthentic behavior is "when groups of pages or people work together to mislead others about who they are or what they're doing" (Gleicher 2018).

Fact-checking initiatives

Local and international media organizations were active in fact-checking. Examples of these initiatives were:

- International Fact-Checking Network (https://www.poynter.org/ifcn)
- Google (https://toolbox.google.com/factcheck/explorer)
- Factcheck.org (https://www.factcheck.org)
- Facebook (https://www.facebook.com/journalismproject/programs/third-party-fact-checking/how-it-works)
- Rappler (https://www.rappler.com/moveph/webinar-fact-checking-coronavirus)
- Vera Files ((https://verafiles.org/specials/fact-check)
- FactRakers (https://www.factrakers.org)

Directing users to official websites

Typing "COVID-19" in the Google search box will show the websites of DOH-Philippines and WHO on the top of the first page of search results. On Facebook and Instagram, people were also directed to resources from leading health organizations such as WHO and

the local health authority through the COVID-19 Information Center section (See Appendix 5).

Twitter, meanwhile, had a page called "Updates on the COVID-19 situation in the Philippines" that provided real-time updates from trusted and official sources.

Releasing clarification on false information

On its official website, WHO created a section entitled "Coronavirus disease (COVID-19) advice for the public: Myth busters" (WHO n.d.). It contains a comprehensive list of COVID-related topics and facts debunking false information. The explanations are written in plain language and accompanied by infographics that can be downloaded and shared (See Appendix 6).

Conclusion

There is an urgent need to improve the timeliness, clarity, and coherence of the government's risk and crisis communication interventions. The examples discussed above demonstrate how incomplete and delayed information and the lack of empathy can sow public confusion and fear; how late and conflicting messages can instigate uncertainty that could lead to costly mistakes; how vague and fragmented information can create inefficiencies and open opportunities for corruption; and how policy shifts and retractions can cause public confusion and breed mistrust in governance.

It is also apparent that the government fell short in pre-crisis preparation. While a DRRM plan for health was present before the pandemic, it was not adequately cascaded, and the memorandum instructing its institutionalization across the national and local health systems was released only in August 2020, when the health emergency was already wreaking havoc across the country.

Notwithstanding these shortcomings, the COVID-19 health emergency yielded a variety of useful risk and crisis communication approaches that reflect how creativity and innovation can help develop new communication interventions or improve existing ones. This is facilitated by new technologies that amplify audience reach and engagement and create a richer landscape of communication

channels for multiple communication objectives, such as disseminating information, modifying behaviors, allaying fears, dispelling false information, promoting national unity, and engaging stakeholders. The usefulness of these channels during the early months of the pandemic suggests that they should be considered part of regular communication initiatives.

Recommendations

As a final note, below are some recommendations to enhance communication interventions to address some of the communication gaps seen in the pandemic response of the government:

1) **Harmonize messages to ensure accuracy and consistency**
   A clear and consistent message, especially when it comes from multiple sources, is essential to reinforce the meaning, which in turn, increases the likelihood of achieving the objective of the message, such as behavior change or public support. Messages that are not aligned and consistent across government agencies and between national and local offices usually stem from poor communication and coordination and working in silos. Having a unified communication strategy that is anchored on a systems approach is essential to ensure message harmonization.
2) **Enhance citizen engagement**
   Governance that promotes regular citizen engagement has many benefits. Giving people a voice enhances the credibility of decisions and increases trust and confidence in leaders (French 2011). It makes them more knowledgeable of the people's needs and concerns (Kinney 2008), thus can enhance the ability of leaders to govern and can mitigate community-wide losses (Schoch-Spana et al. 2007). Both traditional and modern approaches, such as those facilitated by communication technologies, can be used to promote citizen engagement. The choice should depend on factors such as accessibility and inclusivity. Multiple ways of engagement may be employed to address the limitation of

one tool. It is also crucial for leaders or their representatives to explain to the participants the purpose of the engagement and its individual and collective benefits. In addition, it is important to engage citizens in fact-checking initiatives since fake news is a whole-of-society problem. Educating the public that the fight against fake news is a civic and moral responsibility is an essential step toward citizen engagement. Capacitating them in fact-checking through continuous training and education is critical in sustaining the engagement.

3) **Strengthen the role of local public information officers**
The COVID-19 pandemic demonstrated the crucial role of LGUs in providing an effective and efficient crisis response. Local governments have public information officers who perform a variety of duties, including public and media relations. Having a competent team of information officers in a locality is essential in bringing accurate and reliable information from the national and local governments to the residents as well as in coordinating with the national and local media. Thus, improving their capacity is vital to help them deliver their tasks effectively and efficiently. Considering the modern landscape of information acquisition and delivery, they should be knowledgeable on the latest communication tools and approaches. In addition to training, the provision of necessary equipment and software to help information officers apply their knowledge and skills should be part of the capacity-building program.

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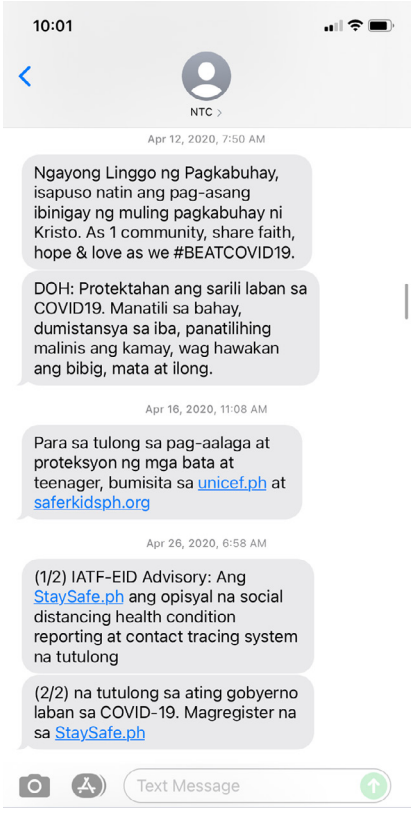
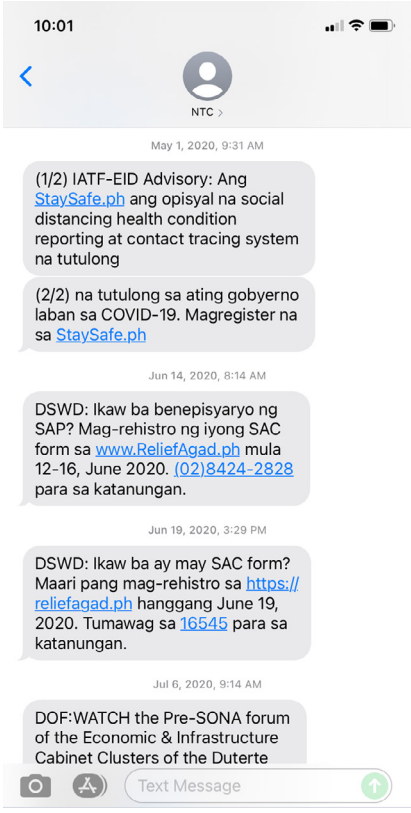
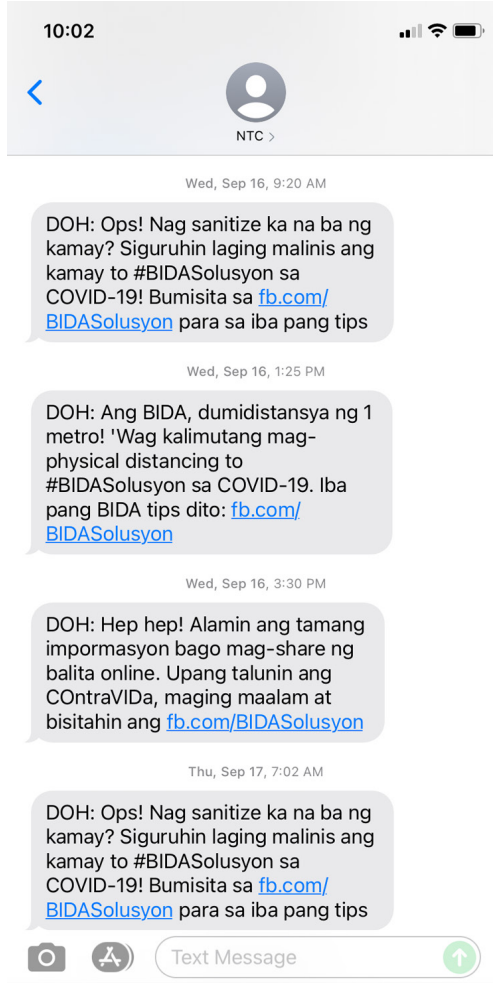
Appendix 1. Sample COVID-19-related text messages sent by government agencies/entities through the National Telecommunications Commission





COVID-19 = coronavirus disease 2019
Source: Author's device

Appendix 1 *(continued)*



Source: Author's device

Appendix 2. The chat group "DOH PH COVID-19" created by DOH

DOH = Department of Health; PH = Philippines; COVID-19 = coronavirus disease 2019
Source: Viber

Appendix 3. Sample messages from local government units

Source: Pasig City Public Information Office Facebook page

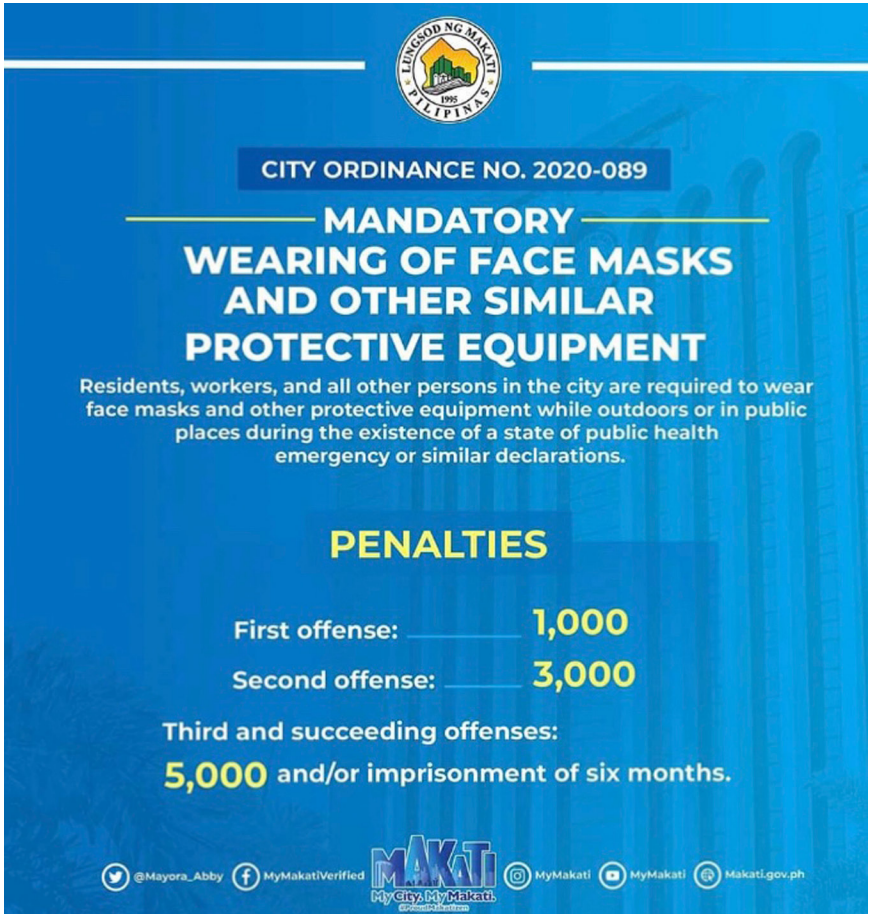
Appendix 3 *(continued)*

Source: Valenzuela City Facebook page

Appendix 3 *(continued)*

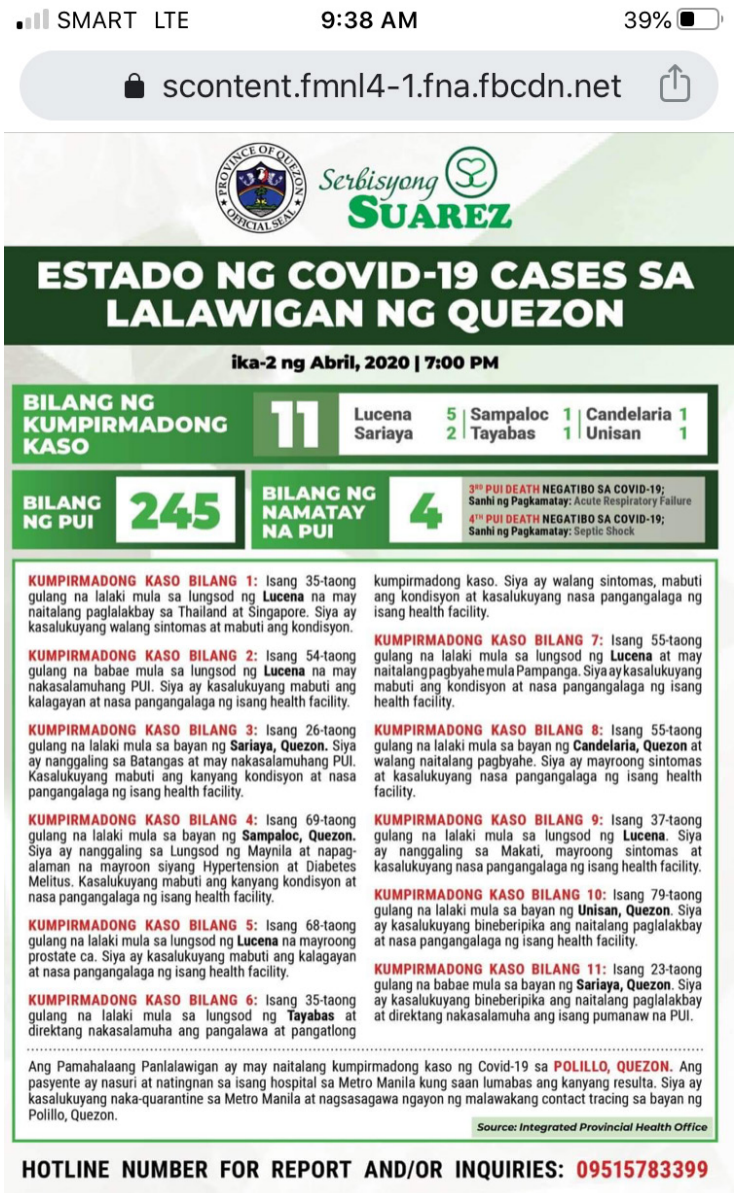
Source: Valenzuela City Facebook page

Appendix 3 *(continued)*



Source: Makati City Facebook page

Appendix 3 *(continued)*

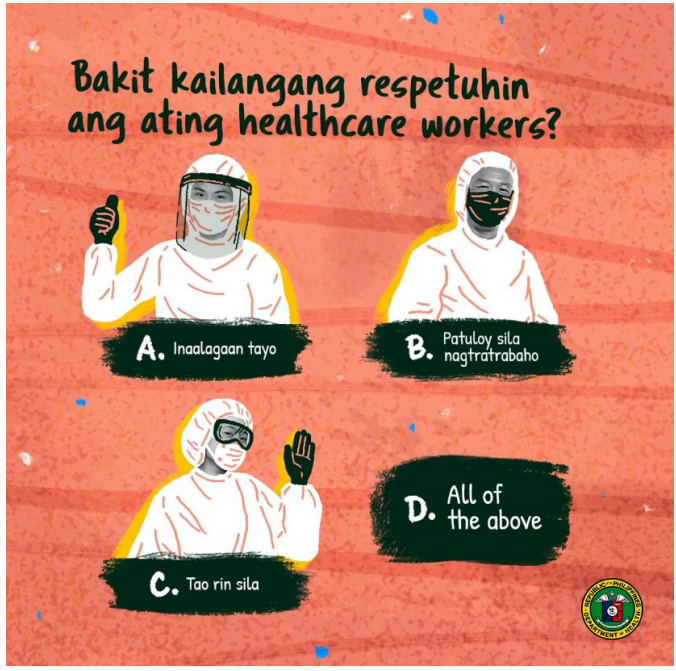


Source: Quezon Public Information Office Facebook page

Appendix 3 *(continued)*

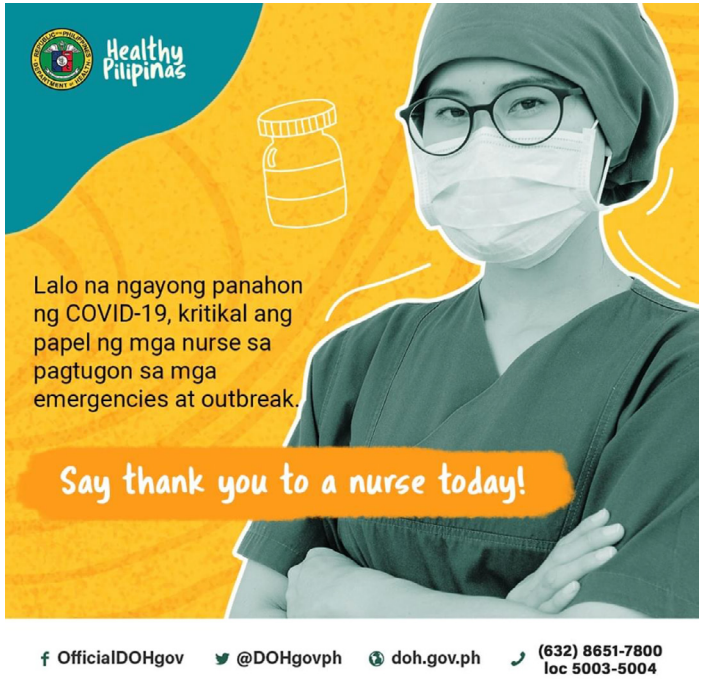
Source: Makati City Facebook page

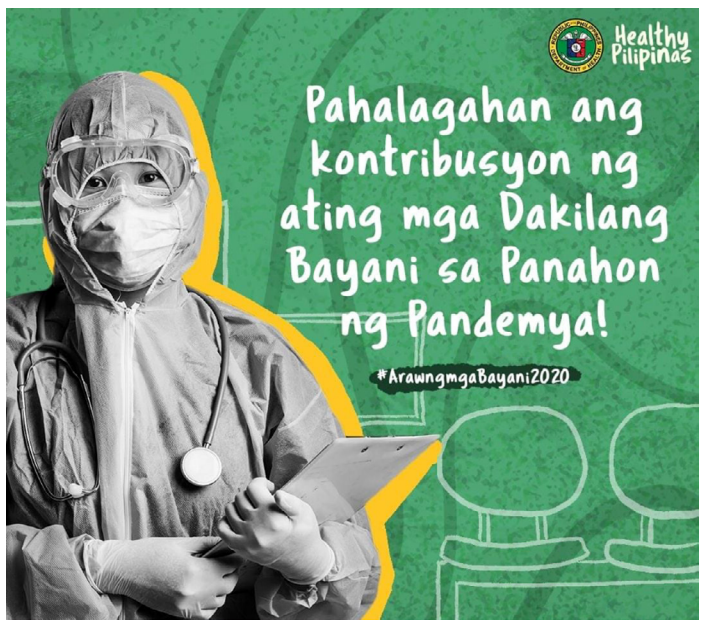
Appendix 4. Sample messages from the Department of Health



Source: DOH Facebook page

Appendix 4 *(continued)*



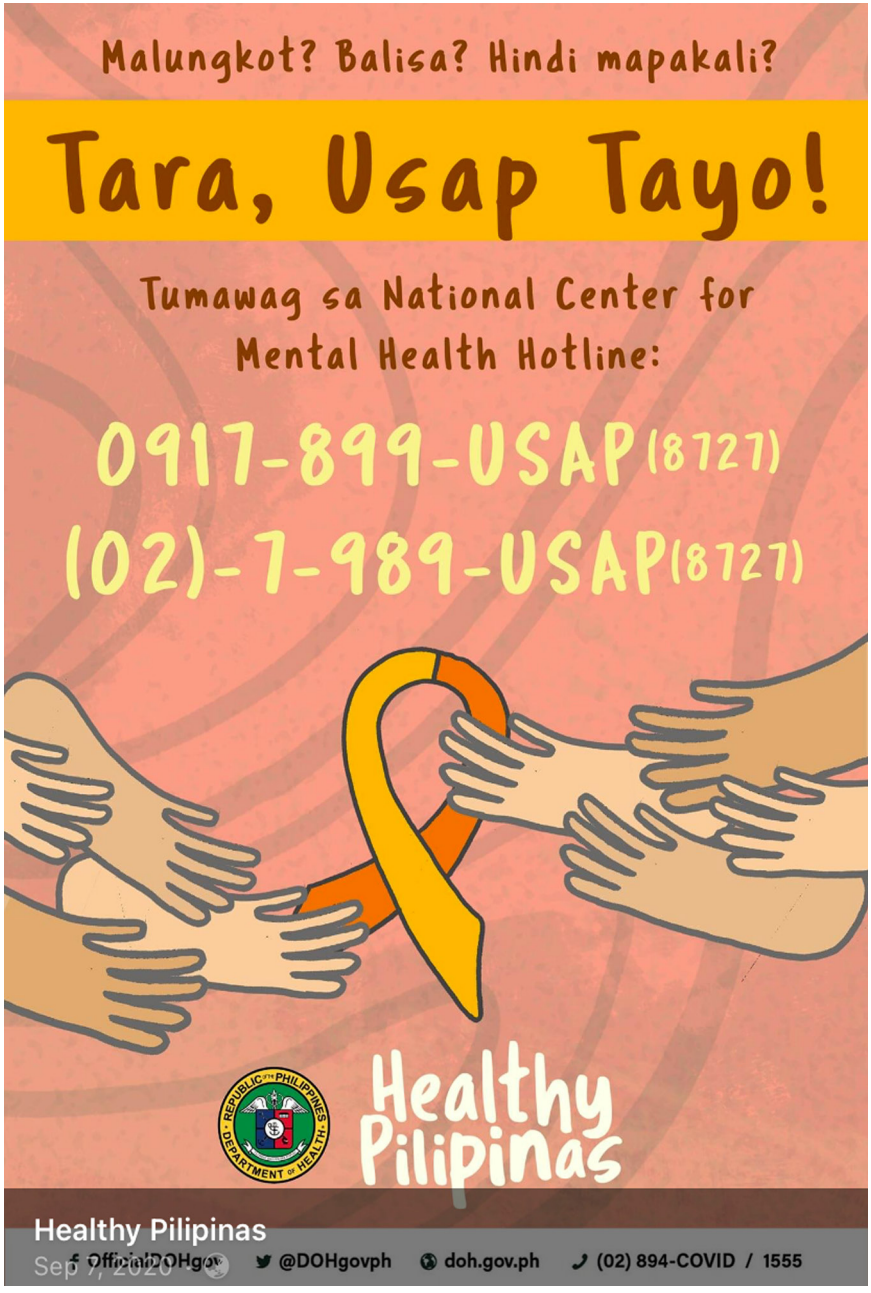


Source: Healthy Pilipinas (DOH) Facebook page

Appendix 4 *(continued)*

Source: Healthy Pilipinas (DOH) Facebook page

Appendix 4 *(continued)*



Source: Healthy Pilipinas (DOH) Facebook page

Appendix 4 *(continued)*

Source: Healthy Pilipinas (DOH) Facebook page

Appendix 4 *(continued)*

Source: Healthy Pilipinas (DOH) Facebook page

Appendix 5. The COVID-19 Information Center set up by Facebook

Source: Facebook

Appendix 6. Sample message on the COVID-19 Myth Busters page set up by WHO on its website

FACT: Spraying and introducing bleach or another disinfectant into your body WILL NOT protect you against COVID-19 and can be dangerous

Do not under any circumstance spray or introduce bleach or any other disinfectant into your body. These substances can be poisonous if ingested and cause irritation and damage to your skin and eyes.

Bleach and disinfectant should be used carefully to disinfect surfaces only. Remember to keep chlorine (bleach) and other disinfectants out of reach of children.

Download and share

WHO = World Health Organization; COVID-19 = coronavirus disease 2019
Source: https://www.who.int

National and Local Government's Fiscal Response and Role in Recovery

Charlotte Justine Diokno-Sicat

Introduction

The unprecedented pandemic caused by the coronavirus disease 2019 (COVID-19) overwhelmed global health systems and impacted the global economy. As the pandemic is a negative externality, the solution to control the spread of COVID-19 was coordinated regulations. The challenge was that the measures needed to control the spread had spillover effects on the economy.

In both the pandemic and the measures against COVID-19, it was the national and local governments that took the lead. Local governments were at the forefront in terms of (i) identifying, contact tracing, monitoring, and reporting those directly affected by the illness; (ii) giving social welfare assistance to those indirectly affected by COVID-19 (e.g., loss of income) due to the necessary containment controls in economic activity and movement implemented; and (iii) ensuring peace and order and adherence to necessary protocols.

However, all these demanded the national government's guidance and coordination across all levels, which, in the process, highlighted existent governance gaps and surfaced new ones. Thus, here are where reforms are needed. This study documents the Philippine national and local government's responses and recommends next steps in reforms to improve governance in the new normal. What was the Philippine government's response to the COVID-19 pandemic? What is the role of local governments in responding to and recovering from the COVID-19 pandemic? What institutional and governance issues require reforms post-pandemic?

Philippine public sector's response to the COVID-19 pandemic

Institutional and governance responses: National government's policy directives to enable local government response

At the start of the COVID-19 pandemic, the national government mandated two vital policies that activated provisions of some laws and circumvented provisions of other laws to expedite the response at

all levels of government. The first was Presidential Proclamation 922, which declared a State of Public Health Emergency. The second was the passage of Republic Act (RA) 11469 known as the "*Bayanihan* to Heal as One Act" or Bayanihan I, which declared "the existence of a national emergency arising from the coronavirus disease 2019 (COVID-19) situation and a national policy in connection therewith and authorizing the President of the Republic of the Philippines for a limited period and subject to restrictions, to exercise powers necessary and proper to carry out the declared national policy and for other purposes". Six months into the pandemic, "Bayanihan to Recover as One Act" or Bayanihan II was passed to ensure a continuing fiscal response to the pandemic.

After Presidential Proclamation 922 declared a national state of public health emergency due to COVID-19 on March 8, 2020, a community quarantine was imposed in Metro Manila on March 15, 2020. A couple of days later, this was expanded to an enhanced community quarantine in the major island group of Luzon. This directive triggered the implementation of the Mandatory Reporting of Notifiable Diseases and Health Events of Public Health Concern Act (RA 11332) and activated Sec. 324(d) of the Local Government Code of 1991. The former triggered the disease reporting and monitoring response of the government. The latter circumvented the need for local government units (LGUs) to individually declare a state of emergency and gave a legal basis for local governments to fast-track their responses using their earmarked Disaster Risk Reduction and Management Fund.

The initial national government-imposed community quarantine was necessary to control the spread of the virus and reduce the pressure on the overwhelmed health sector. It curbed the movement of people and goods, limited services, closed businesses, and made public and private agencies seek alternative work arrangements, such as working from home. The enforcement, however, required tremendous coordination efforts from national and local governments as well as across local governments that share borders in their bid to control the spread of the virus while ensuring essential goods and frontliners were able to get to where they needed to go.

The Bayanihan to Heal as One Act (RA 11469, Bayanihan I) addressed the administrative challenge of a fixed timeline procurement process. Its Sec. 4(k) provided that the procurement of items necessary to deal with the COVID-19 pandemic would be done "in the most expeditious manner, such as exemptions for the provisions of the RA 9184 or the Government Procurement Reform Act and other relevant laws".

The Bayanihan to Recover as One Act (RA 11494, Bayanihan II) mandated the joint establishment of a COVID-19 national referral system by the Department of Health (DOH) and the Philippine Red Cross to provide patients a fast and efficient way to locate and avail of medical health services. This will remain in effect even after the expiration of the Act to continue the expeditious access of Filipinos to health services.

Fiscal policy: National government

The Philippine government released a total of PHP 598.75 billion in response to the COVID-19 pandemic as of June 25, 2021 (Table 1). This amount includes releases from Bayanihan I, Bayanihan II, and from the General Appropriations Act (GAA) for FY 2020 (RA 11465). Of the PHP 387.17 billion released for Bayanihan I, 93 percent has been obligated,[1] while 95 percent of the amount obligated has been disbursed.[2] For Bayanihan II, 91.6 percent of the released PHP 205.12 billion has been obligated, with 75 percent of this amount disbursed. Finally, for the post-Bayanihan I funded from the GAA for FY 2020, only 65.43 percent of the PHP 6.46 billion released has been obligated.

Bayanihan I was funded primarily from realigned FY 2019 and FY 2020 General Appropriations pursuant to Sec. 4(v) of

[1] Government obligation is a commitment by a government agency arising from an act of a duly authorized official, which binds the government to immediate or eventual payment of a sum of money (DBM 2021).

[2] Government disbursement refers to the settlement/liquidation/payment of an obligation incurred in the current or prior years (DBM 2021).

Table 1. COVID-19 budget utilization report (as of June 25, 2021)

Source	Released	Obligated	Disbursed
Bayanihan I	PHP 387.17 billion	PHP 360.42 billion (93.09% obligation rate)	PHP 342.40 billion (95% disbursement rate)
Bayanihan II	PHP 205.12 billion	PHP 187.84 billion (91.58% obligation rate)	PHP 141.45 billion (75.30% disbursement rate)
Others			
COVID-19 P/A/Ps upon expiration of Bayanihan I	PHP 6.46 billion	PHP 4.23 billion (65.43% obligation rate)	PHP 3.58 billion (84.82% disbursement rate)
Total	PHP 598.75 billion		

PHP = Philippine peso; COVID-19 = coronavirus disease 2019; P/A/Ps = programs, activities, and plans
Source: DBM (2021)

the law.[3] Sourcing mainly from pooled savings from discontinued appropriations in FY 2019 and 2020, the Act laid out government spending for critical areas to manage the public health emergency and aid those directly and indirectly affected by it. There were allocations for health and peace and order to facilitate the delivery of frontline services as well as for social welfare programs directed to the poor, workers, and micro and small businesses.

[3] The Department of Budget and Management issued guidelines on the Adoption of Economy Measures in the Government Due to the Emergency Health Situation, informing national government agencies and related public sector entities that 35 percent of programmed appropriations under the FY 2020 GAA shall no longer be made available for release effective April 1, 2020. In addition, at least 10 percent of the total released allotments to covered entities for Maintenance and Other Operating Expenses and Capital Outlays shall no longer be available for obligation (DBM 2020a). Affected agencies were directed to identify programs, projects, and activities to be discontinued. Apart from this pooled savings, current appropriations for some government agencies were reprogrammed and realigned, and Special Purpose Funds in the FY 2020 GAA, such as the National Disaster Risk Reduction and Management, Contingent and Unprogrammed Funds, were used to finance the COVID-19 response.

The largest amount released under the Bayanihan I was to the Department of Social Welfare and Development (DSWD), amounting to PHP 212.44 billion, primarily for the Social Amelioration Program (SAP)[4] and Assistance to Individuals in Crisis Situation (AICS). The Small Business Wage Subsidy—a joint undertaking of the Department of Finance, Social Security System, and Bureau of Internal Revenue to subsidize middle-class workers of small businesses—received the next largest amount at PHP 51 billion. This was followed by the PHP 48.23 billion released for DOH's immediate and continued response to emerging diseases, especially COVID-19.

For human resources and health treatments, Bayanihan I provided that the treatment cost of COVID-19 patients would be covered under the National Health Insurance Program of the Philippine Health Insurance Corporation (PhilHealth). Further, the protection of public health workers was one of the utmost concerns of the Act. It states that (i) human resources for health (HRH) will receive a hazard pay—or the "COVID-19 special risk allowance"—and (ii) all medical expenses of public and private health workers (e.g., exposure to COVID-19 or any work-related injury or disease) will be shouldered by PhilHealth during the emergency. Finally, health workers who contract COVID-19 will receive a compensation of PHP 100,000, while those who die fighting the pandemic will receive PHP 1 million as compensation.

Following the end of the effectivity of Bayanihan I, there was a PHP 6.46-billion release, called "Post-Bayanihan I" (because these were released upon the expiration of Bayanihan I), sourced from the 2020 GAA. This release was allocated as follows: (i) PHP 2.93 billion was for the joint Quick Response Fund (QRF) of the Department of National Defense (PHP 356.15 million), Department of Public Works and Highways (PHP 2.57 billion), and DSWD (PHP 2.94 million);[5] (ii) PHP 2.69 billion for the Philippine COVID-19 Emergency Response Project; (iii) PHP 749 million for the salaries and benefits of deployed HRH personnel; and (iv) PHP 86 million for the procurement of equipment for the Philippine Army of the Armed Forces of the Philippines.

[4] The SAP aimed to provide subsidies ranging from PHP 5,000 to PHP 8,000 to qualified households.

[5] The QRF refers to the built-in budgetary allocations of agencies for assisting areas stricken by major catastrophes.

Following this, Bayanihan II, which has a total funding of PHP 205.12 billion, was enacted in September 2020. Of this amount, PHP 55.79 billion was allotted for Budgetary Support of Government Corporations (BSGC). The country's government financial institutions—the Development Bank of the Philippines, Landbank of the Philippines, and PhilGuarantee—received the largest share of this BSGC. These public institutions were to be infused with a combined total of PHP 47 billion to help cover the loans and interest payments of beneficiaries that were gravely affected by the COVID-19 pandemic.

For projects of the national government's departments, the largest amount released by Bayanihan II was allotted to DOH at PHP 38.98 billion. This was used mainly for the continuous COVID-19 laboratory testing services, advance procurement of the COVID-19 vaccines, and the hiring and welfare of HRH personnel.

The Department of Agriculture was allotted the next largest amount at PHP 23.29 billion. The amount was for the implementation of various projects under Bayanihan II's Agriculture Stimulus Package, including the farm-to-market road projects. The package aims to ensure the country's food security as well as to contribute to the country's economic recovery.

The Department of Labor and Employment received the highest budget for national government projects amounting to PHP 21.4 billion. The funds allotted for the department include those for the implementation of the Emergency Repatriation Program for distressed overseas Filipino workers.

As of June 25, 2021, PHP 187.84 billion out of Bayanihan II's PHP 205.12 billion fund has been obligated (91.58% obligation rate) and PHP 141.45 billion disbursed (75.30% disbursement rate) (Table 1). It initially lapsed on December 31, 2020 but was extended until June 30, 2021 through RA 11519.

Fiscal policy: Local governments

Local governments units are the first line of defense and enforcers of national government policies in response to COVID-19. They have been mandated to manage both the direct effects (those who contracted COVID-19) and the indirect effects (those who suffered loss of income/business from the necessary community quarantines) of

the pandemic. For such an overwhelming task, complete and real-time information, open communication, and coordination are critical.

The Philippines' National Action Plan Against COVID-19 (NAP-COVID)[6] entered its third phase in October 2020.[7] One of the key features of this phase is the increased responsibility and participation of LGUs through the localization of national efforts against COVID-19. The need for varying protocols (to account for the differences across LGUs) was established through the initiative called the Coordinated Operations to Defeat the Epidemic (CODE). In particular, CODE provided support by prioritizing those identified as high-risk LGUs based on the assessment of Interagency CODE Teams.

Finally, the NAP-COVID also established OPLAN Kalinga, which identified isolation facilities, such as mega quarantine facilities and isolation hotels, for COVID-19 confirmed cases. This initiative was also recommended to be adopted across regions.

How did LGUs work with the national government in the pandemic?

Helping those directly affected by COVID-19: Identifying, contact tracing, and monitoring COVID-19 patients. The DILG Memorandum Circular 2020-023 (dated February 6, 2020) titled "Amended Guide to Action Against the 2019 Novel Coronavirus Acute Respiratory Disease" directs local chief executives to assume and perform the roles of information manager, local crisis manager, and environmental health manager. As a local crisis manager, the local chief executive is mandated to organize a Barangay Health Emergency Response Team (BHERT) with a minimum ratio of 1 team for every 5,000 population. The response team shall help implement the prevention, mitigation, preparedness, and response measures for COVID-19. The BHERT shall be composed of an executive officer, barangay *tanod,* and two barangay health workers, one of whom is preferably a nurse or midwife.

[6] NAP-COVID's Phase 1 was introduced in March 2020 with the overall goal "to eliminate the threat of the COVID-19 in order to protect people from the risks of infections as well as to mitigate the social, economic, and security impacts of the health crisis". Phase 2 focused on "saving lives and mitigating COVID-19 impact toward economic and social recovery" (Kabagani 2020).

[7] National Task Force against COVID-19 (2020).

To allow flexibility in local government responses to the COVID-19 pandemic, the Department of Budget and Management (DBM) and Department of the Interior and Local Government (DILG) issued Joint Memorandum Circular (JMC) 01 (dated March 17, 2020), offering additional guidelines in the utilization of LGUs' 2020 Local Development Fund (LDF) for development projects in light of the pandemic. The guidelines specify that while LDF expenditures are specifically for projects identified in an LGU's Annual Investment Programs (AIP) that are aligned with its development plans, the LDF may be used for COVID-19-related expenses, except for salaries and travel expenses. Should the existing AIP of the LGU exclude COVID-19-related programs, the local legislative making body called the *Sanggunian* may pass a supplemental investment program.[8]

Indirect effects of the COVID-19 pandemic. The community quarantines caused the Philippine economy to come to a standstill, leading to job losses and business closures and a sharp 9.5 percent drop in the gross domestic product in 2020. In response to this, the Bayanihan to Heal as One Act introduced the Emergency Subsidy Program (ESP) to aid those most affected financially by the COVID-19 pandemic.[9] The DILG-DBM JMC 01 provided guidelines for the mandated implementation of the ESP in April and May 2020. Transfers to beneficiaries were to be made through the JMC-identified programs as long as the total amount from various social amelioration programs does not exceed the prescribed thresholds. The DSWD, tasked to distribute the ESP fund, had issued guidelines on the implementation of the ESP[10] through its different SAPs, such as the *Pantawid Pamilyang Pilipino* Program (4Ps), Social Pension for Indigent Senior Citizens Program (SocPen), and AICS. The amount of the transfers ranged from PHP 5,000 to PHP 8,000, depending on the prevailing regional minimum wage rates, but also adjusted for cash transfers and rice subsidies under the 4Ps program, estimated at an average of PHP 2,150 per month per family.

[8] Sections 2.1, 2.2, and 2.3 of the DBM-DILG JMC 01, "Additional Guidelines on the Utilization of the Twenty Percent (20%) of the Annual Internal Revenue Allotment for Development Projects in view of the Coronavirus Disease 2019 (COVID-19) Situation"

[9] RA 11469, Sec. 4(c)

[10] DSWD Memorandum Circular 09

Identifying the 18 million household beneficiaries was the major challenge in distributing the SAP transfers. Beneficiary identification began with LGUs providing a list of potential SAP beneficiaries to the DSWD, which would then be counterchecked with beneficiary lists of the latter's existing social amelioration programs. After new program beneficiaries had been identified, the SAP beneficiary would enroll by accomplishing the Social Amelioration Card (SAC) at the barangay level. As the SAC would capture the family profile, such would be the basis and proof of families' eligibility to access SAP transfers (DSWD 2020b). The DSWD attributed delays in the distribution to various reasons such as "varying processes at the LGU level, lack of reliable lists and databases for SAP validation and accountability, and the need for other forms of targeting systems and corresponding responsive social protection programs for different target groups" (DSWD 2020a).

Because of the lack of consolidated and updated (or even absence of) data on target beneficiaries, there were delays in the first tranche of the SAP distribution. After several deadline extensions, the DILG issued show-cause orders to LGUs that were not able to offer a reasonable explanation for the delay in SAP distribution. According to the DILG, 43 LGUs failed to beat the 80 percent first-tranche SAP distribution, most of which were from Western Visayas (Barcelo and Casas 2020). The DILG also identified 183 barangay officials for investigation due to alleged corruption in SAP distribution (Jalea 2020).

How did LGUs respond independently to the COVID-19 pandemic?

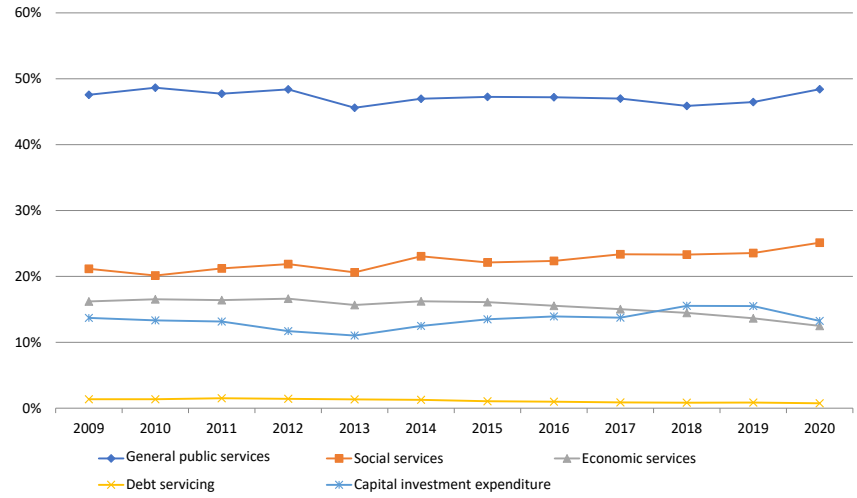
Presidential Proclamation 922, which declared a state of national public health emergency, allowed the immediate mobilization of LGU funds from their earmarked Disaster Risk Reduction and Management fund without LGUs having to individually declare a state of emergency in their areas of responsibility. Subsequent guidance from the DILG and DBM (as LGUs' oversight agencies) permitted the use of the LDF for COVID-19 responses as long as these are in the respective LGUs' AIPs and aligned with their development plans.[11]

[11] DBM-DILG JMC 1

The call to mobilize BHERTs for identifying, contact tracing, isolating, and treating COVID-19 patients increased the fiscal burden of LGUs. In addition, some LGUs augmented the national government's ESP/SAP with their own COVID-19 social safety net response programs. Overall, the share of both general public services and social services in LGU expenditures increased at the expense of the economic services and capital/investment expenditures (Figure 1). Under the social services expenditures, social welfare spending received a 38 percent increase in 2020, the first year of the pandemic. The increased share of social welfare services came at the cost of all other social services (education, health, labor and employment, and housing and community development) (Figure 2).

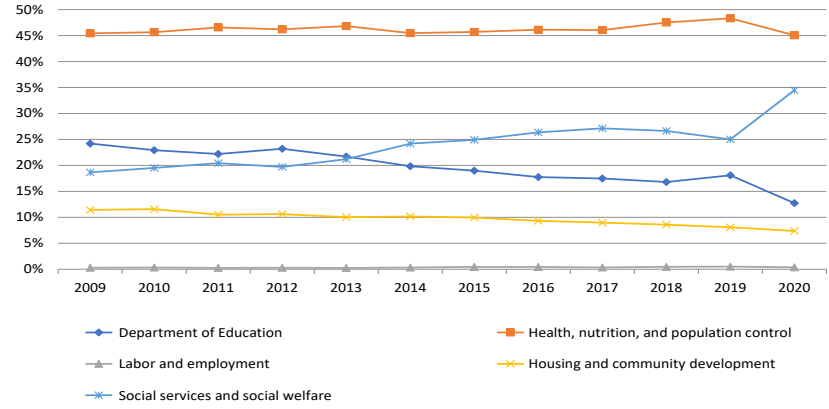
When the expenditures are broken down by level of government, the share of social welfare in the total expenditures increased the most in 2020 by 53 percent for provinces, 88 percent for cities, and 62 percent for municipalities (Figures 3, 4, and 5). For provinces, this

Figure 1. Sectoral distribution of LGU expenditures, 2009–2020



LGU = local government unit
Source: Author's calculations using basic data from DOF-BLGF (various years)

Figure 2. Distribution of LGU's social service expenditures, 2009–2020



LGU = local government unit
Source: Author's calculations using basic data from DOF-BLGF (various years)

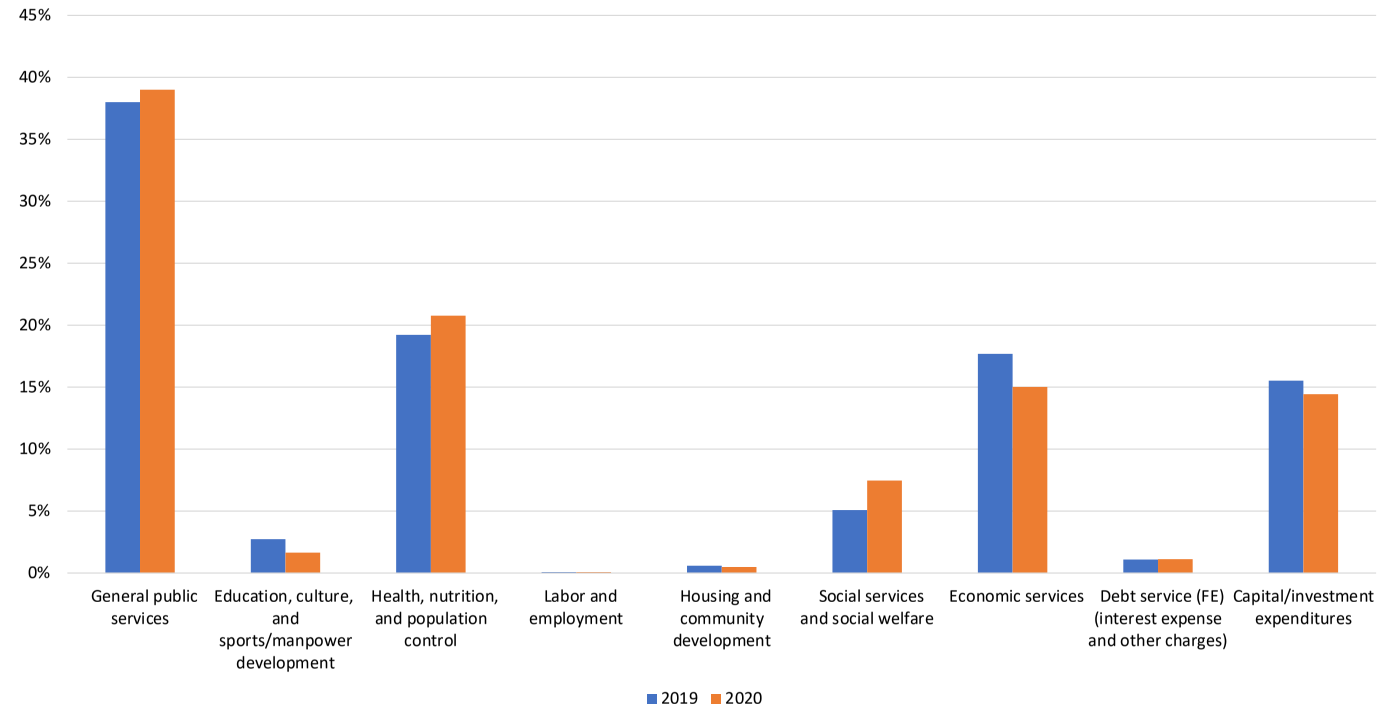
was accompanied by increases in the share of general public services, health, and labor employment (Table 2). However, economic services and capital/investment expenditures were crowded out.

Among all the local government levels, cities had the greatest increase in social welfare expenditures (88%). (Figure 4; Table 2). This was combined with increases in general public services, health, housing and community development, and economic services. Expenditures on education, labor and employment, and capital/investment expenditures shrunk as a result.

Finally, municipalities spent 62 percent more on social welfare expenditures in 2020 (Figure 5; Table 2). All other sectors experienced increases in spending except for education, culture and sports, and grants/loans to other entities (investment outlay).

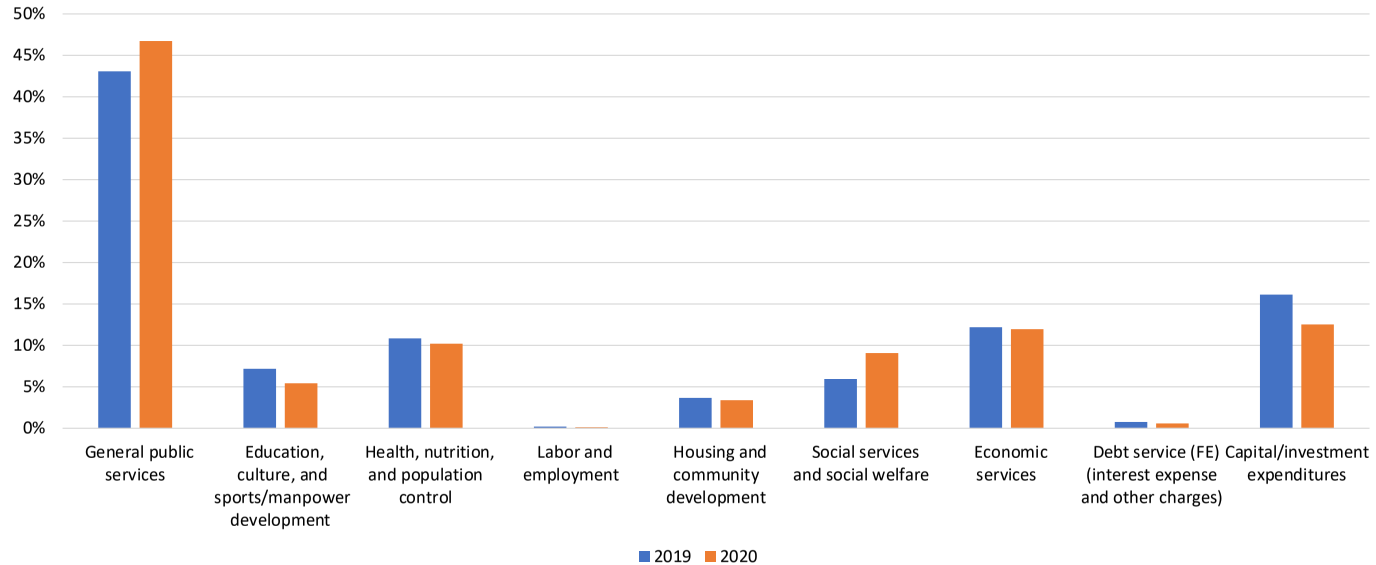
The shift in social services and social welfare spending as reported above was due to the programs implemented to assist vulnerable groups and those economically affected. Some notable COVID-19 responses of LGUs early in the pandemic were documented by the DILG's Bureau of Local Government Development (DILG-BLGD 2020). Technology, and access to it, played an important part in the recognized successful practices. The City of Makati is considered to be at the forefront of technology-driven initiatives.

Figure 3. Distribution of provincial expenditures, 2019–2020



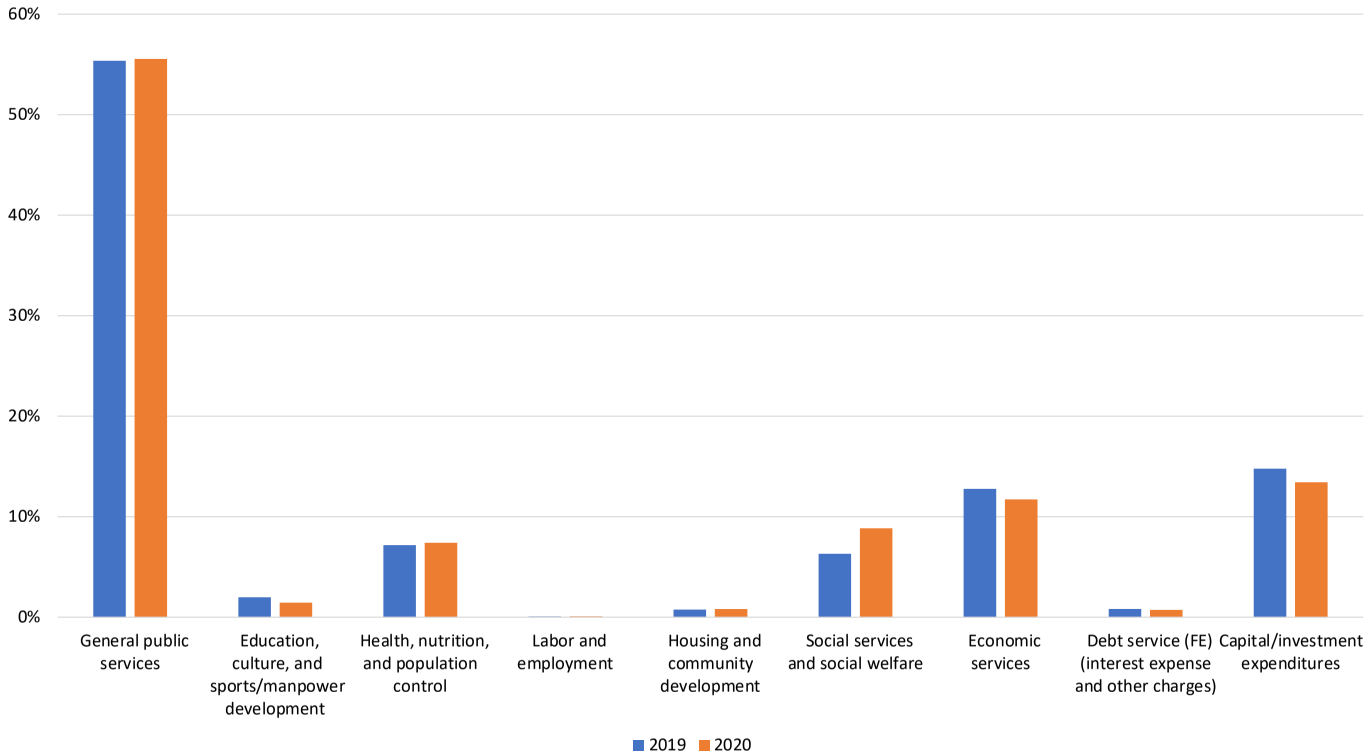
Source: Author's calculations using basic data from DOF-BLGF (various years)

Figure 4. Distribution of city expenditures, 2019–2020



Source: Author's calculations using basic data from DOF-BLGF (various years)

Figure 5. Distribution of municipal expenditures, 2019–2020



Source: Author's calculations using basic data from DOF-BLGF (various years)

Table 2. Distribution of LGU expenditures (percentage change), 2019–2020

Particulars	Province	City	Municipality	Total
General public services	7%	34%	16%	21%
Social services	15%	25%	32%	24%
Of which				
Education, culture, and sports/ manpower development	-37%	-7%	-15%	-13%
Health, nutrition, and population control	13%	16%	20%	16%
Labor and employment	6%	-32%	55%	-12%
Housing and community development	-14%	14%	25%	13%
Social services and social welfare	53%	88%	62%	71%
Economic services	-12%	21%	6%	6%
Debt service (FE) (interest expense and other charges)	6%	-7%	3%	0%
Total current operating expenditures*	6%	28%	18%	19%
Purchase/construct of property plant and equipment (capital outlay)	0%	-4%	5%	0%
Purchase of debt securities of other entities (investment outlay)	-54%	-	49%	-52%
Grant/make loan to other entities (investment outlay)	22,404%**	-99%	-13%	-44%
Capital/investment expenditures	-3%	-4%	5%	-1%

LGU = local government unit; BLGF = Bureau of Local Government Finance

* Total current operating expenditures is the sum of the general public, social, economic services, and debt service expenses. Social services is composed of education, culture and sports/manpower development; health, nutrition, and population control; labor and employment; housing and community development; and social services and social welfare. To avoid confusion with the broader social service sector, the latter will be referred to as social welfare expenditures.

** This is based on the preliminary release of BLGF. The increase was due to the large increase for Zamboanga del Sur.

Source: Author's calculations using basic data from DOF-BLGF (various years)

One of its main projects is the "Makati Defeat COVID-19 Monitoring Information System", an online application for the contact tracing of Makati residents. Makati also made use of technology for its Makatizen Economic Relief Program, where qualified Makati City residents received PHP 5,000 through automated and digital distribution (Cepeda 2020). Businesses in Makati were also given financial assistance through grants under the "Makati Assistance and Support for Businesses".

The LGU of Biñan, Laguna has also been active in initiating effective practices to support its residents. The city organized a program for the livelihood of its residents and the protection of frontliners through the sewing and donation of face masks.[12] It signed a memorandum of understanding with the Social Housing Finance Corporation (SFHC) for housing projects as one of the ways to prevent the risk of COVID-19 infection in severely congested areas (SHFC n.d.). Tax amnesty was also provided to delinquent real property taxpayers as per City Ordinance 4, series of 2020 (City of Biñan-Office of the City Treasurer 2020).

LGUs have also played an active role in COVID-19 vaccination programs. In January 2021, the national government released the "National Strategic Policy Framework for COVID-19 Vaccine Deployment and Immunization", which provided the "strategic policy guidance and direction on the selection, access, and deployment of the COVID-19 vaccine and immunization program" (DOH 2021a).

In the same month, the DILG (2021a) released the "Interim Preparatory Guidelines in the Implementation of the National Vaccination Program". This memorandum circular directed LGUs to prepare a local vaccination plan in line with that of the national government. According to RA 11525 or the COVID-19 Vaccination Program Act of 2021, LGUs may procure only in cooperation with the DOH and National Task Force Against COVID-19, whether it be funded by the national government or the LGU.

[12] https://www.lguvscovid.ph/content/livelihood-opportunity-amid-covid-19 (accessed on March 8, 2022).

The Philippine National Deployment and Vaccination Plan for COVID-19 Vaccines provided details on the financing for the vaccines (DOH 2021b). Financing is made through the following modalities: (i) General Appropriations Act; (ii) multilateral financing; (iii) bilateral financing; and (iv) contractual joint venture/private sector financing. The first mode is carried out in accordance with the Government Procurement Reform Act and Bayanihan to Recover as One Act (Bayanihan II).

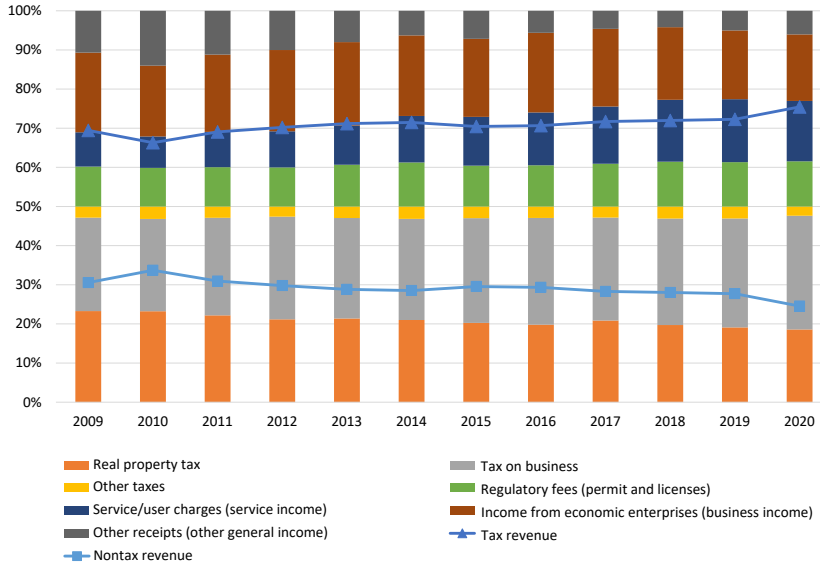
As of July 2, 2021, more than 33 million people have registered to get vaccinations through their LGUs (DILG 2021b). There have been varying degrees of success with LGUs. For instance, San Juan City exceeded its targets. By July 12, 2021, the city had surpassed its initial target of 85,400 residents for vaccination. A total of 96,610 residents out of an estimated 123,000 residents received their first dose of the vaccine (Kabagani 2021a).

LGUs have had further success in giving their residents better access to social services. The DILG credits the joint government and private sector campaigns, including the creative initiatives devised by local officials, for these accomplishments. The LGU of Biñan, Laguna, was one of those commended by DILG Secretary Eduardo Año for its creative strategies to promote COVID-19 vaccination, such as its house-to-house vaccine registration for senior citizens and indigent families. The LGUs of Puerto Princesa City, Bacolod City, Lala and Tubod in Lanao del Norte, and Binuangan in Misamis Oriental provided free transport to senior citizens and other vaccinees (PNA 2021). LGUs in Abra also offered drive-thru vaccinations. Others (e.g., Manila, Bacoor, Muntinlupa, and Quezon City) provided home vaccinations. The City of Taguig, which was lauded for its vaccination program by the World Health Organization last May 2021, launched nighttime vaccination programs for citizens who were unable to proceed to vaccination sites during work hours (Caliwan 2021; Kabagani 2021b).

How were LGU responses financed?

Figure 6 shows the share of the different sources of local income. Tax revenue is the largest source of local income, of which tax on business was the largest contributor in 2020 (which surprisingly did

Figure 6. LGU local source income distribution, 2009–2020



LGU = local government unit
Source: Author's calculations using basic data from DOF-BLGF (various years)

not decline with the pandemic). This could possibly be because real property and business licenses are renewed in the first quarter of every fiscal year, which, in the case of 2020, was before the pandemic hit the country. It was the nontax revenue that dropped by 30 percent in 2020 because of the decline in regulatory fees, service/user charges, and income from economic enterprises that could not pay because of limited economic activities and movement.

LGUs were also given additional internal revenue allotment (IRA) as part of the country's response to the pandemic. The Bayanihan to Heal as One Act allowed the provision of additional intergovernmental fiscal grants to LGUs called the Bayanihan Grant to Cities and Municipalities, and the Bayanihan Grant to Provinces to augment funds for their own responses to the COVID-19 Public Health Emergency based on Sec. 4(v)(9) of the Bayanihan Act (DBM 2020b, 2020c). The total allocation released for the Bayanihan Grant to Cities and Municipalities was PHP 30.82 billion, while that of the Bayanihan Grant to Provinces was close to PHP 6.2 billion (Diaz-Manalo 2020).

The DBM Local Budget Circulars 125 and 126 (dated April 7 and 13, 2020, respectively) provided the guidelines on the release and utilization of the Bayanihan grants to cities/municipalities and provinces, respectively.

Cities and municipalities were given one-month additional IRA based on FY 2020 IRA levels while provinces received one-half of FY 2020 monthly IRA levels.

Bayanihan II also set aside funds for programs and projects of LGUs in response to the COVID-19 pandemic. PHP 23.8 billion was part of the special appropriations articulated in Bayanihan II. Moreover, PHP 90.2 million was from the pooled balances from the FY 2020 GAA, while PHP 525.57 million were listed under "unprogrammed appropriations".

Issues in the public sector response to and recovery from COVID-19

Incomplete and inconsistent information and governance protocols for social welfare programs: The main challenges

Unavailable, unvalidated, or poor-quality data on citizens as well as varied distribution protocols across LGUs led to some delays in the distribution of the first tranche of the much-needed SAP in about 365 LGUs. Had the voter/citizen data been up-to-date and complete, the process of identifying citizens targeted by the SAP and even the monitoring and tracing of individuals who had contact with positive COVID-19 cases would have been quicker.

The delay in the SAP distribution could have been avoided if the single national identification (ID) system under the Philippine Identification System (PhilSys) Act was already established. PhilSys, passed in 2017, aimed "to establish a single national identification system....to promote seamless delivery of services, to improve efficiency, transparency, and targeted delivery of public and social services, to enhance administrative governance, to reduce corruption and curtail bureaucratic red tape, to avert fraudulent transactions and misrepresentations, to strengthen financial inclusion, and to promote ease of doing business" (RA 11055). The law underscored the

need for a resilient digital system that would secure the data collected and "ensure that the people's right to privacy, confidentiality, and other basic rights are at all times upheld" (Section 2). PhilSys could have fulfilled its objective to serve as a "social and economic platform through which all transactions, including public and private services, can be availed of and shall serve as a link to the attainment of the objectives" (Section 3), had it been available for the SAP distribution.

The implementation of the national ID system or PhilSys was challenged by the need to align with the Data Privacy Act of 2012 and the issue of trust in its system. The Data Privacy Act states that "it is the policy of the State to protect the fundamental human right of privacy, of communication while ensuring free flow of information to promote innovation and growth. The State recognizes the vital role of information and communications technology in nation-building and its inherent obligation to ensure that personal information in information and communications systems in the government and the private sector are secured and protected".[13] However, some provisions in the Data Privacy Act of 2012 allow collecting data in the case of national emergencies and for health reasons, and such should be kept for its purpose only.[14]

Citing Sections 5, 21, and 22 of the Data Privacy Act of 2012, the DSWD found a stop-gap solution to facilitate the SAP distribution by issuing "Simplified Data Sharing Guidelines on the Provision of DSWD Programs and Services during a National State of Emergency" (DSWD 2020c). This permitted the sharing of data and information from the different DSWD programs to have a basis for the computation of the actual amount of SAP grant per household. This was a smart move, given that the DSWD had data and information on the poorest households that are beneficiaries of the two largest social welfare programs: 4Ps and SocPen.

[13] RA 10173, Sections 2 and 13(e)

[14] RA 10173, Sections 13(e), 11(a), and 11(e)

Given the challenges faced in the SAP distribution and the anticipated continuing need to give social welfare assistance to recover from the pandemic, the full implementation of the Philippine National ID System becomes necessary. It should be linked with the National Household Targeting System database and other similar information systems at the local level, such as Community-Based Monitoring System databases, to easily identify the poor and vulnerable. Furthermore, beneficiaries of social welfare programs, such as the cash card beneficiaries of the 4Ps program, should become part of the financial system for easier cash distribution.

Countries, such as South Korea and Viet Nam, were able to align their respective data privacy laws for data sharing under urgent crises, triggered by similar recent epidemics, and to create an interconnected system of data sharing and monitoring functions. Meanwhile, some countries such as Indonesia, Singapore, Portugal, Thailand, Pakistan, Kenya, Sudan, and Nigeria have some form of national identification system, either implemented by the government or through third-party services (Lago 2019; Precise Biometrics n.d.). Malaysia is in the process of implementing a National ID System. It is taking a consultative and collaborative approach with relevant stakeholders on various considerations in its transition, such as the existing legal framework, security, privacy, and ethics. In Thailand, issues regarding cybersecurity were addressed by amending their existing "Cybersecurity Bill" and institutionalizing the "Digital ID Bill" (Suwanprateep 2018).

Outdated and uncoordinated planning and investment programming should be addressed for economic recovery, especially at the local level

Much of the burden on response and recovery activities falls on LGUs. In COVID-19-related expenditures allowed under the Bayanihan I, DBM guidelines prescribed that "all COVID-19-related PPAs (programs, projects, activities) to be funded by the LGUs should be part of their respective approved AIPs" (DBM 2020a). Although LGUs are authorized to draft supplemental investment programs in case the existing AIP does not include any of the allowed projects, such programs still need to align with development plans.

However, a recent Philippine Institute for Development Studies (PIDS) report found that in 2017, only 31 percent of municipalities claimed to have a Local Development Investment Program (LDIP)—i.e., the basis of prioritized PPAs in the AIP—were current (Sicat et al. 2020). It also found that while 89 percent of municipalities claimed to have development plans, only 40 percent of these had updated ones. Outdated plans, especially in LGUs whose needs had changed because of the COVID-19 pandemic, will impact the ability of local governments to continue to respond to and recover from the pandemic.

Furthermore, given that the pandemic impacted the whole country, response and recovery plans should be coordinated across all levels of government particularly because of the spillover effects of COVID-19. Another recent PIDS study (2019) found that although there is a mandate of provincial oversight and integration of municipal and component city development plans in provincial plans, there is limited evidence of this effect. The study suggested that the oversight functions of higher-level LGUs should be exercised (Sicat et al. 2019). The harmonization of plans and coordination across different levels of government can help speed up economic recovery.

Local government expenditure patterns should be monitored during the response and recovery phase. The previous section of this chapter has shown that for the period 2009 to 2020, general public services (i.e., cost of administration) received the largest share of LGU expenditures, followed by economic services and capital outlays. Meanwhile, health and nutrition, followed by social welfare expenditures, have seen increasing expenditure shares in recent years. Such an uptick in social welfare expenditures in 2020 is likely to be expected in the next couple of years.

Finally, national government oversight agencies should also monitor what is not being spent by LGUs in terms of their LDF. As per the 1991 Local Government Code of the Philippines, at least 20 percent of the annual intergovernmental fiscal transfer, known as IRA, should be earmarked for spending on development projects taken from the AIPs. Given that municipalities were found to be spending only 76 percent of their LDF in 2016, on one hand, and

the anticipated increase in IRA because of the Mandanas rule, on the other hand,[15] there should be stringent measures to ensure that LGUs spend at least the mandated minimum amount on well-planned investment programs efficiently and on a timely manner (Sicat et al. 2020).

Recommendations

- With the implementation of the National ID underway, it is critical to link this to existing social protection information systems. Furthermore, the link to financial market solutions for transfers and inclusion should also be considered. This requires the alignment of existing laws/mandates and coordination of relevant national government agencies.
- Build trust with information campaigns and consultations regarding data sharing and information and communications technology. The messaging could be in light of COVID-19 but can be used in any disaster response.
- Improve the planning, investment programming, and coordination across different levels of government, especially for strategic investments.
- Expedite construction of necessary information and communications technology infrastructure for the above-mentioned recommendations to happen.

[15] The Mandanas ruling refers to Supreme Court decisions G.R. 199802 (July 3, 2018) and G.R. 208488 (July 3, 2018) that broadened the tax base for computing the internal revenue allotment (IRA). This implies that upon its effectivity, LGUs will receive larger IRA and, therefore, would have larger Local Development Funds.

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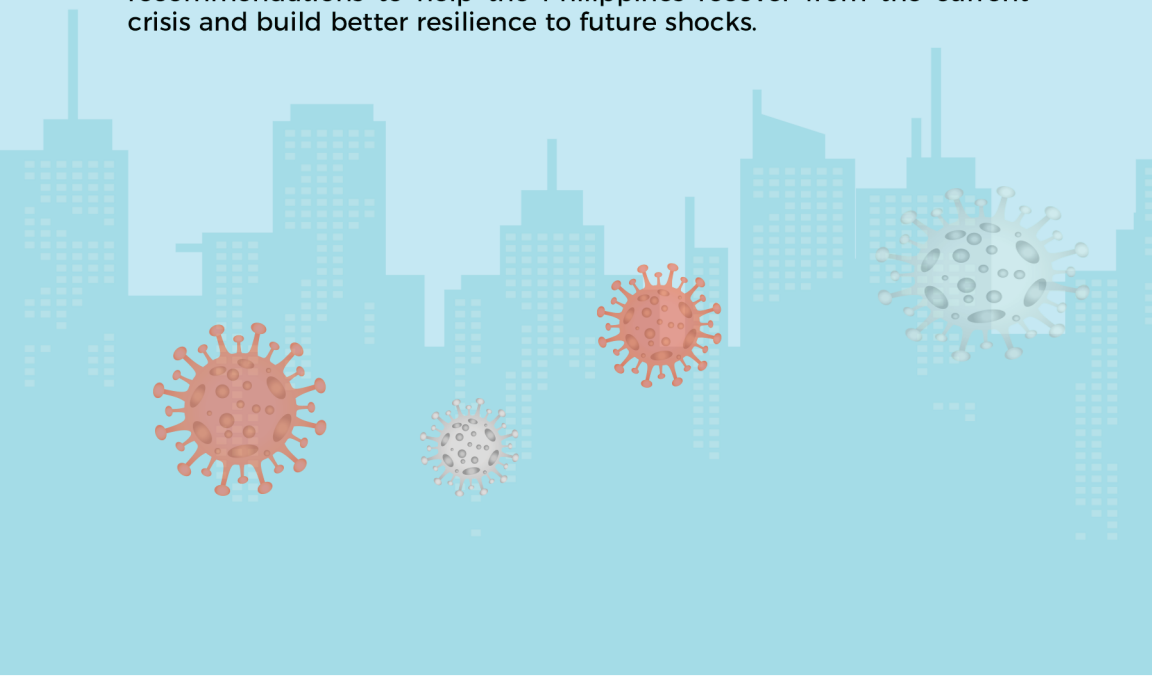
The coronavirus disease 2019 (COVID-19) pandemic hit the Philippine economy and society unprecedentedly. To protect the people, the government had to act decisively and identify solutions to contain the rapid spread of the virus and the devastating economic and social disruption caused by the pandemic.

This book compiles papers assessing the strategies, policies, and recovery efforts that the government had implemented during the first year of the COVID-19 pandemic. It discusses the challenges that the country had experienced and the government's responses in the areas of health, macroeconomy, food security, labor, social protection, poverty, education, digitalization, fiscal policy, and crisis and risk communication. Learning from these experiences, this book provides recommendations to help the Philippines recover from the current crisis and build better resilience to future shocks.



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