PIDS 2019–2020

ECONOMIC POLICY MONITOR

INNOVATING GOVERNANCE: Building Resilience against the COVID-19 Pandemic and Other Risks

PIDS 2019–2020

ECONOMIC POLICY MONITOR

INNOVATING GOVERNANCE: Building Resilience against the COVID-19 Pandemic and Other Risks

PIDS 2019–2020

ECONOMIC POLICY MONITOR

INNOVATING GOVERNANCE: Building Resilience against the COVID-19 Pandemic and Other Risks

Philippine Institute for Development Studies
Surian ng mga Pag-aaral Pangkaunlaran ng Pilipinas

Philippine Institute for Development Studies (PIDS)

Please address all inquiries to:

Philippine Institute for Development Studies
18th Floor, Three Cyberpod Centris – North Tower
EDSA corner Quezon Avenue, 1100 Quezon City
Telephone: (63-2) 88774000
Fax: (63-2) 88774099
E-mail: publications@mail.pids.gov.ph
Website: https://www.pids.gov.ph

ISSN 2546-1761
RP 12-19-600

Table of Contents

List of Tables, Figures, and Appendixes

Table

Figure

Appendix

List of Acronyms

4Ps	–	*Pantawid Pamilyang Pilipino* Program
ADB	–	Asian Development Bank
ADO	–	Asian Development Outlook
AFF	–	agriculture, fisheries, and forestry
AICS	–	Assistance to Individual on Crisis Situation
AFC	–	Asian Financial Crisis
AM	–	amplitude modulation
aop	–	average of period
APIS	–	Annual Poverty Indicators Survey
ARTA	–	Anti-Red Tape Authority
ASEAN	–	Association of Southeast Asian Nations
BARMM	–	Bangsamoro Autonomous Region in Muslim Mindanao
BOC	–	Bureau of Customs
BOI	–	Board of Investments
BoP	–	balance of payments
BOSS	–	Business One-Stop Shop
BPO	–	business process outsourcing
bps	–	basis points
BSP	–	*Bangko Sentral ng Pilipinas*
CALABARZON	–	Cavite, Laguna, Batangas, Rizal, and Quezon
CAR	–	Cordillera Administrative Region
CBMS	–	Community-Based Monitoring System
CCC	–	Climate Change Commission
CITIRA	–	Corporate Income Tax and Incentives Reform Act
CIT	–	corporate income tax
COA	–	Commission on Audit
COVID	–	coronavirus disease
CPI	–	consumer price index
CREATE	–	Corporate Recovery and Tax Incentives for Enterprises
CSC	–	Civil Service Commission
DA	–	Department of Agriculture
DBCC	–	Development Budget Coordination Committee
DBM	–	Department of Budget and Management
DENR	–	Department of Environment and Natural Resources
DepEd	–	Department of Education
DHSUD	–	Department of Human Settlements and Urban Development
DICT	–	Department of Information and Communications Technology
DILG	–	Department of the Interior and Local Government

DOE	–	Department of Energy
DOF	–	Department of Finance
DOH	–	Department of Health
DOLE	–	Department of Labor and Employment
DOST	–	Department of Science and Technology
DOT	–	Department of Tourism
DPWH	–	Department of Public Works and Highways
DRRM	–	disaster risk reduction and management
DSWD	–	Department of Social Welfare and Development
DTI	–	Department of Trade and Industry
EAPU	–	East Asia and Pacific Update
ECQ	–	enhanced community quarantine
EMB	–	Environmental Management Bureau
EMDEs	–	emerging market and developing economies
EO	–	Executive Order
eop	–	end of period
ESP	–	Emergency Subsidy Program
EU	–	European Union
EV	–	electric vehicles
EVOSS	–	Energy Virtual One-Stop Shop
FCI	–	financial condition index
FDA	–	Food and Drug Administration
FIRM	–	Forestry Investment Road Map
FM	–	frequency modulation
FTA	–	free trade agreement
FY	–	fiscal year
GAA	–	General Appropriations Act
GCQ	–	general community quarantine
GDP	–	gross domestic product
GEOP	–	Green Energy Option Program
GFC	–	Global Financial Crisis
GFIs	–	government financial institutions
GII	–	Global Innovation Index
GIR	–	Gross International Reserves
GR	–	General Register
GSP	–	Generalized System of Preferences
HB	–	House Bill
HCPN	–	health care provider networks
HEI	–	higher education institutions
HR	–	House Resolution
IATF	–	Inter-Agency Task Force
ICT	–	information and communications technology

IEC	–	information, education, and communication
IFP	–	infrastructure flagship project
IMF	–	International Monetary Fund
IRA	–	internal revenue allotment
IRR	–	implementing rules and regulations
IT	–	information technology
IT-BPM	–	information technology and business process management
ITC	–	Independent Tower Company
JEC	–	Joint Economic Conference
JMC	–	Joint Memorandum Circular
JSI	–	Joint Statement Initiative
kg	–	kilogram
LAG	–	Livelihood Assistance Grants
LCP	–	Learning Continuity Plan
LDF	–	local development fund
LDRRMF	–	Local Disaster Risk Reduction and Management Fund
LFS	–	Labor Force Survey
LGBTQ	–	lesbian, gay, bisexual, transgender, and queer
LGC	–	Local Government Code
LGU	–	local government unit
LIBOR	–	London interbank offered rate
MAV	–	minimum access volume
MC	–	Memorandum Circular
MEID	–	Management of Emerging Infectious Disease
MECQ	–	modified enhanced community quarantine
MGB	–	Mines and Geosciences Bureau
MSME	–	micro, small, and medium enterprises
MTP	–	medium-term projection
NAST	–	National Academy of Science and Technology
NCAE	–	National Career Assessment Examination
NCDA	–	National Council for Disability Affairs
NCR	–	National Capital Region
NCRP	–	National Research Council of the Philippines
NDC	–	National Development Company
NDRRMC	–	National Disaster Risk Reduction and Management Council
NEDA	–	National Economic and Development Authority
NFA	–	National Food Authority
NGA	–	national government agency
NIC	–	National Innovation Council
NICTEF	–	National Information and Communications Technology Ecosystem Framework

NICTHS	–	National Information and Communications Technology Household Survey
NOLCO	–	net operating loss carryover
NPI	–	nonpharmaceutical interventions
NPL	–	non-performing loan
NPTE	–	National Panel of Technical Experts
NREP	–	National Renewable Energy Program
NTA	–	national tax allotment
NTF	–	National Task Force
OCD	–	Office of Civil Defense
OFW	–	overseas Filipino worker
OHCC	–	One Hospital Command Center
PAPs	–	programs, activities, and projects
PBDB	–	Philippine Business Data Bank
PCECP	–	Philippine Conventional Energy Contracting
PCF	–	Performance Challenge Fund
PCRA	–	Probabilistic Climate Risk Assessment
PDP	–	Philippine Development Plan
PECR	–	Philippine E-commerce Roadmap
PEMC	–	Philippine Electricity Market Corporation
PEZA	–	Philippine Economic Zone Authority
PhilHealth	–	Philippine Health Insurance Corporation
PHP	–	Philippine peso
PIP	–	public investment program
PMI	–	purchasing managers index
PNP	–	Philippine National Police
POGO	–	Philippine offshore gaming operator
PPA	–	Philippine Ports Authority
PPA	–	programs, projects, and activities
PPP	–	purchasing power parity
PREMS	–	Philippine Renewable Energy Market System
PSA	–	Philippine Statistics Authority
PWDs	–	persons with disability
R&D	–	research and development
RA	–	Republic Act
RCEP	–	Regional Comprehensive Economic Partnership
REM	–	Renewable Energy Market
RPS	–	Renewable Portfolio Standards
RPT	–	real property tax
RT-PCR	–	reverse transcription-polymerase chain reaction
S&T	–	science and technology
SAP	–	Social Amelioration Program

SB	–	Senate Bill
SB Corp	–	Small Business Corporation
SDMP	–	social development and management program
SGCP	–	School Career Guidance and Counseling Program
SDG	–	Sustainable Development Goal
SGLG	–	Seal of Good Local Governance
SHS	–	senior high school
SMEs	–	small and medium enterprises
SPARTA	–	Smarter Philippines through Data Analytics R&D, Training, and Adoption
SPTT	–	special permit to transport
SR	–	Senate Resolution
SSS	–	Social Security System
STI	–	science, technology, and innovation
STP	–	selected training programs
Telco	–	telecommunication companies
TESDA	–	Technical Education and Skills Development Authority
TRAIN	–	Tax Reform for Acceleration and Inclusion
TRAVEL	–	Tourism Rehabilitation and Vitalization of Enterprises and Livelihood
TVET	–	Technical Vocational Education and Training
UHC	–	Universal Health Care
UP	–	University of the Philippines
US	–	United States
USD	–	United States dollar
VAWC	–	Violence Against Women and Their Children
WEO	–	World Economic Outlook
WESM	–	Wholesale Electricity Spot Market
WHO	–	World Health Organization
WTO	–	World Trade Organization

Foreword

The coronavirus disease 2019 (COVID-19) pandemic continues to present a test of leadership and systems, with countries across the world struggling to control its impacts. It poses the challenge of innovating governance across all sectors of society to build our resilience against this pandemic and other risks.

Some aspects of this crisis can indeed be attributed to fortuitous events. Still, its other aspects, particularly the response to the pandemic, are related to long-standing structural and governance issues in the Philippines. These include, as discussed in Chapter 3, the country's poor and outdated information systems and the seeming lack of protocols to deal with a large-scale crisis.

In this unsettling period, the Philippine Institute for Development Studies remains committed to its mandate of providing evidence-based research findings and analyses on government response to development issues, including shocks such as COVID-19. The 2019–2020 *Economic Policy Monitor* (EPM) contains our constructive and critical evaluation of what we have achieved so far and where we have fallen short. It embraces evidence-based perspectives useful in our fight against this invisible war, with the hope of improving our future interventions to similar threats.

Of course, the actual situation is more nuanced than the pandemic scenario. Other societal concerns did not end simply because we are experiencing this outbreak. As such, this publication also discusses other aspects of our current socioeconomic situation. Chapter 2 specifically talks about relevant issues on poverty reduction, gender, health, education, labor and employment, agriculture, environment and natural resources, energy, infrastructure, science and technology, trade and industry, services, and fiscal policy. On the other hand, Chapter 1 presents the macroeconomic trends and outlook for 2020 and 2021, as we bounce back together toward the new normal.

We hope this EPM issue will contribute to a better understanding of the impacts of the COVID-19 pandemic and the country's responses, and the needed governance innovations to help us cope better with future shocks. We join the nation as we look forward to the day we defeat this virus.

CELIA M. REYES
President

Acknowledgment

The *Economic Policy Monitor* (EPM) is an annual publication of the Philippine Institute for Development Studies (PIDS). This issue was made possible through the collective efforts of many individuals.

Margarita Debuque-Gonzales wrote the meticulous analysis of the country's prospects amid the coronavirus disease 2019 (COVID-19) pandemic presented in Chapter 1.

Chapter 2 was the output of several PIDS researchers who provided policy updates on key sectors of the economy as well as the government's responses to the pandemic. It contains inputs from Aubrey D. Tabuga and Carlos C. Cabaero on poverty and social protection; Connie B. Dacuycuy and Lora Kryz C. Baje on gender; Valerie Gilbert T. Ulep on health; Aniceto C. Orbeta Jr., Kris Anne M. Melad, and Maropsil V. Potestad on education; Michael Ralph M. Abrigo on labor and employment; Roehlano M. Briones on agriculture; Sonny N. Domingo and Arvie Joy A. Manejar on environment and natural resources; Maureen Ane D. Rosellon on energy; Janet C. Cuenca on infrastructure; Jose Ramon G. Albert on science, technology and innovation; Jenica A. Ancheta and Marife M. Ballesteros on smart cities; Francis Mark A. Quimba and Sylwyn C. Calizo Jr. on trade and industry; Ramonette B. Serafica on services; and Charlotte Justine D. Sicat and Rixcie B. Maddawin on fiscal policy.

The theme chapter titled "Innovating Governance: Building Resilience against the COVID-19 Pandemic and Other Risks" presented in Chapter 3 was penned by Aubrey D. Tabuga, Sonny N. Domingo, Charlotte Justine D. Sicat, and Valerie Gilbert T. Ulep.

As with previous EPMs, the Research Information Department performed the challenging task of producing this issue. Sheila V. Siar handled the overall editing and management, including consolidating the policy updates and putting the various chapters/sections together into one cohesive volume. Rejinel G. Valencia condensed the full-length Innovating Governance paper for Chapter 3 and assisted in copyediting. Gizelle G. Manuel did the layout and cover design, and assisted in proofreading. Maria Judith L. Sablan and Elshamae G. Robles provided editorial support.

Executive Summary

A pandemic is underway. As of writing, the coronavirus disease 2019 (COVID-19) has infected more than 75 million individuals worldwide, killing roughly 1.6 million people. This pandemic has not spared the Philippines. It has registered more than 450,000 COVID-19 cases and more than 8,000 deaths.

The current health crisis has also launched a global economic tsunami and disrupted markets across the world. Such disruption is largely an inadvertent offshoot of efforts to contain the spread of the virus, such as through the imposition of travel bans, lockdowns, and quarantine measures. The International Monetary Fund has described this as "the worst recession since the Great Depression", with the global growth predicted to nosedive to -3 percent. Meanwhile, a 2020 study by the Philippine Institute for Development Studies (PIDS) found that the local economy is expected to suffer losses between PHP 276.3 billion and PHP 2.5 trillion. This only reflects that the effects of this pandemic have already extended beyond the healthcare systems, especially in developing countries like the Philippines.

The COVID-19 pandemic may be considered a fortuitous event, one that is unforeseeable. However, various structural and governance issues have magnified the extent of damages the virus has caused to the country. These problems have long been pestering the Philippines, but the pandemic has forced the government to address them head-on.

In this *Economic Policy Monitor* (EPM), PIDS reviews these structural and governance issues hampering the government response to the COVID-19 pandemic. Chapter 3 specifically assesses issues related to human resource, information systems, coordination, public participation, public trust in governance, and the government's bureaucratic organization.

In terms of the human resource in the public sector, basic issues of recruitment and retention have endured, primarily due to the inadequate remuneration and lack of dynamism in work settings. At the local level, positions are also prone to high turnover rate of employees because of the electoral dynamics. This tends to result in lack of institutional memory.

The poor and outdated state of information systems has also caused delays in data gathering efforts, essential for understanding the real-time situation of the COVID-19 pandemic, and crafting timely interventions. This delay could have been avoided had the Philippine Identification System (PhilSys) already been in place. However, PhilSys requires appropriate information technology (IT) infrastructure as articulated in the National Broadband Action Plan. Other issues that impede the growth of IT systems in the country are the digital divide, outdated laws and policies, and lack of qualified IT developers or managers. Moreover, laws that could have expedited the government's response to COVID-19, such as the PhilSys Act and the Free Internet Access in Public Places Act, were not yet fully implemented.

Still, the most significant challenges in service delivery are the fragmented administrative structures and disjointed government efforts. The government has been particularly criticized for the lack of coordination between its levels, as well as the varied capacities at

the local level. The provincial governments' mandate to oversee the development plans of their component cities and municipalities has also been rarely practiced.

The COVID-19 pandemic has shown the value of innovation to strengthen the country's governance systems and structures. The government must improve its basic capacities and retool toward an innovative culture for building resilience against future risks and threats. This EPM discusses four aspects in which significant improvement must occur. These are civil service, institutions, platforms for delivering services, and local governance.

In civil service, the building of the analytical capacities is most urgent. This EPM reiterates the call for the government to implement an effective incentive structure that attracts and retains people and an environment that fosters adaptation and experimentation. At the broader levels, the government must foster organizational interactions driven by results and performance. These reforms demand the institutionalization of incentives that support governance innovations.

Developing an innovative culture also requires an appropriate institutional environment. The country should emulate the approaches of South Korea and Taiwan, which relied on their experiences of past epidemics to build their information systems and allow for laws to work around data privacy and trust issues. From this crisis, the country should also learn to immediately recognize the threat early on and create necessary systems and applications to facilitate contact tracing and stop the transmission of disease.

Aside from innovations in civil service and institutions, well-designed e-government platforms are crucial in achieving efficiency in the delivery of services. To fully transition to e-government, a policy architecture that provides a uniform set of guiding principles and standards is needed. Moreover, the problem of digital divide must be addressed squarely.

In terms of local governance, this EPM noted the commendable attempts of local governments to infuse technologies to their COVID-19 localized response. Davao City is one good example of the application of innovation in the field of safety and security. Modern IT applications are also enabling the city to reach its goal of reducing the crime rate to 10 percent. The same smart innovations are also being employed by most of the cities in Metro Manila.

All these requirements entail long-term, proactive planning. To succeed, the government must adopt proactive approaches in various aspects of governance and all stages of the policy cycle. Proactive planning requires no less than a responsive and focused leadership, a profound understanding of the issues backed by evidence, and active participation of all stakeholders.

This EPM also discusses the government's policy initiatives on poverty reduction, gender, health, education, labor, agriculture, environment and natural resources, energy, infrastructure, science and technology, trade and industry, services, and government spending. Before the pandemic happened, a number of bills were filed in Congress addressing important issues. Several pending bills passed the legislative mill while amendments to some existing laws were approved.

In the social sector, examples include the signing of the Magna Carta for Disabled Persons, which requires mandatory coverage for all persons with disability in the National

Health Insurance Program; the filing of Senate Bill (SB) 1014 amending the Solo Parents Welfare Act of 2000, SB 858 extending financial assistance to defray the cost of private daycare services, SB 184 ensuring social protection measures to child daycare workers, and SB 882 to improve maternal and newborn care by establishing birthing facilities and training of traditional birth attendants to become part of the formal health system; and the enactment of the Universal Health Care (UHC) Act, which is envisioned to increase the fiscal space for health and improve the governance structure of the country's devolved health systems.

The education sector also saw significant reforms. The Advanced Energy and Green Building Technologies Curriculum Act and the Transnational Higher Education Act were passed, aiming to initiate innovations on curriculum development and internationalization of higher education, respectively. The *Tulong Trabaho* Act was also signed. This law creates the Tulong Trabaho Fund, which provides financial assistance to qualified recipients of technical-vocational education and training under the Technical Education and Skills Development Authority. In the labor sector, the implementing rules and regulations (IRR) of the Telecommuting Act was signed. A vital feature of this law and its IRR is its "fair treatment" clause that mandates that telecommuting employees, or those workers who work in an alternative workplace with the use of technology, be given the same treatment as comparable employees working at the employer's premises.

In agriculture, the Rice Liberalization Act signed in 2019 reverses the decades-long policy of quantitative restrictions on rice imports and the rice industry's domestic regulation administered by the National Food Authority. Another key law enacted for the sector was the *Sagip Saka* Act, geared toward productivity and enterprise development of farmers and fisherfolk. The new agriculture secretary also introduced a "new thinking" for agriculture called *Masaganang Ani at Mataas na Kita* or *Ani at Kita* for short (harvest and income, respectively), which emphasizes that increasing productivity and farmer's income shall be pursued in earnest.

The environment sector is expected to benefit from some climate change-related policy initiatives, such as the Climate Change Commission Resolution 2019-001, which espouses the adoption of the National Climate Risk Management Framework, Climate Risk Evaluation that ranks communities based on their risk level, and climate risk management action formulation for risk avoidance, reduction, and management. In disaster risk reduction and management (DRRM), attempts were made to amend the provisions of the Philippine DRRM Act through the filing of SB 1272, which highlights the need to address shortcomings in the DRRM process flow.

Meanwhile, the energy sector saw the enactment and proposal of significant pieces of legislation, issuance of IRR and continuing information, education and communication campaign, all geared toward energy efficiency, conservation, security, and sustainability. Approved laws were the Energy Efficiency and Conservation Act, which aims to ensure sufficiency, stability, and sustainability of energy supply in the country, and the Energy Virtual One-Stop Shop (EVOSS) Act, which seeks to strengthen transparency and accountability in the permitting process for new power generation, transmission, and distribution projects.

The "Build, Build, Build" remains the country's flagship infrastructure program. A high-impact infrastructure flagship projects (IFPs) list consisting of 75 projects was initially approved by the National Economic and Development Authority Board. It was later revised to include more but smaller projects more feasible in terms of technology and available financing. The revised list as of October 2019 consisted of 100 projects, and further revisions were made in August 2020 to better respond to the COVID-19 pandemic. The latest list covers 104 projects.

In 2018 and 2019, three laws on science, technology, and innovation (STI) were enacted, namely, the Philippine Innovation Act, Innovative Startup Act, and Philippine Space Act. Various programs in support of promoting smart cities in the country are likewise underway. Examples include the Digital Literacy Training Project, DigitalcitiesPH, Free Wi-Fi Internet Access in Public Places Project, and the National Broadband Program, to name a few.

For the trade and industry sector, other notable initiatives in addition to the Philippine Innovation Act and the Innovative Startup Act include the signing of Executive Order (EO) 85 to enhance the country's attractiveness as an investment destination. The said directive imposes a 0-percent duty, subject to certain conditions, in the importation of capital equipment and spare parts and accessories of new and expanding enterprises registered with the Board of Investments. EO 81 was also issued, which declared the Clark Industrial Estate 5 as an international center of commerce, industry, and recreation.

Meanwhile, several laws affecting the services sector were passed in 2019. These include laws on the practice of profession, such as the Philippine Occupational Therapy Law of 2018, Speech Language Pathology Act, and the Philippine Fisheries Profession Act. All these laws contain a reciprocity provision for the practice of profession by foreign nationals in the Philippines.

The national government continued to engage in expansionary fiscal policy by pump-priming the economy with infrastructure spending and reforming the tax system to be flatter and more competitive with its regional neighbors. Meanwhile, two new laws—The Seal of Good Governance Act and the Community-Based Monitoring System Act—and a Supreme Court ruling affecting local government units (LGUs) emerged in 2019. The latter refers to the final decision on the Mandanas petition, which increases the fiscal share of LGUs but will make a dent in the overall fiscal balance of the country once it is adopted in 2022.

Chapter 2 also presents how these different areas are affected by the COVID-19 pandemic and the interventions undertaken which are summarized below.

Poverty reduction is an area where the impact of the COVID-19 pandemic has been severely felt. The prolonged period of community quarantine has caused significant constraints to economic and social activities, especially to the poorest and most vulnerable sectors. The key policy framework that the Philippine government adopted in response to the pandemic is the *Bayanihan* to Heal as One Act (Republic Act 11469), hereinafter called Bayanihan I. This Act granted the President a wide array of powers to combat the COVID-19 health crisis to ensure that the basic needs of citizens are met. The government has also implemented the Social Amelioration Program (SAP) to aid sectors most crippled by the pandemic. However, several issues hampered the implementation of SAP. Topping

the list is the failure to timely update the *Listahanan*, which serves as the basis for identifying beneficiaries in social assistance programs. Several complaints were also noted, including alleged lapses of local officials in assessing the eligibility of beneficiaries.

In terms of health, difficulties in the implementation of the UHC Act are expected because of funding and capacity constraints. Ironically, the pandemic has also presented a silver lining to the health sector. It could trigger the quick implementation of genuine health sectoral reforms that most Filipinos have long been aspiring and dreaming of. For instance, the introduction of socialized medicine and the public health revolution in Western Europe, which most countries in the region enjoy up to this day, were the results of the 1918 flu pandemic.

When it comes to gender issues, domestic violence during the COVID-19 pandemic is considered a "silent pandemic". Cases of gender-based violence and abuse of women and children have risen amid this pandemic. In a report, a total of 2,183 cases of violence against women and 2,077 cases against children were recorded by the Philippine National Police since the implementation of the enhanced community quarantine (ECQ). Some local governments have responded to the rising cases of domestic violence in their community. For instance, the Quezon City government has reopened its protection center for victims of gender-based violence and abuse.

The health risk of the pandemic also necessitated the search for alternative ways of learning. The oft-mentioned solution is remote learning. However, the disparity across income classes was quite revealing. For instance, only 22.4 percent of households had access to computers. While cellphones present greater probability of reaching more households, the reality is that not all cellphones may be convenient for learning. Worse, not all students can learn on their own. As they would need assistance at home, the quality of support will depend on the level of parents' education. Among the poorest income households, barely 6 percent had heads with education better than the secondary level. All these point to the tendency that remote learning will leave the children of the poorer households behind.

Labor is another area that has been greatly affected by the COVID-19 pandemic. The imposition of the community quarantine has disrupted business operations across industries and, ultimately, the country's workforce. At the height of the ECQ, the Civil Service Commission issued Resolution 2000540, which provides guidelines on alternative work arrangements and support mechanisms for workers in the government sector. The circular indicates that government agencies may adopt any or a combination of alternative work arrangements, including work from home, skeleton workforce, compressed workweek, and staggered working hours. They should also provide various support mechanisms, such as health and psychosocial interventions, personal protective equipment, and reasonable transportation and housing arrangements.

In agriculture, emergency measures implemented to contain COVID-19 are expected to significantly impact the agricultural market chain and food security. Anticipating this, the government had classified food and agriculture as essential activities exempted from quarantine measures. Nevertheless, at the local level, restrictions reportedly disrupted food supply chains. No growth acceleration for agriculture appears possible in the absence of overall economic recovery. In the meantime, the government must ensure that food supply

disruptions will not be repeated in the event of future emergencies. It should also lobby for the continued openness of international markets for food products and lead by example.

In terms of environmental concerns, the movements for waste transport have remained unhampered throughout the COVID-19 pandemic. All movements and operations related to waste transport were provided blanket exemption and given simplified procedures when applying for permits. However, vehicles transporting wastes were required to submit reports of compliance with the health and environmental plan of the registered operator after each completed transport.

In the energy sector, a deferment of payments due within the period covered by the ECQ was given to electricity consumers and power sector companies. This later became part of the national law through the Bayanihan to Recover as One Act (RA 11494), hereinafter called Bayanihan II, which continued and expanded programs for response and recovery until December 2020. The energy department also issued a circular with guidelines to utilize the funds under the Energy Regulation 1-94 program for projects of host LGUs aimed at mitigating the impact of COVID-19 in their communities.

Amid the ongoing crisis, delay in the completion of infrastructure projects is expected. Projects, particularly the ones located in Luzon, are inevitably affected by the ECQ imposed on the island. Nonetheless, the government's economic team ensures that the infrastructure budget will be intact despite the policy issuance on the adoption of economic measures due to the emergency health situation. This is to ensure that all projects will resume implementation as soon as the pandemic is over.

The COVID-19 crisis highlights the importance of STI and information and communications technology (ICT). The government has undertaken steps to maximize the use of digital technology in all aspects of its response, including data science to inform policymakers and disseminate information and data through social media and the internet. Open science policies have facilitated the free flow of data, research, ideas, and insights across the public domain and, consequently, accelerate the pace of decisionmaking and understanding ways to fight the virus. Digital technology is also being harnessed to provide services (e.g., health and education) without physical contact.

As a facet of STI, smart cities have become more urgent with the global experience on the COVID-19 pandemic. Data and technology are critical to undertake contact tracing and track and monitor the spread of the pandemic. A notable example is South Korea, which employed an application to track new arrivals and used their established database on monitoring traffic, pollution, and credit card transactions for contact tracing. The good news is that some Philippine cities have already been utilizing mobile applications for contact tracing, such as Makati City, Ormoc City, and Tacloban. ICT-based or smart solutions have been at the forefront in mitigating the effects of the pandemic, and people are realizing the merits of developing smarter cities. Nevertheless, there is still a lot to be done, such as establishing other necessary digital and technological infrastructure and decreasing the digital divide.

In trade, services may be its component directly affected by the COVID-19 outbreak. This is particularly true given the widespread and stringent transport and travel restrictions imposed, as well as the closure of many retail and hospitality establishments. Moreover, unlike goods, there are no inventories of services to be drawn down today. Thus, declines in services trade during the pandemic may be lost forever. However, some services may still benefit from the crisis. Demand for information technology services will see an upsurge as companies employ work-from-home arrangements and people socialize remotely. With greater reliance on online services, improving digital connectivity is of paramount importance.

During the pandemic, local government units (LGUs) serve as the first line of defense and enforcement of national and local government responses to COVID-19. Local chief executives are directed to assume and perform the roles of information manager, local crisis manager, and environmental health manager. National government oversight agencies issued guidelines on the use of the local development fund. Furthermore, Bayanihan I provided additional intergovernmental fiscal transfers to LGUs called the Bayanihan Grant.

Overall, the Philippines' macroeconomic outlook this 2020 is not good, as shown in Chapter 1. The country's forecast in the October 2020 *World Economic Outlook* has even worsened tremendously from its initial projections. The country cannot also expect an immediate full recovery. Major threats revolve around the continuous resurgence of the virus, deteriorating financial condition, and longer and deeper recession. Further scarring of the economy is also anticipated, revealing that the crisis is already damaging the supply potential. This can be in the form of loss of investments, human capital loss, and fiscal deterioration. The shutdown of the economy in major areas of the country from mid-March until May, together with a sharp fall in remittances from overseas Filipinos, drove the economy down further in the second quarter when output contracted by 16.9 percent.

The government has already implemented some stimulus measures, which may improve the country's growth. Some macro interventions include policy rate cuts and reserve requirement ratio cuts, both meant to boost liquidity. There has also been lending support for small and medium enterprises. The government also agreed to purchase PHP 300-billion worth of government securities under a temporary lending arrangement to support government programs created to counter the impact of the COVID-19 pandemic.

The fiscal response to the pandemic included measures to address public health and social protection needs of the country. The initial package under Bayanihan I consisted of cash aid for low-income households, support for vulnerable workers, virus-related medical responses, off-budget credit guarantees for small businesses, and support for the agriculture sector. The Bayanihan II law provided for another fiscal package.

Despite these interventions, the growth for 2020 remains dim. Behind this are declines in the growth contributions of both household spending and services, which have traditionally powered the Philippine economy. Household spending has plunged to -15.3 percent. The services sector has also suffered a huge decline in its output. Still, not all services subsectors are falling. A growth has even been noted in the ICT sector, primarily due to the work-from-home

setup. The banking sector has also experienced a surge, given the measures implemented by the *Bangko Sentral ng Pilipinas*. Aside from the household and services sector, investments have also suffered a big contraction. For 2020, given these and considering the impact of typhoons in the fourth quarter, gross domestic product (GDP) growth will plummet to -9.5 percent, which is still in line with independent private-sector forecasts.

Meanwhile, for 2021, the economy can still grow at the lower end of the government's target range (at around 6.5%) amid obstacles and the persistent threat of a coronavirus resurgence both domestically and globally in the absence of a vaccine. This EPM, therefore, notes that a sensible forecast would thus place GDP growth at around 6 percent in 2021, before the economy reverts to trend growth of 6.5 percent in the medium term.

CHAPTER 1

Macroeconomic Prospects of the Philippines in 2020–2021: Shoring up for a Safe Recovery

Margarita Debuque-Gonzales

Introduction

The year 2020 may be remembered as the time the coronavirus disease 2019 (COVID-19) afflicted the global economy. Identified in China at the start of the year, the coronavirus soon spread around the world. The outbreak was eventually declared by the World Health Organization (WHO) as a pandemic by the second week of March. The Philippine government had restricted travellers from Hubei province in China as early as January, with further travel bans issued after the first enhanced community quarantine (ECQ) was put in place by mid-March (Pajaron 2020). Every sector of the economy instantly felt the effects of stringent restrictions on domestic and global mobility.

From still a high-growth year (6% in 2019), the Philippines thus entered its deepest recession in post-war history, with output declining by 10 percent annually during the first three quarters of 2020. As it is for many countries, this crisis is unique because of a rare combination of a severe supply shock due to a necessary shutdown of business activity and a severe demand shock due to housebound consumers, many of whom already lost their jobs. For countries like the Philippines that have a large service sector and which rely on overseas remittances, the impact of pandemic measures on potential output and aggregate demand may be even harder to ignore.

This chapter looks at the macroeconomic prospects of the Philippines in these precarious times— beginning with where the economy started off in 2019 and the latest developments in the unfolding crisis; followed by the critical factors influencing economic outcomes and the near- to medium-term forecasts of different observers (including those of the author), and ending with the risks that can derail the recovery in the coming months and the policy challenges that lie ahead. Investment prospects will likely be weak after the pandemic, as experiences of countries that went through epidemics have shown (Dieppe 2020). Shoring up the economy for a safe and strong recovery will be essential as the country enters this period of prolonged uncertainty. With the economy yet to fully reopen, one can expect only partial output recovery in the near term, but policy choices made today may be pivotal for long-term growth and development.

Macro performance in 2019 and the unfolding pandemic crisis

Despite a deceleration in investment (2.5% versus 14.1% on average during 2015–2018) and continuing global trade tensions, the Philippines still managed to grow at a fast clip (by 6%) in 2019 owing to steady growth in household consumption (5.9%) and strong public spending (9.6%). A delay in the national budget's approval stalled the government in the initial months of the year. However, a catch-up plan was set into motion by the second quarter, with public spending expanding by 17 percent in the final quarter. In terms of production, the services sector continued to post a solid growth of 7.5 percent, the industrial sector still expanded by 4.7 percent, while the agriculture sector grew by 1.2 percent.

The sustained growth of business process outsourcing (BPO) and remittance

inflows alongside a continued surge in travel exports, in large part because of Chinese tourists, shrunk the current account deficit in 2019 to USD 3.386 billion, from USD 8.877 billion a year earlier. Strong portfolio flows until the first quarter meanwhile bolstered the financial account. Consequently, the Philippines managed to post a USD 7.843 billion balance-of-payments (BoP) surplus after posting a string of deficits since 2016. Gross international reserves grew to USD 87.83 billion by yearend, from USD 79.19 billion in 2018. This, along with low public debt (39.6% of gross domestic product [GDP]) and low external debt (22.2% of GDP), made the country much less vulnerable to economic and financial shocks.

Inflation dropped to 2.5 percent in 2019, from 5.2 percent previously, bringing it back to within the official target range of 3 percent plus or minus 1-percentage point. The downtrend was supported by base effects in the latter part of the year, as inflation had exceeded 6 percent annually during August to November of 2018. The passage of a law that removed quantity restrictions on rice imports and replaced these with tariffs also contributed greatly to the softening of consumer prices (for additional discussion about the rice tariffication policy, see Chapter 2). Rice prices declined by about 5 percent annually on average in April, a month after the law took effect, until December, based on the rice subcomponent of the food consumer price index (CPI). Rice accounts for 9.6 percent of the consumer basket.

Unemployment and underemployment also fell to lows of 5.1 percent and 13.7 percent, respectively, in 2019, completing the benign macro picture for the country during the year. However, the COVID-19 outbreak in China and the spread of the virus across the world have radically altered the global and domestic macro landscape, significantly changing the prospects of the Philippine economy. The following provides a detailed account of the pandemic's impact until the third quarter of 2020 as a backdrop for the 2021 macroeconomic projections.

Latest developments: the COVID-19 crisis

The COVID-19 pandemic hit the economy hard and fast in 2020, with economic activity effectively suspended in many parts of the country to stop the spread of the virus. The latest national output numbers reflect the severity of the pandemic crisis. The country's GDP declined by 0.7 percent in the first quarter of 2020 (Figure 1.1), as public health measures in response to the virus, which included border closures and travel bans in many countries, started to weaken the global economy. At the same time, an ECQ began to be imposed in Metro Manila and key regions, constraining both production and spending.[1] This surprise greatly upset the country's economic record, which until then had comprised 84 quarters of sustained year-on-year growth.

The virtual shutdown of the economy in major areas of the country from mid-March until May, together with a sharp fall in remittances from overseas Filipinos, drove the economy down further in the second quarter, when output contracted by an astonishing 16.9 percent. A brief return to lockdowns in August and an indefinite period of constrained movement—whether

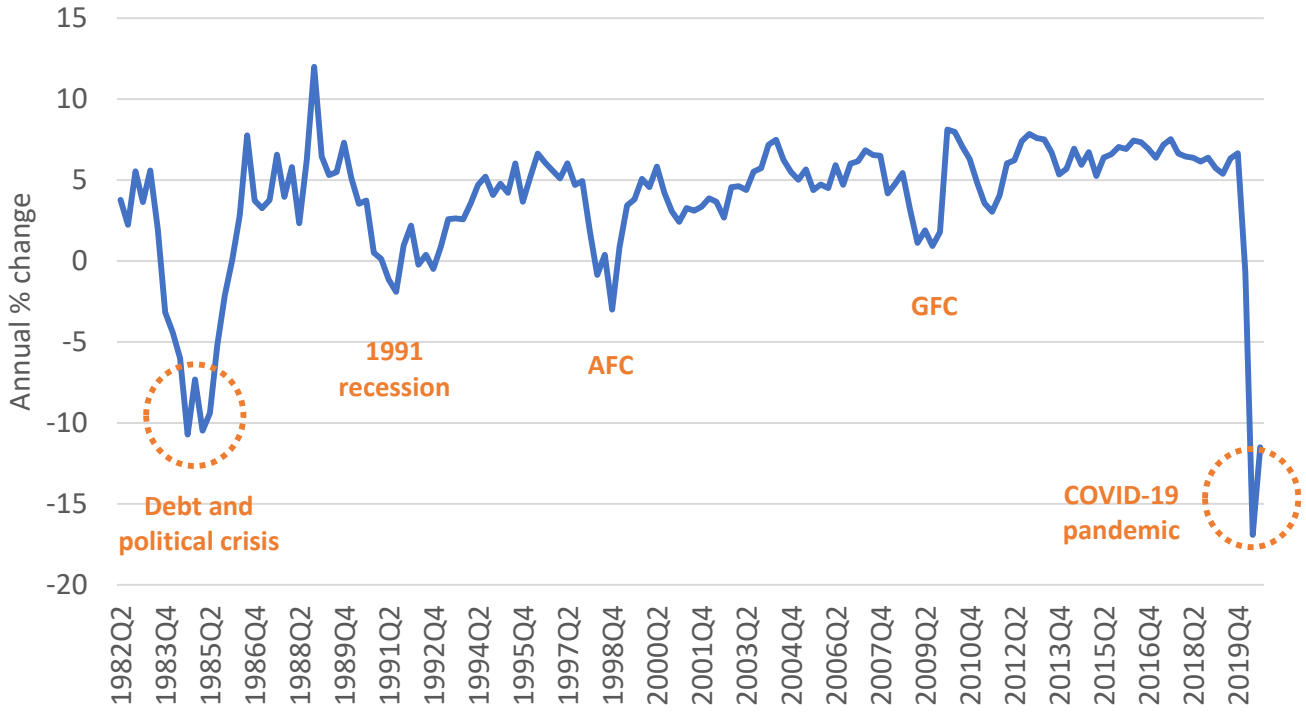
[1] The period also saw the eruption of Taal volcano in the CALABARZON region, a major production area, in January, which contributed to the decline.

by public health regulation (limits on business operations and capacity), voluntary social distancing, or logistical impediment such as lack of public transportation—continued to weaken the economy. GDP proceeded to fall by 11.5 percent in the third quarter.

The performance of the economy in 2020 constitutes a deep recession unparalleled in history. As Figure 1.1 shows, output slowdowns in the Philippines were not as sharp during the Global Financial Crisis of 2008/2009 or the Asian Financial Crisis of 1997/1998, both of which had originated from financial sector disruptions. Nor was it very deep during the 1991 recession generated by power shortages, natural disasters, and political instability. The current crisis instead comes closer in severity to the situation in the mid-1980s when the country confronted both a debt debacle and a drastic political upheaval.

A pandemic-induced crisis is unique, as it features simultaneous supply and demand shocks. Put simply, potential output falls when businesses are closed, while aggregate demand weakens when consumers stay home, whether voluntarily or not (Mankiw 2020). As Loayza et al. (2020) note, a pandemic crisis could be more

Figure 1.1
GDP performance



GDP = gross domestic product; AFC = Asian Financial Crisis; GFC = Global Financial Crisis; COVID-19 = coronavirus disease 2019
Source: Philippine Statistics Authority (various years d)

pernicious than an international financial crisis or a crisis due to macroeconomic mismanagement, a natural disaster, or even a war. This is because it combines the worst elements of all these other crises in terms of depth, wide scope (local, regional, and global), long duration, and high uncertainty.

Reviewing the structure of the Philippine economy makes it easier to understand the unprecedented drop in output attributable to negative shocks generated by the COVID-19 pandemic. Households account for over 70 percent of aggregate demand in the country, while service industries account for about 60 percent of aggregate supply. Normally resilient, both were badly stricken by measures taken here and abroad to control the spread of the coronavirus. In terms of spatial distribution of economic activity, Metro Manila (the National Capital Region or NCR) and nearby CALABARZON and Central Luzon regions, which simultaneously endured harsh lockdowns, capture the lion's share as they account for nearly three-fifths of the country's GDP.[2]

Spending and production

One can better evaluate the impact of the COVID-19 pandemic on the economy by decomposing the sharp declines in GDP. These sharp declines were pronounced during the second and third quarters of 2020, at the height of the public health crisis locally, when community quarantines were still in place. On the spending side, household consumption in the country visibly fell by 15.3 percent and 9.3 percent, respectively, dragging down economic growth (Figures 1.2a and 1.2b). This largely traced to a collapse in demand for transportation and for dining and recreation in restaurants and hotels, which more than halved during the period. Such declines were seldom seen historically, with consumer demand managing to hold steady across crisis periods, except when it dipped slightly during the debt and political crises of the mid-1980s (Figure 1.2c).

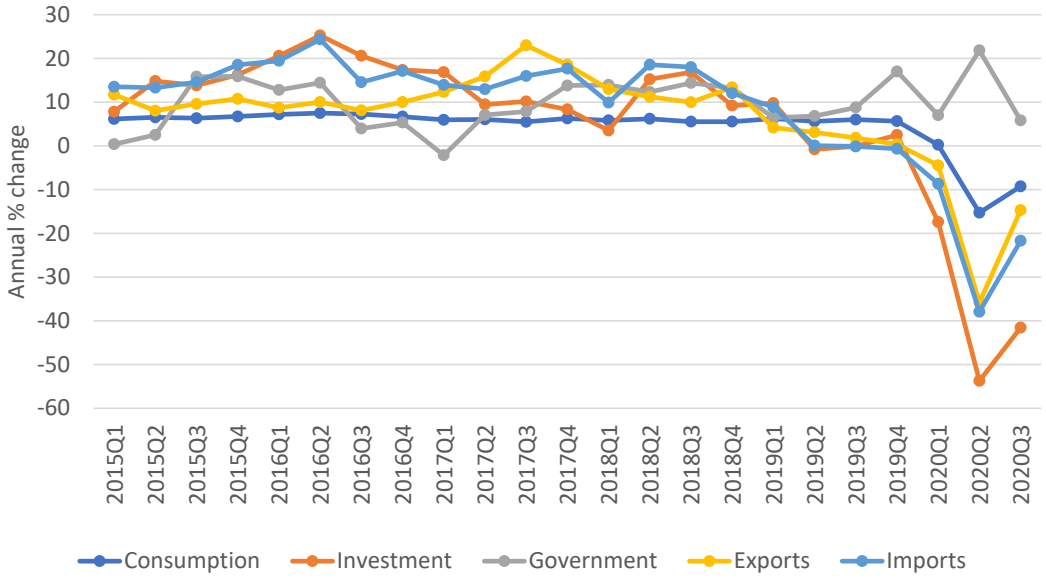
The unknown nature and path of the COVID-19 pandemic naturally created a high degree of business uncertainty in the country, inhibiting growth. Capital spending collapsed by 53.7 percent in the second quarter and 41.6 percent in the third quarter, with construction (both private and public) and durable equipment purchases (mainly of industrial machinery and transport equipment) put on hold during the quarantine period.

The government initially responded to the pandemic by realigning the national budget and hiking spending to alleviate the harmful effects of severe mobility restrictions on low-income households, provide protection to vulnerable workers, and launch critical medical response measures. Public spending grew by 22 percent in the second quarter, cushioning the decline in economic activity (Figures 1.2a and 1.2b), though this impetus weakened to 5.8 percent in the third quarter. Trade appeared to provide another buffer to the fall in GDP, but this was simply the effect of imports dropping faster than exports.

On the production side, one can see a rare contraction of services (down by 17%

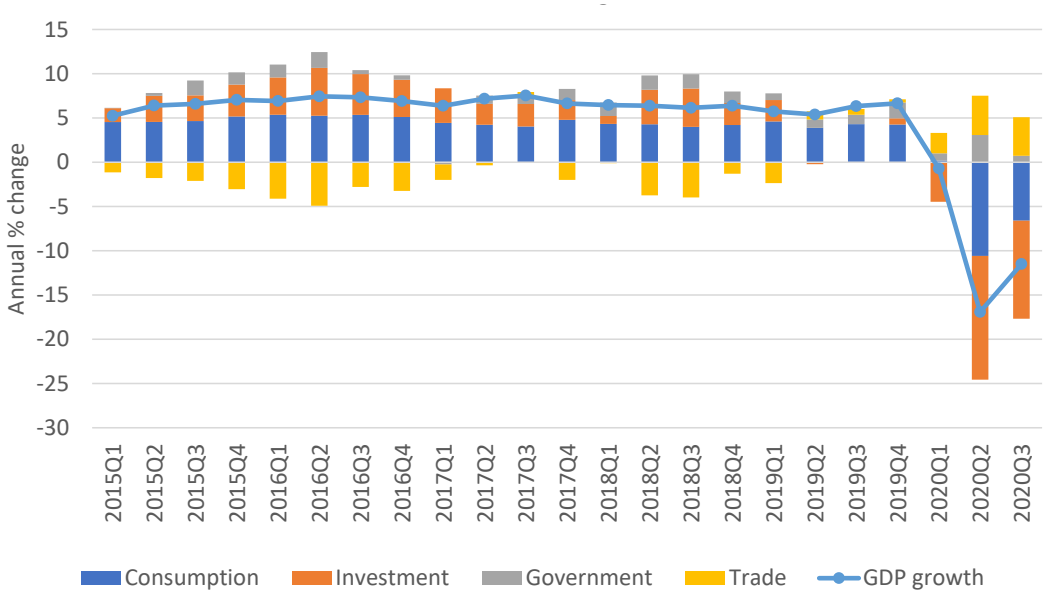
[2] These regions were in ECQ from mid-March until mid-May 2020 when regulations were loosened under a modified ECQ (MECQ). They transitioned to a general community quarantine (GCQ) by June but returned to MECQ during the first two weeks of August as COVID cases continued to rise. NCR and Batangas City in CALABARZON and several other key cities have been placed under GCQ until December, while the rest were placed under modified GCQ.

Figure 1.2a
Spending growth



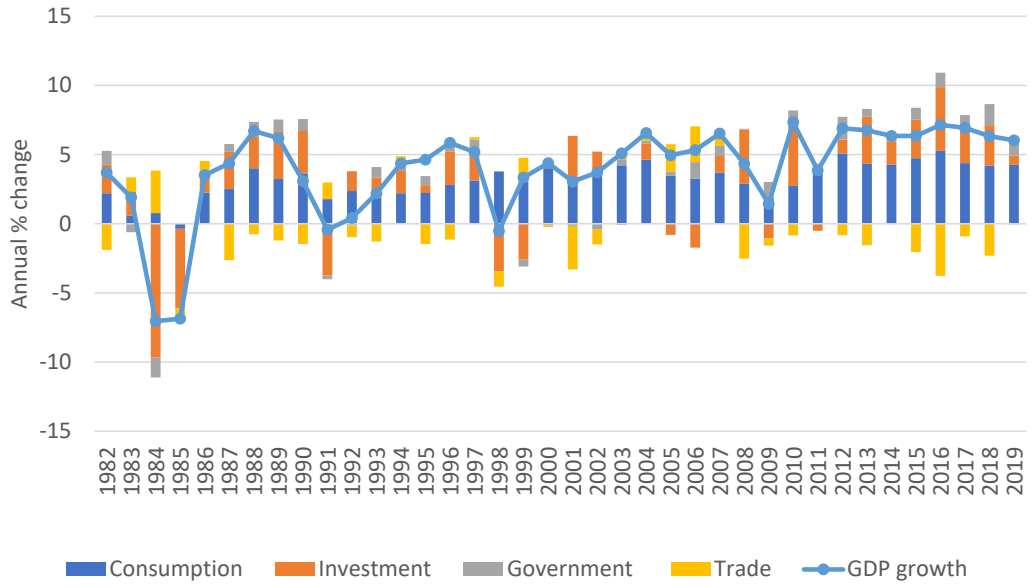
Source: Philippine Statistics Authority (various years d)

Figure 1.2b
GDP growth decomposition by expenditure



GDP = gross domestic product
Sources: Author's computations; Philippine Statistics Authority (various years d)

Figure 1.2c
GDP growth decomposition by expenditure (historical)



GDP = gross domestic product
Sources: Author's computations; Philippine Statistics Authority (various years d)

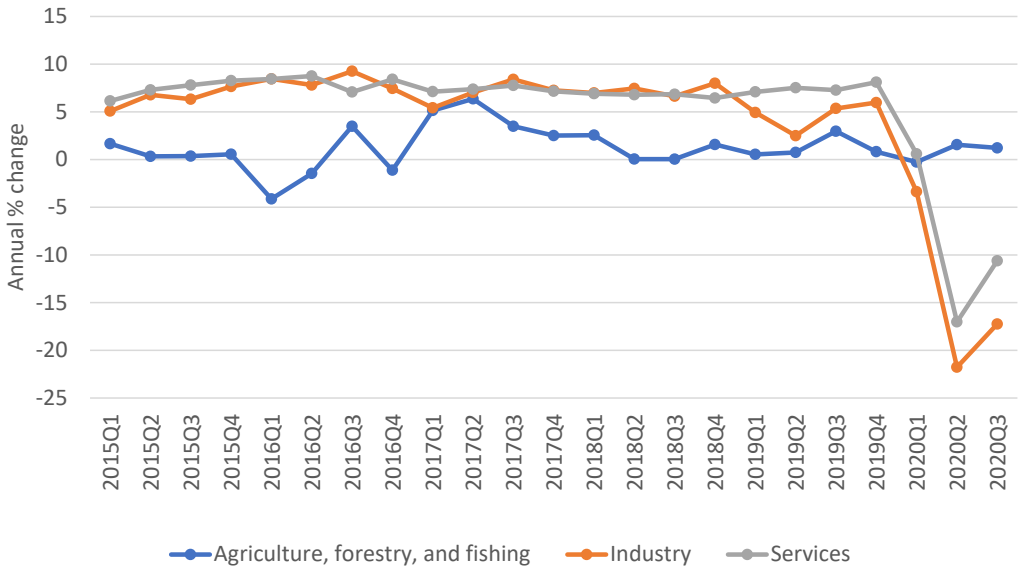
in the second quarter and by 10.6% in the third quarter), which had been a steady contributor to growth over the past two decades (Figures 1.3a to 1.3c). The sector managed to grow through past crisis episodes, again except for the twin crises of the mid-1980s.

An absence of tourists due to travel bans and border restrictions, limits on mobility across domestic locations, a forced shuttering of malls and restaurants, and stay-at-home orders, especially of children and young adults (<21 years of age) and the elderly (60 years and older), decimated gross value-added of accommodation and food services (down by 59.7% annually during the second and third quarters), entertainment and recreation and similar services (-58.9%), and transportation and storage (-45%). The direct share of tourism and transportation amounted to nearly a tenth of GDP, likewise pulling down growth.[3]

Wholesale and retail trade, which accounted for nearly a third of services and a fifth of GDP, similarly fell by around 9.5 percent. Real estate services also dropped dramatically (by -47%) despite monetary easing and the need for greater

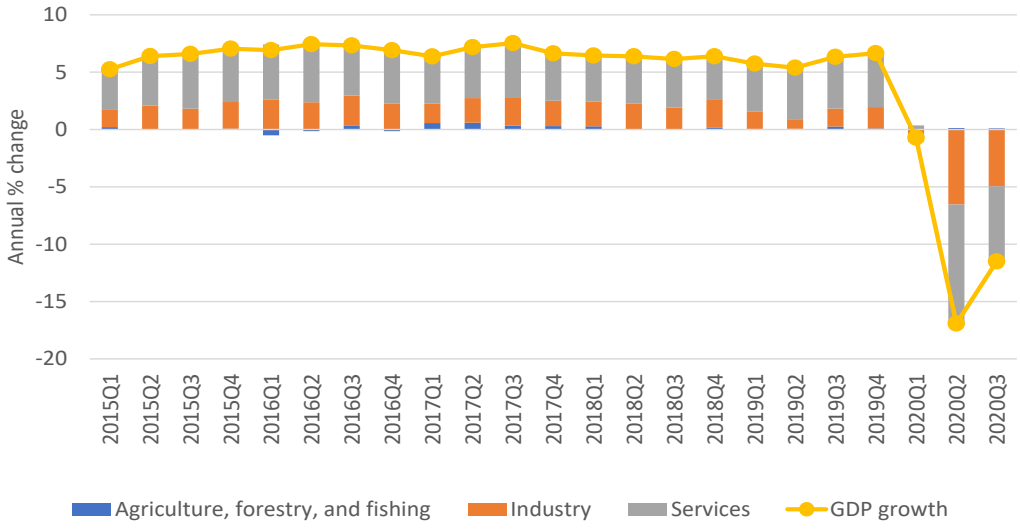
[3] Philippine airport operations were limited by the Department of Transportation to outbound international flights beginning mid-March. Inbound flights were allowed only for returning Filipinos. The Department of Foreign Affairs, meanwhile, suspended visa-free entry privileges and issuance of visas in foreign service posts, while previously issued visas were automatically cancelled, with only a few exceptions. The Bureau of Immigration also imposed a blanket travel ban for all inbound foreign nationals, except for spouses and children of Philippine citizens. It was four months later, in July, when foreigners with long-term visas were allowed to enter the country. Restrictions remain on other travelers.

Figure 1.3a
Production growth



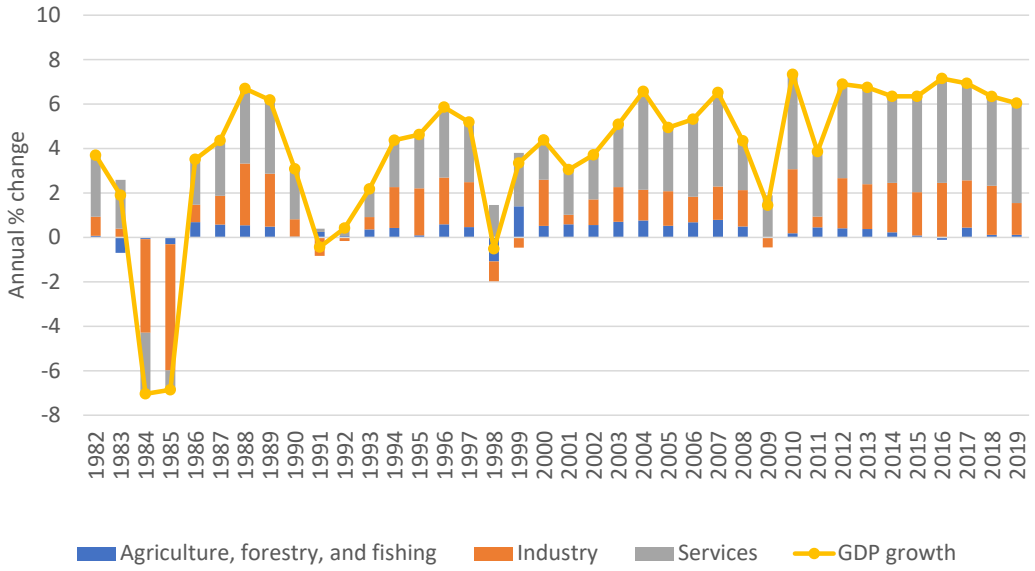
Sources: Author's computations; Philippine Statistics Authority (various years d)

Figure 1.3b
GDP growth decomposition by industry



GDP = gross domestic product
Source: Author's computations; Philippine Statistics Authority (various years d)

Figure 1.3c
GDP growth decomposition by industry (historical)



GDP = gross domestic product
Source: Author's computations; Philippine Statistics Authority (various years d)

space, reflecting high consumer and business uncertainty and possibly a preference for liquidity (Financial Stability Coordination Council 2020).

The only sectors in services able to contribute positively to growth during the period were public administration and defense (up by 5.9%), finance and insurance (5.8%), and, as expected, with greater use of the internet and mobile technology in a pandemic, information and communication (5.4%). Banks benefitted from the expansionary policy of the *Bangko Sentral ng Pilipinas* (BSP) in response to the crisis, with the decline in the short-term interest rate generating trading gains and boosting interest margins, and were still able to grow at a fast clip (14.7%). However, such gains may be short-lived, as banks have also been setting aside large amounts as loan loss provisions, in anticipation of a rapidly worsening economy.[4]

Industrial output, meanwhile, declined by nearly 21.8 percent in the second quarter and by 17.2 percent in the third quarter, with gross value-added in manufacturing and construction falling by 35.2 percent and 15.7 percent, on average, during the period. Since factories of non-essential goods were also ordered to temporarily shut down during the ECQ in March and April, only manufacturers of essential healthcare items such as pharmaceutical products and basic food were able to expand their output at the time. Not all industries could operate at full operational capacity even under a loosened GCQ.

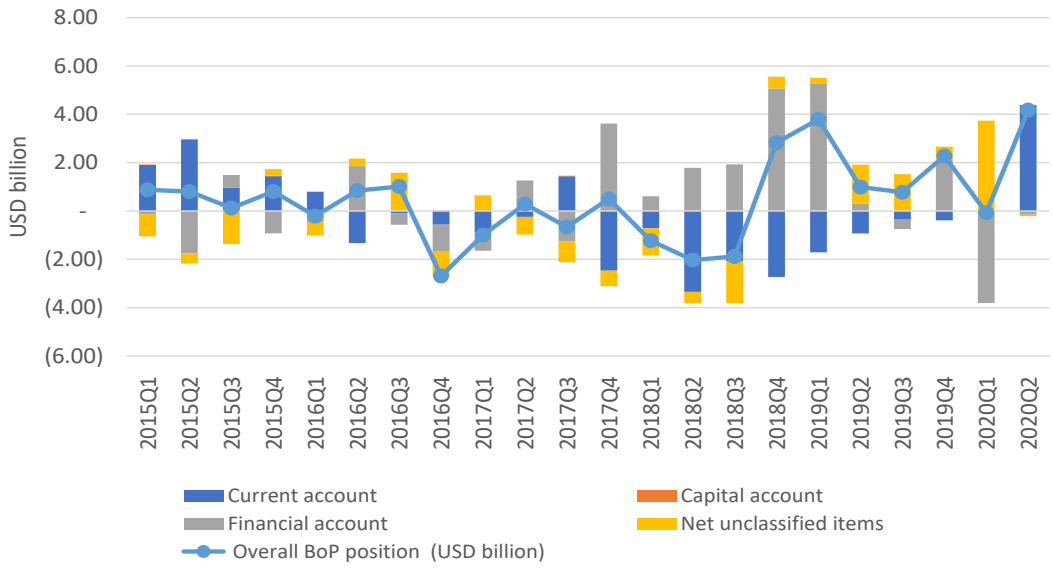
[4] Gross value-added of insurance and pension funding (excluding compulsory social security) already dropped during the period by 12.3 percent.

Trade and the BoP

Also because of the effects of the COVID-19 pandemic, the country is seeing a reversal from current account deficits seen over the last four years. A current account surplus of USD 4.382 billion was registered in the second quarter of the year (Figure 1.4), and monetary authorities expect this figure to settle at USD 6 billion by yearend. The surplus largely traces to a smaller deficit in the trade of goods, as oil imports dropped sharply due to mobility restrictions and business closures, while purchases of machinery and equipment collapsed as investment decisions were either postponed or cancelled. A decline in oil prices due to weak global demand additionally served to lower the country's import bill (Figure 1.5).

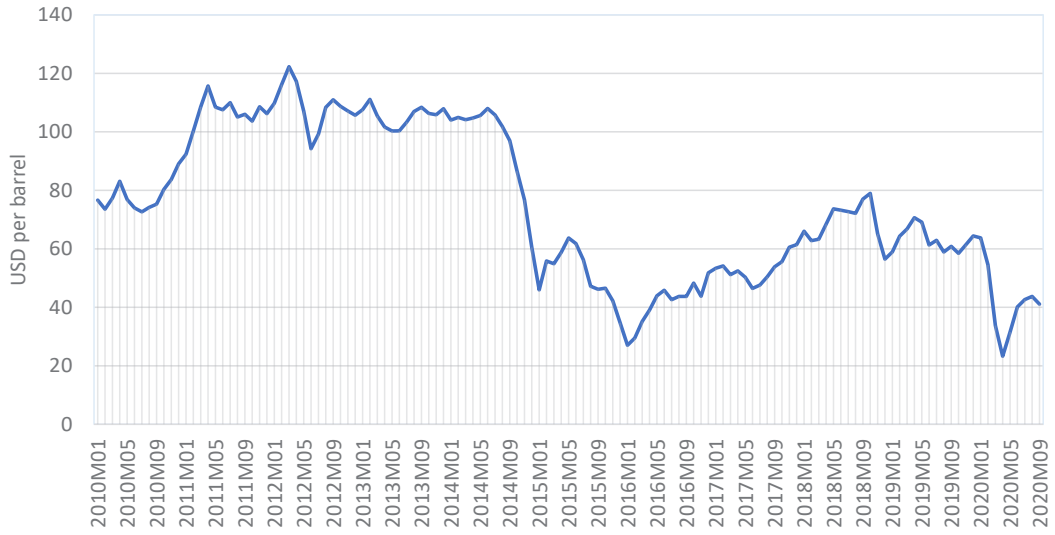
Outward improvement of the goods trade account offset a declining surplus in services trade. Travel restrictions and border closures had slashed tourism-related earnings, while a COVID-afflicted global economy weakened receipts from business and technology- and information-based services (including BPOs and knowledge process outsourcing). The country's primary and secondary income accounts have likewise deteriorated. Remittances from overseas Filipinos declined at the height of the first wave of the pandemic crisis globally, with countries in Europe and the United States (US) vastly affected by the virus (Figure 1.6). Though these flows have started to recover beginning June, they will likely remain weak in the near term with the virus continuing to spread abroad.

Figure 1.4
Balance of payments



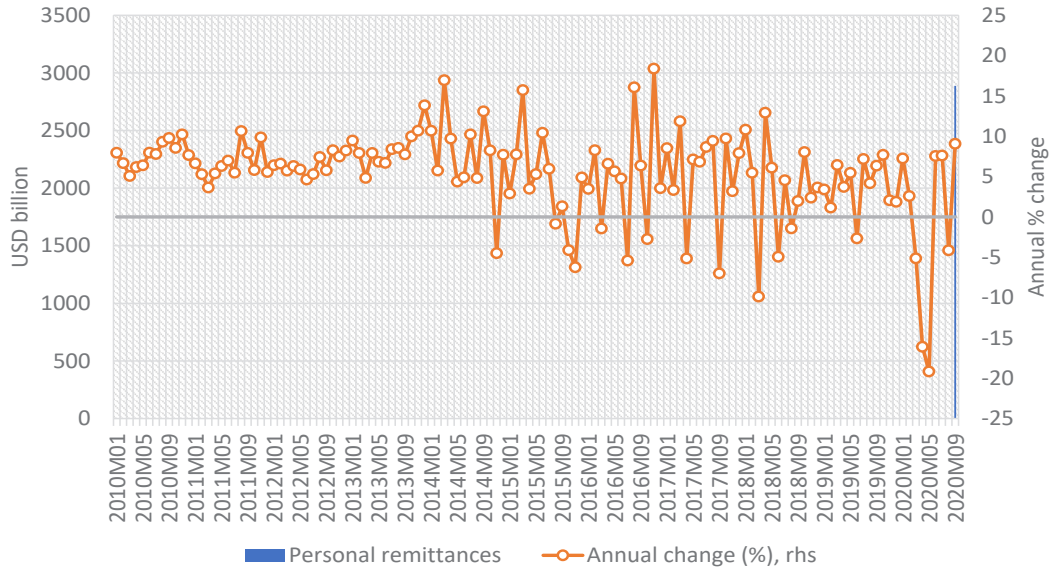
BoP = balance of payments; USD = United States dollar
Source: *Bangko Sentral ng Pilipinas* (various years a)

Figure 1.5
Benchmark oil price for Asia



USD = United States dollar
Note: World oil prices are represented by Dubai Fateh, the benchmark for Asia.
Sources: IndexMundi n.d.; Department of Energy (various years)

Figure 1.6
Personal remittances of overseas Filipinos



USD = United States dollar; rhs = right-hand side
Source: *Bangko Sentral ng Pilipinas* (various years g)

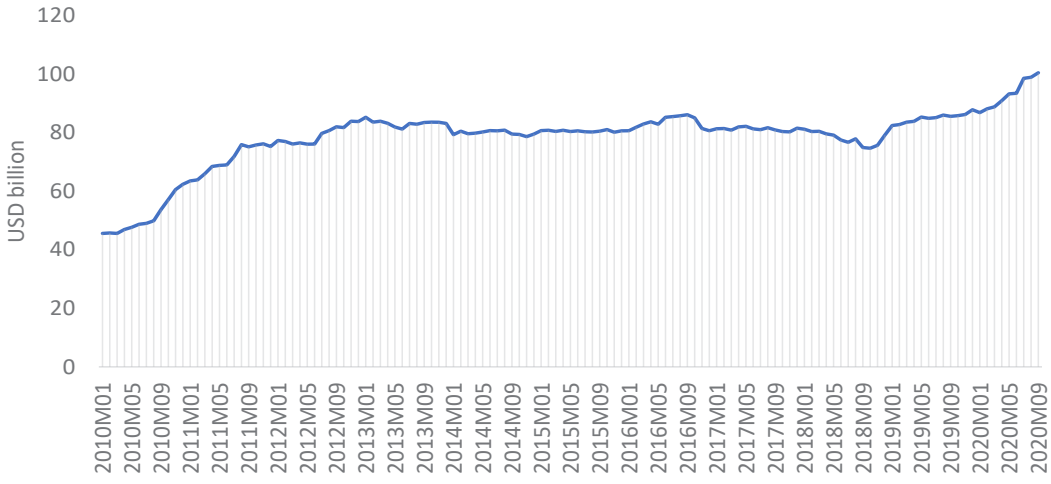
Overall, the country was able to register BoP surpluses of USD 4.177 billion in the second quarter and USD 2.769 billion in the third. Apart from the shrinkage of the deficit in goods trade, the financial account was supported by dollar loan inflows of government from financing agreements inked to support the country's COVID response (USD 9.7 billion in total), which had started to come in beginning the second quarter. Much of the financial outflows—portfolio as well as reversals of trade credit and short-term loans—had already occurred in the first quarter, as uncertainty heightened because of the virus.

A positive BoP, together with hefty gold revaluation gains, allowed the central bank to further bolster its reserves, now at around USD 100 billion after dipping below USD 80 billion in 2018 (Figure 1.7). The net inflow of dollars over the last couple of years helps explain the continued strong appreciation of the peso-dollar exchange rate despite a recession in 2020 (Figure 1.8).

Inflation and unemployment

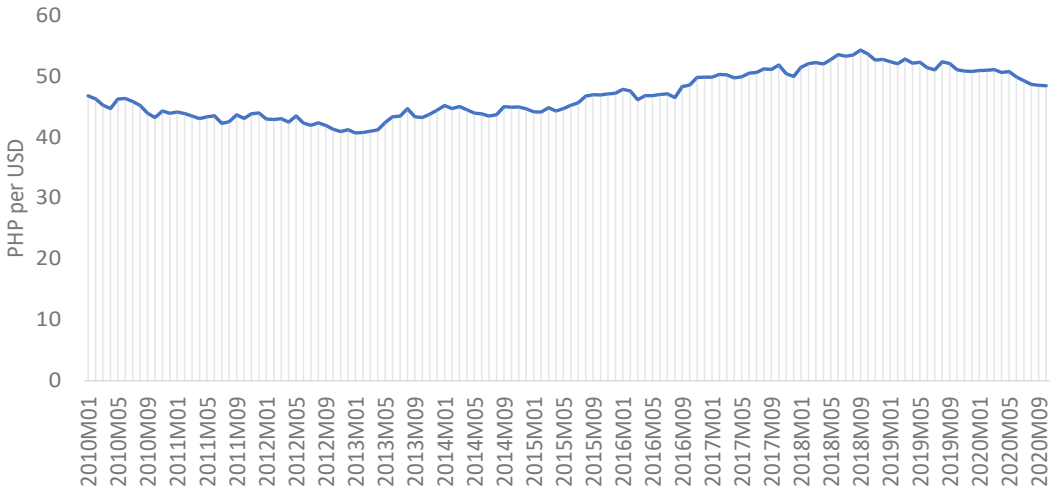
Headline inflation remained well within the target until the third quarter of 2020 (Figure 1.9a). The deceleration of consumer prices stretched from January until May, reflecting greatly weakened demand due to mobility restrictions. Household incomes then fell, and jobs were either lost or put on hold. Faltering remittances added another layer of income insecurity, which served to further depress domestic consumer spending. The slowdown also reflected a slump in the oil industry due to the global downturn, as evidenced by a sharp drop in oil prices (Figure 1.9b). Global commodity prices (international oil and food prices) have been found to contribute substantially

Figure 1.7
Gross international reserves



USD = United States dollar
Source: *Bangko Sentral ng Pilipinas* (various years e)

Figure 1.8
Peso-dollar exchange rate



PHP = Philippine peso; USD = United States dollar
Source: *Bangko Sentral ng Pilipinas* (various years h)

to a rise in inflation in the Philippines, though with some delay in the pass-through effect (Guo et al. 2019).

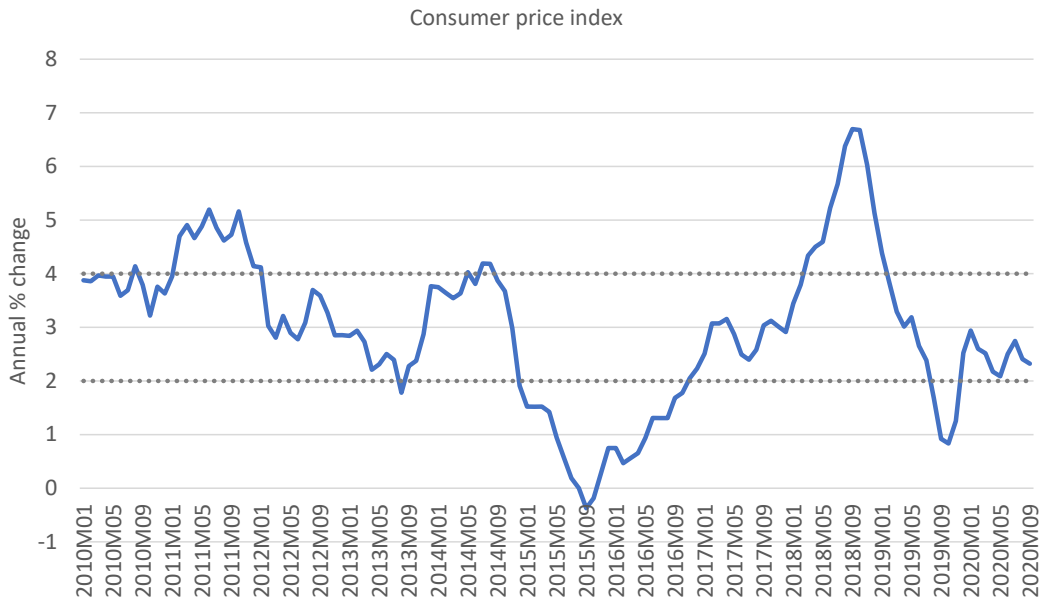
Inflation inched up in June, with supply tightness likely contributing to the uptick, as public health rules continued to limit operations and constrict capacity, such as in transport. The transport services subindex of the CPI, which accounted for nearly 5 percent of the consumer basket, accelerated at a double-digit pace beginning July, averaging at 14.3 percent annually from July to October, after the ECQs were removed and workers increasingly allowed to return to work.[5] However, depressed demand continued to bear down on prices in succeeding months, especially as a new wave of the pandemic threatened to sweep across Europe and North America and other parts of the world.

The jobs picture, meanwhile, substantially worsened during the pandemic. The unemployment rate climbed to 17.7 percent in the April 2020 release of the Labor Force Survey (versus 5.1% in April 2019), reaching a historical peak (Figure 1.10). While conditions subsequently eased as community quarantines were loosened near the end of May, unemployment remained relatively high, at 8.7 percent by October 2020 (compared to 4.5% the previous year).

There was a similar pattern for the underemployed or the employed persons who expressed a desire to work more hours. Their proportions rose to a peak of 18.9 percent in April (versus 13.4% the

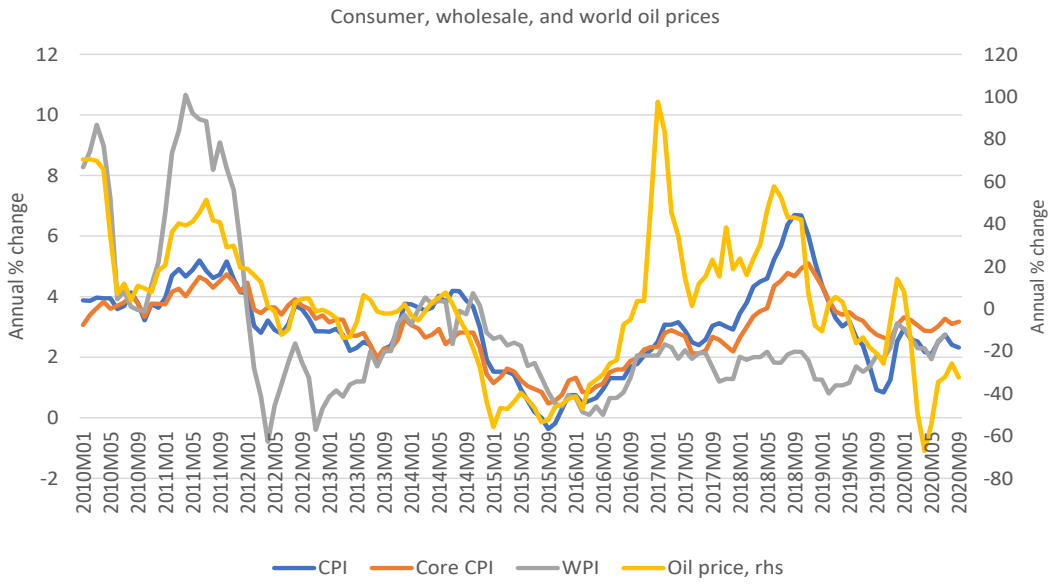
[5] The price index for the transport service subcomponent "passenger transport by road", which accounted for 4.3 percent of the consumer basket, grew by 15.5 percent annually from July to October. Some widely used routes were still not open to public transport even by end-September.

Figure 1.9a
Headline inflation and inflation target



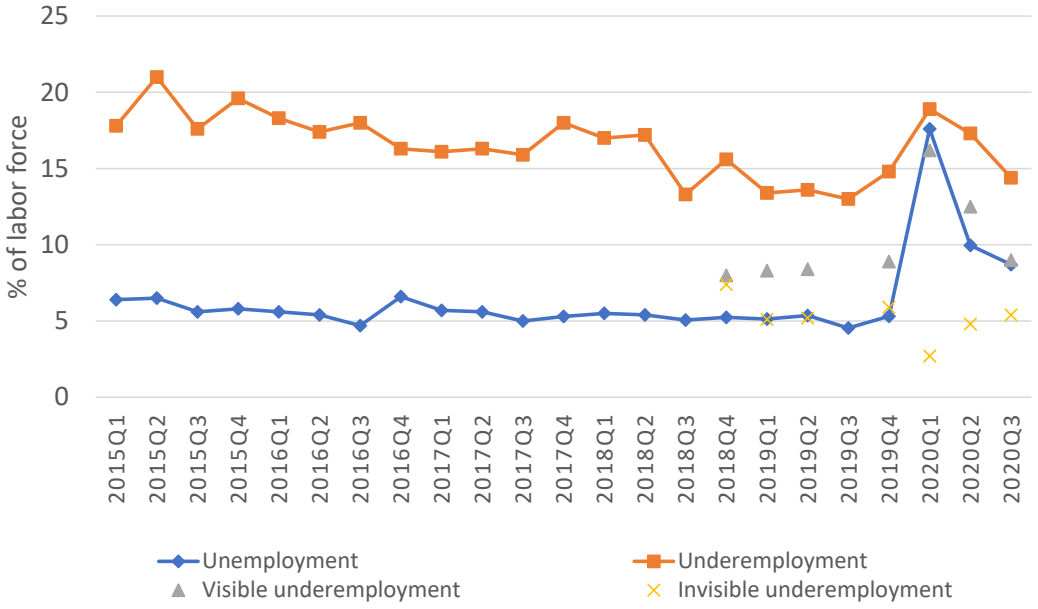
Note: Dotted line refers to the official inflation target of 3% ±1 percentage point.
Sources: *Bangko Sentral ng Pilipinas* (2020); Philippine Statistics Authority (various years e)

Figure 1.9b
Price movements



Note: World oil prices are represented by Dubai Fateh, the benchmark for Asia.
CPI = consumer price index; WPI = wholesale price index; rhs = right-hand side
Sources: IndexMundi n.d.; Philippine Statistics Authority (various years e)

Figure 1.10
Employment indicators



Note: The definition of unemployment was revised beginning April 2005 to include the availability to work criterion in conformance with international standards.
Source: Philippine Statistics Authority (various years b)

previous year) before easing after the lockdowns, to 14.4 percent by October (compared to 13% a year ago). This mainly reflected the trend among the "visibly underemployed", which included those with jobs but not working during the period, whose ranks had swelled.[6] Labor force participation, meanwhile, fell to 55.7 percent in April 2020, from 61.4 percent during the same period in 2019. It seemingly normalized to 61.9 percent in July, but edged back to 58.7 percent in October, indicating discouragement among the country's workers.

[6] The PSA defines visible underemployment as the percentage of the labor force of "employed persons who worked for less than 40 hours (or for 40 hours or more in the case of invisible underemployment) 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".

Macroeconomic outlook

The COVID-19 crisis is a unique event with virtually no parallels in history, making it especially tough to predict the magnitude of economic outcomes. This section looks at global, regional, and domestic conditions and factors, including policy responses, to understand how the Philippine economy will be affected by the pandemic shock. The uncertainty around the macroeconomic projections will typically be considerable. However, alternative indicators on mobility, financial conditions, and confidence, as well as more traditional higher-frequency indicators of economic activity, suggest a partial recovery of output over the next couple of years as the country gears itself toward a safe reopening of the economy.

Global and regional environment

While outcomes remain weak, the world economy fared better than earlier expected in the COVID-19 pandemic. Forecasts were already being adjusted by the third quarter of 2020 to reflect this. In the October 2020 issue of the World Economic Outlook (WEO), for example, global output was expected to fall by 4.4 percent during the year, compared to an estimated 4.9-percent contraction as of the publication's June update four months earlier (Table 1.1a).

Improvements in outlook were most salient for advanced economies, where the estimated output decline has softened, from -8 percent last June to -5.8 percent in October. This, in turn, was driven by a much better forecast for the US, from -8 percent to -4.3 percent, and to a certain extent, the euro area, from -10.2 percent to -8.3 percent. In both cases, GDP had contracted less severely than anticipated in the second quarter—and likely the third, based on leading indicators—while both monetary and fiscal support had been substantial. Such included about USD 2.3 trillion in lending for US households, employers, financial markets, and local governments plus USD 483 billion more for small businesses, hospitals, and virus testing. In the euro area, the pandemic recovery package amounted to a pioneering EUR 750 billion, largely grants-based.

In contrast, the outlook worsened for emerging markets and developing economies, expected to decline by 3.3 percent in 2020 (from 3% in the previous estimate). In emerging and developing Asia, the projected contraction was likewise bigger at 1.7 percent rather than 0.8 percent. The forecast for India deteriorated the most as domestic demand collapsed, in consumption and investment spending. China remained the exception, with a bigger growth forecast owing to the removal of stringent mobility restrictions, some resurgence of exports, greater public investment, and substantial monetary easing.

Projections for the member-countries comprising the Association of Southeast Asian Nations (ASEAN) followed the same path, with anticipated GDP contraction widening from -2 percent to -3.4 percent. The deterioration in outlook was most pronounced for the Philippines, where a steeper decline in output was expected (about -8.3% instead of -3.6%; see Table 1.1b). Forecasters generally predicted the biggest output drops to be in the Philippines and Thailand, among the ASEAN-5 economies. The two countries had the largest direct shares of tourism and transportation in GDP, at about 8.7 percent and 10.2 percent, respectively (IMF 2020b; World Bank 2020a). As such, the two countries were deemed more vulnerable than the rest to foreign travel disruptions and local mobility restrictions. The Philippines' strong dependence on remittances (averaging at about 9% of GDP over the last decade) further darkens their projections.

Based on the different forecasts, the picture drawn is a somewhat uneven recovery in the world economy, with each country facing a highly uncertain and difficult climb back to its original growth path. Most will start to expand again in 2021, but the numbers will be largely driven by base effects, with old output levels unlikely to be recovered in the near term. Recent trends in some Asian economies (e.g., China and South Korea) suggest global trade can still have a quick rebound, but there are strong

Table 1.1a
World outlook in the short to medium term

	2015	2016	2017	2018	2019	2020f	2021f	2025f
Output (annual % change)								
World	3.4	3.3	3.8	3.5	2.8	-4.4 (-4.9)	5.2 (5.4)	3.5
Advanced economies	2.4	1.8	2.5	2.2	1.7	-5.8 (-8.0)	3.9 (4.8)	1.7
US	3.1	1.7	2.3	3.0	2.2	-4.3 (-8.0)	3.1 (4.5)	1.8
Euro area	2.0	1.9	2.6	1.8	1.3	-8.3 (-10.2)	5.2 (6.0)	1.4
Japan	1.2	0.5	2.2	0.3	0.7	-5.3 (-5.8)	2.3 (2.4)	0.6
EMDEs	4.3	4.5	4.8	4.5	3.7	-3.3 (-3.0)	6.0 (5.9)	4.7
Emerging and Developing Asia	6.8	6.8	6.7	6.3	5.5	-1.7 (-0.8)	8.0 (7.4)	5.9
China	6.9	6.8	6.9	6.7	6.1	1.9 (1.0)	8.2 (8.2)	5.5
India	8.0	8.3	7.0	6.1	4.2	-10.3 (-4.5)	8.8 (6.0)	7.2
ASEAN-5					4.9	-3.4 (-2.0)	6.2 (6.2)	
Consumer prices (annual % change)								
Advanced economies	0.3	0.7	1.7	2.0	1.4	0.8	1.6	1.9
EMDEs	4.7	4.3	4.4	4.9	5.1	5.0	4.7	4.0
Emerging and developing Asia	2.6	2.8	2.4	2.7	3.3	3.2	2.9	3.1
Interest rates (%)								
Real 6-month LIBOR				0.1	0.6	-0.5	-1.6	-1.5*
World real long-term interest rate				-0.1	-0.2	-0.4	-1.2	-0.4*
Other indicators								
Current account (% of GDP): EMDEs				-0.1	0.2	-0.1	-0.4	-0.4*
Total external debt (% of GDP): EMDEs				31.0	30.0	32.7	30.8	28.3*
Debt service (% of GDP): EMDEs				10.9	10.8	11.6	10.8	9.8*
World trade volume (annual % change)				3.9	1.0	-10.4	8.3	4.3*
World prices (USD, annual % change)								
Oil				29.4	-10.2	-32.1	12.0	2.3*
Nonfuel primary commodities				1.3	0.8	5.6	5.1	0.4*

ASEAN = Association of Southeast Asian Nations; EMDEs = emerging market and developing economies; GDP = gross domestic product; LIBOR = London interbank offered rate; USD = United States dollar
Note: Figures in parentheses are the *World Economic Outlook* June 2020 updates.
*Figure represents the average for the period 2022–2025.
Source: IMF (2020b)

Table 1.1b
ASEAN-5 output projections

	2015	2016	2017	2018	2019	2020f	2021f	2025f
Output (annual % change)								
Indonesia	4.9	5.0	5.1	5.2	5.0	-1.4	5.3	
ADO (Sep 2020)						-1.0	5.3	
EAPU (Oct 2020)						-1.6	4.4	
*low case						-2.0	3.0	
WEO (Oct 2020)						-1.5 (-0.3)	6.1 (6.1)	5.1
Malaysia	5.0	4.4	5.8	4.8	4.3	-5.3	6.9	
ADO (Sep 2020)						-5.0	6.5	
EAPU (Oct 2020)						-4.9	6.3	
*low case						-6.1	4.4	
WEO (Oct 2020)						-6.0 (-3.8)	7.8 (6.3)	5.0
Philippines	6.3	7.1	6.9	6.3	6.0	-7.5	6.4	
ADO (Sep 2020)						-7.3	6.5	
EAPU (Oct 2020)						-6.9	5.3	
*low case						-9.9	2.9	
WEO (Oct 2020)						-8.3 (-3.6)	7.4 (6.8)	6.5
Thailand	3.1	3.4	4.1	4.2	2.4	-7.8	4.5	
ADO (Sep 2020)						-8.0	4.5	
EAPU (Oct 2020)						-8.3	4.9	
*low case						-10.4	3.5	
WEO (Oct 2020)						-7.1 (-7.7)	4.0 (5.0)	3.7
Vietnam	7.0	6.7	6.9	7.1	7.0	2.1	6.6	
ADO (Sep 2020)						1.8	6.3	
EAPU (Oct 2020)						2.8	6.8	
*low case						1.5	4.5	
WEO (Oct 2020)						1.6 (2.7)	6.7 (7.0)	6.6

ASEAN = Association of Southeast Asian Nations; ADO = Asian Development Outlook; EAPU = East Asia and Pacific Update; WEO = World Economic Outlook
Note: Figures in parentheses are the *World Economic Outlook* June 2020 updates, except for Viet Nam where the figures are from the April 2020 issue.
*Figure represents the average for the period 2022–2025.
Source: ADB (2020); IMF (2020b); World Bank (2020a)

headwinds globally, including possible coronavirus resurgences.[7]

Each country will try to draw from its collection of policy tools, by a degree considered sustainable under a shaky timeline, to fight off the recessionary effects of the pandemic. With advanced economies leading the pack in this area, world interest rates will likely remain low for the foreseeable future, as demand and inflationary pressures will likely remain weak. Such a monetary environment will be supportive as well of developing countries, especially those that had to accumulate debt to fund the programs needed to protect their economies during the crisis.

Key domestic factors affecting the macro outlook

The COVID-19 pandemic has resulted in a rare economic recession that has battered the services sector. As mentioned earlier, the economic structure of the Philippines, even in terms of spatial distribution of activity, made it prone to such a crisis. Beyond this, the depth and duration of the pandemic crisis will ultimately depend on the evolution of the virus, as influenced by the various measures taken to contain it (domestically and globally), the behavior of workers and consumers in the economy as they adjust to a new normal, the timeliness and efficiency of policy responses, the financial conditions within an economy, the resilience of economic activity, and the overall level of optimism. While these are hard to predict and assess, a conscientious attempt at forecasting macroeconomic performance requires that the economic factors at least be considered.

Community mobility

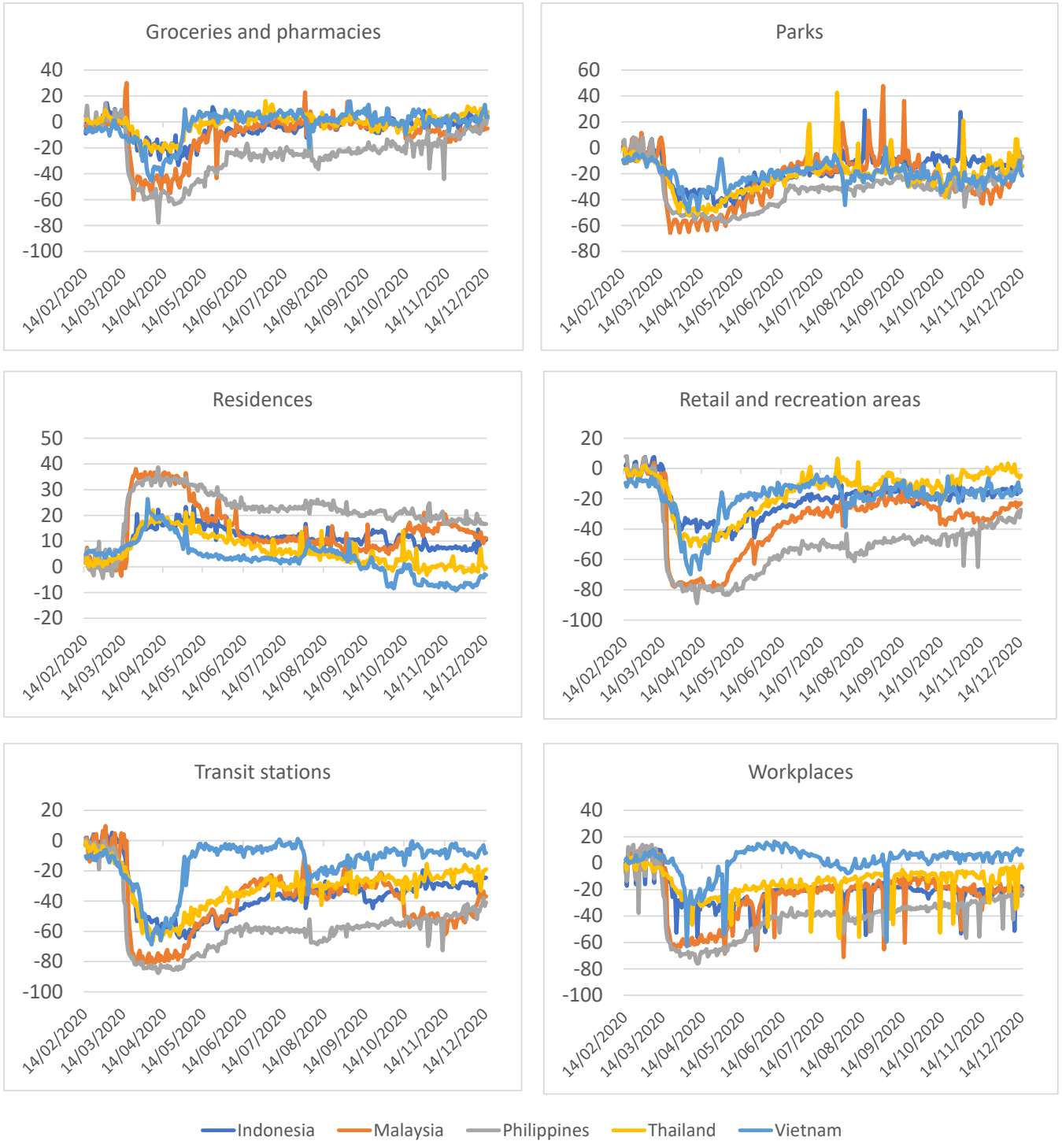
While they are not a perfect proxy for economic activity, mobility indicators based on cellphone location such as those made available by Google suggest a change of behavior that could serve to constrain recovery. Although most severe community quarantines had ended by mid-May, many Filipino consumers and workers were unable to regain their pre-crisis mobility compared to their counterparts in the region (Figure 1.11). Most telling was the failure to return to transit stations and retail establishments, as many remained closed, and even to groceries and pharmacies, although some of the activity may have been offset by online-based transactions.

Economic managers note that public transportation remained restricted until the third quarter, which kept many in the labor force away from their workplaces. In their estimates, while nearly three-fifths of the total number of workers in Metro Manila were allowed to return to their jobs by September, more than a fifth (22.7%) were unable to do so because of a lack of options for travel.[8] At the time, the public transport system could accommodate only about a third of workers in the NCR because of social distancing rules and a paucity of public transport operators. Further opening of the economy, with the government set to allow more industries to expand capacity (to between 75% and 100%), would require that this shortage be immediately addressed.

[7] "Global trade returns faster than expected", *Wall Street Journal*, September 20, 2020. See https://www.wsj.com/articles/globaltradereturns-faster-than-expected-11600594200 (accessed on September 21, 2020).

[8] 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 https://www.neda.gov.ph/29336-2/ (accessed on November 11, 2020).

Figure 1.11
Community mobility in ASEAN-5 during the pandemic



ASEAN = Association of Southeast Asian Nations
Note: These datasets show 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 five-week period from January 3 to February 6, 2020.
Source: Google (n.d.)

Policy responses

The monetary response to the pandemic comprised an assortment of measures taken to support domestic liquidity, provide regulatory relief to financial institutions, and offer lending support to small and medium enterprises (SMEs).[9] Monetary authorities estimate that about PHP 1.9 trillion (close to a tenth of GDP) had already been injected into the financial system by October (Diokno 2020).

Most prominently, as the country was placed in a lockdown in mid-March, the BSP immediately issued a series of policy rate cuts totalling 175 basis points (bps) by November, adding to a 25-bps cut made in February. Reductions in reserve requirement ratios by a total of 200 bps for universal and commercial banks were also made, with an authority to reduce by 200 bps more during the year, and by 100 bps for thrift, rural, and cooperative banks. Additionally, for the first time, it embarked on an unconventional policy measure, agreeing to purchase PHP 300-billion worth of government securities under a temporary (6-month) lending arrangement meant to support government programs created to counter the impact of the COVID-19 pandemic. After this sum was settled, it committed to provide PHP 540-billion worth of short-term provisional advances to the national government in October as part of its continuing support to the country's pandemic response.[10]

The fiscal response to the pandemic included measures to address public health and social protection needs of the country. The initial package, which covered until the first half of 2020, amounted to roughly PHP 440 billion (2.3% of GDP), comprising nearly PHP 320 billion in realigned on-budget spending on cash aid to 18 million low-income households (PHP 205 billion), support measures for vulnerable workers such as displaced local and overseas Filipino workers (>PHP 50 billion), and virus-related medical responses (>PHP 50 billion); and PHP 120 billion in off-budget credit guarantees for small businesses and support for the agriculture sector.

The Bayanihan II law (Republic Act [RA] 11494) signed in September provided for another fiscal package worth PHP 165.5 billion (about 0.8% of GDP) that comprised PHP 140 billion of new spending for the year and a PHP 25.5-billion standby fund that can be tapped upon the availability of savings. Supplemental spending covered PHP 39.5 billion in capital infusion to government financial institutions (GFIs) to back lending for COVID-afflicted households and enterprises; PHP 24 billion in direct cash and loan subsidies for the agriculture sector; PHP 13 billion to fund cash-for-work programs and provide assistance to displaced workers; PHP 9.5 billion to aid the transport industry, including transport workers; PHP 6 billion to finance social work programs; PHP 5 billion for the hiring of at least 5,000 contact tracers; PHP 4 billion for supporting delivery of public education during the pandemic; and PHP 4 billion for tourism, mainly to aid displaced workers.[11] The standby fund, meanwhile, pencils

[9] See Glindro et al. (2020) for a complete list of BSP responses until June 2020.

[10] This is apart from remitting PHP 20 billion as advance dividend to the national government in March, even though it was no longer required to make such payments under the newly amended central bank charter.

[11] Around PHP 80 billion of the said regular appropriations (58% of the total) had reportedly been released already as of November 2020.

in further equity infusions to GFIs (PHP 15.5 billion) plus PHP 10 billion for virus testing and procurement of COVID-19 medicines and vaccines.

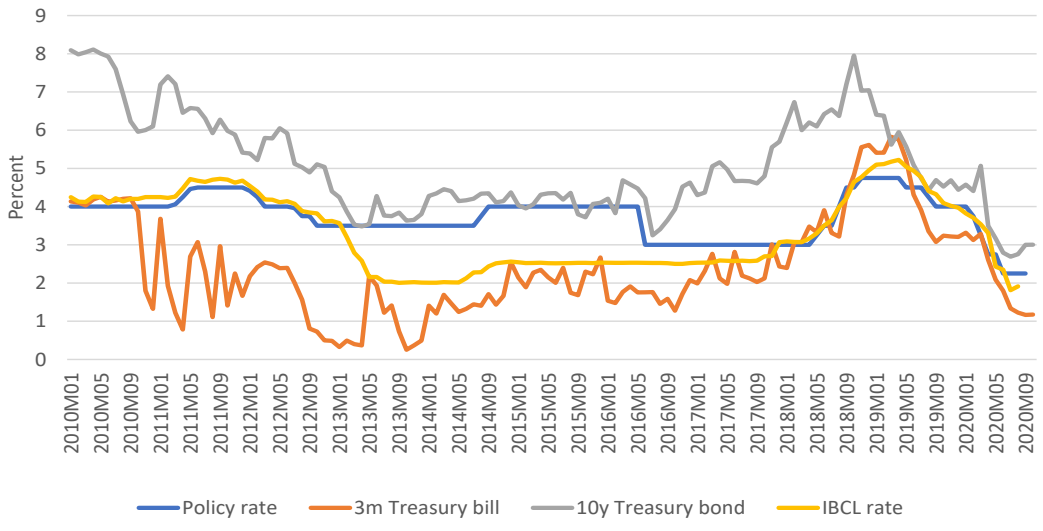
Observers tracking the Philippine economy find the monetary response to the pandemic crisis to have been sufficient thus far but debate the appropriateness of the size of the (short-term) fiscal response given the state of joblessness in the country (e.g., Bernardo 2020; Lim 2020). For 2021, with a target of 6.5 percent to 7.5 percent GDP growth, the government has included PHP 1.121 trillion for infrastructure in the P4.506 trillion national budget (21.4% of GDP, up by 9.9% from last year's budget), with the expectation that this would create about 1.7 million new jobs. Economic managers, therefore, consider the timely passage of this budget as critical for the country's economic recovery.

Financial conditions

Financial conditions tightened in March 2020 when key areas of the country were placed under lockdown, as evidenced by sharp upticks in domestic interest rates (Figure 1.12). Prompt easing by the central bank, however, helped to quickly bring down yields. The stock market also received a beating during the earlier period of heightened uncertainty but inched up as the economic environment appeared to normalize (Figure 1.13). Bond market spreads, meanwhile, widened as risk appetite in emerging markets generally fell but narrowed as actions were taken abroad, particularly in the US, to loosen macro conditions and support dollar liquidity (Figure 1.14).

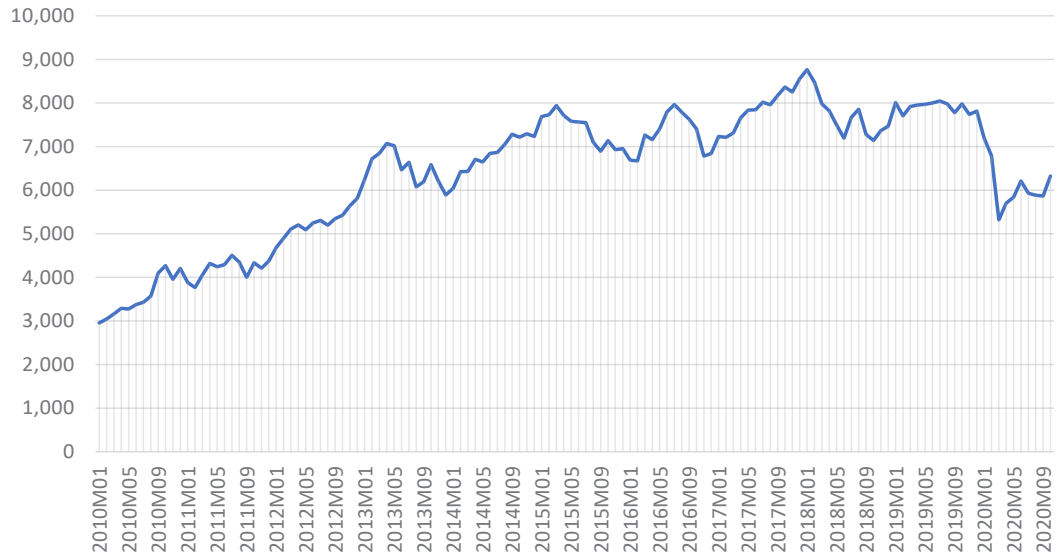
Although financial markets seem to have calmed down, a broader measure of financial conditions indicates that a season

Figure 1.12
Selected domestic interest rates



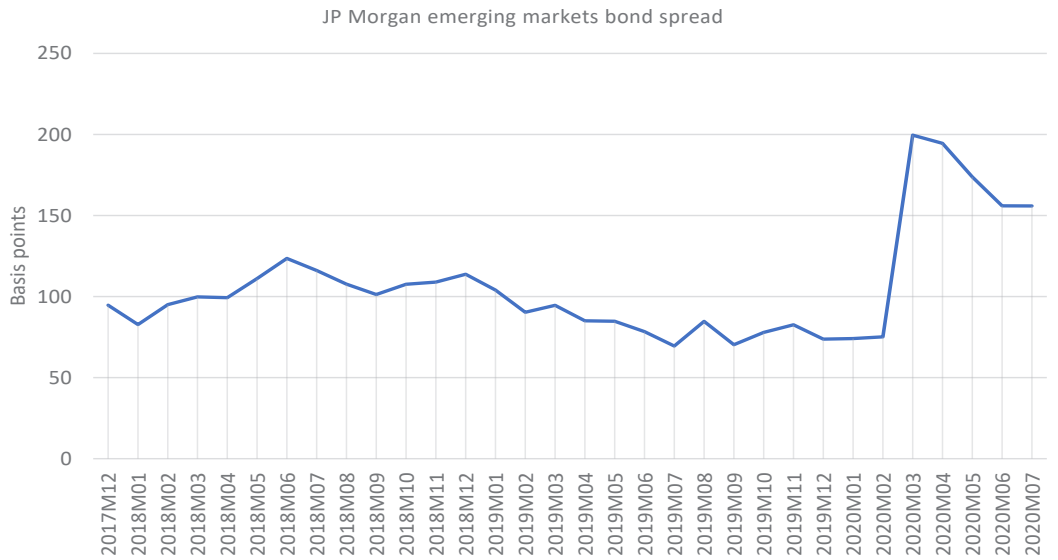
IBCL = interbank call loan; 3m = three-month; 10y = ten-year
Source: *Bangko Sentral ng Pilipinas* (various years d)

Figure 1.13
Stock index



Source: *Bangko Sentral ng Pilipinas* (various years j)

Figure 1.14
Bond market spread



Source: World Bank Global Economic Monitor (n.d.)

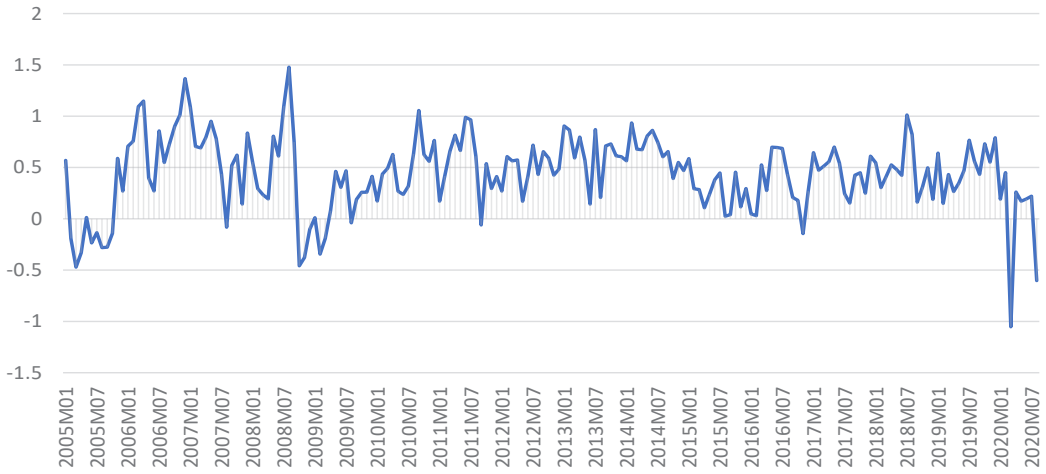
of normalcy may be further down the road (Figure 1.15a). A monthly financial condition index (FCI) computed for the Philippines—which takes into account not only interest rates/spreads and asset values but also credit quantities and liquidity, and levels of financial stress/risk—shows a sharp tightening of financial conditions in March, with the financial system operating much worse (by more than 1 standard deviation) than the historical average (Debuque-Gonzales 2020; see Appendix 1.1 for the methodology).[12] Levels of liquidity, stress, and risk stabilized from April to July based on this index, but deteriorated again by August.

[12] Since the index considers financial shocks, the historical average here refers to levels that are compatible with the stage in the business cycle (i.e., consistent with GDP growth and inflation).

The Philippine FCI suggests that financial conditions have been much less benign under the pandemic crisis than during the Global Financial Crisis, even during the Lehman Brothers' collapse in 2008. This indicates the continued weakness of the economy, given the indicator's forecasting power for key macro variables (mainly GDP growth and inflation), particularly the major turning points (see Figure 1.15b). This highlights the importance of policy vigilance to maintain the smooth flow of credit into the economy and avoid adverse macro-financial feedback loops—i.e., from the real economy to the financial system and back—that may set back the country's recovery from COVID-19.

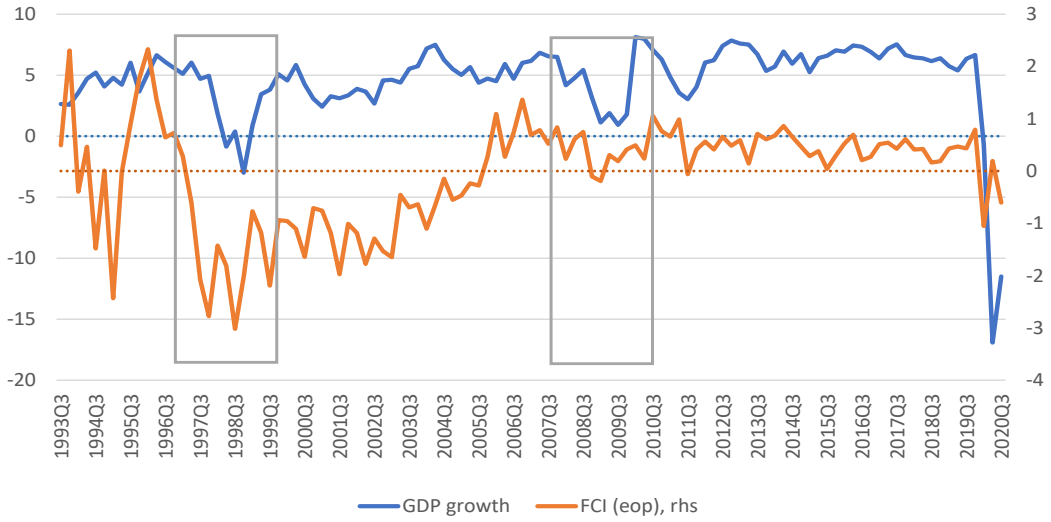
In a survey conducted by the BSP, senior bank loan officers noted a sharp

Figure 1.15a
Financial conditions index for the 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 (2020)

Figure 1.15b
Financial conditions and GDP growth



FCI = financial condition index; GDP = gross domestic product; eop = end of period; rhs = right-hand side
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 (2020); Philippine Statistics Authority (various years d)

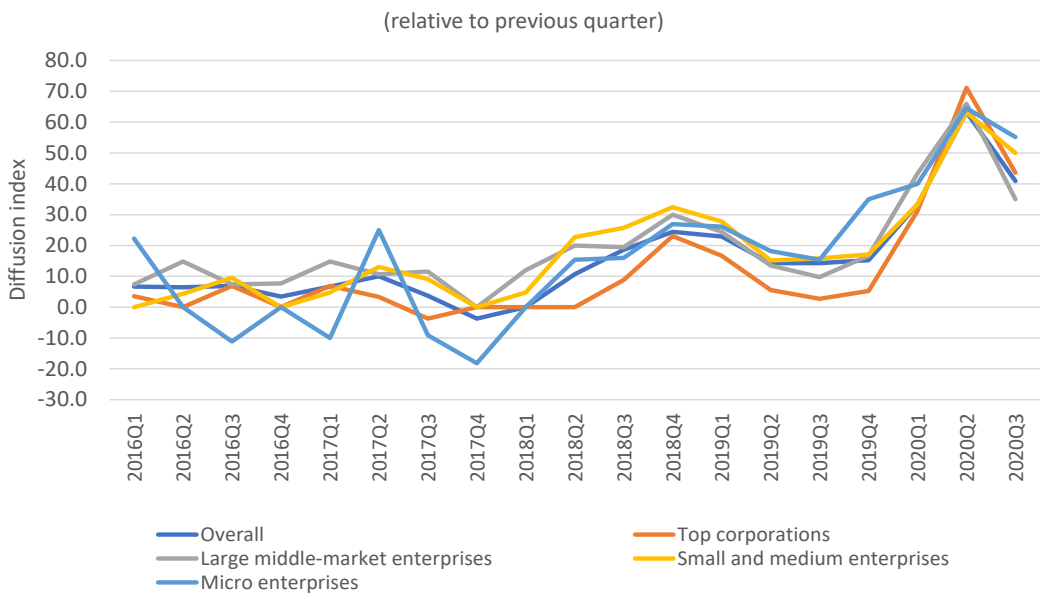
tightening of their banks' credit standards after the lockdowns, supporting the FCI findings, with conditions improving but not easing in the subsequent period (Figures 1.16a and 1.16b). For the second quarter of 2020, well over three-fifths of those surveyed (69.4%) reported stricter enforcement and policies of their banks on loans and credit lines to enterprises, notably among microenterprises (74.2%), while about three-fifths (60.6%) reported a credit tightening for households, particularly on credit card loans (78.6%).[13] The numbers reporting credit tightening fell in the third quarter, to 47.8 and 46.7 percent, respectively, for enterprises and households, but none reported any considerable easing. Credit demand correspondingly declined, especially among the smaller businesses, likewise indicating weaker economic activity (Figures 1.17a and 1.17b).

Economic activity

Higher frequency indicators of economic activity can provide a more granular view of the country's recovery. Overall, there seems to be partial recovery from the height of the pandemic crisis in March 2020, when stringent mobility restrictions were put in place. Still, the revival of activity remains weak because of both domestic

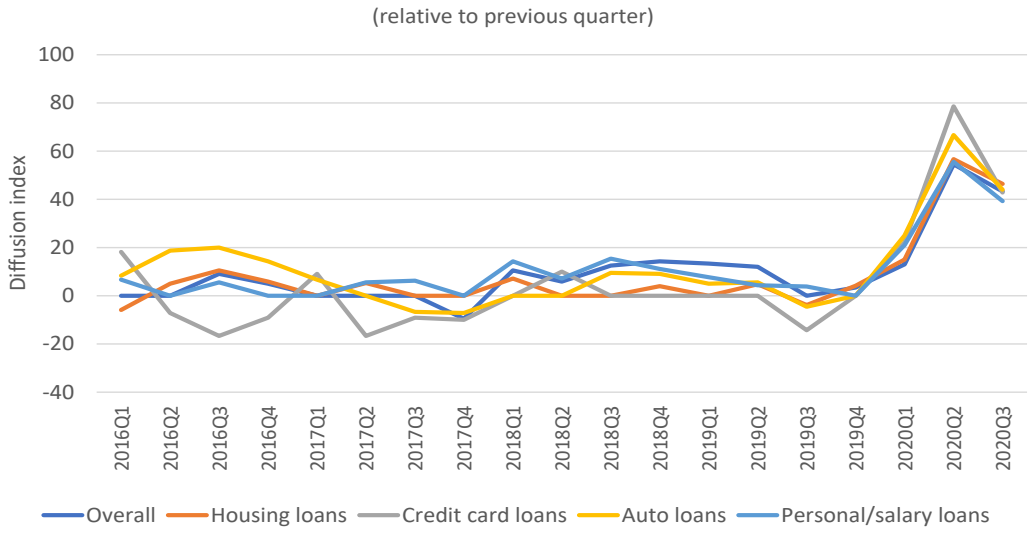
[13] There had been a steep upsurge of credit card loans during the year, however, which helps explain the more cautious/prudent stance of banks. In September, the BSP place a cap on interest rates on credit cards (at 2% monthly) as part of their COVID-19 response, purportedly to ease the burden on consumers during the pandemic.

Figure 1.16a
Change in bank credit standards for loans to enterprises



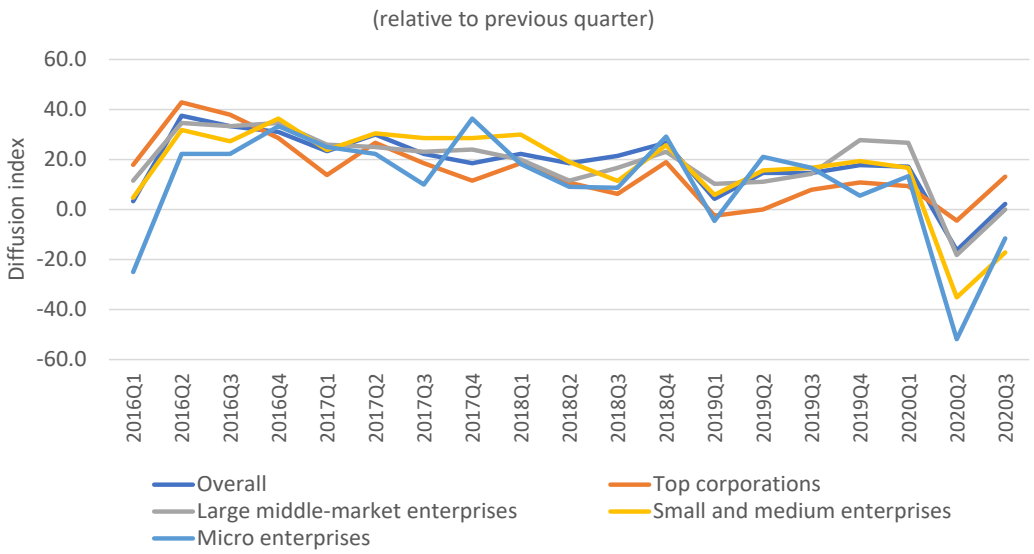
Note: A positive diffusion index indicates "net tightening" of credit standards (i.e., more banks tightening than easing), while a negative index indicates "net easing".
Source: *Bangko Sentral ng Pilipinas* (various years k)

Figure 1.16b
Change in bank credit standards for loans to households



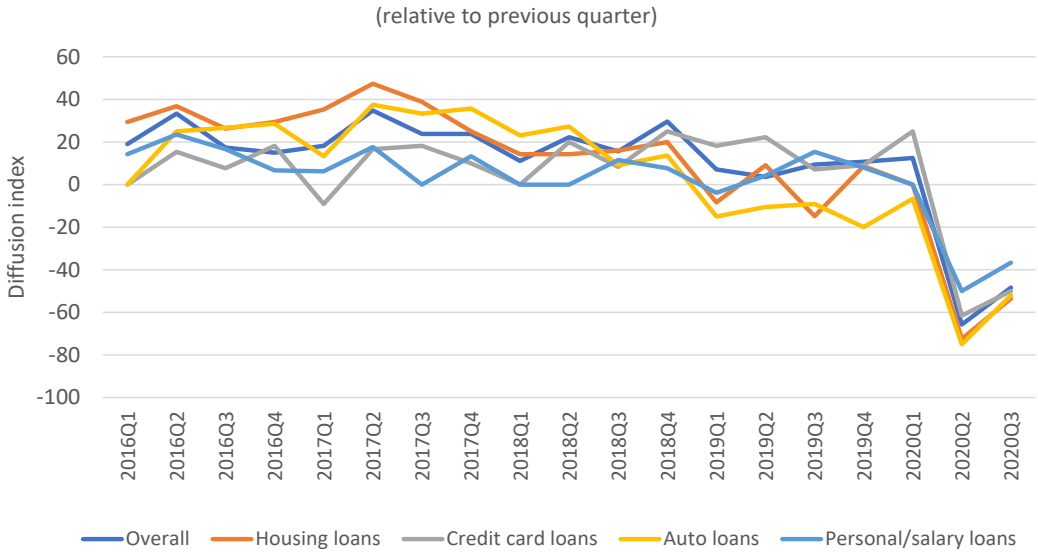
Note: A positive reading indicates "net tightening" of credit standards (i.e., more banks tightening than easing), while a negative reading indicates "net easing."
Source: *Bangko Sentral ng Pilipinas* (various years k)

Figure 1.17a
Change in credit demand of enterprises



Note: A positive diffusion index indicates that more banks reported an increase in loan demand, while a negative index indicates that more banks reported a decrease in loan demand.
Source: *Bangko Sentral ng Pilipinas* (various years k)

Figure 1.17b
Change in credit demand of households



Note: A positive diffusion index indicates that more banks reported an increase in loan demand, while a negative index indicates that more banks reported a decrease in loan demand.
Source: *Bangko Sentral ng Pilipinas* (various years k)

and external circumstances. Business and consumer confidence naturally remain tepid in this period of high uncertainty, further indicating a tenuous climb back to the country's original output path.

The country's production index shows manufacturing output and sales volumes collapsing in April from year-ago levels, and remaining weak by August, as can be expected given continued restrictions on the capacity of some industries and constraints on personal mobility (Figure 1.18).[14] The manufacturing purchasing managers index (PMI), which is based on a survey of purchasing managers and which indicates new orders, including new export orders, also fell in March, bottomed out in April, then climbed back to normal reading by the middle of the year (Figure 1.19). A PMI of 50.1 in September still just indicates little or virtually no expansion. This hardly signifies a resurgence in the country's exports, which also just partially recovered from a low in April (Figure 1.20).[15]

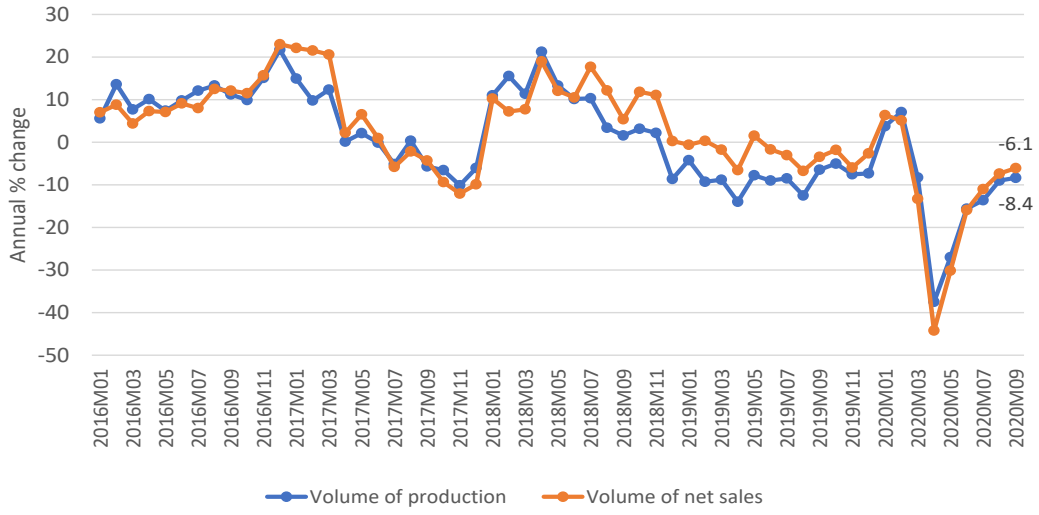
Production loans generally reversed trend after March, with credit for wholesale and retail trade notably experiencing a decline by August (Figures 1.21a and 1.21b).[16] Until April, loans still flowed rapidly to some sectors (such as information and communication, transportation and storage, and real estate), but have subsequently slowed, although growth in information technology and property loans continues to be quite high (14.3% and 8.4%, respectively).

[14] Mobility restrictions on persons 15 years and older were lifted only in mid-October, seven months after the initial lockdown.

[15] The PMI for manufacturing, in fact, further slipped to 48.5 in October 2020.

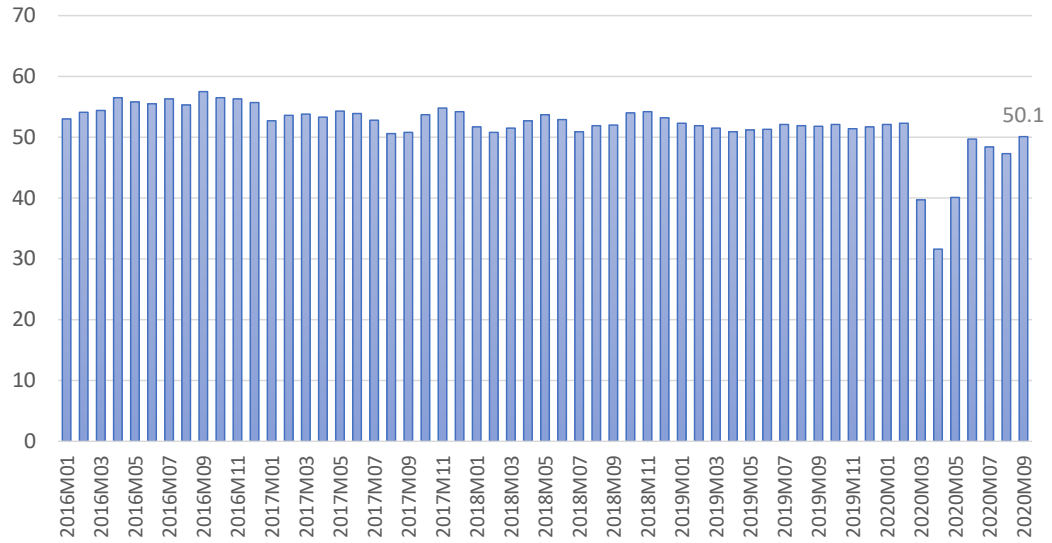
[16] The slowdown in lending to manufacturing began a year earlier, in 2019, indicating separate concerns.

Figure 1.18
Production and sales growth



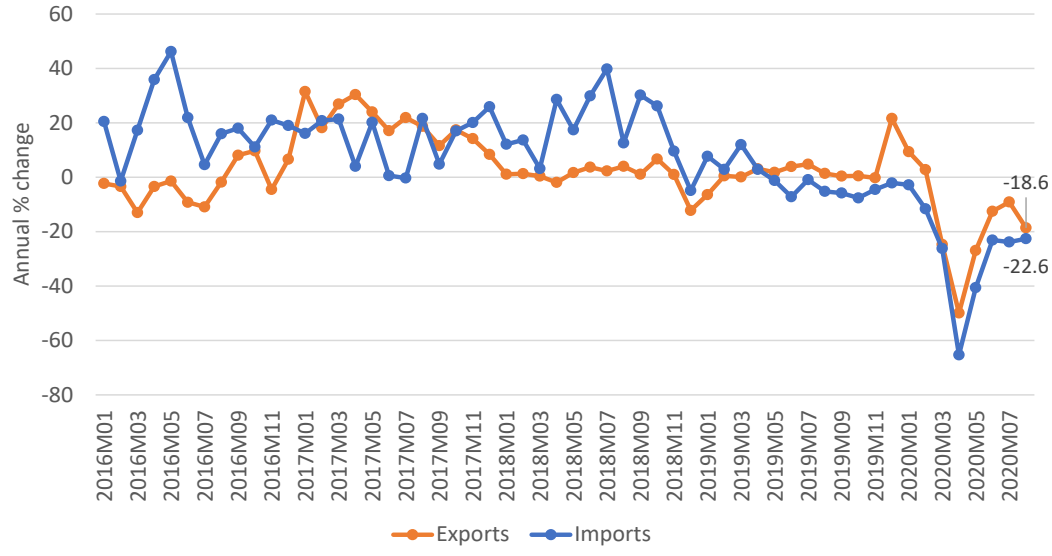
Note: The Volume of Production and Volume of Net Sales indexes cover the key manufacturing industries.
Source: Philippine Statistics Authority (various years c)

Figure 1.19
PMI for manufacturing



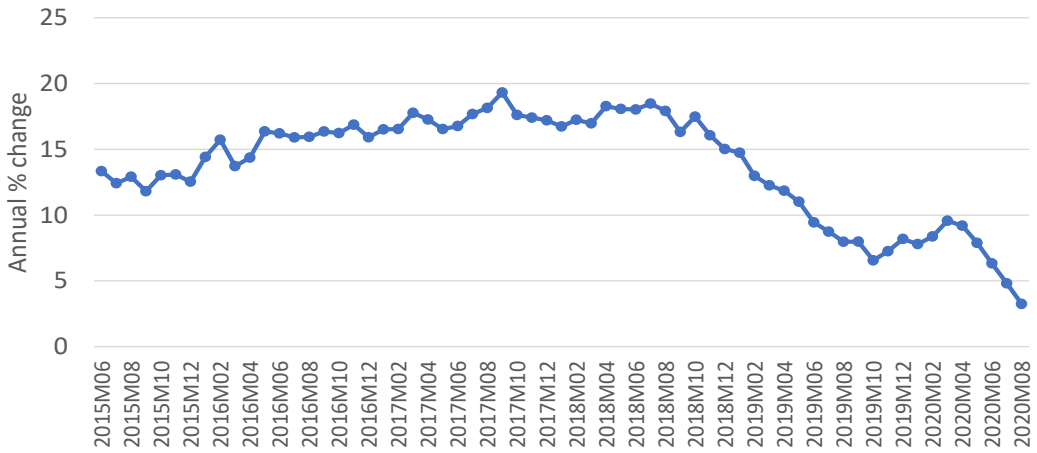
PMI = Purchasing Managers Index.
Note: A PMI above 50 represents an expansion (relative to the previous month); a reading below 50 means a contraction; a reading equal to 50 indicates no change.
Source: *Bangko Sentral ng Pilipinas* (various years i)

Figure 1.20
Export and import growth



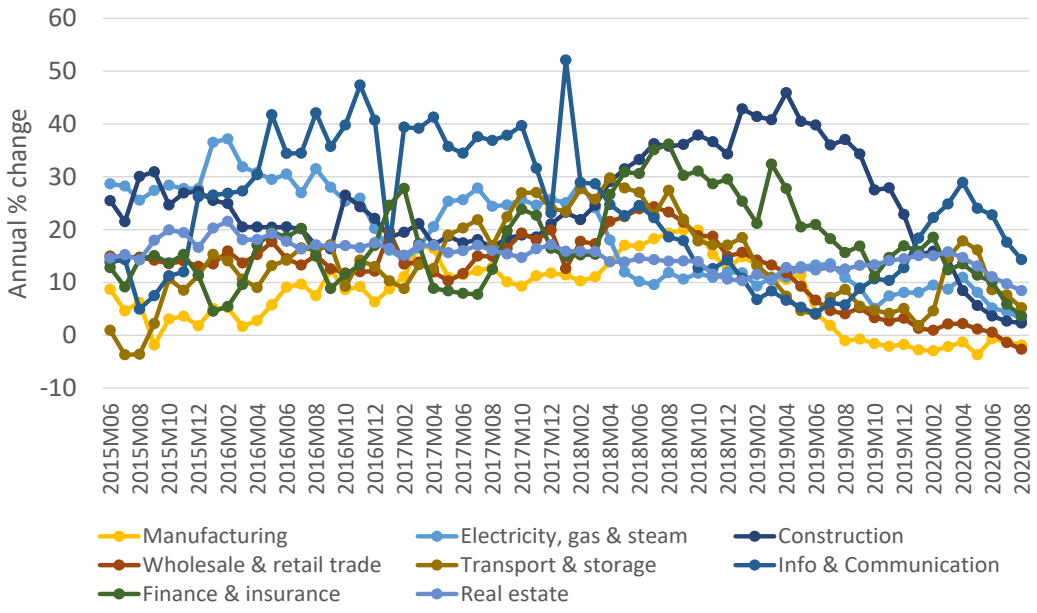
Source: Philippine Statistics Authority (various years a)

Figure 1.21a
Production loan growth



Source: *Bangko Sentral ng Pilipinas* (various years f)

Figure 1.21b
Production loan growth – major industries



Source: *Bangko Sentral ng Pilipinas* (various years f)

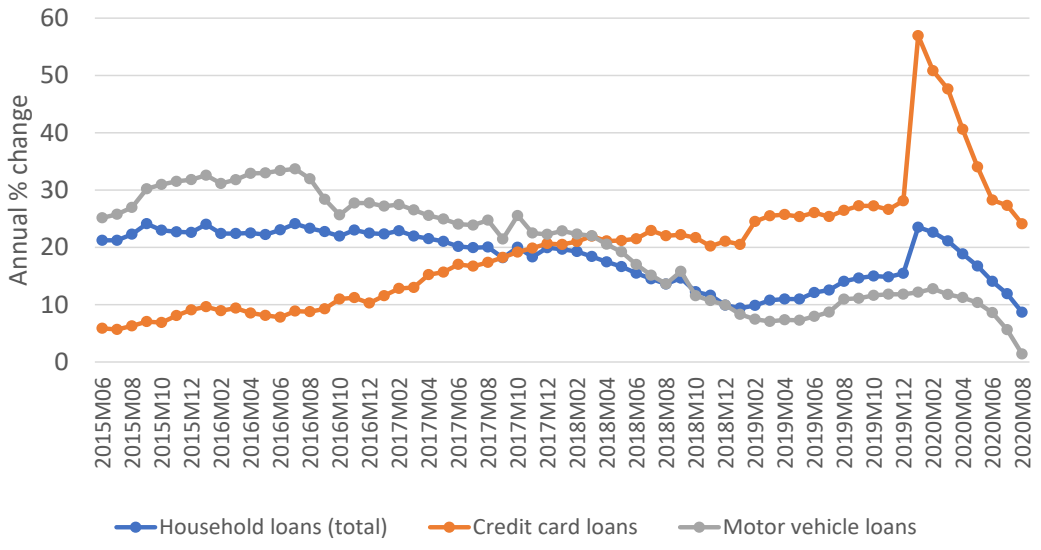
Automobile loans faced similar headwinds after the lockdowns, as households suffered from job losses and a sharp drop in incomes, with credit expansion in the sector driven down to almost zero by August (Figure 1.22). Credit card debt had tapered after a sharp upsurge in January, which some industry observers attributed to a lagged response to monetary easing, but remained high, at 24.1 percent, also in August (Figure 1.22).

Business and consumer confidence

The latest survey released by the central bank shows a sharp drop in expectations among the country's firms and households, extending beyond the third quarter of 2020, and likely to spill over to the succeeding year (Figures 1.23 and 1.24). Businesses were generally pessimistic about the current quarter (a reading of -5.3%) on account of observed shutdowns and slowdowns of business operations, declines in sales, and concerns about the government's ability to contain the virus. They were only slightly optimistic about the next quarter (16.8%) as they anticipated the continued adverse effects of the pandemic. Consumers were even glummer on the current quarter (a reading of -54.5%) on account of the high unemployment rate and job losses within the family, low and reduced incomes, and perceived acceleration of consumer prices. Consumer pessimism extended to the next quarter for the same reasons (-4.1%).

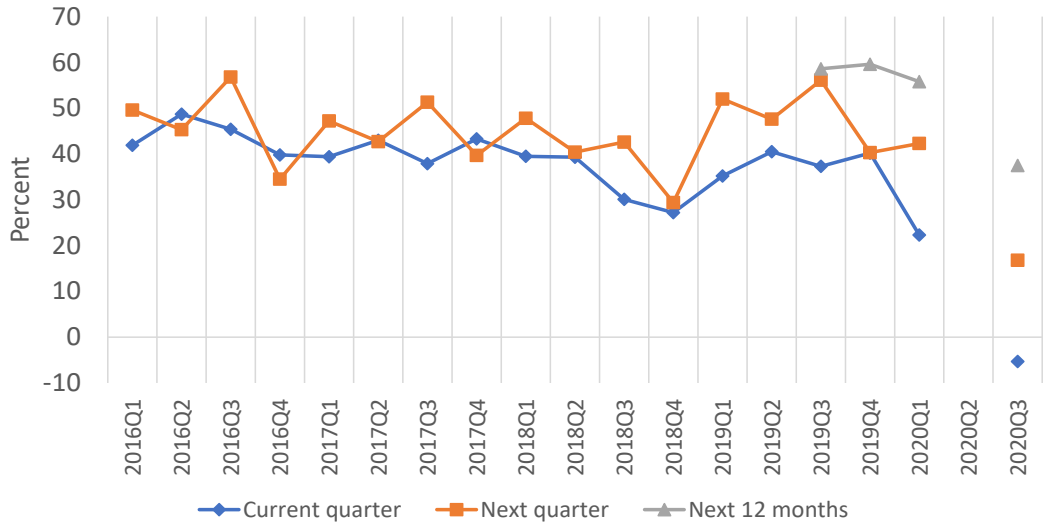
With firms and households still reeling from the initial impact of the pandemic crisis, one can therefore expect only a slow revival of "animal spirits" in the economy. Clearly, much is required from the country's economic and political leaders to raise the level of confidence in the economy.

Figure 1.22
Household loan growth



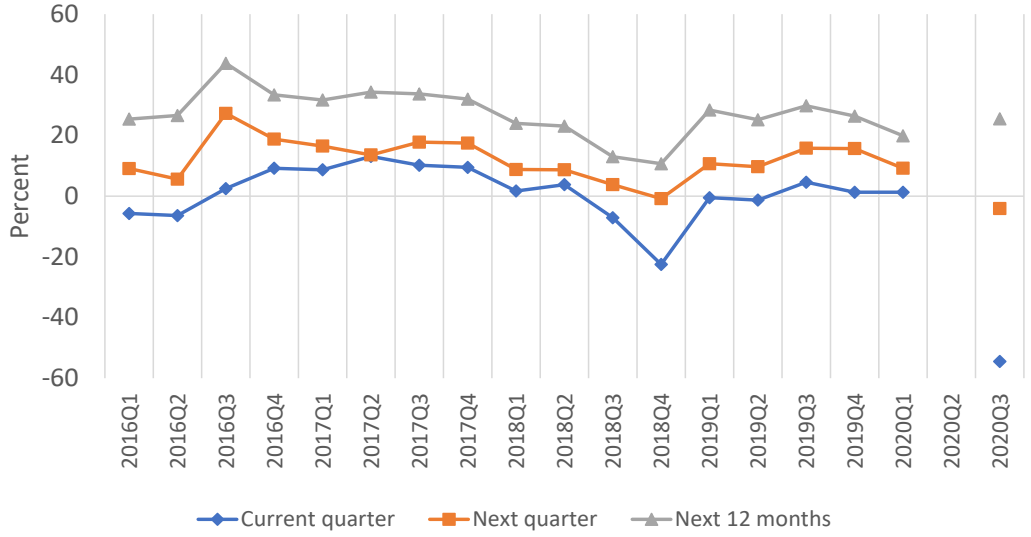
Source: *Bangko Sentral ng Pilipinas* (various years f)

Figure 1.23
Business expectations



Note: A positive (negative) reading indicates that respondents with a positive (negative) outlook outnumbered those with a negative (positive) outlook.
Source: *Bangko Sentral ng Pilipinas* (various years b)

Figure 1.24
Consumer expectations



Note: A positive (negative) reading indicates that respondents with a positive (negative) outlook outnumbered those with a negative (positive) outlook.
Source: *Bangko Sentral ng Pilipinas* (various years c)

Macroeconomic forecasts

Evolving global and domestic conditions and factors discussed above provide useful background for projections of GDP and price outcomes. What then are the macroeconomic prospects of the country? Tying the different strands together, one can reasonably expect only partial recovery in the near term, not only because of global weakness and limited (and gradual) reopening of the economy, which remains a public health imperative, but also because of possible behavioral changes that may restrict demand, uncertainties surrounding the launch of an effective fiscal stimulus, potential tightening of financial conditions, and the currently low level of optimism in the economy.

Considering the impact of typhoons in the fourth quarter, national output will likely decline by 9.5 percent in 2020, a projection that is in line with independent private sector forecasts (Table 1.2a, first panel). The economy can still grow at the lower end of the government's target range (at around 6.5%) in the succeeding year, but there will be fierce headwinds in the abovementioned trends, apart from the persistent threat of a coronavirus resurgence both domestically and globally in the absence of a vaccine—and of solid plans for the worldwide and domestic distribution of a vaccine. A sensible forecast would thus place GDP growth at around 6 percent in 2021, before the economy reverts to trend growth of 6.5 percent in the medium term.

Projections based on the FCI introduced in this chapter (see Appendix 1.2 for the forecasting methodology) place GDP growth at a range of 5 percent to 5.5 percent in 2021, but this framework assumes that financial conditions are the main forces affecting the performance of the real economy (Hatzius et al. 2010). The recent pandemic recession, however, is largely the direct result of the severe lockdowns and prolonged restrictions on mobility, business operations, and production capacity, and one may expect a soft bounce even with the limited reopening.

That said, inflation will remain within target in the short and medium term, as the effects of weakened aggregate demand will likely continue to overshadow the effects of supply limitations (Table 1.2a, second panel). FCI-based forecasts of inflation average around 3 percent in 2021.

Table 1.2b shows the consensus forecasts for the Philippines (FocusEconomics 2020), which contain the views of different banks, financial institutions, and financial research firms on the domestic economy. Financial sector participants and observers anticipate a sharp GDP decline in 2020 but a slightly stronger recovery than this chapter has pencilled in for 2021. However, this slightly rosier view still does not bring back the economy to its pre-COVID output levels, nor is it expected to normalize yet the country's unemployment rates.

Fiscal deficits are expected to temporarily rise on account of the fiscal responses to the pandemic crisis and reduced tax revenues also because of the crisis, but still according to government expectations, which is the middle spot among ASEAN and credit rating peers (Dominguez 2020). The finance department expects the deficit ratio to rise to 9.6 percent of GDP in 2020 then decline to 8.5 percent and 7.2 percent in 2021 and 2022. In the same way, public debt is expected to increase to about 50 percent of GDP in the short to medium term according to limits set by the country's economic managers (60% by 2022).

Table 1.2a
Forecasts for the Philippines – Output and consumer price trends

	2002–2011	2012–2018	2019	2020f	2021f	MTP
GDP (annual % change)	4.9	6.3	6.0			
International financial institutions				**-7.5**	**6.4**	
Asian Development Outlook (Sep 2020)				-7.3	6.5	
East Asia & Pacific Update (Oct 2020)				-6.9	5.3	
*low case				-9.9	2.9	
World Economic Outlook (Oct 2020)				-8.3	7.4	6.5[a]
Private sector						
Capital Economics				-8.0	13.0	
Fitch Solutions				-9.1	6.2	
Kiel Institute				-9.5	7.6	
Moody's Analytics				-9.2	7.8	
Oxford Economics				-8.7	9.8	
Philippine Equity Partners				-7.5	4.5	
GlobalSource Philippines (Sep 2020)				-8.5	6.0	
Government						
DBCC (government assumptions)				-8.5 to -9.5	6.5 to 7.5	8.0 to 10.0[c]
Author's forecast[d]				**-9.5**	**6.0**	**6.5**
CPI (annual % change)	4.6	2.8	2.5			
International financial institutions				**2.4**	**2.8**	
Asian Development Outlook (Sep 2020)				2.4	2.6	
World Economic Outlook (Oct 2020)				2.4	3.0	3.0[a]
Private sector						
FocusEconomics (Oct 2020)				**2.4**	**2.9**	**3.1[b]**
Of which:						
Capital Economics				2.3	3.5	
Fitch Solutions				2.7	3.0	
Kiel Institute				2.7	3.2	
Moody's Analytics				2.3	2.4	
Oxford Economics				2.4	2.8	
Philippine Equity Partners				2.5	3.1	
GlobalSource Philippines (Sep 2020)				2.6	2.9	
Government						
DBCC (government assumptions)				2.4 to 2.6	2.0 to 4.0	2.0 to 4.0[c]
Author's forecast[d]				**2.6**	**3.0**	**3.0**

CPI = consumer price index; DBCC = Development Budget Coordination Committee; GDP = gross domestic product; MTP = medium-term projection
[a] Refers to 2025 figure. [b] Refers to the 2024 figure. [c] Refers to 2022 figure. [d] Author's forecasts are based on an autoregressive forecasting model similar to Hatzius et al. (2010) and Bernanke (1990), with a financial conditions index (FCI) that draws information from 49 indicators as a predictor variable (Debuque-Gonzales 2020; see Appendix 1.2 for the methodology), but with an adjustment made for the nature of the crisis.
Sources: ADB (2020); FocusEconomics (2020); International Monetary Fund (2020b); Tang and Bernardo (2020); World Bank (2020a)

Table 1.2b
Forecasts for the Philippines – Output and consumer price trends

	2015	2016	2017	2018	2019	2020f	2021f	2024f
Real Sector								
GDP (annual % change)	6.3	7.1	6.9	6.3	6.0	-7.0	7.3	6.7
Private consumption (annual % change)	6.4	7.2	6	5.8	5.9	-5.7	6.2	5.8
Fixed investment (annual % change)	13.8	20.9	10.6	12.9	3.9	-20.3	13.2	8.4
Gov't. consumption (annual % change)	7.9	9.4	6.5	13.4	9.6	14	6.2	6.4
Unemployment (% active population)	6.3	5.5	5.7	5.3	5.1	10.2	7.7	5.8
Fiscal balance (% of GDP)	-0.9	-2.3	-2.1	-3.1	-3.4	-7.8	-6.1	-3.1
Public debt (% of GDP)	42.7	40.2	40.2	39.9	39.6	50.1	52.3	50.6
Monetary & Financial Sector								
Inflation (CPI, annual % change, aop)	0.7	1.3	2.9	5.2	2.5	2.4	2.9	3.1
Reverse repurchase rate (%, eop)	4.00	3.00	3.00	4.75	4.00	2.12	2.54	3.36
91-day Treasury Bill (%, eop)	3.15	3.19	3.02	1.75	1.56	1.71	1.90	2.31
Exchange rate (peso per USD, eop)	51.8	50.7	50.9	49.8	48.6	49.4	49.4	49.4
External Sector								
Current account balance (% of GDP)	2.4	-0.4	-0.7	-2.6	-0.9	0.4	-0.9	-1.8
International Reserves (USD billion)	80.7	80.7	81.6	79.2	87.8	90.5	94.3	125.0
External debt (% of GDP)	25.3	23.5	22.3	22.8	22.2	23.8	22.4	19.1

aop = average of period; eop = end of period
*Figures are mean averages of projections of economic forecasters regularly surveyed by FocusEconomics. For the Philippines, surveyed institutions include foreign and domestic universal banks, investment banks, financial research and consultancy firms, firms offering forecasting and data analytics services, a research organization, and a stock brokerage.
Source: FocusEconomics (2020)

Projections on the financial sector and external accounts are mixed but still relatively sanguine, including a slight uptick in domestic rates, as some demand revival combines with continued supply constraints, further accumulation of international reserves despite a return to a current account deficit, and an eventual decline in external debt in the medium term.

Risks to recovery

A critical source of risk that could delay the country's economic recovery from COVID-19 is still the path of the pandemic, which remains highly uncertain. While there have been improvements in medical treatments and lower fatality rates in many countries, the virus continues to pose a threat, and so, too, the possibility of disruptive

lockdowns, protracted social distancing, and recurrent economic weakness leading to more job losses and bankruptcies.

Further pandemic waves could produce longer and deeper recessions than previously anticipated, exacerbated by adverse global spillovers through the various channels of tourism, trade, remittances, and financial markets. Many countries responded to the pandemic crisis by providing unprecedented fiscal and monetary support to cushion the downturn and preserve financial stability; correspondingly, an untimely reversal of such support could pose substantial risks. To date, the probability of negative global growth is still estimated at nearly 5 percent in 2021, which remains above historical standards (IMF 2020a).

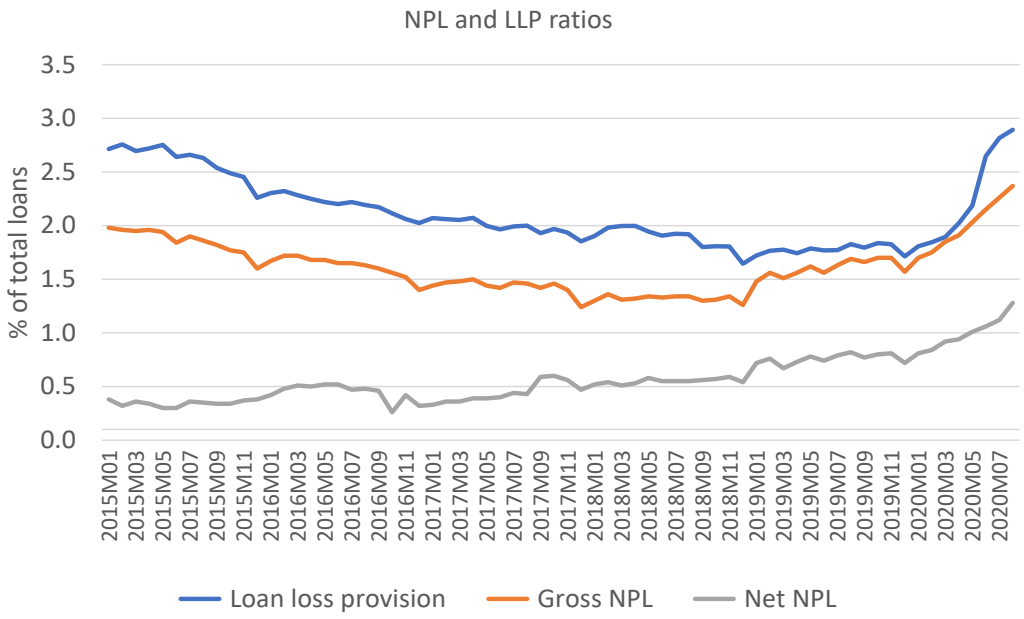
Another common risk across economies is real sector weakness spreading to the financial sector and impeding the flow of credit needed for a smooth domestic recovery. Banks in the Philippines, however, have entered the recession with healthy balance sheets and high capital buffers, which lessens the threat of negative macro-financial loops being activated.

Gross non-performing loan (NPL) ratios have risen from 1.7 percent at the start of 2020 to 2.4 percent by August (Figure 1.25), which is still far below the double-digit rates seen a decade and a half earlier after the Asian financial crisis. Banks have set aside ample provisions for faulty loans, ensuring individual stability though lowering profitability and portending further financial tightening. As of end-March 2020, the country recorded a capital adequacy ratio of 15.3 percent on a solo basis and 15.9 percent on a consolidated basis, exceeding minimum standards of the BSP and Basel (10% and 8%, respectively). Monetary authorities foresee an uptick in the NPL ratio in the coming months because of the pandemic crisis, but expect the increase to be "manageable" (Diokno 2020). While risks in the financial system, so far, appear nonthreatening, they can be further controlled through pre-emptive measures.

On the upside, the early launch of an effective vaccine could hasten recovery worldwide. Recently, there have been positive news in this area, as big pharmaceutical firms report high vaccine efficacy (> 90%) based on clinical trials. Although these developments provide much reason to hope, industry observers report numerous unknowns about these new vaccines, particularly their impact on different subgroups, while expressing doubt about the ability of only a handful of firms to supply the world population's requirements. While there are global institutions such as the WHO focusing on such issues, a well-accepted plan for distribution across the developing world has yet to be established (Kupferschmidt 2020).

The longer-term risk to growth in a pandemic is the scarring effect—i.e., the possible damage to a country's supply potential (Boissay and Rungcharoenkitkul 2020; Eichengreen 2020; IMF 2020b; World Bank 2020b). The harm may be on a country's human and/or physical capital, such as through disruptions in education and training and interruptions to planned investment. More immediately, it may be through bankruptcies and business shutdowns, long-term unemployment eroding skills, a discouraged labor force, hindrances to critical pandemic-related structural change, and detachment from global trade.

Figure 1.25
Bank asset quality indicators



NPL = nonperforming loan; LLP = loan loss provision
Note: NPL ratio is computed as the corresponding NPL amount divided by total loans. Net NPLs are adjusted for loans that have been treated as "loss" and fully provisioned.
Source: *Bangko Sentral ng Pilipinas* (various years l)

In the *World Economic Outlook 2020* (IMF 2020b) estimates of medium-term GDP losses incorporating the impact of COVID-19, interpreted by the publication as indicative of damage to supply potential, the Philippines, along with India, appeared to be the most prone to scarring. Both countries faced second-quarter GDP drops that were much more severe than originally expected and grappled with developing-country problems to a large extent. These problems include the continued spread of the virus, under-resourced public health care systems, and reliance on severely affected sectors, such as tourism and transport, and on external finance sources like remittances. Moreover, the countries notably had large service sectors relative to their economies. While it may be argued that the damage is likely overstated by the measure used, it would be prudent for the country to keep an eye on such perils and to continue to embark on structural reforms that would build resilience to future shocks of the same ferocity as the current pandemic.

Policy challenges

Philippine policymakers will continue to face tough challenges in the coming months and years. A still high uncertainty coupled with reduced fiscal resources, would imply a continuous weighing of difficult trade-offs.

The first set of challenges began in March when the country's leaders faced the gruelling task of flattening the epidemic curve, which required stringent mobility restrictions, as well as providing relief to vulnerable households and businesses that had been hammered by the lockdowns. Both fiscal and monetary support had to be provided to protect household incomes and firm cash flows and prevent credit from drying up.[17] The goal was not just immediate relief, but ultimately to keep the economy and its active (and especially viable and solvent) parts whole in the face of a once-in-a-lifetime shock, in nature and size, and to avert a financial breakdown.

The country's leaders are facing a second set of challenges that involves managing a safe but partial reopening of the economy while keeping infection rates on a downtrend. This would necessitate efficient containment of the virus to prevent recurrent lockdowns and continued fiscal and monetary relief to avoid deeper and longer downturns, especially as the effects of the unprecedented shock are expected to linger. To date, some industries and sectors are still only partly open, many businesses (and some sectors) have been shuttered, and thus, many jobs lost. At the same time, not a few households remain fearful of the virus and continue to socially distance, keeping demand weak.

A positive development lately has been the decline in infection rates in the country over the last couple of months, which, if sustained, could allow a fuller reopening of the economy even without a vaccine (though there have been optimistic news as well on that front). This would usher in a new set of challenges, with policy attention inevitably shifting from relief to recovery. One can expect many debates to emerge, particularly on deciding the right amount and nature of stimulus to balance near-term and long-term growth. In these debates, the common goal ideally would be stronger, more resilient, and more inclusive growth.

Some challenges may persist if policy responses are insufficient or are prematurely reversed. Monetary authorities would therefore need to be vigilant about the risk of a real economic crisis turning into a financial crisis and starting an adverse macro-financial feedback loop, which has only been temporarily broken through much liquidity support and regulatory forbearance.[18] Similarly, economic and fiscal authorities need to be mindful of the dangers of the economy getting stuck in an underemployment equilibrium, if not enough support is given in both relief and recovery. Such unpleasant possibilities highlight the need for constant monitoring, especially of bank-level financial conditions and the emerging employment picture. Policymakers, in turn, may be more responsive to the unfolding economic scenario.

While averting a deep and long-lasting recession is the immediate task, it is equally

[17] As mentioned earlier, central to these efforts on the fiscal side were the Social Amelioration Program for poor households made possible by the Bayanihan I law (RA 11469), which allowed for a realignment of the national budget; support measures for displaced workers; and credit guarantees for small businesses and the agriculture sector. On the monetary side, steps were taken not just to bolster liquidity and provide regulatory relief to financial institutions, but also to encourage lending to SMEs.

[18] The rise in NPLs, for instance, has been slowed by debt moratoriums allowed by law. The grace period for loans granted by the Bayanihan II law lasts only until December 31, 2020, after which NPLs may accelerate. There is pending legislation that aims to help banks unload troubled assets (the Financial Institutions Strategic Transfer Act). Such can help block the unfavorable macro-financial feedback loop by easing financial conditions at the bank level and preserving the flow of credit to the economy.

vital that near-term growth requirements be weighed judiciously against long-term growth fundamentals. For instance, although the BSP's repurchase agreement with the Bureau of Treasury to fund COVID responses temporarily eased government financing pressure and improved bond market functioning, extending such support beyond emergency and extraordinary situations could undermine central bank independence and credibility, weaken inflation control, and raise risks about perceived fiscal dominance (IMF 2020a). Similarly, large fiscal outlays made in pursuit of a sharp recovery may not always be advisable (Loayza et al. 2020), especially while multipliers are constrained by pandemic policies, as these can lead to large deficits and a huge debt overhang and, in extreme cases, debt and financial crises, though such fears may be downplayed in the current low-interest-rate environment.

The longer-term policy task would be to counter the perceived scarring effect of the pandemic on the Philippine economy. Productivity losses may occur with business closures, particularly of high-potential firms, and prolonged unemployment that leads to a loss of skills. Trade-offs faced by governments with limited revenues may therefore not be as sharp, as spending for near-term support may also be needed to preserve the pace of future expansion. To a certain extent, protecting hard-hit firms and workers may be essential in rebuilding the economy for stronger and more resilient growth. Moreover, some investments would serve both purposes. Infrastructure investment, for example, could provide jobs and create much-needed physical capital, while investment in education could help minimize the losses experienced in the pandemic while also building human capital. These are the directions already

set by the country's economic managers in the national budget that lawmakers will hopefully support in record speed.

Much, however, still needs to be done to help retrofit the economy for the post-COVID period, such as in pandemic prevention, through greater investment in public health care, and facilitating the adoption of new technologies and advancement of new industries more compatible with the new normal. There is also much to be done to promote inclusive growth, such as improving the delivery mechanisms for social protection by setting up a more efficient nationwide system, widening broadband and mobile phone coverage, and deeper financial inclusion, including for the elderly and those situated in rural areas. In these times, breaking the digital divide would be especially potent in achieving equity in education and jobs.

How all the different types of spending would ultimately be paid for would also matter greatly for equitable growth. The allocation of the burden of public debt across individuals and across time would need to be carefully considered, as the pandemic had already disproportionately hit the most vulnerable members of society. Now, more than ever, to put the debt on a more sustainable path, policymakers need to be more careful not to rely on measures that are burdensome for the poor, such as through inflation or regressive taxation. In the near to medium term, at least, one can expect this to be the standard by which new fiscal policies will be measured.[19]

[19] Recovery bills pushed by the government's economic team included the Corporate Recovery and Tax Incentives for Enterprises (CREATE) Act, which lowers the corporate income tax (CIT) from 30 to 25 percent, and further down to 20 percent by the fifth year. The team argued that this would primarily benefit micro-SMEs, which comprise 99 percent of businesses and employ more than 60 percent of Filipinos. In the context of a COVID outbreak, Canlas (2020) warned that such legislation may worsen inequality if revenues are replaced by indirect taxes, which are regressive and shift the tax burden to households and small firms. Lim (2020) supported the portion of the earlier version of the bill that extended net operating loss carryover (NOLCO) from 3 years to 5 years but opined that corporate tax cuts will generate revenue losses at a time when funds are most needed to finance spending in health and social protection. As of writing, the final version of the CREATE bill—which additionally lowers the CIT rate for firms with net taxable income not exceeding PHP 5 million and total assets (excluding land) not exceeding PHP 100 million to 20 percent—was being finalized by the bicameral conference committee of the House and Senate. NOLCO extension was included in the Bayanihan II law.

References

Asian Development Bank (ADB). 2020. *Asian Development Outlook: Wellness in worrying times*. Manila, Philippines: ADB.

Bernanke, B. 1990. On the predictive power of interest rates and interest rate spreads. *New England Economic Review* November:51–68.

Bernardo, R. 2020. Fiscally stimulating enough? *In Brief*, June 6. GlobalSource Partners Philippines. https://www.globalsourcepartners.com/posts/fiscally-stimulating-enough/teaser (accessed on October 31, 2020).

Bangko Sentral ng Pilipinas (BSP). Various years a. Balance of payments BPM6 format, new concept. Statistics – external accounts. https://www.bsp.gov.ph/SitePages/Statistics/External.aspx?TabId=1 (accessed on November 6, 2020).

_____. Various years b. Business expectations survey. https://www.bsp.gov.ph/SitePages/MediaAndResearch/Business%20Expectations%20Report.aspx (accessed on November 7, 2020).

_____. Various years c. Consumer expectations survey. https://www.bsp.gov.ph/SitePages/MediaAndResearch/ConsumerExpectationSurvey.aspx (accessed on November 7, 2020).

_____. Various years d. Financial systems accounts – domestic interest rates. https://www.bsp.gov.ph/SitePages/Statistics/Financial%20System%20Accounts.aspx?TabId=14 (accessed on November 7, 2020).

_____. Various years e. International reserves of the BSP. Statistics – external accounts. https://www.bsp.gov.ph/SitePages/Statistics/External.aspx?TabId=1 (accessed on November 6, 2020).

_____. Various years f. Loans outstanding for production and household consumption (PSIC 2009) Philippine banking system. https://www.bsp.gov.ph/SitePages/Statistics/Financial%20System%20Accounts.aspx?TabId=9 (accessed on November 16, 2020).

_____. Various years g. Overseas Filipinos' remittances. Statistics – external accounts. https://www.bsp.gov.ph/SitePages/Statistics/External.aspx?TabId=1 (accessed on November 6, 2020).

_____. Various years h. Philippine peso per US dollar - monthly. Statistics – external accounts. https://www.bsp.gov.ph/SitePages/Statistics/External.aspx?TabId=9 (accessed on November 6, 2020).

_____. Various years i. Philippines' purchasing managers' index. https://www.bsp.gov.ph/Statistics/OtherRealSectorAccounts/tab51_pmi.aspx (accessed on November 9, 2020).

_____. Various years j. Philippine stock market composite index. https://www.bsp.gov.ph/SitePages/Statistics/OtherRealSectorAccounts.aspx?TabId=7 (accessed on November 6, 2020).

_____. Various years k. Senior bank loan officers' survey. https://www.bsp.gov.ph/Pages/MediaAndResearch/PublicationsAndReports/regular_slos.aspx (accessed on November 9, 2020).

_____. 2020. The inflation target. https://www.bsp.gov.ph/Pages/PriceStability/TheInflationTarget.aspx (accessed on November 6, 2020).

_____. Various years l. Total loans (gross), loan loss provision and non-performing loans, by type of universal and commercial banks. https://www.bs p.gov.ph/SitePages/Statistics/Financial%20System%20Accounts.aspx?TabId=11 (accessed on November 16, 2020).

Boissay, F. and P. Rungcharoenkitkul. 2020. Macroeconomic effects of COVID-19: An early review. BIS Bulletin No. 7. Basel, Switzerland: Bank for International Settlements.

Canlas, D. 2020. What COVID-19 hath wrought and debt exit options: A note on deficit financing and public debt management. University of the Philippines (UP) School of Economics Discussion Papers. Quezon City, Philippines: UP Diliman.

Debuque-Gonzales, M. 2020. An FCI for the Philippines. Unpublished manuscript (under revision).

Debuque-Gonzales, M. and M.S. Gochoco-Bautista. 2017. Financial conditions indexes and monetary policy in Asia. *Asian Economic Papers* 16(2):83–117.

Department of Energy. Various years. Oil monitor. https://www.doe.gov.ph/oil-monitor (accessed on November 3, 2020).

Dieppe, A., Editor. 2020. Global productivity: Trends, drivers, and policies. Washington, D.C.: World Bank.

Diokno, B. 2020. The Philippines beyond survival – becoming an economic outperformer post-pandemic. Speech delivered during the SCB Sovereign Investor Forum, October 15. https://www.bsp.gov.ph/SitePages/MediaAndResearch/SpeechesDisp.aspx?ItemId=754 (accessed on November 28, 2020).

Dominguez, C. 2020. WBG governor's statement no. 8. World Bank Annual Meetings 2020, October 15. https://www.worldbank.org/content/dam/meetings/external/annualmeeting-1/WBGS202008-Philippines-E-final.pdf (accessed on November 16, 2020).

Eichengreen, B. 2020. The human-capital costs of the crisis. Project Syndicate. https://www.project-syndicate.org/commentary/covid19-pandemic-erosion-of-human-capital-by-barry-eichengreen-2020-04?barrier=accesspaylog (accessed on November 24, 2020).

Financial Stability Coordination Council. 2020. Financial stability report: Second semester 2020. Manila, Philippines: FSSC, *Bangko Sentral ng Pilipinas*.

FocusEconomics. 2020. Consensus Forecasts: Philippines. Barcelona, Spain: FocusEconomics.

Glindro, E., H. Parcon-Santos, F.C. Cacnio, and M. Oliva. 2020. Shifting macroeconomic landscape and the limits of the BSP's pandemic response. BSP Working Paper Series No. 2020-05. Manila, Philippines: *Bangko Sentral ng Pilipinas*.

Google. n.d. COVID-19 community mobility reports. https://www.google.com/covid19/mobility/ (accessed on November 7, 2020).

Guo, S., P. Karam, and J. Vicek. 2019. Decomposing the inflation dynamics in the Philippines. IMF Working Paper No. WP/19/153. Washington, D.C.: International Monetary Fund.

Hatzius, J., P. Hooper, F. Mishkin, K. Schoenholtz, and M. Watson. 2010. Financial conditions indexes: A fresh look after the financial crisis. NBER Working Paper No. 16150. Cambridge, MA: National Bureau of Economic Research.

IndexMundi. n.d. Crude Oil (petroleum): Dubai fateh monthly price – US dollars per barrel. https://www.indexmundi.com/commodities/?commodity=crude-oil-dubai&months=360 (accessed on November 3, 2020).

International Monetary Fund (IMF). 2020a. Global financial stability report: Bridge to recovery. Washington, D.C.: IMF.

_____. 2020b. *World economic outlook: A long and difficulty ascent.* Washington, D.C.: IMF.

Kupferschmidt, K. 2020. WHO unveils global plan to fairly distribute COVID-19 vaccine, but challenges await. *Science*, September 21. https://www.sciencemag.org/news/2020/09/who-unveils-global-plan-fairly-distribute-covid-19-vaccine-challenges-await (accessed on November 17, 2020).

Lim, J.A. 2020. The Philippine economy during the COVID pandemic. Working Paper No. 2020-16. Ateneo Center for Economic Research and Development. Quezon City, Philippines: Ateneo de Manila University.

Loayza, N., A. Sanghi, N. Shaharuddin, and L. Wuester. 2020. Recovery from the pandemic crisis: Balancing short-term and long-term concerns. Research and Policy Brief No. 38. Washington, D.C.: World Bank.

Mankiw, G. Forthcoming. The COVID-19 recession of 2020. In *Macroeconomics*. 11th Edition.

Pajaron, M. 2020. COVID-19 incidence and the timing of quarantine measures and travel restrictions: A cross-country analysis. Asia Health Policy Program Working Paper No. 58. Walter H. Shorenstein Asia-Pacific Research Center. Stanford, CA: Stanford University.

Philippine Statistics Authority (PSA). Various years a. Highlights of the Philippine export and import statistics. https://psa.gov.ph/statistics/foreign-trade (accessed on November 4, 2020).

_____. Various years b. Labor Force Survey. https://psa.gov.ph/statistics/survey/labor-and-employment/labor-force-survey (accessed on November 4, 2020).

_____. Various years c. Monthly Integrated Survey of Selected Industries. https://psa.gov.ph/content/production-index-and-net-sales-index-monthly-integrated-survey-selected-industries-september (accessed on November 9, 2020).

_____. Various years d. National accounts data series. https://psa.gov.ph/national-accounts/base-2018/data-series (accessed on November 16, 2020).

_____. Various years e. OpenStat – price indices. https://openstat.psa.gov.ph/Database/Prices/Price-Indices (accessed on November 6, 2020).

Tang, M.C. and R.L. Bernardo. 2020. Walking a tightrope. *Forecast*, September 2. Philippine Quarterly Report. Global Source Partners. https://www.globalsourcepartners.com/posts/ walking-a-tightrope /teaser (accessed on October 31, 2020).

World Bank. 2020a. *East Asia and the Pacific economic update: From containment to recovery*. Washington, D.C.: World Bank.

_____. 2020b. *Global economic prospects*. Washington, D.C.: World Bank.

World Bank Global Economic Monitor. n.d. GEM – EMBI TS. https://databank.worldbank.org/EMBI-TS/id/d79f5818 (accessed on November 9, 2020).

Appendix 1.1[20]

To compute a high-frequency (monthly) FCI for the Philippines, a technique based on Hatzius et al. (2010) is adopted. This method condenses information from a large dataset to a few summary variables (common factors or principal components). This technique differs from standard principal component analysis (PCA) by allowing for unbalanced panels (time series with different beginning and ending dates), a useful feature that lengthens data history and broadens data coverage. To ensure that the FCI holds unique information about the future state of the economy, the method is applied to financial shocks obtained by first eliminating cyclical influences from the financial variables.

The following common factor model is applied:

$$v_{it} = \lambda_i' F_t + u_{it}$$

where F_t is a k x 1 vector of unobserved financial factors capturing the common variation among the different financial indicators; and v_{it} is the error term (i.e., the financial shock corresponding to variable i) in a regression of the ith financial variable X_{it} on a vector of macroeconomic variables Y_t comprising output growth and inflation. The error term u_{it} is unrelated to both F_t and Y_t and assumed to be uncorrelated (or weakly correlated) across variables.

With an unbalanced panel, F_t is computed iteratively using least squares estimation.[21] The least squares estimator $\hat{F}_t$ solves the problem: $min_{\lambda_t, F_t} \sum_{i,t} (\hat{v}_{it} - \lambda_i' F_t)^2$. The computed from a one-factor model represents the financial conditions index (FCI) adopted in this chapter.

Prior to estimation, all financial variables (49 in total comprising yields, spreads, asset prices, credit quantities, liquidity measures, and financial stress and risk indicators) are transformed as needed (such as for stationarity) and normalized (demeaned and divided by their standard deviations) to make sure measurement units and data fluctuations do not unduly influence the extracted common factors. They are then regressed against current and two lagged values of log changes in prices (as measured by CPI) and economic output (as proxied by an industrial production index) to obtain the corresponding financial shock.

[20] This appendix draws heavily from Debuque-Gonzales (2020).
[21] This is performed using MATLAB codes from Debuque-Gonzales and Gochoco-Bautista (2017).

Appendix 1.2[22]

The forecasting technique used in this chapter draws from Hatzius et al. (2010) following the approach of Bernanke (1990). The prediction equation considers the autoregressive structure of the economic variable to be forecasted and is written as follows:

$$y_{t+h} - y_t = \alpha + \sum_{i=1}^{p_y} \beta_i \Delta y_{t+1-i} + \sum_{i=1}^{p_x} \gamma_i \Delta x_{t+1-i} + e_t$$

where Y_t denotes the economic activity variable (log of real GDP) or the price variable (log of CPI) and x_t denotes the FCI estimated using the method outlined in Appendix 1.1 transformed to quarterly frequency by simple averaging. The parameter h represents the forecast horizon (h = 2, 4, and 6 quarters), while p_x and p_y represent the number of lags of Δx and Δy, respectively.

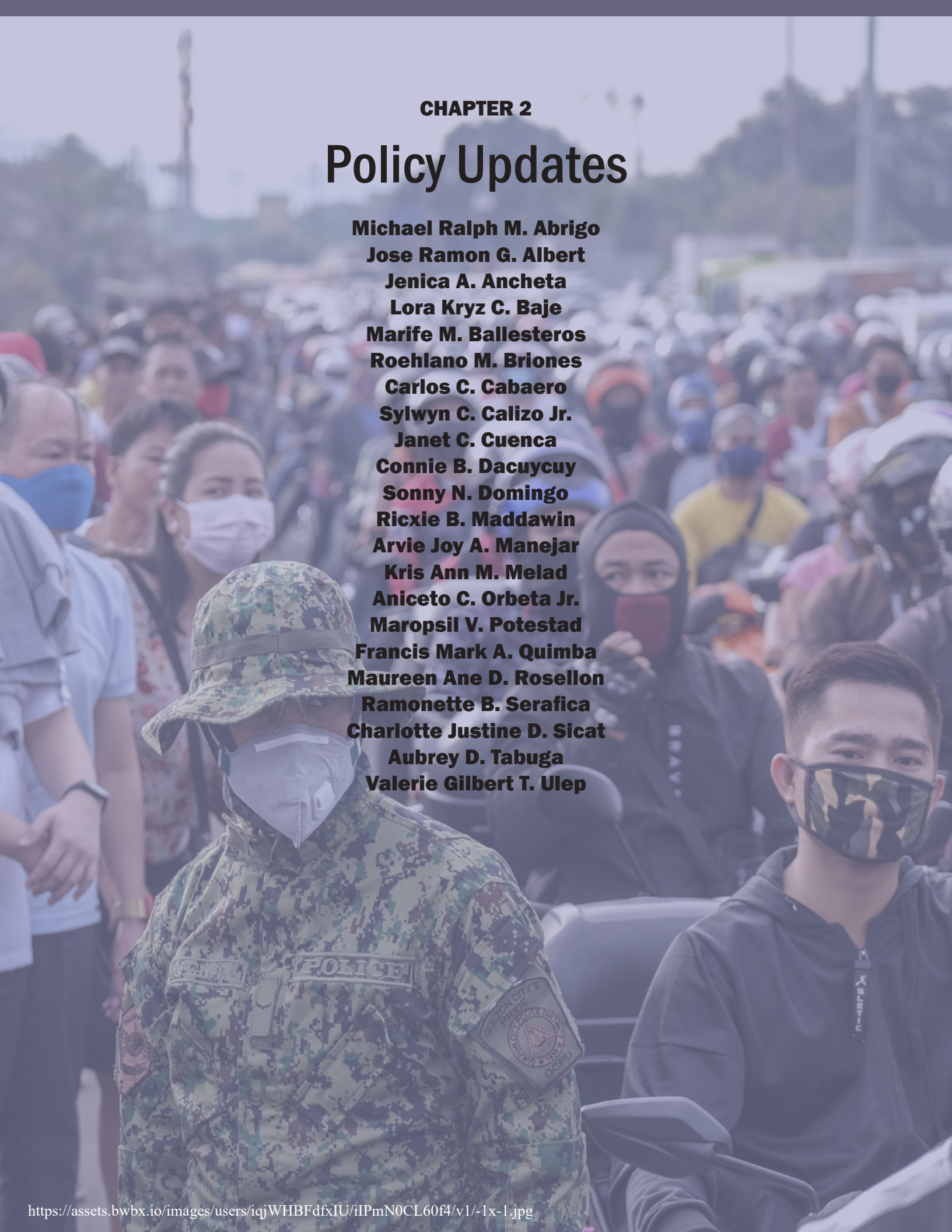
Lag lengths are chosen based on the Schwartz information criterion (SIC) with p_x and p_y chosen from a range of 0 to 6. The economic variable y_{t+h} is computed based on coefficients estimated using data from the start of the sample period to time t.

[22] This appendix draws heavily from Debuque-Gonzales (2020).

CHAPTER 2

Policy Updates

Michael Ralph M. Abrigo
Jose Ramon G. Albert
Jenica A. Ancheta
Lora Kryz C. Baje
Marife M. Ballesteros
Roehlano M. Briones
Carlos C. Cabaero
Sylwyn C. Calizo Jr.
Janet C. Cuenca
Connie B. Dacuycuy
Sonny N. Domingo
Ricxie B. Maddawin
Arvie Joy A. Manejar
Kris Ann M. Melad
Aniceto C. Orbeta Jr.
Maropsil V. Potestad
Francis Mark A. Quimba
Maureen Ane D. Rosellon
Ramonette B. Serafica
Charlotte Justine D. Sicat
Aubrey D. Tabuga
Valerie Gilbert T. Ulep



https://assets.bwbx.io/images/users/iqjWHBFdfxIU/iIPmN0CL60f4/v1/-1x-1.jpg

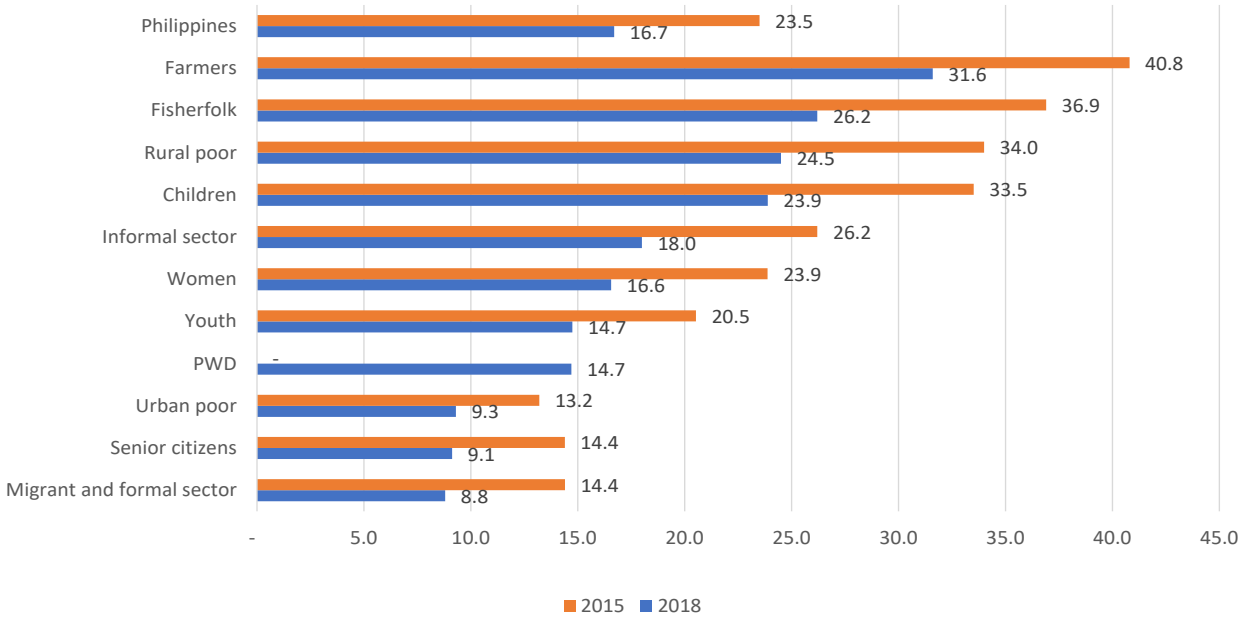
Poverty reduction and social protection

The Philippines has made significant progress in reducing poverty in recent years. Estimates from the Family Income and Expenditure Survey have shown a marked decrease in the poverty rate, from 23.2 percent to 16.6 percent between 2015 and 2018. This reduction in the poverty rate is reflected in the poverty rates among basic sectors of farmers, fisherfolk, rural and urban poor, children, informal sector, women, youth, senior citizens, and migrants, and formal sector (Figure 2.1).

Despite this, the Philippines entered 2020 tackling a pandemic that has not only placed the population's health in peril but threatened to unravel the economic and social gains the country has made through the past decades. The coronavirus disease 2019 (COVID-19) pandemic continues to affect the global population, with over 32.9 million cases and over 995,000 casualties in total as of September 28, 2020. In the Philippines, there have been 307, 288 total cases and 5,381 deaths, respectively (*CNN Philippines* 2020).

In response to this global health crisis, the Philippine government established the Inter-Agency Task Force (IATF) for the Management of Emerging Infectious Diseases. Alongside key government agencies and the legislative branch, the IATF has laid down various policies and programs to manage the effects of the pandemic.

Figure 2.1
Poverty incidence (%) for basic sectors: 2015 and 2018



PWD = person with disability
Note: PWD was newly added in 2018.
Source: PSA (2015, 2018)

Response to the pandemic

Upon confirmation by the Department of Health (DOH) of the presence of community transmission of COVID-19 in the Philippines, one of the initial responses of the government was to place the country under a state of national health emergency. Through this, the national government and the local government units (LGUs) were given more resources to respond to the crisis and provide for the basic needs of their constituencies through emergency finances, such as the Quick Response Fund. To prevent the spread of the disease, the government implemented community quarantine in identified high-risk areas starting March 15, 2020. This has continued for several months.

The prolonged period within which community quarantine was imposed has inevitably caused significant constraints to economic and social activities, especially to the poorest and most vulnerable sectors. A study from the Ateneo de Manila University estimates the number of vulnerable households or the households susceptible to hunger and poverty due to lack of income from quarantine restrictions at 2.4 million in Luzon (Ducanes et al. 2020). The social and economic ramifications brought about by the pandemic have been evident based on the April 2020 Labor Force Survey, where the unemployment rate rose to 17.7 percent from a mere 5.1 percent in April 2019. This figure translates to 7.3 million unemployed Filipinos. According to the Philippine Statistics Authority (2020a), the labor force participation rate based on the abovementioned survey is at 55.6 percent, the lowest in the history of the Philippine labor market (Table 2.1).

The key policy framework that the Philippine government adopted in response to the pandemic is Republic Act (RA) 11469, or the Bayanihan to Heal as One Act. Signed on March 23, 2020, it enabled the President to exercise a wide array of powers to combat the COVID-19 health crisis, provide much-needed assistance for the healthcare system, and ensure that the basic needs of citizens are met. One key feature of the law is the power accorded to the President to redistribute savings from the 2019 and 2020 General Appropriation Acts. It eventually lapsed on June 4, 2020. The Senate and the House of Representatives then passed Senate Bill (SB) 1564 and House Bill (HB) 6953, respectively, which were consolidated and signed into law on September 11, 2020 as RA 11494 or the Bayanihan to Recover as One Act. The said law extended the special powers of

Table 2.1
Key employment statistics, April 2019 and 2020

Labor Indicators	April 2020	April 2019
Labor force participation rate	55.6	61.3
Unemployment rate	17.7	5.1
Underemployment rate	18.9	13.4
Mean hours of work	35.0	41.8

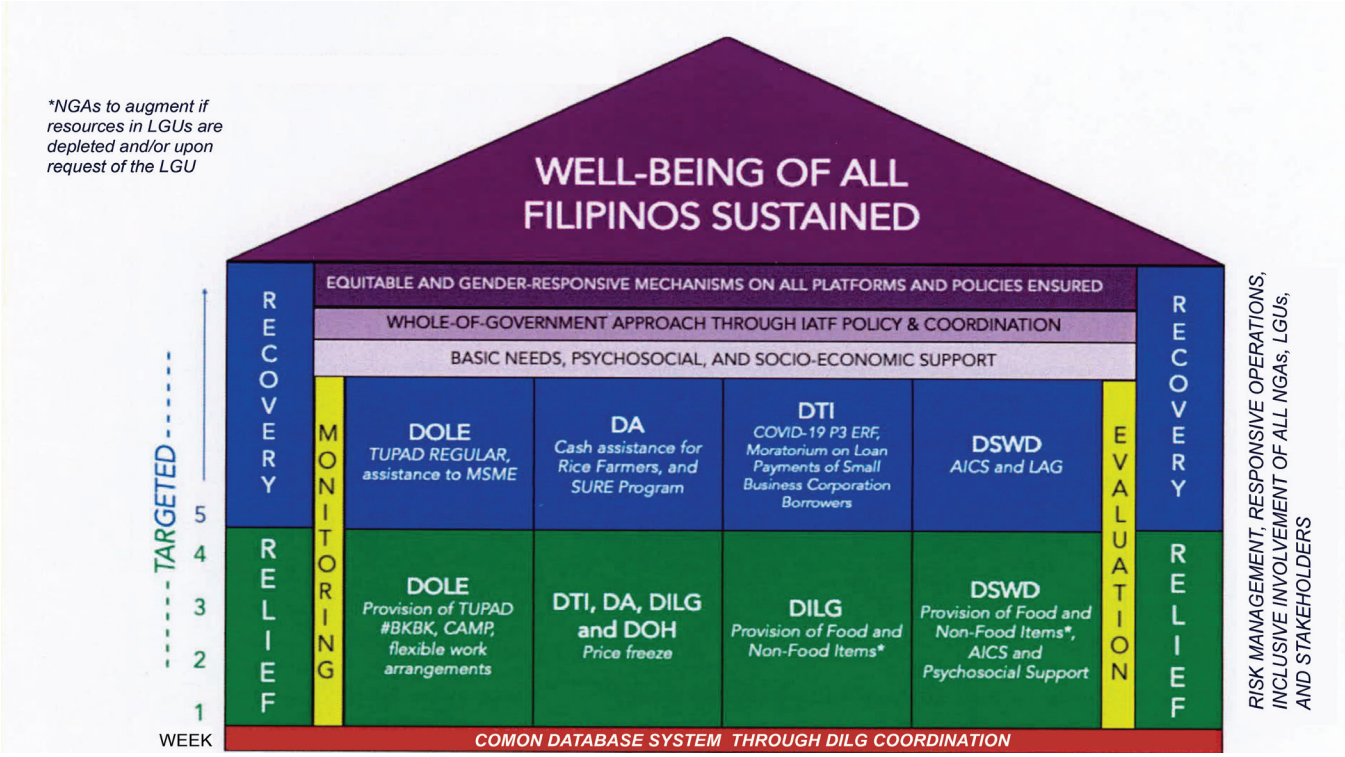
Source: PSA (2020b)

the President until December 19, 2020 and provided a PHP 165.5-billion fund to address the COVID-19 crisis.

The government has also implemented the Social Amelioration Program (SAP) (Figure 2.2). The Joint Memorandum Circular (JMC) 1 of the Department of Social Welfare and Development (DSWD), Department of Labor and Employment (DOLE), Department of Trade and Industry (DTI), Department of Agriculture (DA), Department of Finance (DOF), Department of Budget and Management (DBM), and Department of the Interior and Local Government (DILG) provided for the implementation of social protection programs and services to aid the sectors of the country most crippled by the pandemic. The various programs of these agencies are streamlined and harmonized to provide immediate relief and eventual recovery of the vulnerable population.

As mandated by RA 11469, DSWD implemented various safety nets and subsidy programs geared toward providing basic necessities of the most vulnerable households. According to DSWD Memorandum Circular (MC) 2020-04, DSWD's Emergency Subsidy Program (ESP) shall cover various programs, such as the

Figure 2.2
Social amelioration framework



DOLE = Department of Labor and Employment; DA = Department of Agriculture; DTI = Department of Trade and Industry; DSWD = Department of Social Welfare and Development; DILG = Department of the Interior and Local Government
Source: Joint Memorandum Circular 1 (2020a)

Assistance to Individuals in Crisis Situation, Food and Non-Food Items, and Livelihood Assistance Grants (LAG).

ESP is the main mode used by DSWD to distribute social amelioration. Like the guidelines for the community quarantine, it also underwent numerous adjustments. Most of these changes were harmonized in DSWD MC 2020-09, which noted that the ESP shall be implemented through various national and local government amelioration programs to around 18 million low-income families most vulnerable to the economic shock brought about by the COVID-19 crisis. The cash subsidy amounted to PHP 5,000 to PHP 8,000 per month for April and May, depending on the prevailing regional minimum wage rates. This calculation already accounts for the amount given to families by DSWD's conditional cash transfer programs and rice subsidy.

The number of beneficiaries per region and the corresponding amounts of the subsidies that have been approved based on the memorandum circular are shown in Table 2.2 The amounts of subsidies serve as a ceiling. If other government agencies have already provided subsidies, ESP is

Table 2.2
Number of families and amount of emergency subsidies per region

Region	Number of Families		
	Total	Informal and Poor/Near Poor	Amount of Subsidy per Region
NCR	3,260,399	1,788,604	8,000.00
CAR	434,209	318,707	5,500.00
I	1,263,607	999,531	5,500.00
II	881,440	698,042	5,500.00
III	2,707,342	1,807,929	6,500.00
IV-A	3,511,076	2,249,567	6,500.00
Iv-B	752,804	614,100	5,000.00
V	1,362,596	1,146,914	5,000.00
VI	1,835,555	1,472,683	6,000.00
VII	1,806,056	1,346,613	6,000.00
VIII	1,053,680	875,246	5,000.00
IX	890,346	721,841	5,000.00
X	1,111,803	892,577	6,000.00
XI	1,248,805	953,521	6,000.00
XII	1,139,025	953,853	5,000.00
BARMM	665,597	623,607	5,000.00
Caraga	625,663	492,758	5,000.00
PH	24,550,003	17,956,093	

NCR = National Capital Region; CAR = Cordillera Administrative Region; BARMM = Bangsamoro Autonomous Region in Muslim Mindanao; PH = Philippines
Source: DSWD Memorandum Circular 2020-09

meant to provide a top-up to ensure that the beneficiaries get the total amount stipulated in the policy.

The second phase of ESP is LAG, meant to assist in the economic recovery and rehabilitation of the livelihoods of affected families when the community quarantine is lifted. This can be used as seed capital for new ventures, augmenting income for existing enterprises or preemployment requirements. Though the assessment process may be done during the quarantine period, eligible families shall receive the benefits from LAG only after the local quarantine has been lifted. The maximum amount of LAG per family is a one-time subsidy of PHP 15,000.

Recognizing that the effects of the pandemic is yet to wane, the government rolled out the second tranche of SAP (SAP 2) scheduled to be completed in August 2020. Under SAP 2, the government has targeted 14.1 million beneficiaries. These include P*antawid Pamilyang Pilipino* Program (4Ps) and eligible non-4Ps families located in areas where enhanced community quarantine (ECQ) was implemented, as well as those included in the government's waitlist. This target number of beneficiaries for SAP 2 is the result of DSWD's verification process, which now excludes duplicate recipients, ineligible beneficiaries, and families who voluntarily returned their cash subsidies.

The beneficiaries identified in DA's Financial Subsidy to Rice Farmers and the DSWD's COVID-19 Adjustment Measure Program or *Tulong Panghanapbuhay* para sa Displaced/Disadvantaged Worker are also among the target beneficiaries of the second tranche of SAP. SAP 2 covers Regions III (except Aurora), the National Capital Region (NCR), CALABARZON (Cavite, Laguna, Batangas, Rizal, Quezon), Benguet, Pangasinan, Iloilo, Cebu, Bacolod City, Davao City, Albay, and Zamboanga City. An additional 5 million waitlisted family-beneficiaries will also be entitled to SAP. Like the previous tranche, SAP 2 uses a whole-of-government approach, with a greater focus on enlisting the assistance of the Armed Forces of the Philippines in distributing the cash subsidy to the locales.

Some LGUs also provided their version of SAP. Among these were the city governments of Makati, Manila, Marikina, and Pasig. In Makati City, the Makatizen Economic Relief Program allocated PHP 2.7 billion to provide PHP 5,000 each to holders of the Makatizen Card and the Yellow Card and registered voters. The city government of Manila, through the City Amelioration Crisis Assistance Fund, also distributed PHP 1,000 to 568,000 families or a total amount of PHP 595.1 million. Eligible families in each barangay were enlisted by barangay captains. Pasig City also rolled out a localized SAP, wherein 160,000 families were given a subsidy of PHP 8,000. In Marikina City, cash assistance was provided for shoe-maker residents that lived in the four malls in the city. These included families not listed in the 2015 census.

Several issues have been noted in the implementation of SAP. DSWD is yet to finish updating *Listahanan*, which serves as the basis for identifying beneficiaries in social assistance programs. As of August 9, it has already validated over 13.5 million households in the Listahanan 3 (Cudis 2020). An updated and validated Listahanan is crucial, as not all LGUs have their community-based monitoring system, which can provide poverty-related

statistics in their jurisdiction. These LGUs have relied on the outdated Listahanan in their implementation of SAP. Apart from this, several complaints were also noted. DILG regional offices received complaints about alleged lapses of local officials in assessing the eligibility of beneficiaries, dividing the grant to cover more recipients, threatening people to remove names from list, and forced purchasing of rice sacks upon giving of aid. DSWD has its platform called *uSAPtayo* to allow people to report their grievances online.

Other poverty reduction and social protection initiatives

Social Security Act of 2018

One of the landmark bills ratified in recent years was the Social Security Act of 2018. The law, which repeals the Social Security Act of 1997, mandates the state to develop a "sound and viable tax-exempt social security system suitable to the needs of the people throughout the Philippines...and ensure meaningful social security protection to members and their beneficiaries against the hazards of disability, sickness, maturity, old age, death, and other contingencies resulting in loss of income or financial burden". It also introduces new policies aimed at increasing benefits and expanding its coverage while ensuring the sustainability of the Social Security System (SSS).

One of the most evident changes it introduced is the gradual increase in the contribution rate of SSS members, alongside the adjustment of the minimum and maximum salary credit on an annual basis (Table 2.3). These contributions will go to the SSS Provident Fund, the membership of which comprises employers and employees, the self-employed, overseas Filipino workers (OFWs), and voluntary members[1] under 60 years of age. To this end, SSS authorizes cooperatives to act as its collecting agents.

[1] Spouses who devote their fulltime to household and family affairs may be covered by SSS on a voluntary basis.

Table 2.3
Annual contribution rate to SSS, by year (% of monthly salary)

Year of Implementation	Contribution Rate (in %)	Share (in %)		Monthly Salary Credit	
		Employer	Employee	Minimum	Maximum
2019	12	8.0	4.0	PHP 2,000	PHP 20,000
2020	12	8.0	4.0	PHP 2,000	PHP 20,000
2021	13	8.5	4.5	PHP 3,000	PHP 25,000
2022	13	8.5	4.5	PHP 3,000	PHP 25,000
2023	14	9.5	4.5	PHP 4,000	PHP 30,000
2024	14	9.5	4.5	PHP 4,000	PHP 30,000
2025	15	10.0	5.0	PHP 5,000	PHP 35,000

SSS = Social Security System; PHP = Philippine Peso
Source: Social Security Act of 2018

https://www.sss.gov.ph

The law indicates that domestic workers, as defined by the *Batas Kasambahay* Act, whose monthly income is below the minimum monthly salary credit, shall pay contributions based on their actual monthly salary. Furthermore, members subject to compulsory coverage who receive a monthly income lower than the minimum monthly credit or higher than the maximum monthly credit shall pay the contribution rates based on the respective minimum and maximum rates specified by the Act.

As mentioned earlier, the coverage of OFWs under 60 years of age is made compulsory under the new law. Human resources agencies shall be considered the employers of sea-based OFWs, thus making them liable for any violations of the Act. Land-based OFWs shall adhere to the same guidelines as self-employed workers. This is a two-pronged provision as it both extends social protection to OFWs while also collecting more contributions for further sustainability of the system and provision of benefits. Beyond this, the law also allows SSS to create a special social security system for workers with unique socioeconomic or geographic situations, which may have different contribution rates and benefits, provided these are fair, equitable, and fiscally sound.

Finally, the Act allows for unemployment insurance or involuntary separation benefits. Under this provision, a member below 60 years old who has paid at least 36 months' worth of contributions and who is involuntarily separated from their company shall be paid benefits up to 50 percent of their monthly salary credit for a maximum of two months. This allows some temporary reprieve for workers laid off from work to seek out new employment with relatively less financial instability. However, workers may only avail of this insurance once every three years.

Amendment of the Magna Carta for Disabled Persons

The past year also saw the signing of RA 11228, which amended the Magna Carta for Disabled Persons. Signed into law on February 22, 2019, the legislation stipulates mandatory coverage for all persons with disability (PWDs) in the National Health Insurance Program of the Philippine Health Insurance Corporation (PhilHealth). The required contributions shall be paid for by

the government from the proceeds of the restructured alcohol and tobacco excise tax. For employed PWDs, their employers shall cover half of the monthly premium contributions. The law also mandates periodic monitoring and evaluation by the DOH, in coordination with DSWD, DOLE, the National Council for Disability Affairs (NCDA), and LGUs. LGUs, PhilHealth, and NCDA are mandated to submit PWD data to DOH, which shall be responsible for maintaining a database of PWDs and their health and development needs.

The law also mandates that PhilHealth formulate the implementing rules and regulations (IRR) in consultation with DOH, DSWD, DOLE, NCDA, and various leagues of LGUs within three months upon the effectivity of the Act or around the first week of June 2019. However, a significant delay in this aspect was evident based on reports from advocacy groups in January 2020 and an announcement about the publication of the IRR made by PhilHealth on March 18, 2020 through its social media account.[2]

[2] https://www.facebook.com/PhilHealthofficial/posts/3115298598534798 (accessed on December 19, 2020)

Gender

Recently, the Philippines has dropped to 16th in the global gender equality rankings, eight notches lower than its 2018 ranking across the globe (WEF 2020). While the country has shown strong performance in educational attainment, health and survival, and economic participation and opportunity, its political empowerment gap has widened. This is mainly due to the lower female representation in the cabinet and legislature (WEF 2020). In response to this, SB 817 was filed, aiming to promote women participation in and by political parties. If enacted, a political party with equitable representation of women shall have access to the Women in Political Parties Empowerment Fund to beef up campaign expenditures of their female candidates.

Inside the home, care work is one of the obstacles in the labor market participation of both men and women. To address this, several bills were filed, including SB 1014 amending the Solo Parents Welfare Act of 2000, SB 858 extending financial assistance to defray the cost of private

https://www.rappler.com/newsbreak/inside-track/pia-cayetano-fumes-imee-marcos-tackling-citira-senate-committee-hearing

daycare services, and SB 184 ensuring social protection measures to child daycare workers. Meanwhile, SB 882 aims to improve maternal and newborn care by establishing birthing facilities and training of traditional birth attendants to become part of the formal health system. It also addresses gaps in the services and programs in geographically isolated and disadvantaged areas.

Violence against women has evolved with the advancement of information and communications technology (ICT). Fortunately, there are bills crafted to address ICT-related violence against women and children. For instance, HB 5869 seeks to amend the Anti-Violence Against Women and Their Children (VAWC) Act by expanding the definition of "psychological violence" to include acts done through ICT-related means. A version of this bill, SB 812, addresses similar problems concerning the LGBTQ[3] community. Another bill, SB 1220 aims to provide law enforcement agencies with better methods of investigation and establish responsibilities of internet service providers and tourism-oriented establishments in assisting in investigations and reporting these crimes. This legislation is timely given the increased sex trafficking linked to the POGO[4] industries (Luna 2020).

In relation to VAWC, SB 1250, HB 2810, and HB 3081 aim to provide programs for all VAWC victims and those suffering from mental, emotional, psychological, and physical disability needing special support. These programs include the development of skills for livelihood generation, provision of free legal services and medical assistance, and provision of halfway houses for children awaiting transfers to foster homes or public shelters.

Teenage pregnancy has also been increasing in recent years. HB 2297 seeks to provide for a national policy preventing teenage pregnancies and institutionalize protection for teenage parents. In terms of marriage and civil unions, SB 1230 seeks

[3] Stands for lesbian, gay, bisexual, transgender, and queer

[4] Stands for Philippine offshore gaming operators

to expand the grounds for legal separation while SB 417 aims to safeguard the property rights of same-sex partners.

Response to the pandemic

Domestic violence during the COVID-19 pandemic is considered a "silent pandemic". Different organizations have flagged the rising cases of gender-based violence and abuse on women and children amid this pandemic (*Manila Bulletin* 2020). In President Rodrigo Duterte's June 15 report to the joint congressional oversight committee, it was revealed that as of June 11, 2020, a total of 2,183 cases of violence against women and 2,077 cases against children were recorded by the Philippine National Police since the implementation of the ECQ. Meanwhile, the Department of Justice Office of Cybercrime has reported 279,166 cases of online sexual exploitation of children from March 1 to May 24, 2020, higher by 264.63 percent compared to the same period last year (Navallo 2020). Some LGUs have responded to the rising cases of domestic violence in their community. For instance, the Quezon City government has reopened its protection center for victims of gender-based violence and abuse (Esguerra 2020).

In addition, the National Research Council of the Philippines of the Department of Science and Technology (DOST) has launched the country's first "gender-sensitive" dashboard that facilitates the "breaking down [of] datasets into sex-disaggregated graphs" to guide decisionmakers, government administrators, and academics in the policymaking process. This initiative, which uses colorful data visualizations, also aims to promote evidence-based decisionmaking (DOST-NRCP 2020).

Health

In 2019, President Rodrigo Duterte signed RA 11223, also known as the Universal Health Care (UHC) Act. The needed health reforms are the heart and soul of the UHC Act. Its full implementation, however, was stalled because of the pandemic.

One of the Act's critical provisions is the shift to a primary care-oriented and integrated healthcare system through the creation of provincial health care provider networks (HCPN) where both public and private health facilities provide coordinated and comprehensive healthcare. The UHC attempts to consolidate the fragmented financial flows, increase fiscal space for health, and improve the governance structure of devolved local health systems. Table 2.4 shows the Act's major provisions that changed how the country delivers, finances, and regulates the health system.

Congress enacted several fiscal reforms that could partly fund the implementation of UHC. It amended the National Internal Revenue Code, which increases earmarked resources for UHC, as tax revenues from cigarettes, vapor products, and alcoholic beverages will continue to increase. In the medium term, LGUs expect higher revenues to fund the delivery of social services given the Supreme Court's decision on the petition of Batangas Governor Hermilando Mandanas. In the said decision, the Court upheld the Local Government Code (LGC) mandate, wherein the internal revenue allotment (IRA) of LGUs shall be sourced from the national taxes, instead of national internal revenue taxes alone.

Executive Order (EO) 104 was also signed on February 17, 2020. It aims to reduce the out-of-pocket spending of

Filipinos in purchasing medicines by cutting down their retail price by more than 50 percent. This covers more drugs and medicines under price control that address common diseases as proposed by DOH.

The UHC Act is laudable. Most of the critical provisions, such as the creation of HPCN, the pooling of funds, the establishment of the Health Technology Assessment Unit, and the clear delineation of functions of DOH and PhilHealth, are considered best practices in countries that have successfully achieved UHC. However, difficulties in the implementation are expected because of funding and capacity constraints. To expand population coverage and benefits as envisioned in the UHC Act, large and sustained public financing is required.

While the law includes a provision to increase premium payment, it is seldom a popular public policy to raise resources. The shift from municipal to provincial could face political and legal bottlenecks

Table 2.4
Provision of the UHC Act

Reform Area	Details
Health financing	• Automatic inclusion of all Filipinos in the National Health Insurance Program • Simplification membership to the Philippine Health Insurance Corporation (PhilHealth) • Improvement of the purchasing power of PhilHealth by pooling different sources of financing • Clear financing functions of the Department of Health (DOH) and PhilHealth. PhilHealth will shoulder individual-based services, while DOH will pay for population-based health care services. • Immediate eligibility for health benefit package under PhilHealth. There will be no copayment in ward or basic accommodation.
Service delivery	• Contracting of province- or city-wide health services by DOH with the following requirements, namely, primary care provider network, epidemiologic surveillance, and health promotions • Contracting of public and private (or mix) health care provider network in the province or city for individual-based services by PhilHealth
Human resources	• Implementation of a National Health Human Resource Master Plan to provide appropriate health workforce based on population health needs • Return service agreement for all allied and health-related government-funded scholars for at least three years with compensation
Local health system	• Integration of health systems into province-wide and city-wide health systems (from municipal). • Pooling and management of all resources intended for health into a “Special Health Fund” in a province-wide or city-wide health system
Regulations	• Establishment of a performance-based incentive scheme for health facilities • Institutionalization of Health Technology Assessment for development of policies and programs, regulation, and determination of the range of entitlements

Source: Department of Health (2019)

because of the institutional legacies of devolution. The creation of HPCN might encounter implementation delays. As such, provinces should have the political will and human resources to implement and manage such a system.

Response to the pandemic

The COVID-19 pandemic has put enormous pressure on the country's economy and health system. As of October 21, 2020, the DOH has recorded 370,000 confirmed cases and 6,700 deaths.

The Philippines adopted a 'whole-of-government' approach in combatting the pandemic. In January 2020, the IATF-IED was convened to address the growing pandemic. It created the National Task Force (NTF) to serve as its operational command. The IATF has recommended to President Duterte to impose community quarantine in the entire Luzon in mid-March 2020 and in Cebu Province in mid-June 2020 to control population movement and avoid the exponential spread of the virus.

Congress enacted the Bayanihan to Health as One Act (RA 11469) in March 2020, which gives the Philippine president additional authority to combat the pandemic. The Act stipulates a wide range of health and economic provisions (see previous and succeeding sections for a discussion of the economic provisions). Health provisions include augmentation of the health workforce, expansion of financial protection to COVID-19 patients, and expansion of treatment and diagnostics capacity. Several bills, which attempt to address gaps in testing and treatment capacities, health promotion, and disease surveillance, have also been filed in Congress.

The government adopted a "national government-enabled and LGU-led" COVD-19 response. To reduce community transmission, it strengthened its capacity to "Prevent, Test, Trace, Isolate, and Treat".

In terms of prevention, the government adopted nonpharmaceutical interventions (NPIs), such as mandatory use of masks, frequent handwashing, and physical distancing. However, the level of compliance with these NPIs has yet to be evaluated. IATF recommended a framework that informs the government on the level of stringency of community quarantine of provinces and cities. The framework was based on the extent of community transmission and the critical care capacity of hospitals.

The government also expanded its capacity to conduct widespread testing by tapping both public and private clinical laboratories. During the early stages of the pandemic, the country's testing capacity was less than 500 tests per day, which drew criticism given the government's inability to conduct "mass testing". To rationalize testing resources, DOH crafted a set of criteria for prioritization, wherein patients with symptoms, health workers, and vulnerable population should be prioritized for testing. In October 2020, the average daily test has grown significantly to 35,000. All regions have the ability to conduct reverse transcription-polymerase chain reaction (RT-PCR) but capacity widely varies.

Through the regional and provincial surveillance systems, LGUs were expected to perform disease surveillance, including contact tracing. However, because of the limited capacity of most local surveillance units and the unclear delineated functions of the national government and LGUs, the

Epidemiology Bureau of DOH initially took the lead, but eventually became overwhelmed when the number of cases started to grow exponentially. Over time, LGUs started to invest in contact-tracing activities, but capacity remains highly variable. As part of the Bayanihan to Health as One Act, DILG hired 50,000 contact tracers deployed in LGUs.

To cope with the growing number of patients flooding hospitals, both national and local governments expanded their capacity by building isolation centers and critical care facilities in hospitals. In August 2020, DOH and IATF launched the One Hospital Command Center (OHCC), which will facilitate a comprehensive and coordinated response by ensuring effective and efficient health facility referral in Metro Manila. OHCC facilitates medical transport, provides health system capacity data analytics and risk communication, and optimizes the use of critical care services of every hospital in the area.

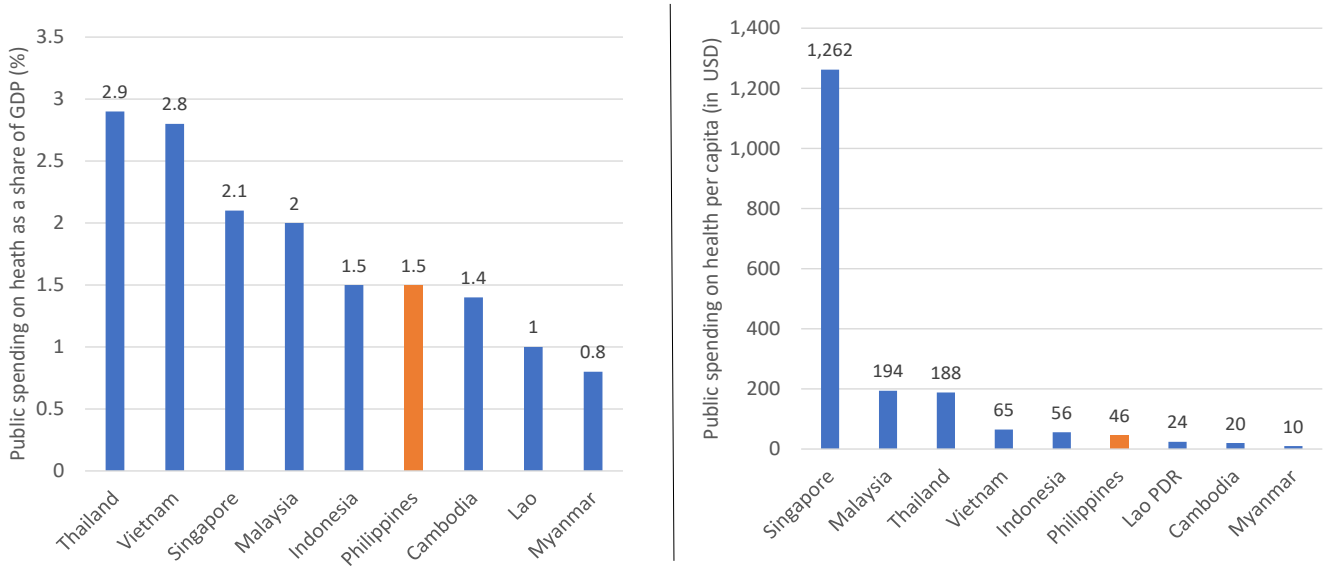
Moreover, DOH issued a memorandum on the emergency hiring of healthcare workers to augment the health workforce in both public and private hospitals. The government also provided a hazard pay, the "COVID-19 special risk allowance", to cover all medical expenses of public and private health workers through PhilHealth during the duration of their hospitalization in cases of exposure to COVID-19 or any work-related injury or disease. Health workers who may contract COVID-19 will also receive a compensation of PHP 100,000 while those who die fighting the pandemic will receive PHP 1 million as compensation.

In retrospect, the COVID-19 crisis has exposed the health system's longstanding challenges, particularly how health services are traditionally financed, delivered, and governed. The chronic underinvestment in health has weakened public health institutions and has resulted in a scarcity of health facilities and workforce (Figure 2.3). Public health investments were mostly spent on hospital care with less emphasis on primary care and public health interventions. This eventually led to a fragmented delivery of essential healthcare services (Figure 2.4). In public health crises like the COVID-19 pandemic, integrated healthcare services with robust public health programs are undeniably critical.

While the COVID-19 pandemic has been one of the largest economic and health crises of this generation, it provides a silver lining for the country to implement pathbreaking health reforms that hopefully will last for generations. As history notes, phenomena like pandemics are precursors of large institutional and structural changes in societies. For instance, the introduction of socialized medicine and public health revolution in Western Europe, which most countries in the region enjoy up to this day, were the results of the 1918 flu pandemic.

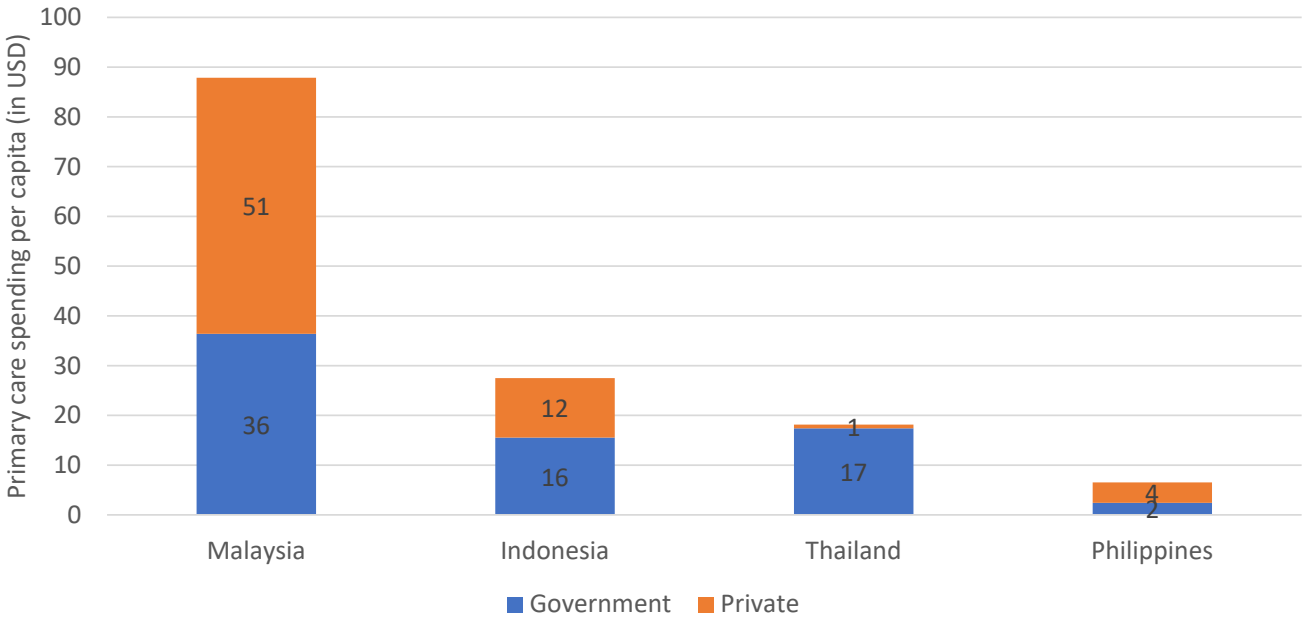
During the pandemic, the country has realized the value of a resilient public health system, primary and integrated care, and strong health governance structures. These essential features of a health system that every Filipino deserves have been already envisioned in the UHC Act. Perhaps an acid test as to whether the country and its current and future leaders have learned from the wrath of the pandemic and its shortcomings is the will to implement the Act not stall it.

Figure 2.3
Government spending on health in comparison to other ASEAN countries, 2018



Note: Government spending includes domestic, social insurance and on-budget external sources.
Source: World Health Organization (2020)

Figure 2.4
Estimated spending on primary care, 2018



Sources of basic data: Thailand Ministry of Health (2016); Indonesia Ministry of Health (2018); Malaysia Ministry of Health (2018); PSA (2020c)

Education

As the country continues to take on challenges of the fourth industrial revolution, greater pressure is put on the education sector to be in the forefront of adapting to and coping with an exponential technological and digital advancement.

For higher education, two important laws were passed in 2019: the Advanced Energy and Green Building Technologies Curriculum Act (RA 11393) and the Transnational Higher Education Act (RA 11448). Both are initiating innovations on curriculum development and internationalization of higher education, respectively. While promising great potentials in opening and attracting opportunities for expanded educational services, institutional partnerships, improved course models and offerings in the postsecondary and graduate levels, a salient component of these laws is the education sector's need to effectively provide and use the necessary technologies. RA 11448 further specifies the utilization of ICT for borderless teaching and learning, recognizing the roles of *distance education* and *open distance learning* wherein instruction may be delivered online or by post or mobile phone. This law's successful implementation depends on the capacity of the higher education system to maintain effective modes of delivery without leaving anyone behind.

In the middle-level skills sector, RA 11230 was signed into law on February 22, 2019. It aims to (a) strengthen the qualification of the workforce, (b) provide innovative approaches to technical-vocational education and training (TVET) linked to the requirements of the industry, (c) facilitate access to quality TVET, and (d) encourage participation of industry and communities in upgrading the Filipino workforce. RA 11230 establishes the Philippine Labor Force Competitiveness Program and the *Tulong-Trabaho* Fund to be funded from the General Appropriations Act. The Fund is supposed to finance the training fees for selected training programs determined by the Technical Education and Skills Development Authority (TESDA) Board. This will include financial assistance, such as transportation allowance and laboratory fees. It targets the youth at least 15 years of age who are not employed, not in education and not in training as well the employed who wants to expand current skills and training. While laudable in its objectives in terms of clients,

the law is intended for the same cohorts targeted by existing TVET scholarship programs, such as the Private Education Student Financial Assistance and the Training for Work Scholarship Program. In 2017, the Universal Access to Quality Tertiary Education Act (RA 10931) was passed, which also provides free TVET education in TESDA training centers, thus also providing financing to TVET training. This law was implemented starting school year 2018–2019. An analysis of this law is given in Orbeta and Paqueo (2017). It remains to be seen how the implementation of RA 11230 can avoid the duplication of funding provided by the existing financing programs in terms of clients and programs.

In the basic education sector, two essential policies were promulgated: RA 11206 and Department of Education (DepEd) Order 21, series of 2019, or the Policy Guidelines on the K to 12 Basic Education Program. RA 11206 creates the National Secondary School Career Guidance and Counseling Program (SGCP) and SGCP centers in all secondary public and private schools. It also mandates the conduct of the National Career Assessment Examination (NCAE) to assess and evaluate the attitude, skills, or inclinations of the students to guide them in choosing courses and career options. The law addresses the perceived lack of career guidance among secondary students. In a PIDS study, the interview of the first batch of senior high school (SHS) students revealed that the NCAE results were not the primary consideration in choosing the SHS track and strand (Orbeta et al. 2019). Moreover, the recommendation from NCAE did not match their interests and plans for college. This implies that the NCAE needs to be re-examined, and its usefulness as a career guidance tool for secondary school students be evaluated and validated.

DepEd Order 21, on the other hand, essentially clarifies the current thinking behind the implementation of RA 10533 (Enhanced Basic Education Act of 2013), which was passed six years ago. The department order asserted that the K to 12 program is "accurate in content, at par with the basic education curricula of other Asia-Pacific countries, and most importantly, appropriate to the learner's development". This is a bold and crucial statement for the program. The order supports this by carefully articulating its context, features, and components and providing a framework for its monitoring and evaluation. Aside from very detailed guidelines for the K to 12 ladder, it also provides for additional supporting guidelines on programs for the gifted, special curricular programs and education, secondary schools for specific purpose, Mother Tongue-based Multilingual Education implementation, and an Inclusive Education Policy Framework for Basic Education, and the flexible learning options particularly various alternative delivery modes and alternative learning systems. It remains to be seen, however, how the more explicit guidelines get translated into a much more uniform implementation of the K to 12 program and, ultimately, into better basic education outcomes.

Response to the pandemic

The pandemic necessitated the search for alternative ways of delivering learning without unduly risking the health of students and teachers. The President has ordered that there will be no face-to-face classes until a vaccine is available. The oft-mentioned solution is online learning. The push for online education is highlighted

in the Free Internet Access in Public Places Act (RA 10929). Enacted in 2017, the law aims to improve connectivity in public places, particularly schools. Realizing the need for connectivity for online learning in the face of the pandemic, several Senate and House resolutions (SR 376, SR 416, and HR 901) were also issued in the second quarter of 2020 inquiring on the status of implementation of the law, as well as the feasibility of mandating telecommunication companies for similar purposes, and the preparedness for and availability and accessibility of other modes of digital education. Similar concerns are recognized by HB 6802 or the Universal Wireless Internet Connection Act of 2020 filed in May 2020. While a better implementation of RA 10929 will certainly improve connectivity, a valid area of concern is the extent of the contribution of enhanced connectivity to delivering learning to households.

Moreover, SB 1565 was filed in June 2020 to call for the establishment of policies, plans, and a task force that will prepare schools and learners in the face of calamities and emergencies to mitigate the impact of disruptions in education and ensure continuity of learning in the new normal. In May 2020, SB 1460 prescribed expanding the basic education curriculum under RA 10533 to include and develop a policy framework for distance education and online learning.

In response to the pandemic challenge, DepEd developed the Learning Continuity Plan (LCP), which identified several learning delivery modes, including face-to-face, distance learning, blended learning, and homeschooling. Distance learning consists of three types: modular distance learning, online distance learning, and television and/or radio-based instructions.

The viability of distance learning largely depends on improved internet access in delivering learning to school-aged children. This remains to be a significant challenge for many Filipino households. One can break down the problem into three interconnected issues: (1) connectivity or the reach of the internet into households; (2) extent of availability of devices for online learning at the household level; and (3) the kind of learning support students need to have in their homes. A description of these issues is discussed below using data from the 2017 Annual Poverty Indicators Survey (APIS) and the 2019 National Information and Communications Technology Household Survey (NICTHS) of the Department of Information and Communications Technology (DICT).[5]

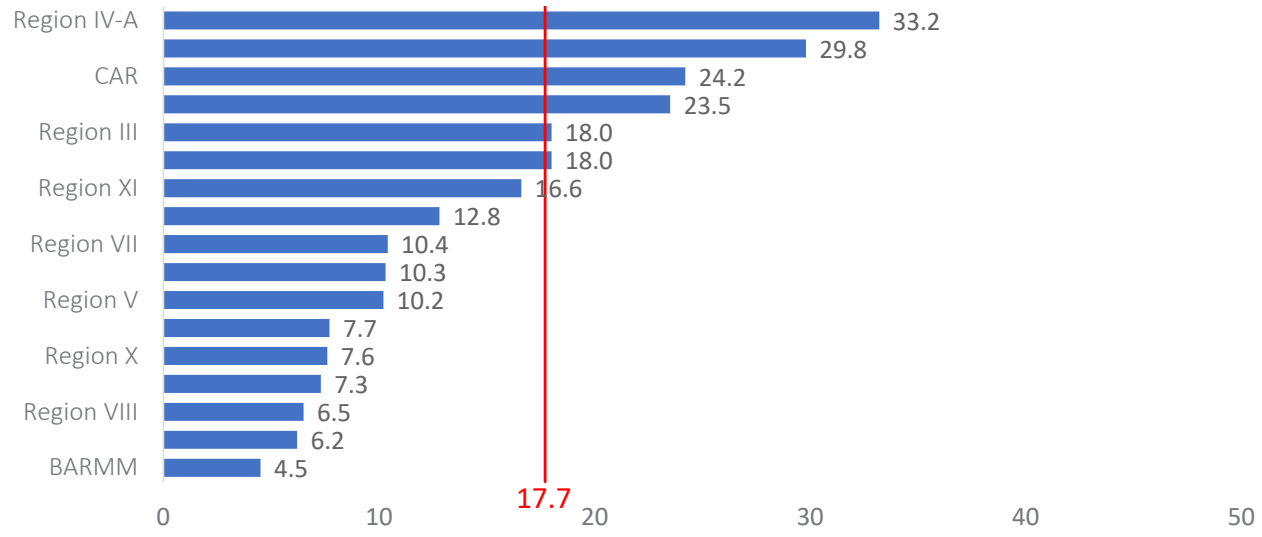
What the data is telling us

Availability of the internet and online learning device. The NICTHS reveals that, on average, only 17.7 percent of the household had access to the internet (Figure 2.5). This was highest in the National Capital Region at 33.2 percent and lowest in the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) at 4.5 percent. In terms of availability of computers, tablets, or other similar devices, only an average of 24 percent of households had these devices in their homes, with Region IV-A having the highest at 43 percent and again BARMM the lowest at 8.5 percent (Figure 2.6).

Across income classes, the disparity was quite revealing. The APIS 2017 data revealed that, on average, 22.4 percent of

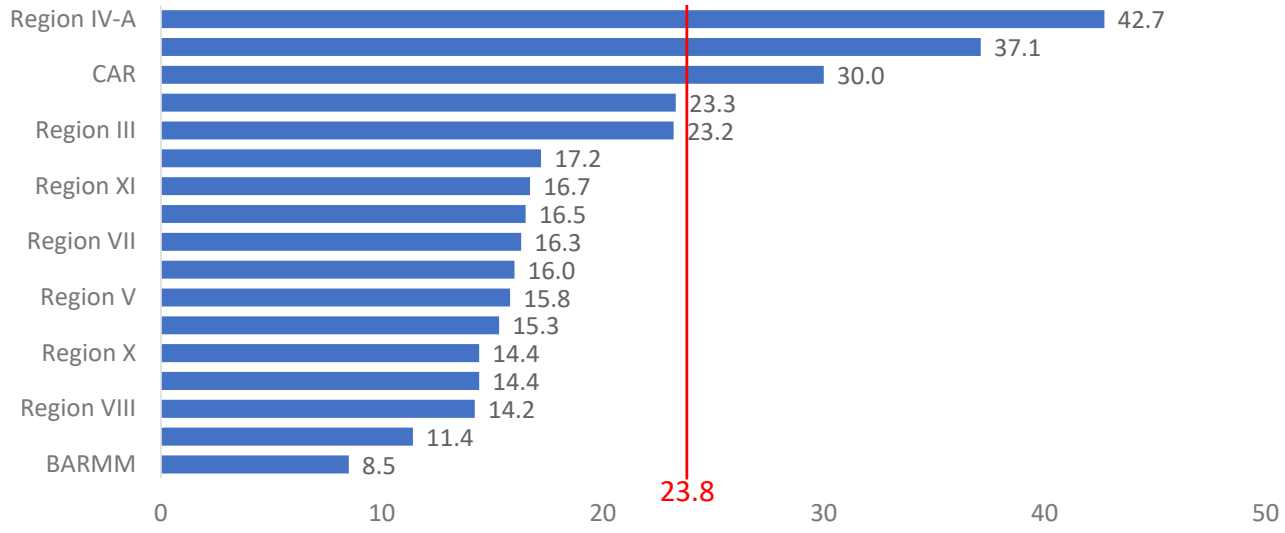
[5] While the NICTHS has data on internet access, it does not have socioeconomic variables that will allow the study to describe the disparity in access by socioeconomic status. This critical information is provided by the APIS survey.

Figure 2.5
Percentage of households with internet access, 2019



CAR = Cordillera Administrative Region; BARMM = Bangsamoro Autonomous Region in Muslim Mindanao
Source of basic data: DICT (2019a)

Figure 2.6
Percentage of households with a computer, 2019



CAR = Cordillera Administrative Region; BARMM = Bangsamoro Autonomous Region in Muslim Mindanao
Source of basic data: DICT (2019a)

households had access to computers. This is close to the corresponding figure in the NICTHS, which is at 24 percent. This disparity in the availability across income quintile was vast, with 63 percent for the top decile and only 2.6 percent for the poorest decile (Figure 2.7).

Cellphone availability, on the other hand, was remarkably high at 87 percent on average. Even more revealing is that the disparity across income deciles was not as wide, with 98 percent for the richest decile and 68 percent for the poorest decile (Figure 2.8). This means that to deliver learning materials, cellphones had a greater probability of reaching more households regardless of income levels than computer devices. Of course, one must temper this with the reality that not all cellphones may be convenient for learning.

Availability of alternative media for remote learning. Radio[6] and television can also be used to deliver learning resources. Most cellphones have radio functions, although most are on the FM rather than the AM band. The APIS 2017 reveals that, on average, 34 percent of households had a radio in their households.[7] This proportion was 56 percent for the richest decile and 24 percent for the poorest decile (Figure 2.9). On the other hand, 77 percent of households had a television. This proportion was 94 percent for the richest decile and only 42 percent for the poorest decile (Figure 2.10).

Availability of home support. Finally, not all students can learn on their own. They would need assistance at home. This is particularly true for younger students. The parents will be the primary source of support at home. The quality of support will be dependent on the level of education of parents. In terms of the extent of disparity in education support available at home, Figure 2.11 shows the distribution of household heads with education above the secondary level. It shows that only 26 percent of households had heads that have education higher than the secondary level. This was 69 percent for the richest decile and only 6 percent for the poorest decile.

Implications for delivering learning remotely

The data provided several implications on the effectiveness of delivering learning remotely.

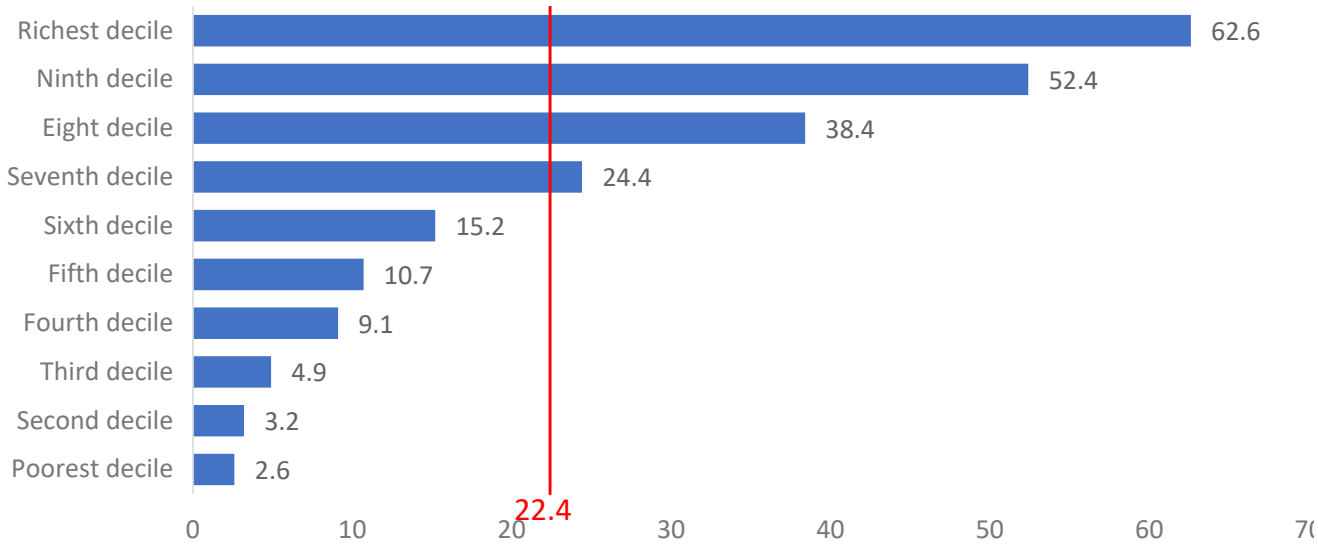
The availability of the internet was clearly not widespread, with less than one in five households having access to it. While one can argue that students can use internet cafés, this could expose them to the virus just like in face-to-face classes. Also, internet cafés may not be a conducive environment for long hours of learning.

The move to make the internet free in public spaces, like schools, will certainly address this issue. However, this would also mean students have to go to public places to get access, which again will expose them to the virus. In addition to the general lack of internet access was also the general lack of availability of online learning devices, such as computers, tablets, and other similar devices, with less than one in four households having those devices. Perhaps even more critical was the enormous disparity in the availability of these devices across socioeconomic classes.

[6] Includes audio component which has almost always has a radio functionality.

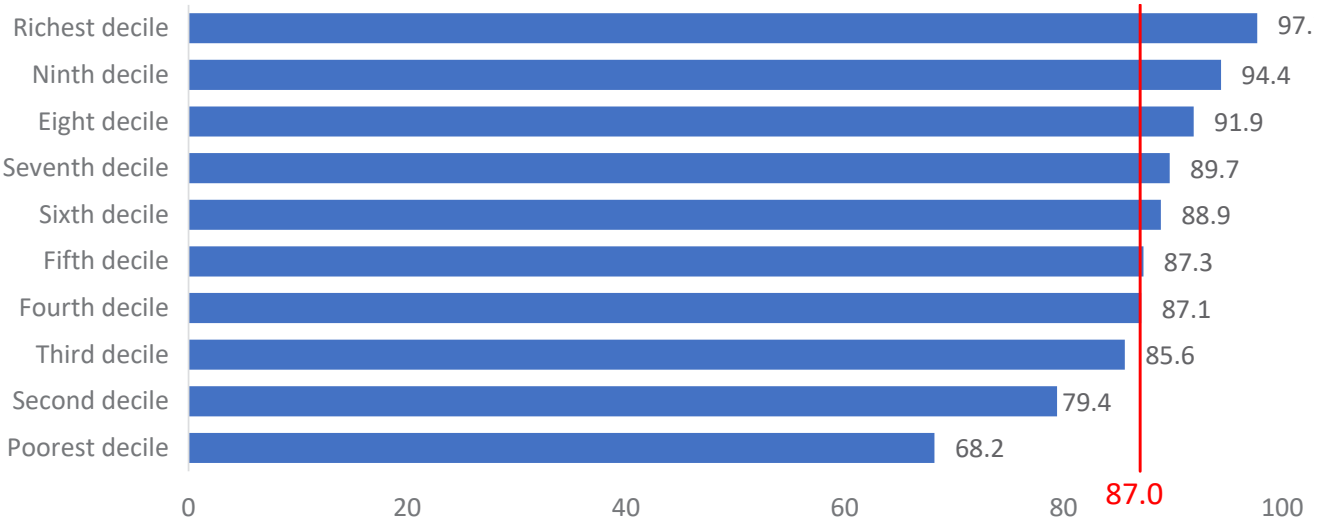
[7] The NICTHS 2019 shows that this proportion is higher at 47.1 percent.

Figure 2.7
Percentage of households with computer by income decile



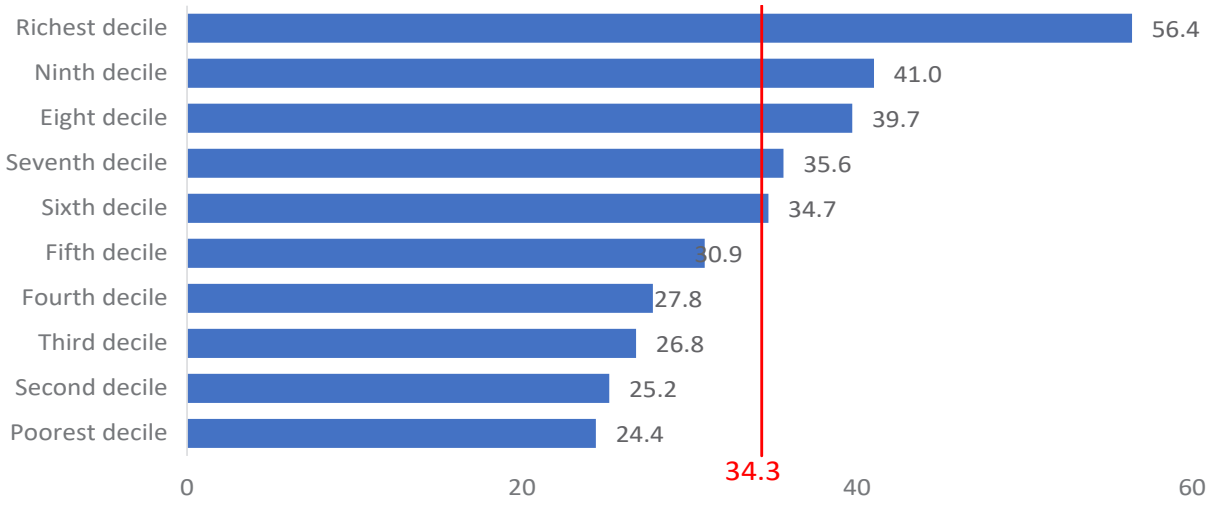
Source of basic data: PSA (2017a)

Figure 2.8
Percentage of households with cellphone by income decile



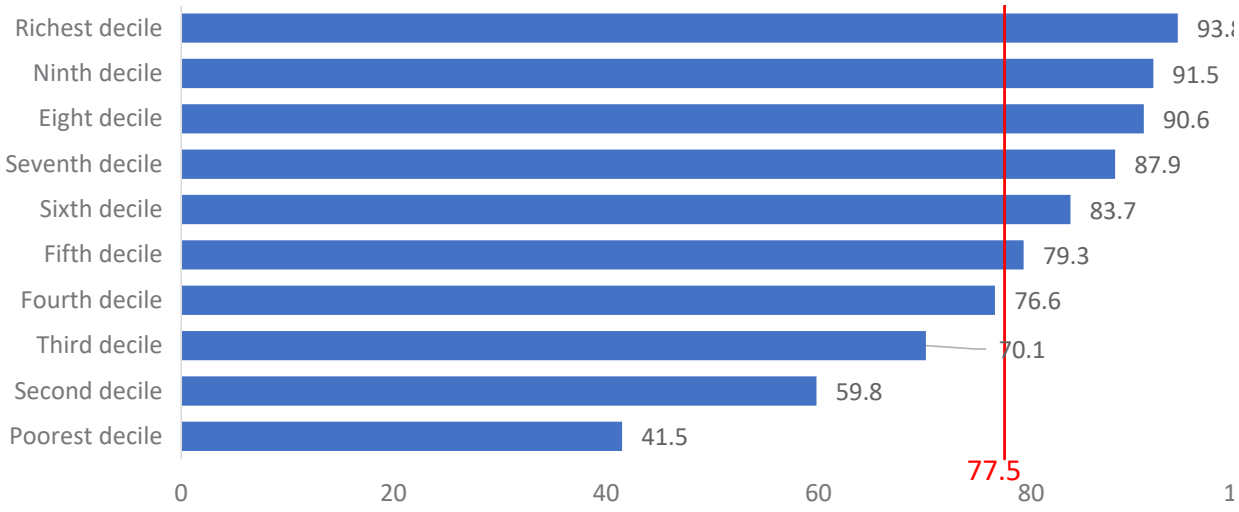
Source of basic data: PSA (2017a)

Figure 2.9
Percentage of households with radio or audio component by income decile



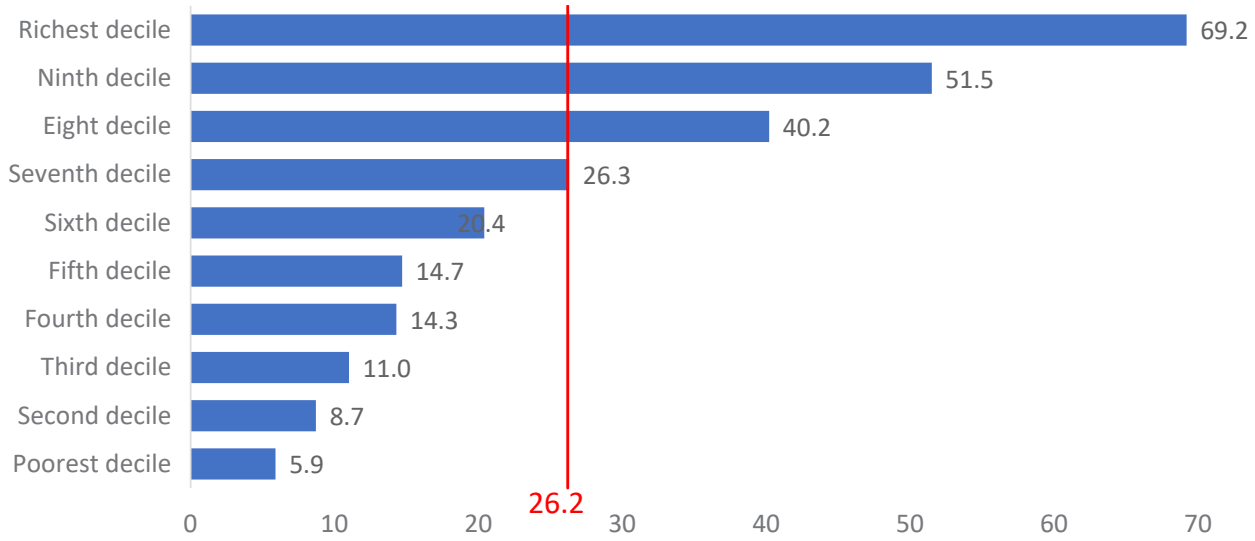
Source of basic data: PSA (2017a)

Figure 2.10
Percentage of households with television by income decile



Source of basic data: PSA (2017a)

Figure 2.11
Percentage of households with heads having above secondary education by income decile



Source of basic data: PSA (2017)

Cellphones appear promising as access devices. Almost 9 in 10 have access to a cellphone and there was not much disparity in cellphone ownership across socioeconomic classes. The ease of learning using cellphones, however, will depend on the type of cellphones students own. Only smartphones with high memory and ample access to the internet will be conducive for learning. Unfortunately, there is no readily available data yet on the distribution by type of cellphones that households own. It is not too far-fetched to expect that high-memory smartphones and ample access to the internet will again favor the affluent households.

Radio and television had higher general availabilities compared to the internet and computers. However, the disparities across income classes are similarly vast. The challenge with both radio and television is interacting with students. Interaction is known to be a significant factor in getting the continued attention of students to the material being discussed.

Finally, remote learning will also depend more on home support due to the unavailability of teachers. Data showed that only 1 in 5 households had heads that have better than secondary schooling. Also, there was a large disparity across income classes. There may also be a greater need for parents in poorer households to work outside the home.

Besides the issues of generally low and high disparity in access to online learning disfavoring those in lower socioeconomic class, research has shown that purely online learning tends to hurt the critical group that precisely needs help—the less proficient

group (Dynarsky 2020; Loeb 2020). There is even direct evidence that in an online platform in better-connected environments, like the United States (US), students in higher-income groups complete more math lessons than students from lower-income groups (Chetty et al. 2020). This means that even the availability of an online platform does not guarantee the equivalent performance of students across socioeconomic classes.

All these point to the tendency that remote learning, either online or through broadcast, will leave the children of poorer households behind. There is, therefore, a need for a systematic way of counteracting this tendency. Ignoring these schooling disparities will translate into disparities in future income trajectories (Orbeta 2010). Regardless of learning delivery modality, children of poorer households need assistance. They need delivery modalities other than online or broadcast media. This is where printed modules will come in handy. Home support is also essential. This may come in the form of organizing learning groups, where households are clustered in some way to receive supplemental instructions from para teachers in their communities. These para teachers may include education graduates waiting to be appointed or even the highest educated member of the community not currently employed.

Given the challenges to remote learning, it is laudable that the DepEd's LCP has considered all possible modalities for delivering learning and encourages school-level decisions on which modality will be appropriate for specific schools. Some learning is always better than no learning at all. Therefore, there is no argument that the country must try different modalities even if it does not have a clear idea yet of how these will perform at scale and in different environments.

This reality brings out an essential point about the manner of implementation. Since no one knows how the different modalities of delivering learning will perform, it is critical to take stock of the learnings during execution. This would require a working rapid feedback system in place that can inform implementers on the performance of the different modalities and feedback data constantly informing decisions moving forward. Only as the country gains better knowledge from experiences and responses in different situations can it hope to develop a more coherent and standardized implementation protocol.

Labor and employment

The COVID-19 pandemic has greatly affected the country's labor force. In mid-March 2020, the whole island of Luzon was put in community quarantine and the provinces in Visayas and Mindanao later, to slow down the spread of the disease. By third quarter of the year, the whole country has remained in different levels of community quarantine. This has affected business operations across industries, and, ultimately, the country's workforce.

The number of employed persons dropped by 19.1 percent between the early months of the pandemic and the previous year based on estimates by the PSA (2020a). From 41.8 million employed persons in April 2019, the number of employed in the country dropped to 33.8 million in April 2020. Among those employed, the average

number of hours worked decreased to 35 hours in April 2020 compared to 42 hours in the previous year. The number of unemployed persons has increased to 7.3 million from 2.3 million. Persons not-in-the-labor force also increased to 32.7 million from 27.8 million over the same period. Taken together, these suggest an additional 10 million working-age Filipinos not employed during the early months of the community quarantine. This significant drop in employment highlights the potential benefits of pursuing alternative work arrangements, especially with the use of telecommunications and computer technologies.

In March 2019, DOLE signed the IRR of RA 11165 or the "Telecommuting Act". The law aims to "protect the rights of workers and promote their welfare, especially in the light of technological development that has opened up new and alternative avenues for employees to carry out their work such as telecommuting, and other flexible work arrangements". A key feature of RA 11165 and its IRR is its "fair treatment" clause that mandates that telecommuting employees or those workers who work in alternative workplace with the use of technology be given the same treatment as that of comparable employees working at the employer's premises. The law and its IRR also provide for a telecommuting pilot program and periodic review of the IRR. Under RA 11165, however, employers who will institute telecommuting work arrangements are required to notify DOLE and accomplish prescribed forms, which may potentially dissuade some employers because of the additional documentary requirement.

Along the same line, the Civil Service Commission (CSC) adopted CSC Resolution 2000540 that provides guidelines on alternative work arrangements and support mechanisms for workers in the government sector. Under this resolution, government agencies may adopt any or a combination of alternative work arrangements, including work from home, skeleton workforce, compressed workweek and staggered working hours. Government agencies are also required to provide various support mechanisms, such as health and psychosocial interventions, personal protective equipment, and reasonable transportation and housing arrangements. The guidelines will be in effect over the duration of the State of National Emergency declared by the government to address the threat of the COVID-19 pandemic. While the government sector employs less than 10 percent of all employed persons in the country, the CSC guidelines provide a template for alternative work arrangements that the private sector may consider.

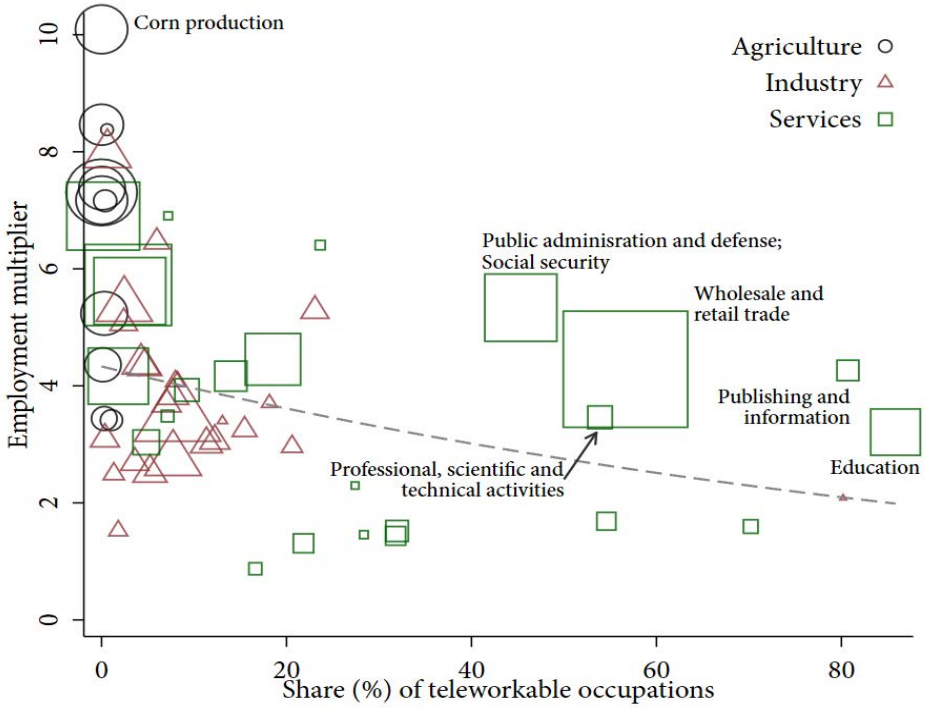
The COVID-19 pandemic has highlighted the importance of alternative work arrangements in ensuring that production of goods and services remain unhampered during a crisis. However, such arrangements may not be applicable to all workers. Recent estimates by Dingel and Neiman (2020), for instance, show that only as much as 26 percent of prepandemic occupations in the Philippines are telecommutable or "teleworkable" using these authors' language. While this is relatively higher compared to the Philippines' neighbors in the region, such as Thailand (17%), Cambodia (11%), and Myanmar (10%), the share of teleworkable occupation in the country remains far behind those of industrialized countries, such as Luxembourg (53%), Switzerland (45%), Sweden (44%), and the US (42%).

When disaggregated by sector, teleworkable occupations are concentrated in such sectors as public administration, wholesale and retail trade, publishing and information, education, and professional, scientific and technical services. While these sectors have relatively high employment multiplier, much of the sectors with higher propensities to generate additional jobs are not teleworkable, such as those in the agriculture sector (Figure 2.12).

Furthermore, households have different capacities in accessing technology, which may limit work participation through telecommuting even if their occupation is teleworkable. In 2017, for example, as much as 6 percent of households still have no electricity connection. Less than a quarter of households own a personal computer and about 1 in 10 has no cellular phone. The poorest segments have less access to these amenities compared to richer households.

While telecommuting holds some promise in tiding the workforce through the pandemic, additional policies need to be set to ensure greater participation among workers with teleworkable occupations and protect other existing jobs from being lost in the economic downturn. Parallel programs in occupational and public health and safety, as well as in mass transportation and in telecommunication, need to be strengthened to ensure workers can perform their jobs wherever they work.

Figure 2.12
Employment multiplier and share of teleworkable occupations by sector



Note: Plot size is proportional to total number of employed in the sector based on the October 2018 Labor Force Survey (LFS) by the PSA (2018b). Employment multiplier is calculated from the 2012 Input-Output Table by the PSA (2017b). Teleworkable occupations are based on the classification by Dingel and Neiman (2020) applied to the October 2018 LFS (PSA 2018).
Source: Authors' calculations.

https://www.da.gov.ph/wp-content/uploads/2019/09/IMG_9290.jpg

Agriculture

Rice policy

Signed into law in February 2019, the Rice Liberalization Act is one of the most far-reaching reforms passed in Philippine agriculture. It reverses the decades-long policy of quantitative restrictions on rice imports and the rice industry's domestic regulation administered by the National Food Authority (NFA). Before the law, NFA used to control imports, regulate players engaged in grains postharvest, logistics, marketing and processing, procure palay and corn, import milled rice for buffer stock, and distribute milled rice as a social safety net and in response to calamity. With the passage of the law, NFA's sole function is the management of a buffer stock to be used only for emergencies.

However, rice liberalization does not denote free trade in rice. There remain high tariff barriers, namely, 35 percent for imports from the Association of Southeast Asian Nations (ASEAN), 50 percent for rice imports within the minimum access volume (MAV) of 350,000 tons, and 180 percent for imports outside MAV. Moreover, a nontariff measure is maintained, namely, the imposition of sanitary and phytosanitary restrictions on imports, consistent with the World Trade Organization (WTO) agreements.

The law also provides an adjustment package for farmers adversely affected by the anticipated influx of cheap imported rice. The Rice Competitiveness Enhancement Fund is equivalent to PHP 10 billion per year for the next six years. It also aims to utilize rice tariff collections in excess of PHP 10 billion. Its beneficiaries are farmers, farmworkers, and their dependents listed in the Registry System for Basic Sectors in Agriculture and accredited rice cooperatives and associations. The core PHP 10 billion is allocated to rice farm mechanization (PHP 5 billion), rice seed development, propagation, and promotion (PHP 3 billion), rice credit assistance (PHP 1 billion), and rice extension (PHP 1 billion).

Meanwhile, tariff collections over PHP 10 billion may be allocated to rice farmer financial assistance, individual titling of agricultural rice lands, expanded crop insurance program on rice, and crop diversification schemes for current rice farmers.

In 2018, the world price of rice was relatively elevated, approaching USD 400 per ton. It fell steeply in 2019, amounting to USD 300 per ton in September that year. Nevertheless, it recovered to USD 345 in October. The latter translates to a border price of just PHP 20 per kilogram (kg) milled rice. Hence, it appears that the downward pressure on both retail and farmgate prices will continue, particularly given the large gross margin between wholesale price (about PHP 38 per kg) and border price.

Briones (2019) found that the law will lead to much higher imports, and therefore, lower farmgate and retail prices. Farmers tend to be worse off under liberalization, while consumers are better off. On the balance, society benefits as the peso value of benefits to consumers exceed the peso loss to farmers. The percentage change in welfare is larger for the lower-income groups; hence, liberalization tends to be pro-poor. Despite calls for suspension of the law, it appears the correct policy is to continue implementation, cushion the impact of the law on rice farmers through safety nets, promote diversification of marginal rice areas to other crops, and allow markets to adjust fully to the new liberalized environment.

Other new laws

***Sagip Saka* Act**

The Sagip-Saka Act is geared toward productivity and enterprise development of farmers and fisherfolk. It establishes an Enterprise Development Council to oversee the implementation of these goals. It also institutionalizes the subsector outcome targeted by the *Philippine Development Plan (PDP) 2017–2022*, which is *Agriculture, fisheries, and forestry (AFF)-based enterprises increased.* Among its provisions is the exemption of accredited farmer and fisheries enterprises from competitive bidding in the supply of government-provided goods and services, such as feeding programs, adopting instead the modality of negotiated procurement.

***Masustansyang Pagkain para sa Batang Pilipino* Act**

The Masustansyang Pagkain para sa Batang Pilipino Act institutionalizes the national feeding program for children. It embraces the state policy of providing adequate nutrition and food for children from conception. Because of its passage, DepEd and DSWD have allocated significant budgets to daycare center feeding and school feeding, respectively.

Magna Carta of the Poor

The Magna Carta of the Poor upholds the right of the poor to adequate food, assigning DSWD the lead role in ensuring this right. This widens the obligation of the state toward providing sufficient food for the poor. It also prioritizes investments for basic sectors, including indigenous peoples and women, and other marginalized sectors, such as migrant workers, persons with disabilities, and the elderly.

The "New Thinking" for agriculture

Previously, DA programs centered on rice, with some attention to other traditional

crops, such as corn, coconut, and sugarcane. Success was measured largely by achieving production targets. In the case of rice, the targeting was based on a notion of closing the gap with demand, thereby achieving rice self-sufficiency. While government assistance was extended to organized farmers, individual farmers were left largely to fend for themselves in operating their smallholdings, many of which were created by the Comprehensive Agrarian Reform Program.

With the passage of the Rice Tariffication Law, the business-as-usual mindset in DA policy and programming could no longer be maintained. A new Secretary was installed, William Dar, a scientist with long experience in the government and in managing an international organization. Secretary Dar has introduced a "new thinking" for agriculture called *Masaganang Ani at Mataas na Kita* or *Ani at Kita* for short (meaning, harvest and income, respectively). The slogan signals that, while production goals are not abandoned, a new set of objectives related to farmers' income will now be pursued in earnest.

To level up Philippine agriculture, DA programs will now be configured around eight paradigms (Dar 2019):

- *Modernization must continue* - Modernization must cover all crops, including those with export potential, such as coffee, cacao, cassava, tropical fruits, and rubber, among others.
- *Industrialization is the key* - Agriculture must be treated as an industry, to industrialize the value chain of every agricultural commodity.
- *Promotion of exports is a necessity* - The country should have a long-term strategy in developing and promoting exports of agricultural products.
- *Small- and medium-size farms must be consolidated* - The government must promote and support farm consolidation arrangements to bring about economies of scale, particularly for crops that require mechanization and massive use of technology.
- *Infrastructure investment should be critical* - Agricultural areas need infrastructure development and logistics to improve their linkages to markets. Thus, a "Build, Build, Build" program is also a must for agriculture.
- *Higher investment for agriculture must be supported* - The government and the private sector, with the strong and popular support from the citizenry, must provide the necessary budget and investment to develop Philippine agriculture.
- *Legislative support is needed* - The country's agriculture sector needs the help of Congress for policy and structural reforms that need to be legislated and institutionalized.
- *Roadmap development is paramount* - The government, through DA, should take the lead in generating the "big ideas" for the roadmap and should solicit inputs from the private sector and other stakeholders.

A few of these "paradigms" had already been pursued by previous Secretaries, such as a higher budget for agriculture, legislative support, and infrastructure investment. It remains to be seen whether the other paradigms will make serious changes in DA budgeting and operations. Hopefully, the following will be observed within the remaining years of the current administration:

- Modernization should translate to greater budgetary outlays to

public research and development in agriculture, preferably reaching the 1 percent of agricultural gross value added mandated in the Agriculture and Fisheries Development Act.

- Industrialization of agriculture should lead to mainstreaming the value chain approach to agricultural development. This seems focused on one project, the Philippine Rural Development Program, albeit a large-scale one supported by World Bank loans. Part of this mainstreaming is the development of roadmaps that will bring the private sector on board.
- Export promotion should lead to export-based performance indicators. Budgetary allocations should support this.
- The government must pursue the consolidation of farm operations. Previously, DA has pursued consolidation in sugarcane farms through the block farm program, a joint project of DA – Sugar Regulatory Authority and Department of Agrarian Reform. While the block farm's success has been uneven (Pantoja et al. 2019), there are enough model examples and lessons learned to enable a more scaled-up implementation.

Response to the pandemic

Emergency measures implemented to contain the COVID-19 would likely significantly impact the agricultural market chain and food security. Anticipating this, the government had classified food and agriculture as essential activities exempted from quarantine measures (IATF-MEID 2020). Nevertheless, at the local level, restrictions reportedly disrupted food supply chains.

On March 8, President Duterte declared a State of National Emergency pursuant to RA 11332. On March 16, 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 LGU overreach were reported. In response, the Philippine National Police ordered the takeover of barangay checkpoints and the dismantling of such checkpoints along major highways (Caliwan 2020; PNP 2020). For its part, DA implemented a Food Lane Pass program, which had already been in place since 2018 but considerably fast-tracked and expanded with 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 are exempted from the travel ban and given ease of passage in checkpoints. Nonetheless, the overall stringency of government response to the pandemic has been unusually severe compared with the rest of the world (Hale et al. 2020).

The lockdowns inflicted enormous economic costs. By April 2020, the number of workers employed overall had fallen by 21 percent; the biggest drop occurred in the industry sector while the least decline was in agriculture. Remarkably, by the third quarter, employment in agriculture had increased, even as industry and services continued to employ fewer workers than the previous year. It appears that agriculture was able to employ some of the workers laid off in industry and services.

This is consistent with trends in quarterly gross domestic product (GDP) growth. Overall, GDP declined by 0.7 percent in the first quarter. The contraction reached dire levels in the second quarter when GDP fell by 17 percent, led by industry, followed by services. Remarkably, agriculture posted a

positive growth of 1.6 percent. Meanwhile, the development of agriculture in the second quarter was powered by a 5.3-percent expansion of crops, followed by a milder recovery of fisheries (0.9%), offsetting the contraction of livestock and poultry at -8.2 percent and -4.8 percent, respectively.

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 government directives to the contrary. This is evident in the incidence reports posted by the DA COVID19 Resiliency Task Force, which were frequent from mid-March to mid-April. However, these reports had largely petered out by May 2020 (Google Maps https://bit.ly/2OAZHvt).

The pandemic dealt a blow to both the demand and supply sides of the market. The analysis of price data suggests that, at least 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 mid-year.

However, no growth acceleration for agriculture appears possible in the absence of overall economic recovery. In the meantime, the government must ensure that (1) food supply disruptions will not be repeated in the event of future emergencies; (2) affected households and workers will be provided sufficient levels of social protection; and (3) stimulus programs should offer appropriate levels of support for agriculture, targeted to small farmers and fisherfolk. It should also lobby for continued openness of international markets for food products and lead by example.

https://upload.wikimedia.org/wikipedia/commons/b/ba/Typhoon_Ketsana_flooded_rice_field1.jpg

Environment and natural resources

Climate change mitigation

Climate change-related initiatives include subnational policy cascade on risk management and gender inclusivity with the Climate Change Commission (CCC) passing a series of resolutions. Commission Resolution 2019-001 espoused the adoption of the National Climate Risk Management Framework that enjoins the adoption of Probabilistic Climate Risk Assessment (PCRA) looking at future climate change scenarios and possible impacts; Climate Risk Evaluation that ranks communities based on their risk level; and climate risk management action formulation for risk avoidance, reduction, and management. National government agencies (NGAs) and LGUs were expected to operationalize this resolution in their plans and programs

(CCC 2019a). Commission Resolution 2019-002 called for the national adoption of gender-based climate approaches as well as the promotion of inclusive participation in the formulation and negotiation processes (CCC 2019b). The Commission posited that climate impacts affect men and women differently, with the latter bearing most of the burden due to inherent systemic gender disadvantages.

CCC also renewed its National Panel of Technical Experts (NPTE), first formed in 2015, to continue providing informed and scientifically-backed technical guidance in crafting climate change policies, plans, and programs. NPTE, composed of 13 experts from various fields, is tasked to provide inputs and strategies on government-related initiatives for the next two years (CCC 2020). CCC also reported the approval of the Philippines as a participant in Climate Investor One, an integrated, full-project life-cycle funding facility that could help in cost reductions for renewable energy projects. The project will deploy around USD 100-million capital in a total of 18 countries (Mayuga 2020).

Several bills filed in Congress reflect the legislature's desire to contribute to climate change mitigation. These include SB 992 or the Low Carbon Economy Act, SB 538 or the Green Vehicles Incentives Act, SB 581 or the Solar Rooftop Adoption Act of 2019, and SB 818 or the Urban and Countryside Greening in the Philippines Act.

SB 992 aims to reduce greenhouse gas emissions by setting annual emission reduction targets for sectors with high greenhouse gases emissions. It also seeks to institute a carbon dioxide emission allowance of one metric ton and establish a trading system wherein allowances may be sold, exchanged, purchased, or traded. This echoes the country's commitments to the Paris Agreement, which binds nations to decrease their carbon dioxide emissions.

SB 538 provides an exemption for payment of excise taxes and duties of green vehicles for nine years, including not paying for the Motor Vehicle User's Charge, importation incentives, and prioritization in the registration, issuance of plate number, traffic rule exemptions, and franchise application.

Meanwhile, SB 581 promotes rooftop solar technology among residential and commercial end-users.

Lastly, SB 818 supports the National Greening Program and makes mandatory the planting of trees along national roads, urban and countryside parks, public vacant lots, and other unutilized sites.

RA 11201 created the Department of Human Settlements and Urban Development (DHSUD), consolidating the Housing and Urban Development

Coordinating Council and the Housing and Land Use Regulatory Board. The new department is mandated to exercise policy development, coordination, monitoring and evaluation; environmental, land use, and urban planning and development; housing and real estate development regulation; and homeowners association and community development. Such encompassing provisions effectively give DHSUD oversight functions over critical aspects of disaster risk reduction and climate change resiliency in the development and land use plans of LGUs.

Disaster risk reduction and management

With the absence of the much-anticipated Department of Disaster Resilience, attempts were made to amend the provisions of RA 10121 or the Philippine Disaster Risk Reduction and Management (DRRM) Act. SB 1272 highlights the need to address shortcomings in the DRRM process flow with the National Disaster Risk Reduction and Management Council (NDRRMC) not having the autonomy to exercise independent operations, thus subject to bureaucratic delays. It points to the lack of a comprehensive action plan on evacuation and postrecovery operations and pushes for the identification and creation of permanent evacuation centers and safe zones.

Another interesting bill is SB 746, which aims to expand the application of the Local Disaster Risk Reduction and Management Fund (LDRRMF). The bill proposes to amend Section 12 of RA 10121, which adds the appointment or hiring of trained rescue and response personnel and expands the use of the LDRRMF for wages and reconstruction, repair, and rehabilitation of major infrastructure damaged by disasters.

The bill also proposes to shorten the time frame of the availability of the special trust fund, from five years to only three years before it is reverted to the general fund of the LGU.

Meanwhile, the COVID-19 pandemic necessitated the passing of several provisions focusing on disaster response both in the national and local levels. The declaration of a State of National Emergency has authorized all LGUs to access their 5-percent calamity fund apart from the LDRRMF. It also allowed them to go beyond the 30-percent cap of their quick response funds, with possible additional funding from the national government.

At the national level, the NDRRMC provided assistance through dissemination campaigns, formulation of communication plans, contact tracing and field validation, repatriation of OFWs, coordination with LGUs, oversight of quarantine areas, and

conduct of biochemical interventions. Similar assistance was provided by subnational councils/line structure by virtue of cascading of functions and initiatives (OCD n.d.b.) The pandemic response presented a policy gap, as the council and LGUs do not usually include disease outbreaks in their risk assessment and hazard plans.

The Office of Civil Defense (OCD) was also mandated by the Office of the President through Administrative Order 27 to consolidate and distribute all donations from various sources to have proper accounting and monitoring. As of July 13, 2020, a total of PHP 33 million in cash donations were transferred to the Bureau of Treasury and followed up with request for notice of cash allocation for utilization. Donations in-kind included bottled water, COVID-19 test kits, surgical masks, surgical gloves, and N95 masks. The donations to OCD all came from domestic sources, identified mostly as private and/or nongovernment entities. The assistance benefitted 252 stakeholders classified as public hospitals, mostly situated within Regions 10, 3, and 5 (OCD n.d.a.).

Forestry and mining

The Department of Environment and Natural Resources (DENR) adopted the Philippine Master Plan for Climate Resilient Forestry Development until 2028. The plan served as a national framework for the forestry sector with the objective of maintaining watersheds and forest ecosystems. In particular, the Forest Management Bureau is tasked to coordinate and mainstream watershed management plans, forest land use plans, and other relevant documents. The DENR also formulated the *Forestry Investment Road Map* (FIRM) 2018–2028 to provide a platform for private sector investments, participation, and visibility in the economic dimension of sustainable development. Encapsulated in FIRM are plans to revitalize forestry investments through local and direct investments and improve the potential of production forests as contributor to the national economy.

For the mining sector, RA 11256 (An Act to Strengthen the Country's Gross International Reserves [GIR]) was signed into law in 2019. However, it took a year to pass its IRR as framed under DBM Revenue Regulations 4-2020. The legislation amends the 1997 National Internal Revenue Code exempting from excise and income taxes the gold sale to the *Bangko Sentral ng Pilipinas* (BSP) by small-scale miners and accredited traders. This would allow BSP to increase its purchases of domestic gold and improve the level of the country's GIR, beefing up the country's primary buffer against external economic shocks. It was observed that gold sales to BSP dropped by as much as 99 percent when taxes were first imposed in 2011. The new law is expected to raise the volume of BSP's gold-buying transactions, lowering leakages to the black market, improving the Philippine's economic standing, and benefiting small-scale mining stakeholders (BSP 2019).

In June 2019, the Mines and Geosciences Bureau (MGB) released a clarification on quarry resources. Through MC 2019-004, it defined quarry resources as any common rock or other mineral substance or any nonmetallic minerals not covered by an exploration permit, a mining agreement, or a financial and technical assistance agreement. The extraction of quarry resources may be applied for using

a quarry permit through the Provincial/City Mining Regulatory Board, sand and gravel permits (commercial sand and gravel, industrial sand and gravel, and exclusive sand and gravel), and gratuitous permits (government or private gratuitous permits).

The mining sector was instrumental in augmenting COVID-19 response funds among their respective host and neighboring communities. MGB released a memorandum on March 27, 2020, authorizing registered mining companies to realign any remaining unutilized funds of their respective social development and management programs (SDMP). This will be observed until the threat of COVID-19 has passed. The realigned SDMP amounted to approximately PHP 402.17 million benefiting 209,661 frontliners and 1.2 million families. This financial assistance came in the form of personal protective equipment, medical supplies, food packs, garden kits, service ambulance vehicles, trucks, and boats (MGB 2020a). The guidelines for this memorandum stated that the utilization of 2019 funds will take precedence before tapping into the 2020 SDMP budget, subject to the approval of the MGB regional director. The realignment of funds would follow a staggered dole out with accounting documents to be provided to the regional office for proper monitoring. The mining companies could also consider the community development program as another fund source.

Mining operations were halted in the early weeks of the outbreak but were eventually allowed conditional resumption upon easing of quarantine protocols. Memorandum 2020-004 particularly prohibited the entry and exit of employees in areas still under ECQ. It also required work areas to have the following safeguards: provision of personal protective equipment to each worker, thermal scanning, wearing of facemask, and physical distancing.

Cargo shipments were also allowed subject to 14-day quarantine and clearance by the Bureau of Quarantine under DOH. Vessel crew were not allowed to disembark and only authorized personnel from the Philippine Ports Authority were permitted to board ship to check on shipment reports detailing crew list, port of origin (for contact tracing), and COVID-19 test results of the crew. DOH-recommended protocols were followed for COVID-19 positive cases.

Waste management

Discussions have been heavy on polluted large waterways, the most notable of which has been the case of Manila Bay. The increasing attention on the waterbody's coliform levels and harmful chemical concentrations facilitated the issuance of Administrative Order 16, which created the Manila Bay Task Force to expedite the rehabilitation and restoration of Manila Bay. DENR was appointed as its chairperson, assisted by DILG and Department of Tourism (DOT) as its vice-chairpersons, and members from other departments and institutions. As a regulatory body, the task force is empowered to impose penalties on surrounding establishments and households if proven that they do not comply with proper sewage guidelines. It is also in charge of remedial interventions in coordination with the National Anti-Poverty Commission, Presidential Commission for the Urban Poor, and National Housing Authority concerning informal settlers in the area. However, apt attention should also be given to fisheries and coastal communities, which

treat Manila Bay as their main source of livelihood and are similarly affected by the increasing pollution in the water body.

As solid waste management is a devolved function, DENR provided guidelines governing waste-to-energy facilities at the subnational level. Administrative Order 2019-21 enjoined all waste management facilities to adopt an environmental impact statement system and obtain all related permits prior to establishment and operation. Host LGUs are given the flexibility to form clustering or partnerships and can accept segregated biodegradables or residual wastes from households, material recovery facilities, and other disposal areas. Quarterly self-monitoring reports and semi-annual compliance monitoring reports are required to be submitted to the regional offices of the Environmental Management Bureau (EMB).

During the COVID-19 pandemic, movements for waste transport remained unhampered. EMB initially released MC 2020-14, which contained the interim guidelines on the issuance of special permit to transport (SPTT) for the conveyance of hazardous wastes within the quarantine period. All movements and operations related to waste transport were provided blanket exemption and given simplified procedures when applying for permits. However, vehicles transporting wastes were required to submit reports of compliance with the health and environmental plan of the registered operator after each completed transport. MC Circular 2020-15 served as additional guidelines that allowed transport vehicles with existing permits for reactive chemical wastes to continue operating and eventually apply for SPTT through online networks. MC 2020-16 further expanded the coverage of the provisions from the island of Luzon to nationwide transport operations. With the declaration of an extended ECQ, MC 2020-20 covered those related to power generation, drug and pharmaceuticals, food manufacturing and processing, export- and import-oriented industries, and public health and safety.

Energy

The energy sector saw the enactment and proposal of significant pieces of legislation, issuance of IRR, and continuing information, education and communication (IEC) campaign, all geared toward energy efficiency, conservation, security, and sustainability.

The Energy Efficiency and Conservation Act aims to ensure sufficiency, stability, and sustainability of energy supply in the country through the development and implementation of energy-related plans and programs. It also encourages the use of renewable energy technologies, delineates the roles of energy stakeholders, grants incentives to energy efficiency and conservation projects, and imposes sanctions for any violation.

Meanwhile, the Energy Virtual One-Stop Shop (EVOSS) Act strengthens transparency and accountability in the permitting process for new power generation, transmission, and distribution projects in the country. It is intended to encourage more investors in these areas and reduce cost of doing business. It establishes the EVOSS, an online platform that facilitates electronic application and processing of permits and certifications across agencies and within mandated time frames.

Moreover, under the Renewable Energy Act of 2008, two important policies were promulgated: the Renewable Portfolio Standards (RPS) in 2017 and the Green Energy Option Program (GEOP) in 2018. GEOP provides end-users the option to choose renewable energy resources as their source of energy. Meanwhile, RPS requires suppliers to source a portion of their energy supply from eligible renewable energy resources.

More policy support mechanisms were issued pursuant to the Renewable Energy Act. For instance, DOE drafted the Guidelines Governing the Issuance of Operating Permits for Renewable Energy Suppliers under the GEOP (DOE 2019a). The guideline defines the supplier qualifications, application requirements, processing and approval procedures, and revocation or cancellation of operating permits to suppliers. The Renewable Energy Market (REM) Rules were also issued and the Philippine Renewable Energy Market System (PREMS) launched in December 2019. These policy additions are important as REM is vital to the development and commercialization of renewable energy, and attainment of the country's targets.

The REM Rules set out the regulation pertaining to REM governance, regulatory support, and transition to operationalizing REM under the Wholesale Electricity Spot Market (WESM). These include directives for the Philippine Electricity Market Corporation (PEMC) to create a readiness criteria necessary to enable the implementation of REM and implement corresponding changes to the WESM rules to facilitate the operation of REM. The Rules also include the development of the PREMS.

PREMS[8] is a platform to track, monitor, and assess compliance by electric power industry participants[9] with the RPS for both on-grid and off-grid areas. Based on the Renewable Energy Act, a renewable energy registrar shall be established by PEMC. It shall issue, keep, and verify renewable energy certificates corresponding to energy generated from eligible facilities. These certificates shall be used for compliance with RPS. PREMS is also a venue where renewable energy certificates can be traded (Lectura 2019). The trading allows participants to comply should they fall short of the required share of electricity sourced from their renewable energy resources based on RPS.

These policies will further stimulate development, utilization, and commercialization of renewable energy in the country. Amid these policy issuances, the government also carried out an assessment of the National Renewable Energy Program (NREP) 2011-2030 and recognized that an updating of NREP is in order as the realization of targets has been slow (Rivera 2019b).

Within the aspiration of reducing dependence on imported fuel and encouraging the use of clean and sustainable alternative energy technologies, SB 174[10] was proposed to mainstream the use of electric vehicles (EVs). It proposes the creation of a comprehensive EV roadmap led by DOE and grants incentives for the importation, utilization, and manufacture of EVs and parts. It also requires private and public buildings and establishments to dedicate parking slots with charging station for exclusive use of EVs and gasoline stations to designate spaces for installation of charging stations.[11]

The government also carried on its energy IEC campaigns. Regional investment briefings on EVOSS were held in key cities, such as Iloilo and Tagaytay. These events provided stakeholders with information on recent developments in the energy sector, engaged LGUs, and provided a venue for networking among key stakeholders in the regions.

Another continuing campaign is the "ENEReady", which focuses on human resource. It raises student awareness on the potential career opportunities in the energy industry. The campaign brings DOE technical professionals to schools where they share their work experiences.

Overseas, DOE promoted oil and gas exploration in the country through the Philippine Conventional Energy Contracting Program (PCECP) roadshows (DOE 2019b). Launched in November 2018, PCECP aims to intensify energy exploration and development activities by partnering with established companies that will help the country harness its indigenous energy resources. As of 2019, the government has secured 23 active petroleum service contracts in the country, with the Malampaya project as

[8] Developed under the Development for Renewable Energy Applications Market Mainstreaming and Sustainability or DREAMS project with the United Nations Development Programme and Global Environment Facility as partners.

[9] Examples are generation companies, distribution utilities, including electric cooperatives and suppliers of electricity.

[10] Substituted by SB 1382 in March 2020 and is pending on second reading. The latest version of the bill proposes a requirement wherein at least 5 percent of the fleet of industrial and commercial companies, public transport operators, and government agencies should be composed of EVs, within the time frame indicated in the EV roadmap.

[11] Charging stations shall be installed, operated, or maintained by a third-party charging station service provider, or by the owner of the building or gasoline station who will constitute itself as a charging station service provider.

the largest and most successful (Rivera 2019a).[12] Thus far, the government has accepted applications for 14 predetermined areas,[13] and investor-nominated areas for exploration (Crismundo 2018).[14]

Response to the pandemic

When the COVID-19 pandemic adversely affected various sectors and the country was placed under community quarantine, a deferment of payments due within the period covered by the ECQ was given to electricity consumers and power sector companies (in particular, a 30-day grace period after the ECQ without interest, penalties, fees, and other charges). DOE and the Energy Regulatory Commission issued memoranda and advisories to public and private power sector companies with this directive. The first one was released on March 18, 2020 and reissuances came after when the community quarantine got extended.[15]

Six months after the announcement of the community quarantine, the deferment of electricity payments became part of the national law through the Bayanihan to Recover as One Act (RA 11494) signed on September 11, 2020, which continued and expanded programs for response and recovery until December 2020.[16] This law includes a directive for the electric power sector, specifically for entities providing electric utilities, to implement a minimum of 30-day grace period and staggered payment of utilities falling due within the ECQ or the Modified Enhanced Community Quarantine without incurring interests, penalties, and other charges.[17] The said directive also applies to payments in the entire power value chain encompassing generation companies, transmission utilities, and distribution utilities.

DOE also issued a circular with guidelines to use the funds under the Energy Regulation 1-94 program for projects of host LGUs aimed at mitigating the impact of COVID-19 in their communities. ER 1-94 is a policy under the DOE Act of 1992 and the Electric Power Industry Reform Act of 2001 which states that LGUs that host generation facilities and energy resource developers will receive shares generated by these facilities, and such funds will be earmarked for projects related to electrification, livelihood and development, and health and environment enhancement (Lectura 2020; Rosales 2020).[18]

[12] The Malampaya project is reported to have recovered all costs in four years.

[13] One in Cagayan, three in East Palawan, three in Sulu Sea, two in Agusan-Davao, one in Cotabato, and four in West Luzon.

[14] Investors also have the option to nominate exploration areas within the Philippines' exclusive economic zone, subject to DOE's approval.

[15] https://pia.gov.ph/press-releases/releases/1039417; https://www.erc.gov.ph/ContentPage/61971; https://s3.amazonaws.com/law-media/uploads/1010/94272/original/DOE%20Advisory%2018Mar20%20-%20Solidarity%20with%20the%20Country%20by%20Deferring%20Payments%20of%20Obligations%20and%20Dues.pdf?1585732719 (accessed on October 30, 2020).

[16] On March 24, 2020, the Bayanihan to Heal as One Act (RA 11469) was signed into law but lapsed in June 2020. It was continued and expanded through RA 11494.

[17] The law states that after the grace period, consumers may settle unpaid electric bills "on a staggered basis payable in not less than three monthly installments, subject to the procedural requirements of the concerned regulatory agencies in the imposition of such installment plan without interests, penalties, and other charges". Section 4(vv), RA 11494.

[18] Financial benefit to host LGUs/communities amounts to one-centavo per kilowatt-hour (P0.01/kWh) of the Electricity Sales of Generation Facilities and/or energy resource development projects. https://www.doe.gov.ph/financial-benefits-host-communities-under-er-1-94-amended (accessed on October 30, 2020).

Infrastructure

The spending priority given to infrastructure in fiscal year (FY) 2019 is evident with the huge financial resource allotted to "communications, roads, and other transport" subsector (Table 2.5). Amounting to PHP 627.5 billion, the budgetary allocation accounts for 16.7 percent of the total budget, not to mention the allocation for infrastructure in other subsectors, such as power and energy and water resources. The subsector ranked third in budget share relative to automatic appropriations (28.5%) and the education subsector (17.2%). About 87.6 percent of its budget went to the

Table 2.5
Budgetary appropriations by sector

Particulars	FY 2019	
	Levels (In '000 PHP)	Share (%)
Economic services	**854,584,527**	**22.7**
Agriculture	98,742,353	2.6
Agrarian reform	44,320,478	1.2
Natural resources and environment	42,645,766	1.1
Trade and industry	26,159,942	0.7
Tourism	4,210,967	0.1
Power and energy	4,466,139	0.1
Water resources development	325,317	0.0
Communications, roads and other transport	627,521,109	16.7
Other economic services	6,192,456	0.2
Social services	**985,381,727**	**26.2**
Education	646,694,441	17.2
Health	172,757,578	4.6
Social security, welfare and employment	161,281,297	4.3
Housing and community development	2,999,945	0.1
Other welfare	1,648,466	0.0
Defense	**182,183,700**	**4.8**
Total public services	**602,981,667**	**16.0**
General administration	327,382,454	8.7
Public order and safety	275,599,213	7.3
Allocations to local government units	**60,354,133**	**1.6**
Automatic appropriations	**1,071,536,796**	**28.5**
of which Internal Revenue Allotment	575,520,580	15.3
Debt service - interest payment	399,571,000	10.6
Grand total	**3,757,022,550**	**100.0**

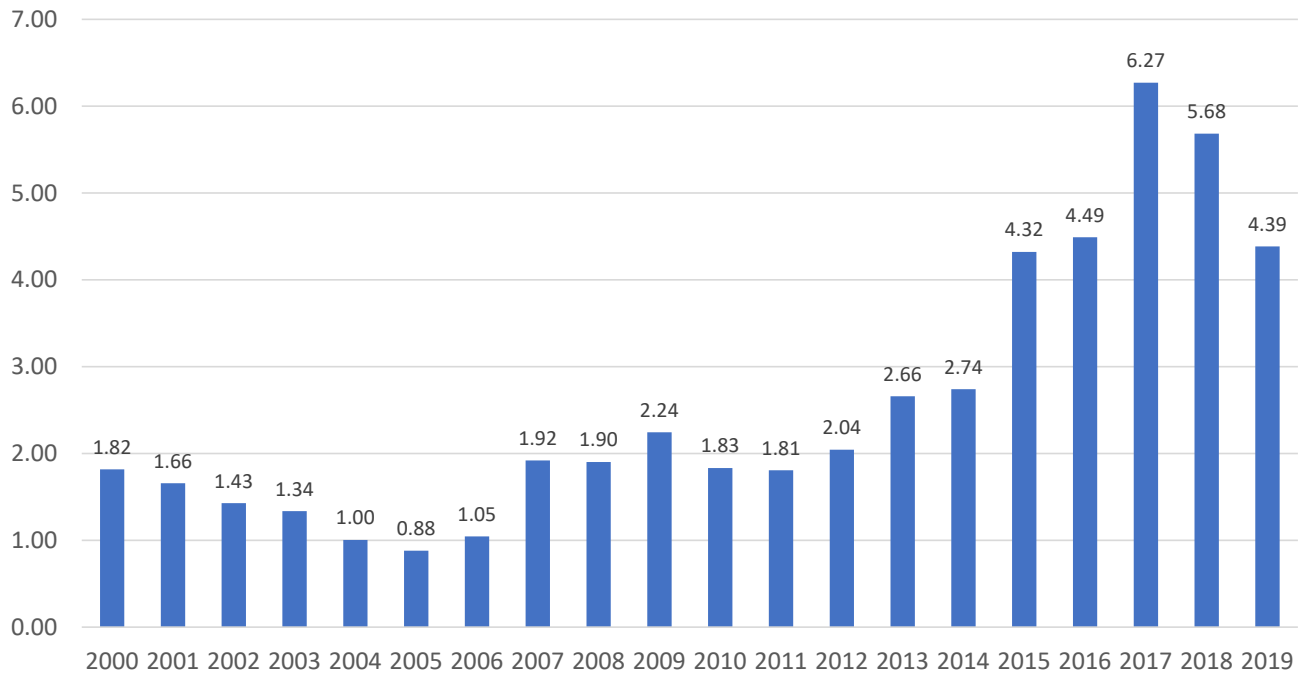
Source of basic data: DBM (2019)

Department of Public Works and Highways (DPWH), the lead agency for public infrastructure projects.

Across the years, infrastructure outlays, measured relative to the GDP, have increased from 1.82 in 2000 to 6.27 in 2017. This improvement has not been sustained, as the ratio dipped to 5.68 in 2018 and 4.39 in 2019 (Figure 2.13). The 2018 drop was partly due to low disbursements caused by delay in processing of payments for completed projects (DBM 2018). Meanwhile, the decline in 2019 was attributed to the delay in the approval of the national budget and election ban on infrastructure projects. The validity of the 2019 appropriations for maintenance and other operating expenses and capital outlays was extended until end of fiscal year (FY) 2020.

Nevertheless, the significant improvement in infrastructure outlays to GDP ratio across the years reflects the government's effort to improve the state of the country's infrastructure. Various reports have pointed out the insufficient and underdeveloped infrastructure (World Bank 2005; ABD 2007; UNESCAP 2017). Inadequate infrastructure has been a major constraint to economic growth and poverty reduction in the country (World Bank 2005). Insufficient infrastructure, particularly in electricity and transport, was identified as a critical constraint to investment and growth (ADB 2007). The Philippines lagged behind 23 countries (out of 41 countries) in terms of overall infrastructure performance (UNESCAP 2017). The government has

Figure 2.13
Infrastructure outlays to GDP ratio



Sources of basic data: DBM (various years) and PSA (various years)

identified infrastructure as an economic booster (NEDA 2011; NEDA 2017a).

The 2017 State of the Nation Address of President Duterte bared the government's plan for the "Golden Age of Infrastructure" in 2017–2022. Such pronouncement gave birth to the government's "Build, Build, Build" program, thus intensifying investments in infrastructure (NEDA 2018a). According to the National Economic and Development Authority (NEDA 2018b), accelerating infrastructure development accounted for the largest share (70%) of the investment targets for FY 2019 (Table 2.6). It initially covered 400 projects with a total project cost of PHP 1 billion and above from among 4,490 projects listed in the 2017–2022 Public Investment Program (PIP) (NEDA 2018a). The number of

Table 2.6
Investment targets by sector (PDP Chapter)*

Sector (PDP Chapter)*	No. of PAPs	Investment Targets (in PHP Billion)		%
		2019 (Target FY)	2017–2022	
Ensuring people-centered, clean, and efficient governance (Chapter 5)	16	14.76	75.49	0.97%
Pursuing swift and fair administration of justice (Chapter 6)	3	1.4	5.8	0.07%
Promoting Philippine culture and values (Chapter 7)	5	2.38	6.79	0.09%
Expanding economic opportunities in agriculture, forestry, and fisheries (Chapter 8)	53	79.51	422.16	5.41%
Expanding economic opportunities in industry and services through *Trabaho at Negosyo* (Chapter 9)	13	8.54	35.11	0.45%
Accelerating human capital development (Chapter 10)	33	188,87	859.1	11.00%
Reducing vulnerability of individuals and families (Chapter 11)	7	62.32	620.69	7.95%
Building safe and secure communities (Chapter 12)	1	0.85	4.62	0.06%
Science, technology, and innovation (Chapter 14)	6	6	43	0.55%
Ensuring sound macroeconomic policy (Chapter 15)	1	1	2.35	0.03%
Attaining just and lasting peace (Chapter 17)	2	4.55	6.34	0.08%
Ensuring security, public order, and safety (Chapter 18)	15	46.77	152.7	1.96%
Accelerating infrastructure development (Chapter 19)	400	929.65	5,468.56	70.03%
Ensuring ecological integrity, clean and healthy environment (Chapter 20)	27	21.36	106.55	1.36%
Total	582	1,367.96	7,809.27	100.00%

FY = fiscal year; PAPs = programs, activities, and projects; PDP = Philippine Development Plan; PIP = Public Investment Program
*(a) No major priority PAPs costing PHP 1 billion and above for PIP Chapters 13 (Reaching for the Demographic Dividend) and 16 (Leveling the Playing Field through a National Competition Policy); (b) The total investment targets and major priority PAPs of the Department of Transportation do not include 11 rail and other priority PAPs, which are for submission during the PIP Updating in the second semester of 2020; and (c) The mode of implementation, investment targets, and other PAP details may be updated in the course of project development, appraisal, and implementation.
Source: NEDA (2018b)

projects grew to 7,816 projects[19] with a total investment target of roughly PHP 2 trillion (Table 2.7) (NEDA 2019). It should be noted, however, that the number of infrastructure projects can be more as infrastructure development is also needed in other sectors, such as housing, peace and security, and environment and natural resources, among others (NEDA 2018a).

Consistent with the government's pursuit of human capital development, projects in social infrastructure, such as those supportive of health and education,

[19] The updated PIP as of April 12, 2019 consists of 9,854 projects with accelerating infrastructure development having the greatest number of projects, i.e., 7,816, equivalent to 79 percent of the total number.

Table 2.7
Investment targets by theme (PDP Chapter)*

Theme (PDP Chapter)	No. of PAPs	Investment Targets (in PHP Billion)		%
		2019 (Target FY)	2017–2022	
Ensuring people-centered, clean, and efficient governance (Chapter 5)	396	80.2	360.42	3.27%
Pursuing swift and fair administration of justice (Chapter 6)	63	62.01	102.7	0.93%
Promoting Philippine culture and values (Chapter 7)	153	6.25	16.64	0.15%
Expanding economic opportunities in agriculture, forestry, and fisheries (Chapter 8)	527	144.15	587.81	5.33%
Expanding economic opportunities in industry and services through *Trabaho at Negosyo* (Chapter 9)	63	9.61	45.74	0.41%
Accelerating human capital development (Chapter 10)	144	229.9	1,078.14	9.78%
Reducing vulnerability of individuals and families (Chapter 11)	16**	120.29	609.08	5.52%
Building safe and secure communities (Chapter 12)	13	75.15	239.91	2.18%
Reaching for the demographic dividend (Chapter 13)	2	-	0.04	0.00%
Science, technology, and innovation (Chapter 14)	94	7.74	56.41	0.51%
Ensuring sound macroeconomic policy (Chapter 15)	6	0.52	2.43	0.02%
Leveling the playing field through a national competition policy (Chapter 16)	1	0.25	0.94	0.01%
Attaining just and lasting peace (Chapter 17)	5	0.5	18.55	0.17%
Ensuring security, public order, and safety (Chapter 18)	248	70.51	260.87	2.37%
Accelerating infrastructure development (Chapter 19)	7,816	1,958.16	7,380.89	66.94%
Ensuring ecological integrity, clean and healthy environment (Chapter 20)	307	82.11	264.94	2.40%
Total	9,854	2,847.36	11,025.51	100.00%

FY = fiscal year; PAP = programs, activities, and projects; PDP = Philippine Development Plan; PIP = Public Investment Program
*Based on the submission of the agencies and as validated by the NEDA Secretariat and confirmed by respective inter-agency bodies, including supplemental submission as of April 12, 2019. The mode of implementation, investment targets, and other PAP details maybe updated in the course of project development, appraisal, and implementation.
**The investment targets and per-project breakdown of the three programs of the Department of Social Welfare and Development are reflected in PIP Chapter 19.
Source: NEDA (2018b)

accounted for 55.1 percent of the total number of projects. Transportation's share is estimated at 27.7 percent but its equivalent investment targets are much greater than that for social infrastructure. Notably, the increase in the investment target for the transport subsector is huge. The investment target for transportation has increased from PHP 176 billion in 2019 to PHP 396 billion in 2020. In contrast, investment target for social infrastructure has declined from PHP 28 billion in 2019 to PHP 17 billion in 2020 (Table 2.8).

Among the infrastructure projects, the NEDA Board initially approved the adoption of 75 high-impact infrastructure flagship projects (IFPs). These IFPS were expected "to enhance the connectivity and the promotion of growth centers outside the urban-industrial region centered around Metro Manila, and also, to significantly contribute to the government's 'Build, Build, Build' agenda" (NEDA 2018a, p. 172). However, NEDA had to revise the list of IFPs in October 2019 to include more but smaller projects more feasible in terms of technology and available financing (PPP 2019). The revised list as of October 2019 comprised 100 projects (BCDA 2019). As of August 19, 2020, further revisions were made to better respond to the COVID-19 pandemic. The latest list covers 104 projects. Eight projects from the old list were dropped and were replaced with 13 new projects. Thus far, two of the 104 projects have been completed. The rest are either in pre-construction activities (34 projects), ongoing construction (44 projects), and "for government approval" (24 projects).

The government's economic team ensures that the budget for "Build, Build, Build" program will be intact despite the policy issuance on the adoption of economic measures due to the emergency health situation (DBM 2020a). This guarantees that all projects will resume implementation as soon as the pandemic is over.

The potential benefits from IFPs are great, especially when viewed in the context of the PDP Results Matrices 2017–2022 (NEDA 2017b). In particular, the document specifies the societal goal of "lay(ing) down

Table 2.8
Investment targets by infrastructure sector (PHP billion)

Sector	No. of Projects	2017	2018	2019	2020	2021	2022	2017-22
Transport	1,545	130	214	176	396	1,013	396	2,325
Water resources	248	34	38	55	60	111	106	403
ICT	42	2	4	4	9	35	47	99
Power	278	0	1	5	10	23	17	55
Social	3,079	6	9	28	17	61	36	157
Others*	394	5	4	4	15	40	17	84
Total	5,586	176	269	271	506	1,282	619	3,123

PHP = Philippine peso; ICT = information and communications technology
* Refers to projects classified under multiple sectors (e.g., ICT, social infrastructure; ICT, others)
Source of basic data: NEDA (2018a)

the foundation for inclusive growth, a high-trust society and a globally competitive knowledge economy", along with reducing inequality and increasing growth. One of the expected outcomes is increased access to economic opportunities, particularly increased competitiveness and productivity of economic sectors. In this regard, transport infrastructure is envisioned to improve mobility and connectivity.

The indicators are defined and the annual targets are set until 2022 in the results matrices. For example, the travel speed by road in key corridors has been increased. In this light, it is important to determine how the relevant IFPs relate with the results matrices.

The tracking and monitoring of the progress of IFPs in attaining the annual targets should be done. A measure of their attainment of targets can prompt implementers in identifying enabling factors and barriers and, subsequently, in drawing up the appropriate policy intervention. In addition, the information obtained from monitoring can be used in assessing the impact of various infrastructure projects. To date, only the results matrices with annual targets are available on the NEDA website. It would be useful to policy researchers if results matrices with actual accomplishment are also made available online.

Science, technology, and innovation

The Philippines is making considerable progress in fostering a science, technology, and innovation (STI) ecosystem. Recently, it was cited among the few middle-income countries that fared well in innovation relative to their level of development. From its 2018 ranking at 73rd, the country has jumped to 54th in the 2019 Global Innovation Index (GII)[20] (Cornell University et al. 2019). While it remains fifth in the ASEAN, its ranking inches closer to Singapore, Malaysia, Viet Nam, and Thailand, the leading four member-states in the region (Table 2.9).

Behind the success of the country in the 2019 GII was its performance in indicators pertaining to high-technology goods net exports (1st globally), ICT services exports (8th globally), creative goods exports (8th globally), and ICT sector business and organization model creation (top 40). On the other hand, it still had improved its performance in market sophistication, ease of starting a business, public expenditures education in relation to GDP, ease of getting credit, ease of protecting minority investors, venture capital deals, and scientific and technical articles.

After a series of poor performance in ease of starting a business in GII, the country's performance improved with the passage of the Ease of Doing Business Act in 2018. This law established the Anti-Red Tape Authority (ARTA) and institutionalized the Philippine Business Data Bank (PBDB). PBDB is a web-based application managed by DICT that allows government bodies to verify the existence of a business entity using a single reference document. It benefits businesses as they would no longer need to present multiple documents when applying for permits and transacting with the government.

[20] GII is a composite index of innovation performance of nearly 130 economies worldwide. It makes use of 80 indicators ranging from traditional research and development measures, such as public expenditure and patent and trademark applications, to newer measurements, such as mobile app creation and high-tech exports.

Table 2.9
Performance of ASEAN member-states in the Global Innovation Index: 2013–2019

	Brunei Darussalam		Cambodia		Indonesia		Malaysia		Philippines		Singapore		Thailand		Viet Nam	
2019 Rank	71		98		85		35		54		8		43		37	
Institutions	78.9	(27)	49.6	(112)	53.2	(99)	71.6	(40)	56	(89)	94.9	(1)	65.8	(57)	58.6	(81)
Human Capital	33.3	(55)	11.2	(120)	21.3	(90)	44.2	(73)	24.6	(83)	63	(5)	34.7	(52)	31.1	(61)
Infra-structure	50.4	(52)	26.5	(123)	44.2	(75)	51.8	(42)	48.5	(58)	65.4	(7)	43.6	(77)	42	(82)
Market Sophis-tication	60.1	(17)	56.8	(30)	48.8	(64)	57.8	(25)	38.3	(110)	73.6	(5)	56.6	(32)	57	(29)
36	(45)	23.5	(109)	25.7	(95)	39.3	(36)	40.9	(32)	63.9	(4)	32.3	(60)	30	(69)	
8.9	(120)	19.6	(75)	17.6	(82)	32.1	(34)	33.7	(31)	50.9	(11)	31.3	(38)	35.6	(27)	
17.0	(107)	19.8	(97)	24.0	(76)	32.8	(44)	27.7	(63)	38.3	(34)	30	(54)	32.3	(47)	
2018 Rank	67		98		85		35		73		5		44		42	
2017 Rank	71		101		87		36		73		6		51		47	
2016 Rank	n/a		95		88		35		74		6		52		59	
2015 Rank	n/a		91		97		32		83		7		55		52	
2014 Rank	88		106		87		33		100		7		48		71	
2013 Rank	74		110		85		32		90		8		57		76	

ASEAN = Association of Southeast Asian Nations
Source: Cornell University et al. (various years)

The country has also recognized the importance of STI by formulating goals, policies, and strategies to improve the STI ecosystem. For instance, it devoted a whole chapter to STI in the PDP 2017–2022 (NEDA 2017a). It also committed to the Sustainable Development Goals (SDGs), one of which is the goal to "build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation" by 2030 (UN 2015). STI policy intervenes in the innovation process, from the production of scientific knowledge to the development and use of specific technologies, including the introduction of innovation to the market and its wide diffusion (Lundvall and Borrás 2005).

Paradoxically, governments and businesses in developing economies are not investing enough in STI despite innovation's role in improving productivity and competitiveness (Cirera and Maloney 2017). As of 2015, less than half of businesses in the country have been innovating because of the lack of complementary factors, including physical and human capital (Albert et al. 2017). The country's public expenditure in research and development (R&D) in proportion to GDP has hardly reached 0.2 percent (Figure 2.14), less than the 1-percent-of-GDP benchmark set by the United Nations Educational, Scientific and Cultural Organization and below the R&D spending of other ASEAN member-states (ASEAN 2017). R&D budgets for DOST have hardly increased during the current administration, despite the many programs planned, such as the Science For Change Program.

Despite the lack of budget for STI programs, the Philippines has strengthened linkages among innovation actors in the ecosystem in recent years. DTI has been working alongside DOST and other government agencies on DTI's Inclusive Innovation Industry Strategy.

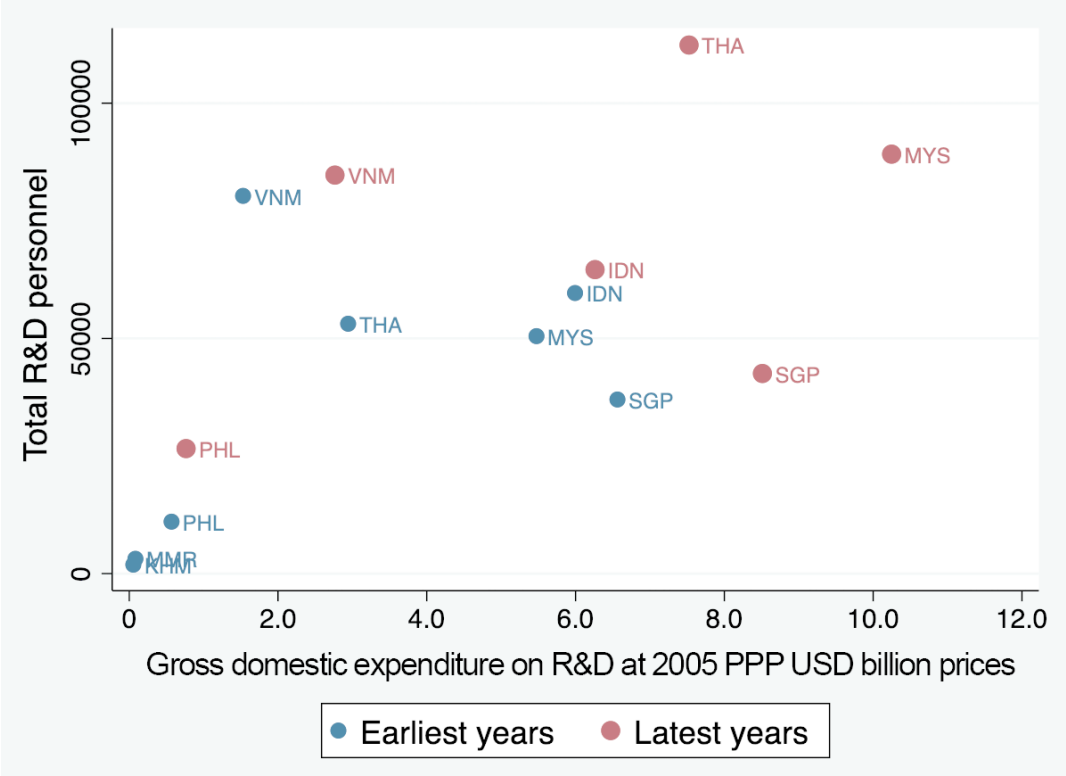
In 2018 and 2019, three laws on STI were also enacted, namely, the Philippine Innovation Act, Innovative Startup Act, and Philippine Space Act. These laws have established agencies within NEDA, DTI, and DOST: the National Innovation Council, the Startup Business One-Stop Shop, and the Philippine Space Agency, respectively.

The country's human resource pool has also been lacking, compared to those of ASEAN neighbors (Figure 2.14). DOST has beefed up the country's pool of scientists and engineers through various mechanisms, including the *Balik* Scientist program. The program encourages Filipino scientists, technologists, and experts to return to the country and share their expertise. Although the program has been in existence since 1975, it has only been institutionalized in 2018 through the Balik Scientist Act.[21]

DOST has also supported the advanced studies of scientists and engineers, as well as the development of skills that are getting to be extremely important, such as

[21] Through the Balik Scientist Act, a returning scientist is provided with a grant through a host institution, as well as benefits that include special working and nonworking visas, a round-trip airfare from a foreign country to the Philippines, exemption from local travel tax, and DOST-subsidized visa application. The Balik Scientist can also enjoy various compensations, including tax and duty exemptions to importation of professional equipment and materials, free medical and accident insurance covering the award period, reimbursement of expenses for baggage related to scientific projects, and exemption from "renouncing their oath of allegiance to the country where they took the oath". A long-term Balik Scientist awardee can also enjoy relocation benefits, such as support in securing job opportunities for his/her spouse, and admission support for the children in preferred schools, relocation allowance and monthly housing or accommodation allowance, and funding for the establishment and development of a facility or laboratory.

Figure 2.14
Scatterplot of earliest and latest years data on level of gross domestic expenditure on R&D ('000) at 2005 PPP USD prices versus total R&D personnel in ASEAN member-states: 2010–2018



R&D = research and development; PPP = purchasing power parity; USD = United States dollar; ASEAN = Association of Southeast Asian Nations; THA = Thailand; VNM = Viet Nam; MYS = Malaysia; IDN = Indonesia; SGP = Singapore; PHL = Philippines
Source: UNESCO (2020)

data science and analytics. It has partnered with the Development Academy of the Philippines in training 30,000 individuals through the SPARTA[22] Project.

The Philippines, however, can adopt more measures in building its science and technology (S&T) human resources. Lessons can be learned from China and its ASEAN neighbors. For instance, China sent thousands of its scholars during the 1970s to topnotch universities in the US. It has reaped returns on these investments since then (Carter 2013).

Many ASEAN neighbors, such as Viet Nam, Indonesia, and Thailand, have started sending their students abroad (Table 2.10). For Vietnamese students, Japan, US, Australia, China, and the United Kingdom have been the preferred destinations. Indonesians often study in Australia and New Zealand. Meanwhile, Thais are usually eyeing the US. With this trend, these countries are expected to have more foreign-trained experts within the next decade. The Philippines needs to rethink its current modes on sending S&T scholars overseas in the wake of the successes of China and several ASEAN neighbors in

[22] Stands for Smarter Philippines Through Data Analytics R&D, Training, and Adoption

Table 2.10
Student population overseas (and in the US) among ASEAN member-states

ASEAN Member-state	Estimated Total Student Population Overseas in 2017	Total Student Population in the US in 2018	Number of Students Admitted Annually in the US	
				2018
Cambodia	5,928	659	24	23
Indonesia	45,206	8,650	222	225
Lao PDR	5,064	104	5	3
Malaysia	63,253	8,271	322	344
Myanmar	8,965	1,569	65	42
Philippines	17,197	3,225	340	363
Singapore	23,715	4,575	326	337
Thailand	32,119	6,636	722	729
Viet Nam	94,662	24,325	462	467
Total	296,109	58,014	2,488	2,533

US = United States; ASEAN = Association of Southeast Asian Nations
Sources: IIE (2018); UNESCO (2018)

improving their innovation ecosystems through strategic investments in S&T human capital.

According to former Department of Science and Technology (DOST) Secretary William Padolina, the National Academy of Science and Technology (NAST) has begun a DOST-funded study entitled "Development of a Philippine Science, Technology and Innovation (STI) Foresight and 30-Year Strategic Plans 2019–2050" that seeks to propose a 30-year strategic plan on STI for the country.[23]

In line with the PDP and SDGs, the government is redirecting its focus toward more beneficial technologies and spurring private STI investments, especially among micro, small, and medium enterprises (MSMEs). One area where the government is putting considerable effort is on digital public services. Under the Philippine Digital Transformation Strategy 2022, the country aims to have fully integrated e-government systems by 2022 (DICT 2019e). The e-government portal being developed by DICT will allow the public to access various government services online.

Among the major challenges in digital transformation, however, are the required investments in ICT infrastructure and the needed reformation of institutions and policy frameworks. For instance, while access to ICT tools has been rapidly increasing in the country, the broader development benefits of ICT have not come into fruition. In fact, the impact of digital technologies has been unevenly distributed, with those lagging typically being the poor, rural population, and other marginalized sectors.

Still, a number of positive initiatives are taking root. This includes the reforming of institutional and regulatory environment,

[23] Personal communication of Dr. Jose Ramon Albert with Dr. William Padolina, October 17, 2020.

especially given recent prospects of amending the 83-year-old Public Service Act. Amendments pertain to differentiating a "public service" from a "public utility", which, in effect, will lift the nationality restriction on power generation and supply, transportation, broadcasting, and telecommunication, among others. This may open the digital and related sectors to market competition, with the immediate effect of allowing more players to improve consumer welfare, and, consequently, break monopolies formed through the years.

Response to the pandemic

The importance of STI and ICT has been especially noticed in the wake of the COVID-19 crisis. Across the world, countries have been searching for rapid and effective public policy responses to the manage the ill effects of the pandemic through diagnostics, contact tracing, search for treatments and vaccines, and mitigation of COVID-19's socioeconomic impacts. The Philippines has undertaken steps to maximize the use of digital technology in all aspects of the COVID-19 response, including the use of data science to inform policymakers, and to disseminate information and data through social media and the internet. Open science policies have facilitated the free flow of data, research, ideas, and insights across the public domain and, consequently, accelerate the pace of decisionmaking and of understanding ways to fighting the virus. Digital technology is also being harnessed to provide services (e.g., health and education) without physical contact (Table 2.11).

While much has been done, challenges remain, especially given past low levels of investments in STI and ICT. Outstanding bottlenecks include the lack of specific standards, coordination, and interoperability

Table 2.11
Measures utilizing digital technology to combat COVID-19

Issue	Policy/Program/Instrument
E-health services	To enable people to avail of health services without going to heath facilities physically, DOH has introduced a free dedicated telemedicine service for residents in NCR.
Uninterrupted supply chain	DICT, in coordination with DOST, aims to implement the RapidPass.Ph which would allow qualified individuals to apply for a QR code for access through RapidPass checkpoints in NCR. As of April 13, 2020, around 14,000 rapid passes have been approved.
Real-time monitoring/ Contract tracing	Metro Manila Development Authority, in partnership with the private sector, is developing a web application that can provide real-time information to LGUs on current health situations within a given area to track down all COVID-19 cases.
Information dissemination through social media	DOH provides timely updates and information on COVID-19 to the public through social media engagements, virtual pressers, and the DOH PH COVID-19 Viber community.
E-learning	The Industrial Technology Development Institute of DOST has made available online e-learning materials and instructional videos on technologies that can provide livelihood opportunities to those affected by the pandemic.
Digital contact tracing	DICT is finalizing options on adopting a digital contact tracing solution to augment the data gathering and disease surveillance and response of DOH.

Source: Report to the Joint Congressional Committee (2020a)

in data systems, as well as issues on data quality assurance. Policymakers need to make use of adequate data governance models, interoperable standards, sustainable data-sharing agreements among the public sector, private sector, and civil society, incentives for research, sustainable investments for STI and ICT infrastructures, and critical activities for building human and institutional capabilities. Greater policy coordination can also make these initiatives for managing the pandemic more effective.

Smart cities

Smart cities can be defined as a place or system that capitalizes on telecommunication technologies to enhance workability, livability, and sustainability (Alizadeh 2017). To date, there remains no clear guidelines on the procedure on how cities can be made smart (Anbumozhi 2020). As such, countries worldwide have come up with different initiatives on smart cities.

The operationalization of smart cities initiative in the Philippines started in 2019 with the adoption of the National Information and Communications Technology Ecosystem Framework (NICTEF) (DICT 2019b). NICTEF, the successor of the Philippine Digital Strategy 2011–2016, is meant to address the growing need for an authoritative reference source regarding the handling of the ICT agenda (DICT 2019c). It acknowledges the need for a multistakeholder approach given the diversity of players involved and the dynamic nature of the ICT sector. Moreover, it is designed to be a "living document" updated periodically with the latest plans, programs and projects, accomplishments, outcomes, and results, and with inputs from stakeholders (DICT 2019b).

NICTEF has identified smart cities as one of the strategic trends that will most likely impact on the ICT sector. It defines smart cities as "a city that uses ICT to enhance livability, workability, and sustainability" (DICT 2019b). It envisions them as a means to improve the well-being of citizens as ICT applications are being used to collect data for real-time and future planning and decisionmaking. For this to be achieved, cities will need a resilient broadband infrastructure, along with inclusive access and a well-trained workforce to maintain the system and analyze the collected data.

NICTEF is supported by legislative acts needed to operationalize its objectives (Table 2.12).

To enable the ICT ecosystem, NICTEF highlights five key elements for smart cities: human capital; affordable access and devices; platforms; infostructure and infrastructure; and standards, regulations, and policies (Table 2.13).

Government initiatives on smart cities

The DICT implements programs and initiatives in support of promoting smart cities in the Philippines (Table 2.14).

These projects are already being implemented across the country. In the case of digitalcitiesPH program, a number of cities have already been developed. The preparation for the expansion of the IT-BPM industry is being done to spur development in their respective areas. To date, there are 25 recognized digital cities. These include Metro Cebu, Davao, Bacolod, Metro Clark,

Iloilo, Dumaguete city, Sta. Rosa City, Dasmarinas City, Baguio City, Legazpi City, Naga City in Bicol, Cagayan de Oro City, Tarlac City, Laoag City, Puerto Princesa City, Lipa City, Balanga City, Taytay in Rizal, Dagupan City, Malolos City, Roxas City, Tagbilaran City, San Fernando City in La Union, Cainta in Rizal, and Palayan City (Mercurio 2020).

Since their recognition, these cities have experienced an overall boost in economic growth, increase in employment and commercial activity, and improvement in the quality of lives among communities (DICT 2020).

Table 2.12
Legislative acts to support smart city development in the Philippines

Law	Description
RA 10844: Department of Information and Communications Technology Act of 2015	This law created DICT whose mandate is to plan, develop, and promote the country's ICT development agenda. Whereas ICT concerns used to be lumped with transportation under the Department of Transportation and Communications, DICT now serves as a separate agency solely focused on handling and improving and regulating the ICT sector and its services.
RA 10929: Free Internet Access in Public Places Act	Enacted in 2017, it establishes the Free Wi-Fi Program and promotes knowledge-building and involvement among citizens during the digital age.
RA 11032: Ease of Doing Business and Efficient Government Service Delivery Act	Through the creation of a unified and automated application system, it aims to reduce processing time and cut bureaucratic red tape in government transactions relating to business.
RA 11202: Mobile Number Portability Act	Signed into law in 2019, it enables subscribers to keep their mobile phone numbers despite the change in mobile service providers, subscription plans, or from prepaid to postpaid or vice versa. It is expected to enhance competition among telecommunication service providers and stimulate them to further improve their services to keep their clients.

Source: Authors' compilation

Table 2.13
Key elements of ICT ecosystem for smart cities

Elements	Description
Human capital	This refers to individuals equipped to access applications, services, content, and data provided in the ICT ecosystem.
Affordable access and devices	These cover interfaces through which humans access the applications, services, content, and data. They include wearable devices, cellphones, laptops, desktops computers, internet cafes, and other similar devices or venues.
Platforms	These are the solutions accessed by users in the ICT ecosystem to achieve equitable, inclusive, and sustainable development and potentially to improve their quality of life.
Infostructure/ Infrastructure	These refer to physical and logical components which collectively perform the function of providing secure connectivity among users, their devices, and platforms being accessed.
Standards, regulations, and policies	These provide the boundaries within which players and elements may safely and productively interconnect and interoperate.

Source: DICT (2019b)

Table 2.14
Programs and initiatives to support smart cities development in the Philippines

Program	Description
Digital Literacy Training Project	This program aims to improve ICT literacy among special needs sectors, such as out-of-school youth, senior citizens, and persons with disability. This is done by providing trainings to equip them with the necessary skills to keep up with the digital trend, and which can also be a source of livelihood.
DigitalcitiesPH	Aside from expanding the information technology and business process management (IT-BPM) industry, this program also promotes countryside development by establishing ICT hubs outside the metro and creating opportunities in these areas. It was also formerly known as the Next Wave Cities Program.
Free Wi-Fi Internet Access in Public Places Project	This project aims to provide free internet access in public places, such as public plazas and parks, public educational institutions, rural health units and government hospitals, public transportation stations, and government offices.
Integrated/Electronic Business Permits and Licensing System	This project streamlines business processing transactions through a cloud-based software. It caters to the needs of local government units transitioning to an automated system in compliance with the Ease of Doing Business Act.
National Broadband Program	This program aims to improve the internet speed in the country by accelerating the deployment of fiber optic cables and wireless technologies.
Philippines Roadmap for 5G Technology	This initiative lays down the groundwork for the development, planning, and implementation of 5G- and beyond-based technologies for cellular networks. It spearheads the devising of strategies that will prepare key sectors on the implementation and adoption of these technologies. It also establishes a national ecosystem that will support the policy, regulatory, legal, technical, commercial, economic, and financial aspects of these technologies.
Spectrum Roadmap	It aims to promote optimal use of spectrum or radio frequencies. It also increases the pace of mobile technology evolution by institutionalizing a strategic plan to assess the spectrum economics and address spectrum-driven requirements of the ICT ecosystem.

Source: DICT (2019b)

Some LGUs have also started using the electronic business permit and licensing system in business processing transactions.

As an incentive, the national government recognizes outstanding digital initiatives of LGUs. The Digital Governance Awards is a joint project of DICT, DILG, and the National ICT Confederation of the Philippines. Its objective is to encourage the use of ICT among LGUs to improve their delivery of public services. Since 2012, the participation of LGUs in this initiative has been increasing as leaders begin to realize the benefits of going digital (DICT 2019d).

The Philippines is still building the necessary elements for smart cities. The need to make cities smarter has become more urgent with the global experience on the COVID-19 pandemic. Data and technology for example, would be critical to undertake contact tracing and track and monitor the spread of the pandemic. An exemplary example of this is South Korea. To control the outbreak, South Korea employed an application to track new arrivals in the country and used their established database on monitoring traffic, pollution, and credit card transaction

to further boost their contact tracing (Holmes 2020). Some cities in the Philippines have already been utilizing mobile applications for contact tracing such as Makati City, Ormoc City, and Tacloban City (LCP 2020). Naturally, for this to work, reliable network connections would also have to be in place. This becomes more important as the country transitions to remote work and learning due to the strict imposition of lockdowns and the transition to e-commerce to resuscitate local economies. Social distancing measures and limited business and office operations also necessitated firms to accelerate the digitization of their processes and shift to online and contactless transactions to sustain the delivery of their services. Indeed, ICT-based or smart solutions have been at the forefront in mitigating the effects of the pandemic and people are eventually realizing the merits of developing smarter cities. While the efforts being done are promising, there is still a lot to be done such as establishing other necessary digital and technological infrastructure and decreasing the digital divide among people.

Smart cities is not only about digital connectivity. Urban planning is also an important component of smart cities. The pandemic has demonstrated that efficient transport systems are critical to enable the economy to function despite quarantine measures. Moreover, urban designs that provide appropriate spaces and better housing can effectively reduce the transmission of diseases to the population.

In the end, smart cities should be built not only to transform communities or cities into technology hubs but, more importantly, to create healthy and livable cities and achieve sustainable development.

Trade and industry

The trade and industrial policy aims to achieve the Philippine long-term vision of "*Matatag, Maginhawa, at Panatag na Buhay*". For the industry and services sector, two major outcomes have been identified under the PDP 2017–2022 (NEDA 2017a). These are expanding economic opportunities and increasing access to economic opportunities for MSMEs, cooperatives, and OFWs (NEDA 2016). The Philippine government has since passed several pieces of legislation geared toward this trade and industrial policy.

The passage of the Innovative Startup Act (RA 1137) and the Philippine Innovation Act (RA 112293) has solidified the value of innovation in the industrial strategy. Under the IRR of the Innovative Startup Act, the Philippine Startup Development Program was crafted, institutionalizing programs, benefits, and incentives for startups and startup enablers. In particular, the program supports the participation of startups in local and international events that can link them to their stakeholders. It also promotes collaboration among startups, startup enablers, and the government to develop innovative products or business models. Focus has been given to the growth of enterprises whose products and models are integral to the creation of a competitive startup community.

Aside from the program, the IRR has also clarified the roles of government agencies in the startup community. For instance, DTI is tasked to craft rules for the efficient registration and assessment of startups and startup enablers. Through the Startup Business One-Stop Shop, or Startup

BOSS, DTI allows startups to benefit from a seamless business registration process. Meanwhile, DOST awards grant-in-aid to startups through the help of DICT, which keeps a joint database of all startups and programs available to them. Other agencies involved in startup development include the Philippine Economic Zone Authority (PEZA), Board of Investments (BOI), and National Development Company (NDC). PEZA spearheads the creation of startup ecozones, while BOI drafts the Startups Investment Development Plan outlining the strategies to promote the growth of startups. DTI, in coordination with NDC, manages a startup venture fund used to match investments from selected investors.

On the other hand, the IRR of the Philippine Innovation Act places innovation at the center of the Philippine development policies. It specifically promotes efforts to help the poor, enable MSMEs to upgrade and connect to global production networks, and catalyze the growth of Philippine industries. Other salient features of the IRR include promoting a culture of strategies, encouragement of creative thinking, and monitoring of economic competitiveness. It also ensures effective coordination of innovation policies and programs. It strengthens the position of MSMEs in the innovation ecosystem and suppresses bureaucratic hurdles. It also encourages an entrepreneurial attitude and empowers partnerships among public and private sectors, academe, MSMEs, and research and development institutes (Arayata 2020).

The Philippine Innovation Act[24] has also identified the members of the National

[24] Section 6 of RA 11293 provides that the NIC shall be composed of 25 members, namely: (1) President of the Philippines, as Chairperson; (2) Secretary of Socioeconomic Planning, as Vice-Chairperson; (3) Secretary of Science and Technology; (4) Secretary of Trade and Industry; (5) Secretary of Agriculture; (6) Secretary of Environment and Natural Resources; (7) Secretary of Health; (8) Secretary of Transportation; (9) Secretary of Energy; (10) Secretary of National Defense; (11) Secretary of Information and Communications Technology; (12) Chairperson of the Commission on Higher Education; (13) Secretary of Budget and Management; (14) Secretary of Education; (15) Secretary of the Interior and Local Government; (16) Secretary of Foreign Affairs; (17) Secretary of Labor and Employment; (18) Director General of the Intellectual Property Office of the Philippines; and (19-25) Executive members to be appointed by the President.

Further, the Executive Members shall be appointed from the ranks of business, entrepreneurs, academe, and the scientific community, and at least one of whom shall be a woman. There shall be at least one representative from the MSME sector and at least one from the large business enterprises who shall be recommended by a legally established and reputable business organization. Those to be appointed from the academe and the scientific community shall have at least seven years of experience in the field of science and technology, research and development, or innovation gained from reputable and recognized communities.

Innovation Council (NIC), which serves as the policy advisory body in the formulation, development, and implementation of the country's innovation goals. Its IRR has also tasked an interagency working group composed of senior officials from the NIC member-agencies to draft the National Innovation Agenda and Strategy Document. The document provides a roadmap consisting of five strategies and action plans for improving innovation governance: (1) coordinating innovation policies, programs, and projects across agencies and LGUs; (2) deepening and accelerating innovation efforts, including inclusive innovation programs, that target the poorest of the poor; (3) integrating and fostering public-private partnerships, including those with large businesses, MSMEs, academe, and research, development, and engineering institutions; (4) recommending measures to enable and empower public and private higher education institutions (HEIs) as knowledge producers and technology generators; and (5) creating, protecting, and commercializing intellectual properties.

Philippine trade and investment strategy

In line with its mandate to expand and diversify trade, DTI has pursued partnerships and agreements consistent with the country's trade strategy. While the country adheres to its international commitments, it also exercises its rights to use legitimate tools to support domestic industries. In a similar vein, it expects its partners to comply with their commitments, particularly those that affect stakeholders' interests.

In July 2019, the President signed EO 85, enhancing the country's attractiveness as an investment destination. The said order imposes a 0-percent duty, subject to certain conditions, upon the importation of capital equipment and spare parts and accessories of new and expanding BOI-registered enterprises. He also signed EO 81, declaring the Clark Industrial Estate 5 as an international center of commerce, industry, and recreation. This is in response to international interest in the region as a possible hub for international logistics and as a center of commerce. The Clark International Airport Corporation may lease the Clark Industrial Estate for a broad range of businesses and commercial, industrial, leisure, and recreational activities.

Various trade engagement mechanisms, ranging from economic cooperation to the Generalized System of Preferences (GSP) and free trade agreements (FTAs), are available to the Philippines to pursue its trade and industry goals. The Joint Economic Conference (JEC)[25] is one mechanism where the country engages in discussions with the possibility of formalizing an agreement, such as an FTA. Thus far, the Philippines has enforced JECs with economies and regional trade blocs, including Russia, South Africa, US, Middle East, and the European Union (EU). In 2019, a declaration of intent to establish a JEC was also signed with Germany (The Philippine Business and News 2019).

Meanwhile, the Philippines holds GSP and GSP+ with the US and EU, respectively. GSP and GSP+ privileges are unilateral mechanisms that allow Philippine exports listed under them to be entitled to

[25] The title used can differ with the partner economy. Some variations include Joint Economic Committee, Joint Economic Commission, Trade and Investment Framework Agreement, Trade and Investment Working Group, Joint Working Group, Joint Trade Committee, or Joint Commission on Economic and Commercial Cooperation.

zero or preferential duties when they enter US and EU markets. Half of more than 10,000 tariff lines of the US are listed under GSP, allowing more than 5,000 Philippine products to be exported at zero or lower tariffs (Arcalas 2020).[26] On the other hand, more than 6,000 Philippine products are allowed to enter the EU market with zero or minimal tariffs under GSP+.

The GSP+ privileges of EU for the Philippines are expiring in 2023–2024, while the GSP privileges will expire in 2020, after an extension in 2018 (*The Philippine Star* 2018). In 2020, GSP underwent an out-of-cycle review[27] regarding the Philippines' compliance with the GSP standards. The results of this review could affect around 18 percent of Philippine exports to the US valued at USD 1.59 billion in 2017.

As part of the strategy to maintain the contestability of markets, the Philippines has continued to pursue trade agreements with its key partners. Through FTAs, tariffs have been drastically reduced for a large portion of Philippine trade. FTAs also include provisions for trade remedies that allow the country to provide reasonable and time-bound protection against import surges or unfair competition.

As of 2019, the country has ratified nine FTAs, several of which are with the ASEAN. The recent one was the ASEAN-Hong Kong, China FTA signed in November 2017. Following its ratification, EO 102 was signed, prescribing the tariff rates for all the goods originating from Hong Kong, China, and the ASEAN. The Philippines, together with Brunei Darussalam, Malaysia, and Thailand, committed to eliminate customs duties on most products (85%) traded with Hong Kong, China, within 10 years, and an additional 10 percent of tariff lines to be fully liberalized within 14 years. Meanwhile, Cambodia, Lao PDR, and Myanmar will eliminate customs duties for 65 percent of products traded with Hong Kong, China, within 15 years. For these countries, an additional 10 percent of tariff lines will be eliminated within 20 years.

The Philippines is also considering pursuing bilateral trade agreements amid the nearing conclusion of negotiations and the signing of the Regional Comprehensive Economic Partnership (RCEP)[28] and the developments in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership. It has expressed interest in forming trade agreements with the EU and the US (Cahiles-Magkilat 2019). Meanwhile, it is expected to conclude its negotiations with South Korea by the first half of 2020.

Response to the pandemic

To reduce the threat of supply shortage of essential goods and services (e.g., medicines, medical supplies, and equipment), food, and agricultural products during the pandemic, the Philippine government enacted policies to ensure that key markets and industries remain open and the flow of essential goods and services across borders are unhampered. Several agencies have jointly passed policies in this regard (Table 2.15).

[26] Among the top products exported under the GSP are telescopic sights for rifles, spectacle lenses, radial tires made of rubber, non-alcoholic drinks (not including those from fruits and vegetables), and electrical machinery and equipment parts.

[27] The Philippines' trade preference privileges have, so far, undergone periodic reviews.

[28] In 2019, India announced its withdrawal from RCEP, leaving questions as to how it will affect the conclusion of negotiations and the signing of the trade agreement.

Table 2.15
Policies to ensure the flow of goods and services during the pandemic

Agency*	Policy
DOH-ARTA-BOC	Through JMC 01-2020, applications for licensing were streamlined through the "Bayanihan One Stop Shop", a single-window concierge consisting of all government agencies involved in the importation of COVID19 critical commodities.
DOF-DTI	JMC 1-2020 allowed manufacturers and producers of medicines, medical equipment, and supplies needed to address the COVID-19 pandemic to import their materials without payment of duties, taxes, and fees
FDA	FDA issued advisories that allow manufacturers, distributors, and importers of personal protective equipment, ventilators, respirators, or certain health products intended for local market entry and commercial use to engage in business with only an approved license to operate.
DA	DA is implementing the Urban Agriculture Program by providing assorted vegetable seeds, seedlings, and starter kits in affected urban areas in almost all regions. Further, it provides training on urban vegetable gardening, aquaponics, hydroponics, and agripreneurship.
DA	*Kadiwa ni Ani at Kita* on Wheels aims to address the availability and accessibility of rice, fish, milk, fruits, and vegetables in ECQ areas.
PPA-DTI-DA-BOC	Joint Administrative Order 20-01 titled "Adoption of Processes for the Expeditious Release of Refrigerated Containers and Dry Vans during the Period of Enhanced Community Quarantine" was the basis for BOC Memorandum Order for the summary abandonment of proceedings during ECQ, PPA AO 03-2020, and PPA MC 14-2020 allowing the unhampered movement of trucks and their drivers and helpers from one port to another.
NEDA-UP	NEDA and UP were tasked by IATF to improve the approved prototype of the Supply Chain Analysis dashboard application, which aims to address bottlenecks to the supply, distribution, and movement of essential goods and services. IATF instructed NEDA and UP to ensure the application's compliance with the guidelines set by DICT on functionality, reliability, data privacy, and mandatory anti-cybercrime features.
DTI	Invoking IATF Resolution 22, series of 2020, DTI issued MC20-14 allowing BPOs, export enterprises and support service providers to BPO companies, and export enterprises to enhance their operations by installing necessary equipment for work-from-home arrangements or by deploying workers under on-site or near-site accommodation arrangements.
DILG	DILG enjoined LGUs to implement innovative measures to bring the market/goods closer to people, such as marketing and delivery of goods through the use of various online platforms, community markets in subdivisions implemented through homeowners associations, and market on wheels or mobile *palengke.*

*ARTA = Anti-Red Tape Authority; BOC = Bureau of Customs; DA = Department of Agriculture; DILG = Department of the Interior and Local Government; DOF = Department of Finance; DOH = Department of Health; DTI = Department of Trade and Industry; FDA = Food and Drug Administration; MC = memorandum circular NEDA = National Economic and Development Authority; PPA = Philippine Ports Authority; UP = University of the Philippines
Source: Authors' compilation based on the Reports to the Joint Congressional Committee (2020a, 2020b)

Services

Several laws affecting the services sector were passed in 2019. These include laws on the practice of profession, such as the Philippine Occupational Therapy Law of 2018 (RA 11241), Speech Language Pathology Act (RA 11249), and the Philippine Fisheries Profession Act (RA 11398). All these laws contain a reciprocity provision for the practice of profession by foreign nationals in the Philippines.

Under the Transnational Higher Education Act (RA 11448), foreign HEIs are also allowed to operate in the Philippines subject to certain restrictions. These limitations range from foreign ownership, composition of faculty and personnel, and student population. The law also provides the guidelines for Philippine HEIs operating offshore.

In telecommunications, the Mobile Number Portability Act (RA 11202) was signed, requiring operators to provide nationwide mobile number portability to their subscribers, free of charge. This means subscribers can keep their mobile numbers even if they change from one mobile service provider to another or change their subscription from post- to prepaid or vice versa. As it reduces switching costs, number portability increases competition and induces service providers to improve the quality of service to retain their customers.

Ongoing policy discussions

A review of the Philippine E-commerce Roadmap (PECR) 2016–2020 is currently being undertaken. The roadmap is the main policy initiative of the government to develop e-commerce in the country. It originally contained 53 action agenda items, spanning six strategic areas, namely, infrastructure, investment, innovation, intellectual capital, information flows, and integration. Its primary objective is to boost the contribution of e-commerce to the country's GDP, from 10 percent in 2015 to 25 percent by 2020. According to Reodica (2019), 40 percent of the action agenda items identified in the roadmap has been achieved to date.

An updated roadmap is being prepared, with the government planning to extend it up to 2022. Priorities include increasing the participation of MSMEs in e-commerce, removing impediments to e-commerce growth, and ensuring adequate consumer protection in online transactions. The proposed Internet Transactions Act was also filed in Congress, seeking to establish an e-commerce bureau under DTI. The bureau is expected to serve as the focal point in the monitoring and implementation of the updated roadmap and protect consumers and merchants engaged in online transactions. In January 2020, the Philippines officially joined the Joint Statement Initiative (JSI) on E-commerce during the Informal WTO Ministerial Meeting in Davos.[29] The JSI on E-commerce was launched to discuss possible future WTO negotiations on the trade-related aspects of e-commerce.

More than midway into the term of President Duterte, necessary reforms crucial to improve competitiveness of the services sector and the economy more broadly have

[29] https://dfa.gov.ph/dfa-news/news-from-our-foreign-service-postsupdate/25750-ph-formally-joins-the-wto-joint-initiatives-at-ministerial-meetings-held-in-davos (accessed on November 2, 2020).

yet to be passed by Congress, particularly the Senate of the Philippines. These include the following:

1. **Amendments to the Public Service Act** The Constitution expressly limits the operation of public utility to Filipino citizens or Filipino-owned associations or corporations. Through the proposed amendments to the Public Service Act, the scope of public utility will be limited to three main industries, namely, distribution of electricity, transmission of electricity, and water pipeline distribution system. This will enable greater foreign equity participation in key services sectors, such as telecommunications and transportation services beyond the maximum 40 percent currently allowed. The proposal includes provisions on increased penalties and fines to deter poor service delivery and allows for the introduction of rate-setting methodologies to encourage productivity. It also creates a mechanism to prohibit foreign investment in public services in the interest of national security and mandates the conduct of a comprehensive baseline survey on the regulatory governance and substance of public services.
2. **Amendments to the Retail Trade Liberalization Act.** The key changes being introduced include lowering the minimum paid-up capital from USD 2.5 million and the removal of the USD 250,000 paid-up capital per store for enterprises engaged in high-end or luxury products. These amendments are expected to encourage the entry of foreign retailers into the country.
3. **Amendments to the Foreign Investment Act.** To encourage foreign investment, the amendments seek to lower the minimum employment requirement from 50 to 15 direct local hires for SMEs established by foreign investors with paid-in capital of at least USD 100,000.
4. **Open Access in Data Transmission Act.** This bill sets out the regulatory framework for the data transmission industry. It encourages the development of data transmission infrastructure and the removal of barriers to competition in data transmission services.

A note on the pandemic

According to WTO (2020a), services may be the component of trade most directly affected by the COVID-19 outbreak. This

is true given the widespread and stringent transport and travel restrictions imposed, as well as the closure of many retail and hospitality establishments. Moreover, unlike goods, there are no inventories of services to be drawn down today and restocked at a later stage. Thus, declines in services trade during the pandemic may be lost forever (WTO 2020a). Cultural, sporting, and recreational activities are likewise affected given the impact on travel and tourism. However, some services may still benefit from the crisis. Demand for information technology (IT) services will see an upsurge as companies employ work-from-home arrangements and people socialize remotely. Given the direct and indirect contribution of services to output and employment and its impact on economy-wide productivity and trade performance, services policies will be key to the recovery from the economic slowdown (WTO 2020b).

Based on the balance-of-payments statistics, services accounted for 42.6 percent of total export receipts for the Philippines in 2018 (Serafica 2019). These exports were concentrated on certain services, such as technical, trade-related, and other business services and computer services. This reveals the country's reliance on the IT-BPM sector as driver of services trade. These are considered part of modern services, as opposed to the traditional exports, such as transport, travel, and construction. While the country's services exports have enjoyed stellar performance over the years, its growth has slowed down recently and has become lower than global and regional trends. Considering the impact of the pandemic on services trade, the country must move forward with the proposed structural reforms to sustain its advantage amid the expected shift to trade in digitally delivered services.

With the greater reliance on online services, improving digital connectivity is of paramount importance. In the immediate term, DICT has vowed to facilitate infrastructure buildup by reducing tower-permitting requirements. Together with ARTA and other concerned agencies, JMC 1 series of 2020 was issued to streamline the process of applications for the requirements, permits, licenses, clearances, certificates, and other necessary documents for Independent Tower Companies and telecommunication companies to construct Shared Passive Telecommunications Tower Infrastructures in accordance with DICT's Common Tower Policy. For service industries dependent on close proximity and face-to-face interaction, business survival is the priority. DOT has urged MSMEs to avail of the CARES for Tourism Rehabilitation and Vitalization of Enterprises and Livelihood (CARES for TRAVEL) Program to help keep their businesses afloat and retain their workers amid the pandemic. Administered by the Small Business Corporation (SB Corp), tourism MSMEs will have access to zero-interest, no-collateral loans with a loan term period of up to four years, including a corresponding grace period of up to one year.[30] Accelerating the deployment of critical ICT infrastructure and expanding the existing loan programs of SB Corp for MSMEs, cooperatives, hospitals, tourism, and OFWs affected by the pandemic are among the many measures identified in RA 11494.

[30] http://www.tourism.gov.ph/news_features/SBCorpsCOVID-19LoanProgram.aspx (accessed on November 2, 2020).

Fiscal policy

National Government

The Philippine government continues to engage in expansionary fiscal policy by pump-priming the economy with infrastructure spending (see separate section on Infrastructure in this chapter) and reforming the tax system to be flatter and more competitive with its regional neighbors.

The passage of the Tax Reform for Acceleration and Inclusion (TRAIN) 1 law, one of five components in the comprehensive tax reform efforts of government, promised increased revenues to finance the massive infrastructure undertaking of the administration. Figure 2.15 shows that tax effort has increased steadily since the spike in 2014. While preliminary estimated figures for 2019 show a slowdown in growth, tax effort is expected to breach the 15-percent mark.

The Corporate Recovery and Tax Incentives for Enterprises Act, which seeks to lower corporate income tax, is the second part of DOF's tax reform package. It replaced the Corporate Income Tax and Incentives Reform Act approved on the third and final reading by the House of Representatives in September 2019. This replacement was done to make it more relevant and responsive to

Figure 2.15
Tax revenue growth and tax effort, 1998–2018

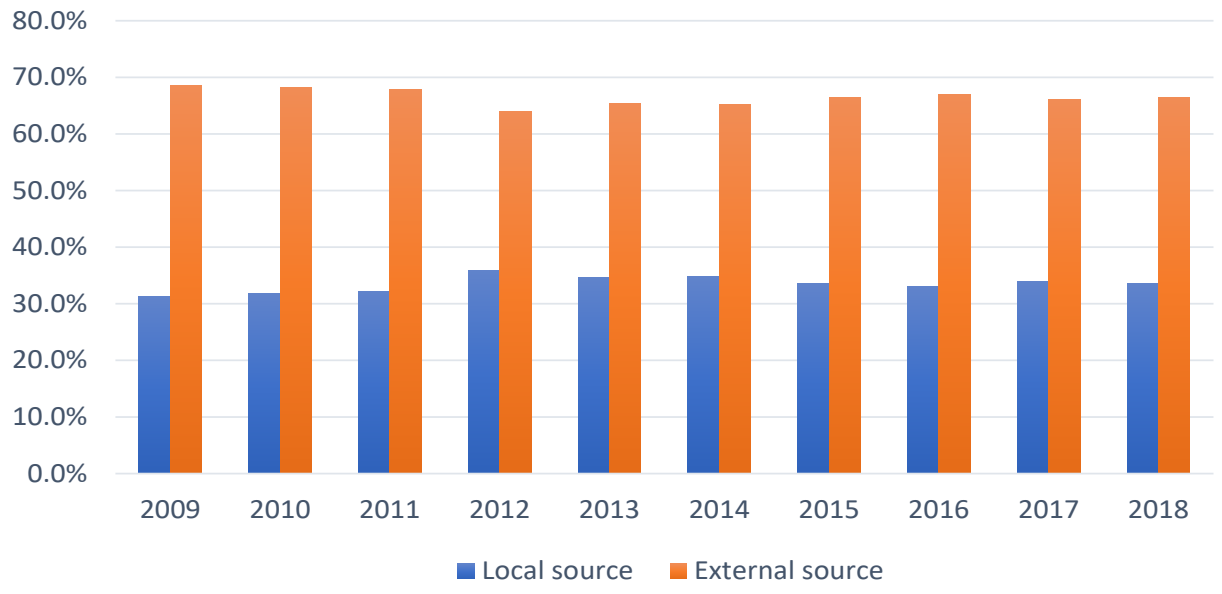
Source of basic data: BSP (various years)

the impact of the COVID-19 pandemic.[31] The Congress is also discussing Tax Reform Package 3, or the Real Property Valuation and Assessment Act, to address the decades-long trend of low revenue effort of LGUs. To date, local government income comes mostly from external sources, such as the intergovernmental fiscal transfer called the internal revenue allotment (IRA) (Figure 2.16). This is despite continuous efforts of oversight national government agencies to encourage LGU compliance to certain revenue-raising provisions in the LGC and implement reforms in local tax administration.

For local income sources, LGUs have the mandate to collect real property and business taxes, impose regulatory and user fees, and establish economic enterprises. Theoretically, real property tax (RPT) is the more stable source of revenue for local governments (Bahl and Bird 2018; Ballesteros et al. 2020). TRAIN 3 is expected to increase RPT share in local income, especially given the recent trend of business tax collections overtaking real property taxes (Figure 2.17).

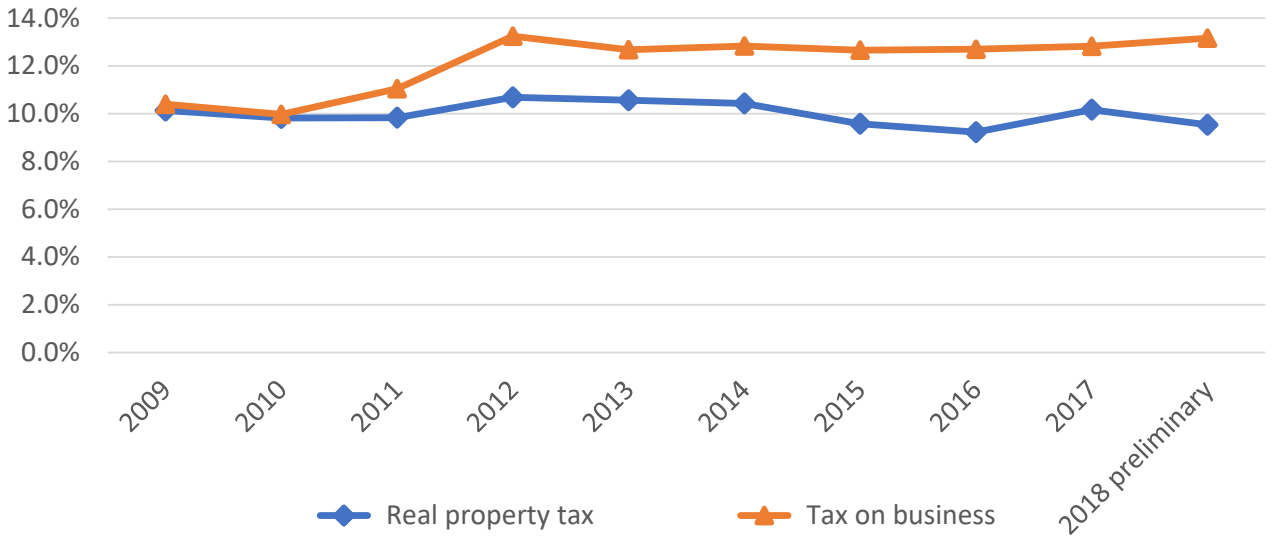
[31]https://taxreform.dof.gov.ph/tax-reform-packages/p2-corporate-recovery-and-tax-incentives-for-enterprises-act/ (accessed on October 30, 2020)

Figure 2.16
Distribution of local and external sources of LGU income (2009–2018)



LGU = local government unit
Source: DOF-BLGF (various years)

Figure 2.17
Distribution of income of local government units, 2009–2018



Source: DOF- BLGF (various years)

Local Governments

Two new laws and a Supreme Court ruling affecting LGUs emerged in the past year. The Seal of Good Governance (SGLG) Act and the Community-Based Monitoring System (CBMS) Act aim to institutionalize a performance-based incentive program and reduce poverty. Meanwhile, the Supreme Court decision on the Mandanas petition will effectively increase the grants LGUs receive once it is adopted in 2022.

The Seal of Good Local Governance Act

This Act, also known as RA 11292, institutionalized the SGLG, a performance-based governance program. Under this law, qualified LGUs will receive "awards, incentives, honor, and recognition for their improved performance and progress". The SGLG council is drafting the IRR of this law.

Since its inception, the SGLG program identifies criteria that would be the basis for the award and eligibility to the financial incentive called the Performance Challenge Fund (PCF). DILG has changed the eligibility requirements through time to challenge LGUs to continuously improve governance. More recently, LGUs must pass all seven criteria: financial administration, disaster preparedness, social protection, peace and order, business friendliness and competitiveness, environmental protection, and tourism, culture, and the arts. With more stringent criteria, the number of LGUs that passed the award decreased to 263 LGUs in 2018 from 448 LGUs in 2017.

Now is an opportune time for policymakers to revisit the objectives and design of SGLG. A study by the Philippine Institute for Development Studies found that

while half of the surveyed municipalities felt that the PCF and the SGLG achieved their purpose, stringent criteria and lack of plans made it difficult for them to pass the criteria (Sicat et al. 2020b). LGU planning should, therefore, be improved.

At least 294 municipalities mostly from the fifth to sixth income classes in the Bicol, Central, and Eastern Visayas regions have not received the SGLG and have remained ineligible for the PCF (Sicat et al. 2020c). Sec. 13 of the SGLG Act that articulates the need to give technical assistance to these LGUs should be implemented.

Sicat et al. (2020c) likewise recommended that SGLG capacity-building programs should not just create awareness and concrete steps to address the gaps. Instead, these should highlight the importance of the objective of improved governance over and above the perceived difficulty in receiving the SGLG.

Community-Based Monitoring System

The CBMS is an LGU-level data collection system designed to methodically process and integrate data for monitoring both micro and macroeconomic shocks. It also addresses data gaps in analyzing poverty at the local level by determining the causes of poverty and improving poverty analysis in the country (Sicat et al. 2020a).

The CBMS Act (RA 11315) was institutionalized as a source of "updated and disaggregated data necessary in targeting beneficiaries, conducting more comprehensive poverty analysis and needs prioritization, designing appropriate policies and interventions, and monitoring impact over time". Despite the remarkable decline in individual poverty incidence, the government still needs to further reduce poverty incidence and ensure its sustainability.

Similar to the SGLG Act, the IRR of the CBMS Act is still being drafted. Policymakers must remember that the CBMS was initially intended as a local development tool to be utilized by LGUs in planning and budgeting. Sicat et al. (2020a) showed that most municipalities used the CBMS dataset tool in profiling the current situation in their locality, even more than the DILG-prescribed data indicator system. They also revealed that CBMS was used for identifying priority areas and during budget preparation. This highlights the need to revisit the planning process and the dataset tool prescribed by DILG versus the more commonly used CBMS and to reorient LGUs on which dataset tool is more appropriate for ecological profiling and clarify the delineation of roles in data processing and analysis. They also urged the government to prescribe timely data collection and ecological profiling balanced with the returns on investment in data collection (Sicat et al. 2020a).

Mandanas ruling

The LGC gave increased revenue-raising and expenditure responsibilities and entitlements to a portion of national government revenues, in the form of IRA, to LGUs. In 2018, the Supreme Court, in *Mandanas v. Executive Secretary,*[32] expanded the tax base for computing IRA by interpreting it to cover all national taxes and not merely internal revenues. This effectively increased intergovernmental fiscal transfers, now known as national tax allotments (NTA) (Nicolas 2019). Because

[32] *Mandanas v Executive Secretary*, G.R. No. 199802, July 03, 2018.

of this, the Mandanas ruling is expected to make a dent in the overall fiscal balance when it is adopted in 2022. At present, the estimated increase in intergovernmental fiscal transfers in 2022 is PHP 225 billion. Adding this to the projected 2022 transfers of PHP 877.44 billion, the total NTA will be PHP 1.1 trillion, or roughly about 27 percent of the PHP 4.1 trillion 2020 national budget (DILG-BLGD 2020).

This anticipated increase in transfers underscores the need for LGUs to effectively and efficiently transform their income into programs that contribute to economic growth and development. While there have been continuing efforts to improve local planning and budgeting, there is still room for improvement, especially since LGUs are expected to receive a larger share of national government revenues.

One such area is the need for the improved utilization of the local development fund (LDF), which is mandated to be no less than 20 percent of IRA.[33] In 2017, about 16 percent of the estimated LDF for LGUs was not utilized due to the nonimplementation or delayed implementation of projects because of poor planning, lack of coordination, and nonmonitoring of the implementation of development projects (COA 2017, 2018). The Commission on Audit (COA) has since urged DILG and DBM to "strictly require the preparation of the Annual Investment Program containing the detailed information of the specific program project and activities funded from the LDF". Sicat et al. (2020b) found that only about half of the municipalities surveyed complied with the DILG guideline to regularly prepare project briefs for their PPAs. The impact of investment programs on local development is expected with improved LDF utilization.

Moreover, Sicat et al. (2020b) found that only 4.6 percent of municipalities surveyed had updated comprehensive land use plans while 35.6 percent had updated comprehensive development plans. For local development investment programs, which contain prioritized PPAs to bridge the gap between the current state and the envisioned development, only one-third of the plans were updated. Furthermore, only half complied with the requirement of regular preparation of project briefs for investment programs and the conduct of the prescribed second round of prioritization of investment programs. The latter evidence validates the COA findings of poor planning and ineffective prioritization of development projects.

Response to the pandemic

The unprecedented COVID-19 pandemic overwhelmed global health sectors and impacted the global economy. The Philippine government response was a combination of redirected fiscal policy, expansionary monetary policy (see Chapter 1 on the Macroeconomic outlook), and governance directives to mobilize the quickest response from all public sector instrumentalities of the executive and legislative branches.

National Government

Governance response. Presidential Proclamation 922 declaring a State of Public Health Emergency was issued to expedite the response of all levels of government to the

[33] Under the Mandanas ruling, Section 287 of the Local Government Code means that appropriations for Local Development Projects shall be "no less than 20 percent of its annual allotment" and not of the IRA.

COVID-19 pandemic.[34] This triggered the implementation of the Mandatory Reporting of Notifiable Diseases and Health Events of Public Health Concern Act (RA 11332) and activated Section 324(d) of the LGC. The latter gave a legal basis for local governments to fast-track their responses using their DRRM funds, as well as circumvented the need for each LGU to declare a state of emergency.

Other governance responses, such as the imposition of a community quarantine, are discussed in the previous sections.

Fiscal policy response. The *Bayanihan* to Heal as One Act (RA 11469) laid out the government's fiscal policy response and expedited the procurement of items necessary to address the COVID-19 pandemic .

RA 11469, also known Bayanihan I, articulated prioritized government spending directed to sectors that were crucial to address the public health emergency and adversely affected in terms of income. Programs included transfers to the poor, workers, and micro and small businesses and allocations for the health and peace and order sector to aid in delivering frontline services.

Bayanihan I was funded primarily from repurposed General Appropriations Acts (GAA) of FY 2019 and 2020. National government agencies were asked to identify PAPs that could be discontinued, equivalent to 35 percent of their annual budget[35] (DBM 2020b). In addition, FY 2020 GAA special purpose funds (the National Disaster Risk Reduction and Management, Contingent and Unprogrammed Funds) were used to finance the COVID-19 response.[36]

As of June 30, 2020, the national government released PHP 374.9 billion for its COVID-19 response (DBM 2020c). The

[34] Section 4(k) of the Bayanihan to Heal as One Act.

[35] Pursuant to Sec. 4(v) of the Bayanihan Act, the DBM advised 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 and at least 10 percent of the total released allotments for maintenance and other operating expenses and capital outlays shall no longer be available for obligation.

[36] Pursuant to Sec. 4(x) of Republic Act 11469, Bayanihan to Heal As One Act (2020).

largest amount went to the SAP of DSWD, totaling PHP 100 billion. The Small Business Wage Subsidy (PHP 51 billion) and the DOH programs (PHP 48 billion) received the next largest amounts.[37] The former program aimed to provide subsidies ranging from PHP 5,000 to PHP 8,000 for two months for 3.4 million middle-class workers of small businesses affected by the community quarantines (Rivas 2020). DOH spent on the procurement of RT-PCR testing kits, replenishment of quick response fund, and the immediate and continued response to emerging diseases posed by polio and COVID-19. The Act also provided that the treatment cost of COVID-19 patients be covered under the National Health Insurance Program.

Local Government

Local governments were the first line of implementation and enforcement of national and local government responses to COVID-19. DILG issued MC 2020-23, directing local chief executives to assume and perform the roles of information manager, local crisis manager, and environmental health manager. As local crisis manager, the executives were directed to organize a barangay health emergency response team with the minimum ratio of one team for every 5,000 population. This team should be composed of an executive officer, *barangay tanod*, and two barangay health workers, one of whom should preferably be a nurse or midwife.

For budgetary requirements, national government oversight agencies issued guidelines regarding the use of the local development fund.[38] Furthermore, Bayanihan I provided additional intergovernmental fiscal transfers to LGUs called the Bayanihan Grant. Based on FY 2020 IRA levels, cities and municipalities were given one-month additional IRA while provinces received one-half of monthly IRA levels. The Bayanihan Grant to cities and municipalities amounted to PHP 30.82 billion while the Bayanihan Grant to provinces was close to PHP 6.2 billion (CPBRD 2020). DBM issued guidelines on the release and utilization of these Bayanihan grants.[39]

Coordination failures. LGUs experienced challenges in implementing national COVID-19 responses they were also tasked to do. In the first tranche distribution of SAP from April to May 2020, despite a 91-percent national payout rate according to DILG, 369 LGUs failed to meet the deadline (Barcelo and Casas 2020; Jalea 2020). The DILG Secretary said that if the remaining LGUs failed to either finish or reach 80-percent distribution after May 10, 2020, they will be issued a show-cause order if they cannot give a reasonable explanation (Marquez 2020). According to DILG, 43 LGUs failed to beat the 80-percent SAP distribution, mostly from Western Visayas (Barcelo and Casas 2020). Furthermore, DILG was investigating 183 barangay officials due to alleged corruption in SAP distribution (Jalea 2020).

[37] The emergency subsidy under SAP was computed based on the regional minimum wages rates and ranged from a minimum of PHP 5,000 to a maximum of PHP 8,000 per month for two months for around 18 million low-income households.

[38] Joint Memorandum Circular 1 (2020b).

[39] Local Budget Circular 125 and 126.

References

Albert, J.R.G., F.M.A. Quimba, R.B. Serafica, G.M. Llanto, J.F.V. Vizmanos, and J.C.A.C. Bairan. 2018. Measuring and examining innovation in Philippine business and industry. Research Paper Series 2018-02. Quezon City, Philippines: Philippine Institute for Development Studies.

Alizadeh, T. 2017. An investigation of IBM's Smarter Cites Challenge: What do participating cities want? *Cities* 63:70–80.

Anbumozhi, V. 2020. A dialogue on Realizing Smart Cities. Jakarta, Indonesia: Economic Research Institute for ASEAN and East Asia.

Arayata, M. 2020. PH Innovation Act IRR signed. *Philippine News Agency*. https://www.pna.gov.ph/articles/1093284 (accessed on March 14, 2020).

Arcalas, J. 2020. $1.6-billion exports to US at risk from Generalized System of Preferences loss. *BusinessMirror.* https://businessmirror.com.ph/2020/02/28/1-6-billion-exports-to-us-at-risk-from-gsp-loss/ (accessed on March 14, 2020).

Asian Development Bank (ADB). 2007. Philippines: Critical development constraints. Country Diagnostics Studies. Mandaluyong City, Philippines: ADB.

Association of Southeast Asian Nations (ASEAN). 2017. ASEAN Community Progress Monitoring System 2017. Jakarta, Indonesia: ASEAN. https://www.aseanstats.org/wp-content/uploads/2017/09/ACPMS_2017.pdf (accessed on February 15, 2020).

Bahl, R. and R.M. Bird. 2018. *Fiscal decentralization and local finance in developing countries: Development from below*. Northampton, MA: Edward Elgar Publishing.

Ballesteros, M.M., C.J.D. Sicat, and J.S. Cuenca. 2020a. Comments on TRAIN Package 3 entitled: Real Property Valuation and Assessment Act. Quezon City, Philippines: Philippine Institute for Development Studies. https://pidswebs.pids.gov.ph/CDN/OUTREACH/pids_comments_on_rpv_as_train_package_3_-_30012020-rpv.pdf (accessed on February 12, 2020).

Bangko Sentral ng Pilipinas (BSP). 2019. President Duterte signs BSP's gold bill into law. BSP Media Release. Manila, Philippines: BSP. http://www.bsp.gov.ph/publications/media.asp?id=5019&yr=2019 (accessed on January 30, 2020).

———. Various years. BSP Statistical online database. Manila, Philippines: BSP. http://www.bsp.gov.ph/PXWeb2007/database/SPEI/fiscal_accts/fiscal_accts_en.asp (accessed on March 1, 2020).

Barcelo, V. and W. Casas. 2020. 43 mayors slapped with show-cause orders over slow SAP aid. Manila Standard. https://manilastandard.net/news/national/323762/43-mayors-slapped-with-show-cause-orders-over-slow-sap-aid.html (accessed on August 3, 2020).

Bases Conversion and Development Authority (BCDA). 2019. NEDA approves revised list of infra flagship projects. Taguig City, Philippines: BCDA. https://bcda.gov.ph/neda-approves-revised-list-infra-flagship-projects (accessed on April 28, 2020).

Briones, R. 2019. Welfare impacts of rice tariffication. PIDS Discussion Paper Series No. 2019-16. Quezon City, Philippines: Philippine Institute for Development Studies. https://serp-p.pids.gov.ph/publication/6908 (accessed on March 10, 2020).

Cahiles-Magkilat, B. 2019. PH sees US FTA nego next year. *Manila Bulletin.* https://business.mb.com.ph/2019/12/01/ph-sees-us-fta-nego-next-year/ (accessed on March 14, 2020).

Caliwan, C.L. 2020. No barangay checkpoints in nat'l highways: PNP. https://www.pna.gov.ph/articles/1098320 (accessed on June 30, 2020).

Carter, J. 2013. What can the U.S. and China do together? https://www.cartercenter.org/news/editorials_speeches/jc-what-us-china-can-do-together.html (accessed on February 15, 2020).

Chetty, R., J. Friedman, N. Hedren, M. Stepner, and the Opportunity Insights Team. 2020. Real-time economics: A new public platform to analyze the impact of COVID-19 and macroeconomic policies using private sector data. https://opportunityinsights.org/wp-content/uploads/2020/05/tracker_paper.pdf (accessed on September 4, 2020).

Cirera, X. and W.F. Maloney. 2017. The innovation paradox: Developing-country capabilities and the unrealized promise of technological catch-up. Washington D.C.: World Bank. https://openknowledge.worldbank.org/bitstream/handle/10986/28341/9781464811609.pdf (accessed on February 15, 2020).

Civil Service Commission (CSC). 2020. Revised interim guidelines for alternative work arrangements and support mechanisms for workers in the government during the period of State of National Emergency due to COVID-19 Pandemic. Quezon City, Philippines: Civil Service Commission.

Climate Change Commission (CCC). 2019a. Commission Resolution No. 2019-001. Resolution adopting a National Climate Risk Management Framework to address the intensifying adverse impacts of climate change. https://climate.gov.ph/public/ckfinder/userfiles/files/Resolutions/Resolution%202019-001.pdf (accessed on November 18, 2020).

———. 2019b. Commission Resolution No. 2019-002. Resolution mainstreaming and strengthening gender-responsive approaches in the formulation and implementation of climate change policies, plans, programs, and activities. https://climate.gov.ph/public/ckfinder/userfiles/files/Resolutions/Resolution%202019-002_%20Resolution%20Mainstreaming%20and%20Strengthening%20Gender-Responsive%20Approaches___.pdf (accessed on November 18, 2020).

———. 2020. Commission Resolution No. 2020-001. Approving the renewal of appointments of members of the National Panel of Technical Experts (NPTE) of the Climate Change Commission. https://climate.gov.ph/public/ckfinder/userfiles/files/Resolutions/Commission%20Resolution%202020-001%20Approving%20the%20Renewal%20of%20the%20NPTE.pdf (accessed on November 18, 2020).

CNN Philippines. 2020. Philippines reports 3,073 new COVID-19 infections, raising total to over 307,000. https://www.cnnphilippines.com/news/2020/9/28/PH-coronavirus-cases-over-307k.html (accessed on December 19, 2020).

Commission on Audit (COA). 2017. Annual Audit Reports. Quezon City, Philippines: COA.

———. 2018. Annual Audit Reports. Quezon City, Philippines: COA

Congressional Policy and Budget Research and Department. 2020. Special Issue: COVID-19 monitoring budgetary measures under the Bayanihan Act 1. Budget Briefer No. 2020-01. Quezon City, Philippines: Congress of the Philippines. https://cpbrd.congress.gov.ph/images/BB2020-01_Budgetary_Measures_For_Publication.pdf (accessed on August 20, 2020).

Cornell University, INSEAD, and United Nations World Intellectual Property Organization (UN WIPO). 2013. The Global Innovation Index 2013: The local dynamics of innovation. Ithaca, NY, Paris, France, and Geneva, Switzerland: Cornell University, INSEAD, and UN WIPO. https://www.wipo.int/edocs/pubdocs/en/economics/gii/gii_2013.pdf (accessed on February 15, 2020).

———. 2014. The Global Innovation Index 2014: The human factor in innovation. Ithaca, NY, Paris, France, and Geneva, Switzerland: Cornell University, INSEAD, and UN WIPO. https://www.wipo.int/edocs/pubdocs/en/economics/gii/gii_2014.pdf (accessed on February 15, 2020).

———. 2015. The Global Innovation Index 2015: Effective innovation policies for development. Ithaca, NY, Paris, France, and Geneva, Switzerland: Cornell University, INSEAD, and UN WIPO. https://www.wipo.int/edocs/pubdocs/en/wipo_gii_2015.pdf (accessed on February 15, 2020).

———. 2016. The Global Innovation Index 2016: Winning with global innovation. Ithaca, NY, Paris, France, and Geneva, Switzerland: Cornell University, INSEAD, and UN WIPO. https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2016.pdf (accessed on February 15, 2020).

———. 2017. The Global Innovation Index 2017: Innovation feeding the world. Ithaca, NY, Paris, France, and Geneva, Switzerland: Cornell University, INSEAD, and UN WIPO. https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2017.pdf (accessed on February 15, 2020).

———. 2018. The Global Innovation Index 2018: Energizing the world with innovation. Ithaca, NY, Paris, France, and Geneva, Switzerland: Cornell University, INSEAD, and UN WIPO. https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2018.pdf (accessed on February 15, 2020).

———. 2019. The Global Innovation Index 2019: Creating healthy lives—The future of medical innovation. Ithaca, NY, Paris, France, and Geneva, Switzerland: Cornell University, INSEAD, and UN WIPO. https://www.wipo.int/global_innovation_index/en/2019/ (accessed on February 15, 2020).

Crismundo, K. 2018. DOE opens application for exploration contracts. *Philippine News Agency*. https://www.pna.gov.ph/articles/1054645 (accessed on March 17, 2020).

Cudis, C. Public can appeal for review to join DSWD's Listahanan 3. https://www.pna.gov.ph/articles/1112815 (accessed on July 17, 2020).

Dar, W. The new Thinking for agriculture. http://www.sra.gov.ph/wp-content/uploads/2019/08/DA-Dar-NEW-THINKING.pdf (accessed on March 15, 2019).

Department of Budget and Management (DBM). 2018. National government disbursement performance as of December 2018. Manila, Philippines: DBM. https://www.dbm.gov.ph/wp-content/uploads/DBCC/2018/NG_Disbursements_December%202018_for%20posting.pdf (accessed on April 26, 2020).

———. 2019. General Appropriations Act 2019. Manila: Department of Budget and Management.

———. 2020a. National Budget Circular No. 580. Manila, Philippines: DBM.

———. 2020b. Budget of expenditures and sources of financing. Manila, Philippines: Department of Budget and Management.

———. 2020c. Status of COVID-19 Releases. dbm.gov.ph. June 30. https://www.dbm.gov.ph/index.PHP/programs-projects/status-of-covid-19-releases (accessed on August 3, 2020).

Department of Energy (DOE). 2019a. Sec. Cusi pushes for continued strengthening of RE sector in the PH. https://www.doe.gov.ph/press-releases/sec-cusi-pushes-continued-strengthening-re-sector-ph (accessed on March 16, 2020).

———. 2019b. DOE promotes upstream exploration program in S. America leg of international roadshow. *Philippine Information Agency*. https://pia.gov.ph/news/articles/1027119 (March 11, 2020).

Department of Environment and Natural Resources (DENR) Administrative Order No. 2019-21. Guidelines governing WTE facilities for the integrated management of municipal solid wastes. Quezon City, Philippines: DENR. https://server2.denr.gov.ph/uploads/rmdd/dao-2019-21.pdf (accessed on February 12, 2020).

Department of Finance (DOF). 2019. DBM-DOF-NEDA Joint Opening Statement. Manila, Philippines: DOF. https://www.dof.gov.ph/dbm-dof-neda-joint-opening-statement/ (accessed on February 26, 2020).

Department of Finance-Bureau of Local Government Finance (DOF-BLGF). Various years. Electronic statement of receipts and expenditures (e-SRE). http://blgf.gov.ph/ (accessed on February 14, 2020).

Department of Health (DOH). 2019. Universal health care. Manila, Philippines: DOH.

Department of Information and Communications Technology (DICT). 2019a. National ICT Household Survey. Quezon City, Philippines: DICT. https://dict.gov.ph/ictstatistics/nicths2019/ (accessed on Sept 4, 2020).

———. 2019b. National ICT Ecosystem Framework (NICTEF). Quezon City, Philippines: DICT.

———. 2019c. National ICT Ecosystem Framework to streamline DICT agenda, serve as strategic compass. Quezon City, Philippines: DICT.

———. 2019d. DICT, DILG, NICP award LGUs' outstanding digital initiatives. Quezon City, Philippines: DICT. https://dict.gov.ph/dict-dilg-nicp-award-lgus-outstanding-digital-initiatives/ (accessed on May 21, 2020). https://dict.gov.ph/ictstatistics/national-ict-ecosystem-framework-to-streamline-dict-agenda-serve-as-strategic-compass/ (accessed on May 18, 2019).

———. 2019e. Philippine Digital Transformation Strategy 2022. Quezon City, Philippines: DICT. https://www.gov.ph/documents/820828/1076083/Philippine+Digital+Transformation+Strategy_20190208.pdf/74f4f221-2915-8136-a4c0-e6829c47dce9?t=1549932892309 (accessed on February 15, 2020).

———. 2020. DICT targets 20 additional Digital Cities by March 2020. Quezon City, Philippines: DICT. https://dict.gov.ph/dict-targets-20-additional-digital-cities-by-march-2020/ (accessed on May 19, 2020).

Department of Science and Technology-National Research Council of the Philippines (DOST-NRCP). 2020. Council unveils first 'Gender-Sensitive' Covid-19 online dashboard for local policymakers, decision makers, academics. Quezon City, Philippines: Department of Science and Technology, National Research Council of the Philippines. http://www.nrcp.dost.gov.ph/latest-news/606-council-unveils-first-gender-sensitive-covid-19-online-dashboard-for-local-policy-decision-makers-academics. (accessed on October 14, 2020).

Department of the Interior and Local Government-Bureau of Local Government Development (DILG-BLGD). 2020. Presentation at the 1st Performance Challenge Fund Stakeholders' Dialogue for 2020. Pasig City, Philippines: DILG-BLGD.

Dingel, J.I. and B. Neiman. 2020. How many jobs can be done at home? *Journal of Public Economics* 189: 104235.

Ducanes, G., S.L. Daway-Ducanes, and E. Tan. 2020. Addressing the needs of highly vulnerable households in Luzon during the Covid-19 lockdown. Working Paper 2020-01. Quezon City, Philippines: Ateneo Center for Economic Research and Development.

Dynarsky, S. 2020, Online courses are harming the students who need the most help. *New York Times*. https://www.nytimes.com/2018/01/19/business/online-courses-are-harming-the-students-who-need-the-most-help.html (accessed on September 4, 2020).

Environmental Management Bureau Memorandum Circular 2020-14. Interim guidelines on issuance of special permit to transport for the transport of hazardous waste within the community quarantine period. Quezon City, Philippines: Environmental Management Bureau. https://emb.gov.ph/wp-content/uploads/2020/03/EMB-MC-2020-14-Interim-Guidelines-on-issuance-of-Special-Permit-to-Transport-SPTT-for-the-Transport-of-Hazardous-Waste-within-the-Community-Quarantine-Period-1.pdf (accessed on July 14, 2020).

Environmental Management Bureau Memorandum Circular 2020-15. Addendum to the interim guidelines on issuance of special permit to transport (SPTT) for the transportation of hazardous wastes within the community quarantine period. Quezon City, Philippines: Environmental Management Bureau. https://emb.gov.ph/wp-content/uploads/2020/03/EMB-MC-2020-15-Addendum-to-the-Interim-Guidelines-on-Issuance-of-Special-Permit-to-Transport-SPTT-for-the-Transportation-of-Hazardous-Wastes-within-the-Community-Quarantine-Period.pdf (accessed on July 14, 2020).

Environmental Management Bureau Memorandum Circular 2020-16. Amendment of the interim guidelines on issuance of special permit to transport (SPTT) for the transportation of hazardous wastes within the community quarantine period). Quezon City, Philippines: Environmental Management Bureau. https://emb.gov.ph/wp-content/uploads/2020/04/EMB-MC-2020-16.png (accessed on July 14, 2020).

Environmental Management Bureau Memorandum Circular 2020-20. Provisional guidelines on the hazardous wastes management during the extended enhanced community quarantine period. Quezon City, Philippines: EMB. https://emb.gov.ph/wp-content/uploads/2020/05/EMB-MC-2020-20.pdf (accessed on July 14, 2020).

Esguerra, D.J. 2020. QC reopens protection center amid rise in domestic violence during lockdown. *Philippine Daily Inquirer.* May 25. https://newsinfo.inquirer.net/1280733/qc-reopens-protection-center-amid-rise-in-domestic-violence-during-lockdown. (accessed on October 14, 2020).

Executive Order 102. 2020. Modifying the rates of import duty on certain imported articles in order to implement the Philippine tariff commitments pursuant to the free trade agreement between the Association of Southeast Asian Nations (ASEAN) and Hong Kong, China. https://www.officialgazette.gov.ph/downloads/2020/01jan/20200110-EO-102-RRD.pdf (accessed on August 20, 2020).

Executive Order 104. 2020. Improving access to healthcare through the regulation of prices in the retail of drugs and medicines. Manila: Malacanang Palace. https://www.officialgazette.gov.ph/2020/02/17/executive-order-no-104-s-2020/ (accessed on April 5, 2020).

Executive Order 81. 2019. Reclassifying the Clark Industrial Estate 5 as an international center of commerce, industry, leisure, and recreation, and amending Executive Order 716, Series of 2008, for this purpose. https://www.officialgazette.gov.ph/downloads/2019/04apr/20190604-EO-81-RRD.pdf (accessed on August 20, 2020).

Executive Order 85. 2019. Reducing the rates of duty on capital equipment, spare parts and accessories imported by Board of Investments – registered new and expanding enterprises. https://www.officialgazette.gov.ph/downloads/2019/07jul/20190719-EO-85-RRD.pdf (accessed on August 20, 2020).

Google Map. 2020. Geomapping Support DA Food Resiliency. https://bit.ly/2OAZHvt (accessed on June 30, 2020).

Hale, T. , S. Webster, A. Petherick, T. Phillips, and B. Kira (2020). Oxford COVID-19 government response tracker. Oxford, United Kingdom: Blavatnik School of Government, University of Oxford. https://www.bsg.ox.ac.uk/research/research-projects/oxford-covid-19-government-response-tracker (accessed on July 30, 2020).

Holmes, A. 2020. South Korea is relying on technology to contain COVID-19, including measures that would break privacy laws in the US—and so far, it's working. *Businessinsider.com.* https://www.businessinsider.com/coronavirus-south-korea-tech-contact-tracing-testing-fight-covid-19-2020-5 (accessed on October 15, 2020).

House Bill 2297. 2019. An act providing for a national policy in preventing teenage pregnancies, institutionalizing social protection for teenage parents, and providing funds therefor. Quezon City, Philippines: House of Representatives. http://congress.gov.ph/legisdocs/basic_18/HB02297.pdf (accessed on September 10, 2020).

House Bill 2810. 2019. An act establishing resource development and crisis assistance centers for women and children in every province and city of the country, amending for the purpose Republic Act 8505, otherwise known as the Rape Victim Assistance and Protection Act of 1998. Quezon City, Philippines: House of Representatives. http://congress.gov.ph/legisdocs/basic_18/HB02810.pdf (accessed on September 10, 2020).

House Bill 3081. 2019. An act establishing resource development and crisis assistance centers for women and children in every province and city of the country, amending for the purpose Republic Act 8505, otherwise known as the Rape Victim Assistance and Protection Act of 1998. Quezon City, Philippines: House of Representatives. http://congress.gov.ph/legisdocs/basic_18/HB03081.pdf (accessed on September 10, 2020).

House Bill 5869. 2019. An act defining electronic violence against women and their children, providing protective measures, and prescribing penalties for violations thereof, amending for the purpose Republic Act 9262, otherwise known as the Anti-violence against Women and their Children Act of 2004. Quezon City, Philippines: House of Representatives. http://congress.gov.ph/legisdocs/third_18/HBT5869.pdf (accessed on September 10, 2020).

House Bill 6802. 2020. An act providing for a universal, comprehensive, reliable and accessible wireless internet connection in order to facilitate the delivery of digital education amid the coronavirus disease 2019 (COVID-19) pandemic. Quezon City, Philippines: House of Representatives. http://congress.gov.ph/legisdocs/basic_18/HB06802.pdf (accessed on November 25, 2020).

House Resolution 901. 2020. A resolution urging the Department of Education, Commission on Higher Education and Technical Education and Skills Development Authority to institute measures that will make digital education available and accessible to all students amid the coronavirus disease 2019 (COVID-19) pandemic in the Philippines. Quezon City, Philippines: House of Representatives. http://www.congress.gov.ph/legisdocs/basic_18/HR00901.pdf (accessed on November 25, 2020).

Indonesia Ministry of Health. 2018. National health accounts 2018. Jakarta, Indonesia: Ministry of Health.

Institute for International Education (IIE). 2018. Open Doors report on international student exchange. New York, NY: IIE. https://www.iie.org/opendoors (accessed on February 15, 2020).

Inter-agency Task Force for the Management of Emerging Infectious Diseases (IATF-MEID). 2020. Resolution 38. Series of 2020. May 22. https://www.officialgazette.gov.ph/downloads/2020/05may/20200522-IATF-RESOLUTION-NO-38.pdf (accessed on June 30, 2020).

Jalea, G. 2020. 369 LGUs fail to meet cash aid distribution deadline. https://cnnphilippines.com/news/2020/5/11/DILG-LGUs-failed-to-meet-May-10-deadline-cash-aid-distribution.html?fbclid=IwAR2Wz_oqYB8A-ZPlSmLp2qrrtkXZO0xNQlDXG0KbPkjs8_fhBx8UDMNHv38 (accessed on August 3, 2020).

Joint Memorandum Circular 1. 2020a. Special guidelines on the provision of social amelioration measures by the Department of Social Welfare and Development, Department of Labor and Employment, Department of Trade and Industry, Department of Agriculture, Department of Finance, Department of Budget and Management, and Department of the Interior and Local Government to the Most Affected Residents of the Areas under Enhanced Community Quarantine. Manila, Philippines: Republic of the Philippines.

Joint Memorandum Circular 1. 2020b. 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. Manila, Philippines, and Quezon City, Philippines: Department of Budget and Management and Department of the Interior and Local Government.

League of Cities of the Philippines (LCP). 2020. U.S. ICT Solutions in Managing COVID-19. *Lcp.org.ph*. https://lcp.org.ph/11/507/u-s--ict-solutions-in-managing-covid-19 (accessed on October 15, 2020).

Lectura, L. 2019. DOE launches first renewable energy on-line trading platform in Philippines. *Business Mirror*. https://businessmirror.com.ph/2019/12/18/doe-launches-first-renewable-energy-on-line-trading-platform-in-philippines/ (accessed on March 16, 2020).

———. 2020. LGUs receive ER 1-94 funds. *Business Mirror*. https://businessmirror.com.ph/2020/09/02/lgus-receive-er-1-94-funds/ (accessed on October 30, 2020).

Local Budget Circular 125. Guidelines on the release and utilization of the Bayanihan grant to cities and municipalities. Manila, Philippines: Department of Budget and Management.

Local Budget Circular 126. Guidelines on the release and utilization of the Bayanihan grant to provinces. Manila, Philippines: Department of Budget and Management.

Loeb, S. 2020. How effective is online learning? What the research does and doesn't tell us. *Education Week*. https://www.edweek.org/ew/articles/2020/03/23/how-effective-is-online-learning-what-the.html (accessed on September 4, 2020).

Luna, F. 2020. 'Women for order': Hontiveros slams Chinese prostitution dens in POGO industry. *Philstar*. https://www.philstar.com/headlines/2020/01/28/1988465/women-order-hontiveros-slams-chinese-prostitution-dens-pogo-industry (accessed on March 14, 2020).

Lundvall, B.A. and S. Borrás. 2005. Science, technology and innovation policy. In *The Oxford handbook of innovation*, edited by J. Fagerberg, D. Mowery, and R. Nelson. Oxford, United Kingdom: Oxford University Press.

Malaysia Ministry of Health. 2018. Malaysia national health accounts 1997–2018. Putrajaya, Malaysia: Ministry of Health.

Manila Bulletin. 2020. Rising cases of violence, abuse on women, children noted. *Manila Bulletin.* https://mb.com.ph/2020/06/26/rising-cases-of-violence-abuse-on-women-children-noted/ (accessed on October 14, 2020).

Marquez, C. 2020. Año: LGUs to explain on failure to meet even 80% of SAP cash aid distribution. *Inquirer*. https://newsinfo.inquirer.net/1274171/ano-lgus-to-explain-on-failure-to-meet-even-80-of-sap-cash-aid-distribution (accessed August 4, 2020).

Mayuga, J. L. 2020, November 17. 'Green financing' facility seen as boon to climate reforms. *Business Mirror*. https://businessmirror.com.ph/2020/11/17/green-financing-facility-seen-as-boon-to-climate-reforms/ (accessed on November 18, 2020).

Memorandum Circular 2020-023. Amended guide to action against the 2019 Novel Coronavirus Acute Respiratory Disease. Quezon City, Philippines: Department of the Interior and Local Government.

Memorandum Circular 2020-04. 2020. Special guidelines on the provision of social amelioration measures by the Department of Social Welfare and Development to the most affected residents of the areas under community quarantine and continuation of the implementation of the Social Pension for Indigent Senior Citizens and the Supplementary Feeding programs. Quezon City, Philippines: Department of Social Welfare and Development. https://www.dswd.gov.ph/issuances/MCs/MC_2020-004.pdf (accessed on July 17, 2020).

Memorandum Circular 2020-09. 2020 Omnibus guidelines in the implementation of the Emergency Subsidy Program of the Department of Social Welfare and Development. Quezon City, Philippines: Department of Social Welfare and Development. https://www.ncda.gov.ph/wp-content/uploads//2020/04/MC-09-s2020-OMNIBUS-GUIDELINES-EMERG-SUBSIDY-PROG-DSWD.pdf. (accessed July 17, 2020).

Mercurio, R. 2020. More cities identified as ideal IT-BPM hubs. *Philstar.com*. https://www.philstar.com/business/2020/02/09/1991497/more-cities-identifiedas-ideal-it-bpm-hubs (accessed on May 20, 2020).

Mines and Geosciences Bureau (MGB). 2020a. Memorandum March 27. Realignment of Social Development and Management Program's unutilized funds to support affected impact and non-impact communities due to COVID-19. Quezon City, Philippines: MGB. http://mgb.gov.ph/images/Covid_Advisories/SDMP_Realignment_MGB_RO_final.pdf (accessed on July 14, 2020).

———. 2020b. Memorandum Order No. 2020-004. Guidelines/protocols for the resumption of mining and mineral processing operations during the general community quarantine or new normal. Quezon City, Philippines: MGB. http://mgb.gov.ph/images/Covid_Advisories/MGBMemorandumOrder_2020_004.pdf (accessed on July 15, 2020).

National Budget Circular 580. Adoption of economy measures in the government due to the emergency health situation. Manila, Philippines: Department of Budget and Management.

National Economic and Development Authority (NEDA). 2011. *Philippine Development Plan 2011–2016*. Pasig City, Philippines: NEDA.

———. 2017a. *Philippine Development Plan 2017–2022*. Pasig City, Philippines: NEDA.

———. 2017b. *Philippine Development Plan Results Matrices 2017–2022*. Pasig City, Philippines: NEDA.

———. 2018a. *2017–2022 Public Investment Program*. Pasig City, Philippines: NEDA.

———. 2018b. Highlights of the updated 2017–2022 Public Investment Program (PIP) as input to the fiscal year (FY) 2019 budget preparation. Pasig City, Philippines: NEDA. http://www.neda.gov.ph/wp-content/uploads/2018/09/Highlights-of-the-Updated-2017-2022-Public-Investment-Program-as-Input-to-the-Fiscal-Year-2019-Budget-Preparation-published-as-of-Sept-28-2018.pdf (accessed on May 15, 2019).

———. 2019. Updated 2017–2022 Public Investment Program as input to the fiscal year 2020 budget preparation. Pasig City, Philippines: NEDA. http://www.neda.gov.ph/updated-2017-2022-public-investment-program-as-input-to-the-fiscal-year-2020-budget-preparation/ (accessed on March 28, 2020).

Navallo, M. 2020. Rising cases of violence, abuse on women, children noted. *ABS-CBN News.* June 26. https://news.abs-cbn.com/news/05/25/20/reported-child-sexual-abuse-online-in-ph-up-by-over-260-pct-during-lockdown-doj. (accessed on October 14, 2020).

Nicolas, B.D. 2019. OP firm: Bigger IRA due in 2022. *Business Mirror*. https://businessmirror.com.ph/2019/10/30/op-firm-bigger-ira-due-in-2022/ (accessed on March 11, 2020).

Office of Civil Defense (OCD). n.d.a COVID-19 donations dashboard. Quezon City, Philippines: OCD. http://ocd.gov.ph/donations-dashboard.html (accessed on July 15, 2020).

———. n.d.b. NDRRMC to support task force on infectious diseases amid NCOV threat. Quezon City, Philippines: OCD. http://www.ocd.gov.ph/news/598-ndrrmc-to-support-task-force-on-infectious-diseases-amid-ncov-threat.html (accessed on July 15, 2020).

Office of the President Administrative Order No. 2019-16. Expediting the rehabilitation and restoration of the coastal and marine ecosystem of the Manila Bay and creating the Manila Bay Task Force. Manila, Philippines: Office of the President. https://www.officialgazette.gov.ph/downloads/2019/02feb/20190219-AO-16-RRD.pdf (accessed on February 17, 2020).

Office of the President Administrative Order No. 2020-27. Establishing a framework for the acceptance, management, distribution and delivery of all medicines, medical equipment and supplies, and other health products donated to the national government or the Department of Health for addressing the COVID-19 situation. Manila, Philippines: Office of the President. https://www.officialgazette.gov.ph/downloads/2020/03mar/20200331-AO-27-RRD.pdf (accessed on July 15, 2020).

Office of the President. 2020. Report to the Joint Congressional Oversight Committee: Monday, June 15. Manila, Philippines: Office of the President. https://www.officialgazette.gov.ph/downloads/2020/06jun/20200615-Report-to-the-Joint-Congressional-Oversight-Committee.pdf. (accessed on October 14, 2020).

Orbeta, A. 2010. Schooling disparities: An early life lever for better (or worse) equity in the future. PIDS Policy Notes 2010-09. Quezon City, Philippines: Philippine Institute for Development Studies.

Orbeta, A. and V. Paqueo. 2017. Who benefits and loses from an untargeted tuition subsidy for students in SUCS? PIDS Policy Note No. 2017-03. Quezon City, Philippines: Philippine Institute for Development Studies.

Orbeta, A., M. Lagarto, K. Ortiz, D. Ortiz, and M. Potestad. 2019. Senior high school and the labor market: Perspectives of Grade 12 students and human resources officers. PIDS Research Paper Series No. 2018-49. Quezon City, Philippines: Philippine Institute for Development Studies.

Pantoja, B., J. Alvarez, and F. Sanchez. 2019. Implementing sugarcane block farming for increased farm income and productivity. PIDS Research Paper Series No. 2019-01. Quezon City, Philippines: Philippine Institute for Development Studies.

Philippine National Police (PNP). 2020. Barangay checkpoints supervised by PNP. https://pnp.gov.ph/index.php/news-and-information/3656-barangay-checkpoints-supervised-by-pnp (accessed on May 30, 2020).

Philippine Statistics Authority (PSA). 2015. Family Income and Expenditure Survey. Quezon City, Philippines: PSA.

———. 2017a. Annual Poverty Indicators Survey. Quezon City, Philippines: PSA.

———. 2017b. 2012 Input-output tables – transaction tables. http://openstat.psa.gov.ph/Database (accessed on June 25, 2020).

———. 2018a. Family Income and Expenditure Survey. Quezon City, Philippines: PSA.

———. 2018b. October 2018 Labor Force Survey. Quezon City, Philippines: PSA.

———. 2020a. Highlights of the April 2020 Labor Force Survey. Quezon City, Philippines: PSA. https://psa.gov.ph/content/employment-situation-april-2020 (accessed on July 17, 2020).

———. 2020b. Labor Force Survey. Quezon City, Philippines: PSA.

———. 2020c. National Accounts 2019. Quezon City, Philippines: PSA.

———. Various years. Data series. Quezon City, Philippines: PSA. https://psa.gov.ph/nap-press-release/data-series (accessed on July 17, 2020).

Public-Private Partnership Center (PPP). 2019. NEDA revises list of flagship infra projects. Quezon City, Philippines: PPP. https://ppp.gov.ph/in_the_news/neda-revises-list-of-flagship-infra-projects/ (accessed on April 5, 2020).

Reodica, M.C.S. 2019. Philippine E-Commerce Roadmap 2016–2020 assessment report. Presentation at the E-Commerce PHL 2022: A Dialogue with the DTI Secretary, August 6, SMX Convention Center, Taguig City, Philippines.

Report to the joint congressional oversight committee pursuant to Section 5 of Republic Act 11469, otherwise known as the Bayanihan to Heal as One Act, April 13, 2020. 2020a. https://www.officialgazette.gov.ph/downloads/2020/04apr/20200413-Report-to-the-Joint-Congressional-Oversight-Committee-RRD.pdf (accessed on May 6, 2020).

Report to the joint congressional oversight committee, April 27, 2020. 2020b. https://www.officialgazette.gov.ph/downloads/2020/04apr/20200427-Report-to-the-Joint-Congressional-Oversight-Committee-RRD.pdf (accessed on May 7, 2020).

Republic Act 10121. An act strengthening the Philippine disaster risk reduction and management system, providing for the National Disaster Risk Reduction and Management Framework and institutionalizing the National Disaster Risk Reduction and Management Plan, appropriating funds therefor and for other purposes. Manila, Philippines:Congress of the Philippines. https://www.officialgazette.gov.ph/2010/05/27/republic-act-no-10121/ (accessed on February 17, 2020).

Republic Act 10844. 2016. An act creating the Department of Information and Communications Technology, defining its powers and functions, appropriating funds therefor and for other purposes. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/2016/05/23/republic-act-no-10844/ (accessed on July 17, 2020).

Republic Act 10929. 2017. An act establishing the free internet access program in public places in the country and appropriating funds therefor. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/downloads/2017/08aug/20170802-RA-10929-RRD.pdf (accessed on July 17, 2020).

Republic Act 11032. 2018. An act promoting ease of doing business and efficient delivery of government services, amending for the purpose Republic Act 9485, otherwise known as the Anti-red Tape Act of 2007, and for other purposes. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/downloads/2018/05may/20180528-RA-11032-RRD.pdf (accessed on July 17, 2020).

Republic Act 11165. 2018. An act institutionalizing telecommuting as an alternative work arrangement for employees in the private sector. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/2018/12/20/republic-act-no-11165/ (accessed on July 17, 2020).

Republic Act 11199. 2019. An act rationalizing and expanding the powers and duties of the Social Security Commission to ensure the long-term viability of the Social Security System. Repealing for the purpose Republic Act 1161, as amended by Republic Act 8282, otherwise known as the Social Security Act of 1997. Manila, Philippines: Republic of the Philippines. https://www.officialgazette.gov.ph/2019/02/07/republic-act-no-11199/ (accessed on July 17, 2020).

Republic Act 11201. 2019. An act creating the Department of Human Settlements and Urban Development. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/downloads/2019/02feb/20190214-RA-11201-RRD.pdf (accessed on February 3, 2020).

Republic Act 11202. 2019. An act requiring mobile service providers to provide nationwide mobile number portability to subscribers. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/2019/02/08/republic-act-no-11202/ (accessed on July 1, 2020).

Republic Act 11206. 2019. An act establishing a career guidance and counseling program for all secondary schools and appropriating funds therefor. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/downloads/2019/02feb/20190214-RA-11206-RRD.pdf (accessed on November 25, 2020).

Republic Act 11223. 2019. An act instituting universal health care for all Filipinos, prescribing reforms in the health care system, and appropriating funds therefor. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/2019/02/20/republic-act-no-11223/ (accessed on April 5, 2020).

Republic Act 11228. 2019. An act providing for the mandatory PhilHealth coverage for all persons with disability (PWDs), amending for the purpose Republic Act 7277, as amended, otherwise known as the Magna Carta for Persons with Disability. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/2019/02/22/republic-act-no-11228/ (accessed on July 17, 2020).

Republic Act 112293. 2018. An act adopting innovation as a vital component of the country's development policies to drive inclusive development, promote the growth and national competitiveness of micro, small and medium enterprises, appropriating funds therefor, and for other purposes. https://www.officialgazette.gov.ph/downloads/2019/04apr/20190417-RA-11293-RRD.pdf (accessed on March 14, 2020).

Republic Act 11234. 2019. An act establishing the Energy Virtual One-Stop Shop for the purpose of streamlining the permitting process of power generation, transmission, and distribution projects. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/downloads/2019/03mar/20190308-RA-11234-RRD.pdf (accessed on July 1, 2020).

Republic Act 11241. 2019. An act regulating the registration, licensure, and practice of occupational therapy, providing funds therefor and for other related purpose. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/downloads/2019/03mar/20190311-RA-11241-RRD.pdf (accessed on February 27, 2020).

Republic Act 11249. 2018. An act regulating the practice of speech language pathology in the Philippines, and providing funds therefor. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/downloads/2019/03mar/20190322-RA-11249-RRD.pdf (accessed on February 27, 2020).

Republic Act 11256. An act to strengthen the country's gross international reserves (GIR), amending for the purpose Sections 32 and 151 of the National Internal Revenue Code, as amended, and for other purposes. Manila, Philippines: Congress of the Philippines. https://www.senate.gov.ph/republic_acts/ra%2011256.pdf (accessed on February 3, 2020).

Republic Act 11285. 2019. An act institutionalizing energy efficiency and conservation, enhancing the efficient use of energy and granting incentives to energy efficiency and conservation projects. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/downloads/2019/04apr/20190412-RA-11285-RRD.pdf (accessed on July 1, 2020).

Republic Act 11292. 2019. An act establishing and institutionalizing the Seal of Good Local Governance for local government units, and allocating for this purpose the Seal of Good Local Governance Fund. https://www.officialgazette.gov.ph/downloads/2019/04apr/20190412-RA-11292-RRD.pdf (accessed on February 10, 2020).

Republic Act 11315. 2018. An act establishing a Community-Based Monitoring System and appropriating funds therefor. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/downloads/2019/04apr/20190417-RA-11315-RRD.pdf (accessed on February 12, 2020).

Republic Act 11337. 2018. An act providing benefits and programs to strengthen, program and develop the Philippine startup ecosystem. https://www.officialgazette.gov.ph/downloads/2019/04apr/20190717-RA-11337-RRD.pdf (accessed on March 14, 2020).

Republic Act 11393. 2019. An act authorizing higher education curriculum development and graduate training in advanced energy and green building technologies, and appropriating funds therefor. https://www.officialgazette.gov.ph/downloads/2019/08aug/20190822-RA-11393-RRD.pdf (accessed on July 1, 2020).

Republic Act 11398. 2018. An act regulating the practice of the fisheries profession in the Philippines, creating for the purpose a professional regulatory board of fisheries, and appropriating funds therefor. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/2019/08/22/republic-act-no-11398/ (accessed on February 27, 2020).

Republic Act 11448. 2019. An act expanding access to educational services through the establishment and administration of transnational higher education, and appropriating funds therefor. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/2019/08/28/republic-act-no-11448/ (accessed on February 27, 2020).

Republic Act 11469. An act declaring 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. Manila, Philippines: Congress of the Philippines. https://www.senate.gov.ph/Bayanihan-to-Heal-as-One-Act-RA-11469.pdf (accessed on July 14, 2020).

Republic Act 11494. 2020. An act providing for COVID-19 response and recovery interventions and providing mechanisms to accelerate the recovery and bolster the resiliency of the Philippine economy, providing funds therefor, and for other purposes. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/2020/09/11/republic-act-no-11494/ (accessed on September 30, 2020).

Republic Act 12230. 2019. An act instituting a Philippine labor force competitiveness program and free access to TVET. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/downloads/2019/02feb/20190222-RA-11230-RRD.pdf (accessed on November 25, 2020).

Republic Act 7160. 1991. An act providing for a Local Government Code 1991. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/1991/10/10/republic-act-no-7160/ (accessed on February 12, 2020).

Republic Act 9513. 2008. An act promoting the development, utilization and commercialization of renewable energy resources and for other purposes. Manila, Philippines: Congress of the Philippines. https://www.officialgazette.gov.ph/2008/12/16/republic-act-no-9513/ (accessed on February 12, 2020).

Rivas, R. 2020. Gov't plans P51-billion subsidy program for middle-class workers. *Rappler*. https://rappler.com/business/government-plans-subsidy-program-middle-class-workers (accessed on August 3, 2020).

Rivera, D. 2019a. DOE accepting applications to develop exploration area in Palawan. *Philstar*. https://www.philstar.com/business/2019/10/31/1964714/doe-accepting-applications-develop-exploration-area-palawan (accessed on March 17, 2020).

———. 2019b. DOE updates renewable energy targets. *Philstar*. https://www.philstar.com/business/2019/09/02/1948208/doe-updates-renewable-energy-targets (accessed on March 5, 2020).

Rosales, M. 2020. Cusi directs ER 1-94 funds use to combat COVID-19. Power Philippines. http://powerphilippines.com/cusi-directs-er-1-94-funds-use-to-combat-covid-19/ (accessed on October 30, 2020).

Senate Bill 1014. 2019. An act amending Republic Act 8972 otherwise known as the Solo Parents' Welfare Act of 2000, and for other purposes. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3143728335!.pdf (accessed on September 10, 2020).

Senate Bill 1220. 2019. An act strengthening Republic Act 9208, as amended by Republic Act 10364, entitled "An act to institute policies to eliminate trafficking in persons especially women and children, establishing the necessary institutional mechanisms for the protection and support of trafficked persons, providing penalties for its violations and for other purposes". Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3200228852!.pdf (accessed on September 10, 2020).

Senate Bill 1230. 2019. An act expanding the grounds for legal separation, amending for this purpose certain provisions of Executive Order 209 or the Family Code of the Philippines, and for other purposes. Pasay City, Philippines: Senate of The Philippines. http://legacy.senate.gov.ph/lisdata/3203128880!.pdf (accessed on September 10, 2020).

Senate Bill 1250. 2019. An act establishing resource development and crisis centers for women and children in every province and city of the Philippines, appropriating funds therefor, and for other purposes. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3211628946!.pdf (accessed on September 10, 2020).

Senate Bill 1272. An act amending Republic Act 10121, otherwise known as the Philippine Disaster Risk Reduction and Management Act of 2010, by reinforcing local government coordination and response efforts, and for other purposes. Pasay City, Philippines: Senate of the Philippines. https://www.senate.gov.ph/lisdata/3216329007!.pdf (accessed on February 4, 2020).

Senate Bill 1460. 2020. An act expanding the basic education curriculum, increasing the functions of the Bureau of Learning Delivery under the Department of Education to include distance education and online learning, thereby amending Republic Act 10533 otherwise known as the Enhanced Basic Education Act of 2013, and for other purposes. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3261929484!.pdf (accessed on November 25, 2020).

Senate Bill 1565. 2020. An act establishing policies for education and learning in the new normal, prescribing for the purpose standards for the reopening of safe schools, creating the safe schools reopening task force, appropriating funds therefor, and for other purposes. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3286629747!.pdf (accessed on November 25, 2020).

Senate Bill 174. 2019. An act providing the National Energy Policy and Regulatory Framework for the use of electric vehicles, and the establishment of electric charging stations. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3045127292!.pdf (accessed on February 10, 2020).

Senate Bill 184. 2019. An act instituting the magna carta for child day care workers and providing funds therefor. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3041527194!.pdf (accessed on September 10, 2020).

Senate Bill 417. 2019. An act instituting a property regime for cohabiting same sex partners and for other purposes. Pasay City, Philippines: Senate of The Philippines. http://legacy.senate.gov.ph/lisdata/3075427603!.pdf (accessed on September 10, 2020).

Senate Bill 538. An act providing incentives for the manufacture, assembly, conversion and importation of green vehicles, and for other purposes. Manila, Philippines: Republic of the Philippines. https://www.senate.gov.ph/lisdata/3092127782!.pdf (accessed on February 10, 2020).

Senate Bill 581. An act to further promote the adoption of rooftop solar technology among residential, commercial, industrial, and government end-users, amending for the purpose Republic Act 9513. Pasay City, Philippines: Senate of the Philippines. https://www.senate.gov.ph/lisdata/3086427849!.pdf (accessed on February 10, 2020).

Senate Bill 746. An act expanding the application of the local disaster risk reduction and management fund by amending Republic Act 10121, otherwise known as the Philippine Disaster Risk Reduction and Management Act of 2010. Pasay City, Philippines: Senate of the Philippines. https://www.senate.gov.ph/lisdata/3109527992!.pdf (accessed on February 10, 2020).

Senate Bill 812. 2019. An act defining gender-based electronic violence, providing protective measures and prescribing penalties therefor, and for other purposes. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3118828087!.pdf (accessed on September 10, 2020).

Senate Bill 817. 2019. An act promoting women participation and equitable representation in and by political parties, giving incentives therefor, creating the women in political parties empowerment fund, and for other purposes. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3119428093!.pdf (accessed on September 10, 2020).

Senate Bill 818. An act providing for the urban countryside greening in the Philippines. Pasay City, Philippines: Senate of the Philippines. https://www.senate.gov.ph/lisdata/3119528094!.pdf (accessed on February 13, 2020).

Senate Bill 858. 2019. An act strengthening the barangay day care system, amending for the purpose Republic Act 6972 otherwise known as the Barangay-level Total Development and Protection of Children Act and for other purposes. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3123728136!.pdf (accessed on September 10, 2020).

Senate Bill 858. 2019. An act strengthening the barangay day care system, amending for the purpose Republic Act 6972 otherwise known as the Barangay-level Total Development and Protection of Children Act and for other purposes. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3123728136!.pdf (accessed on September 10, 2020),

Senate Bill 882. 2019. An act providing for the improvement of maternal and childbirth services by establishing birthing centers and training traditional birth attendants, and appropriating funds therefor. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3128028179!.pdf (accessed on September 10, 2020).

Senate Bill 992. 2019. An act promoting a low carbon economy and establishing an emissions cap-and-trade system in the industry sector to reduce greenhouse gas emissions and protecting the climate. Pasay City, Philippines: Senate of the Philippines. https://www.senate.gov.ph/lisdata/3140128296!.pdf (accessed on February 10, 2020).

Senate Resolution 376. 2020. Resolution directing the Senate Committee on Higher and Technical and Vocational Education, Committee on Science and Technology and other appropriate committee of the Senate, to inquire and review, in aid of legislation, the preparedness of higher education institutions, students and faculty to shift to online modes of learning in light of the continuing threat of the coronavirus disease (Covid-19) and the status of the internet connectivity in the country. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3256229433!.pdf (accessed on November 25, 2020).

Senate Resolution 416. 2020. Resolution directing the Senate Committees on Basic Education, Arts and Culture, and Higher, Technical and Vocational Education to conduct an inquiry, in aid of legislation, to determine the feasibility of mandating telecommunications companies to provide free internet access to online learning portals, educational websites and similar digital platforms for the benefit of all students and teachers during times of disaster and emergency when physical classes cannot be conducted. Pasay City, Philippines: Senate of the Philippines. http://legacy.senate.gov.ph/lisdata/3277929643!.pdf (accessed on November 25, 2020).

Serafica, R.B. 2019. Performance of Philippine services trade: An update. PIDS Discussion Paper Series 2019-19. Quezon City, Philippines: Philippine Institute for Development Studies. https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps1919.pdf (accessed on April 13, 2020).

Sicat, C.J.D., C.E. Adaro, and R.B. Maddawin. 2020a. The Community-based Monitoring System (CBMS) as a local planning tool: Results from the PIDS-DILG baseline study on policy gaps for the Local Government Support Fund Assistance to Municipalities (LGSF-AM) Program. PIDS Discussion Paper Series No. 2020-07. Quezon City, Philippines: Philippine Institute for Development Studies. https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps2007.pdf (accessed on May 2, 2020).

Sicat, C.J.D., C.E. Adaro, R.B. Maddawin, A.F.G. Castillo, and M.A.P. Mariano. 2020b. Baseline study on policy and governance gaps for the Local Government Support Fund Assistance to Municipalities (LGSF-AM) Program. PIDS Discussion Paper Series No. 2020-03. Quezon City, Philippines: Philippine Institute for Development Studies. https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps2003.pdf (accessed on May 2, 2020).

Sicat, C.J.D., M.A.P. Mariano, A.F. Castillo, and R.B. Maddawin. 2020c. Assessment of the Performance Challenge Fund and The Seal of Good Local Governance: Perceptions from municipalities. PIDS Discussion Paper Series No. 2020-05. Quezon City, Philippines: Philippine Institute for Development Studies. https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps2005.pdf (accessed on May 2, 2020).

Thailand Ministry of Health. 2016. National health accounts 2016. Bangkok, Thailand: Ministry of Health.

The Philippine Business and News. 2019. GPCCI hails commitment to PH-Germany Joint Economic Commission. https://thephilbiznews.com/gpcci-hails-commitment-to-ph-germany-joint-economic-commission/ (accessed on March 14, 2020).

The Philippine Star. 2018. US Generalized System of Preferences for Philippines extended for 3 years. *The Philippine Star.* https://www.philstar.com/business/2018/03/26/1800265/us-generalized-system-preferences-philippines-extended-3-years (accessed on March 14, 2020).

United Nations (UN). 2015. Transforming our world: The 2030 Agenda for Sustainable Development. General Assembly Seventieth session. New York, NY: UN. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E (accessed on February 20, 2020).

United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). 2017. Asia-Pacific Countries With Special Needs Development Report 2017: Investing in infrastructure for an inclusive and sustainable future. Bangkok, Thailand: UNESCAP.

United Nations Educational, Scientific and Cultural Organization (UNESCO). 2018. Student Mobility Number. Paris, France: UNESCO. http://data.uis.unesco.org (accessed on February 15, 2020).

———. 2020. How much does your country invest in R&D? Paris, France: UNESCO Institute of Statistics. http://uis.unesco.org/apps/visualisations/research-and-development-spending/ (accessed on February 15, 2020).

World Bank. 2005. *Philippines: Meeting infrastructure challenges*. Washington D.C.: World Bank.

World Economic Forum (WEF). 2020. Global gender gap report 2020. Geneva, Switzerland: WEF. http://www3.weforum.org/docs/WEF_GGGR_2020.pdf (accessed on March 14, 2020).

World Health Organization (WHO). 2020. Global health expenditure database (GHED). Geneva, Switzerland: WHO.

World Trade Organization (WTO). 2020a. Trade statistics and outlook: Trade set to plunge as COVID-19 pandemic upends global economy. Geneva, Switzerland: WTO. https://www.wto.org/english/news_e/pres20_e/pr855_e.pdf (accessed on April 13, 2020).

———.2020b. Trade in services in the context of Covid-19. Geneva, Switzerland: WTO. https://www.wto.org/english/tratop_e/covid19_e/services_report_e.pdf (accessed on November 2, 2020).

CHAPTER 3

Innovating Governance: Building Resilience against the COVID-19 Pandemic and Other Risks

Sonny N. Domingo
Charlotte Justine D. Sicat
Aubrey D. Tabuga
Valerie Gilbert T. Ulep

Introduction

The coronavirus disease 2019 (COVID-19) pandemic is by far the most challenging public health crisis the world has faced in a century. It has overwhelmed global and national health service and disaster management infrastructure, bringing economies to a standstill. Countries struggling to contain the spread of the virus have used an arsenal of travel bans, hygiene information campaigns, social distancing efforts, lockdowns, and quarantine measures. Some countries have exhibited a degree of success, but most are still suffering the pandemic's horrific impact. As of August 4, 2020, there were 18 million cases, with a death toll of 690,000 worldwide. Almost all affected countries experienced shortages in healthcare equipment and health human resources with the rapid spread of COVID-19 in the first quarter of 2020.

The effects of this pandemic extend beyond country healthcare systems to entire economies, especially in developing countries, such as the Philippines. The government response to the pandemic, such as community quarantine, reduction in mobility, and closing down of the economy, led to a more complicated issue of supporting millions of Filipinos unable to fend for themselves. The pandemic issue becomes a much larger social protection issue with direct implications on the government's capacity to finance, administer, and design effective strategies. It also puts local governments at the forefront of quarantine enforcement, contact tracing and monitoring, and program implementation, such as administering the Social Amelioration Program (SAP). Furthermore, the pandemic has exposed important structural and governance issues. Among these is the seeming lack of protocols or manuals of operations to deal with such an event at the onset. The country's poor and outdated state of information systems caused delays in data gathering efforts essential for understanding the real-time situation upon which decisions are made. The absence of a verified tool for targeting program beneficiaries of social assistance efforts hampered SAP implementation. The lack of coordination between and among government units at the forefront of curbing the spread of the novel coronavirus was also observed, reminiscent of the challenges Filipinos face many times each year as the country goes through multiple natural disasters.

The COVID-19 pandemic is an eye-opener and an impetus for us to leapfrog in terms of strengthening governance systems and structures. It forces us to innovate and install more forward-looking systems and strategies. It enables us to realize how important it is to have harmonization and synergy between and among national government agencies and subnational governments.

Public sector innovations

Based on the Oslo Manual, innovation is "a new or significantly improved service, communication method, or process/organizational method" (Arundel et al. 2015, p. 1271–1272). Like in the business setting, public sector governance innovations can be disruptive. They can also be incremental, such as agency-level efficiency improvements in administrative processes or service delivery. Innovation

activities, Bloch (2011, p. 17) noted, refer to all inhouse and external activities that intend to or lead to innovation implementation. The inhouse activities include research and development (R&D), market and other user research, planning and design, feasibility study, experimenting/testing, and other preparatory activities for innovation, as well as innovation-related education and training of staff, and innovation-focused software, machinery and equipment acquisition. External innovation activities are external R&D, consultancy services for innovation, and intellectual property-related matters, such as patents and licenses.

As for the types of innovation, the literature lends four types of innovations. These are process, product, organizational, and communication innovations. Bloch (2011, p.14) provided definitions relatively less technical and are more relevant to the public sector:

> "A ***process innovation*** is the implementation of a method for the production and provision of services and goods that is new or significantly improved compared to existing processes in your organization. This may involve significant improvements in, for example, equipment and/or skills. This also includes significant improvements in support functions such as IT [information technology], accounting, and purchasing.
>
> A ***product innovation*** is the introduction of a service or good that is new or significantly improved compared to existing services or goods in your organisation. This includes significant improvements in the service or good's characteristics, in customer access or in how it is used.
>
> An ***organisational innovation*** is the implementation of a new method for organising or managing work that differs significantly from existing methods in your organisation. This includes new or significant improvements to management systems or workplace organisation.
>
> A ***communication innovation*** is the implementation of a new method of promoting the organisation or its services and goods, or new methods to influence the behaviour of individuals or others. These must differ significantly from existing communication methods in your organisation."

Examples of process innovation in the public sector include new ways to register crime reports and work process digitalization that allows cross-service electronic interaction. On the other hand, product innovation often involves an

element in providing a service, such as the implementation of group therapy using videos, new treatment, or the use of robots. Organizational innovations can be the creation of a one-stop shop that provides various services and the establishment of a facility that coordinates the provision of services. Lastly, communication innovation accounts for the fact that promotion is essential for government operations.

Concerning governance methods surrounding innovations, Arundel et al. (2015) discussed a typology based on post-New Public Management literature. Organizational entrepreneurship encourages "bottom-up" mechanisms that involve middle managers and frontline workers in the process of innovation (Arundel et al. 2015 citing Hartley 2005). Networked governance is an extension of the whole-of-government approach, where nongovernment organizations are included in the innovation (Christensen and Laegreid 2007). Governance network method refers to an innovation method that draws on internal and external sources (Sorensen and Torfing 2012). In contrast, the traditional governance approach restricts innovation largely to a top-down process as determined by political decisions. Since such a structure was found to stifle rather than facilitate innovation, the New Public Management was established, giving public managers bigger responsibility for driving innovations though not conducive for knowledge-sharing among agencies, thereby limiting innovations to develop (Hartley et al. 2013).

Governance issues and challenges

Human resources

The need to strengthen and upskill the civil service is at the center of boosting public sector innovation and productivity. Unfortunately, the public sector workforce is constrained by basic issues of recruitment and retention. Brillantes and Fernandez-Carag (2016) noted the difficulty in retaining highly capable people at the executive level due to the inadequate remuneration. This is also the case for technical personnel and scientists. Government posts are not that attractive for those seeking more dynamic work settings, career-wise. Local governments are also prone to high turnover rate of employees because of the electoral dynamics. This tends to result in lack of institutional memory and, therefore, institutional learning. Limited career mobility also characterizes the typical government job.

Information systems

Weak information systems constrain the analytical capacity of the public sector. One of the key issues in government efforts to combat COVID-19 is the lack of up-to-date information needed for effective decisionmaking by the Inter-Agency Task Force (IATF), the recommendatory body tasked to address the pandemic issues. This is because the use of manual forms at the Department of Health (DOH) is still prevalent. As of publication date, the DOH was still at the development stage of its digital epidemiological surveillance information system called COVIDKAYA. There was also an apparent deficiency in the pool of technically capable workers in the encoding, contact-tracing, and communication.

At the local level, a significant number of local government units (LGUs) have developed their monitoring systems, such as the community-based monitoring system (CBMS). In a study covering 1,373 municipalities, Sicat et al. (2020) found that the majority claimed to have used the CBMS as their major data source to prepare their ecological profile. Of those who use the CBMS, nearly all reported that utilizing the data helped them identify priority sectors in the planning process and as basis for budgeting.

Unfortunately, there is little information about the extent of LGU's capacity to process and analyze information from CBMS in a more instrumental way. Data collection is also irregularly done. Fewer municipalities have regular budget allocation, and much of it is devoted to hiring personnel. This means less opportunity for monitoring and evaluating the effectiveness of efforts on the ground. Usage must also be improved. Currently, CBMS is almost for the exclusive use of the municipal planning office. Other units, such as social welfare, health, and local school boards, must also gain access and the capability to use such a local information system.

At the systemic level, while the country's statistical capacity indicator measured by the World Bank remains higher at 82.2 than the regional average of East Asia and Pacific (77.5), the current performance is nowhere near its best performance of 92.2 during the period 2008–2009. Furthermore, its performance has now been overtaken by Indonesia (90.0) and Viet Nam (86.7).

In any shock to society, information and data are critical in properly identifying and addressing the problem. With the recent events, such as the Taal Volcano eruption and the COVID-19 pandemic, informing citizens and being informed about the citizens is critical. Ideally, updated and complete citizen data would allow quick identification of citizens most hardly hit by shocks. A national identification system and database would have been perfect for doing the job. However, it was often alluded to that its implementation would violate the data privacy law.

The lack of citizen information was identified as one of the major challenges faced in implementing the Emergency Subsidy Program (ESP) provided under the *Bayanihan* to Heal as One Act of 2020. According to the Department of Social Welfare and Development (DSWD), delays in the distribution were attributed to various reasons, including varying processes at the LGU level, lack of reliable lists and databases for SAP validation and accountability, and need for other forms of targeting systems and corresponding responsive social protection programs for different target groups (DSWD 2020).

This delay could have been avoided had the Philippine Identification System (PhilSys) already been in place. Passed in 2017, the PhilSys Act asserted 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". Its objective of being 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", would have been useful in the distribution of financial aid during the enhanced community quarantine (ECQ). However, one of the apprehensions is that the implementation of PhilSys might be inconsistent with the Data Privacy Act (Republic Act [RA] 10173). The latter law states that "it is the policy of the State to protect the fundamental human right of privacy, of communication while ensuring the free flow of information to promote innovation and growth." There are, however, several provisions in RA 10173 that allow for the collection of data in the case of national emergencies and health reasons.

To implement PhilSys, the country needs an appropriate IT infrastructure as articulated in the National Broadband Action Plan (DICT 2017). At the same time, to access the database, the Free Internet Access in Public Places Act would be needed. However, it has not yet been fully implemented.

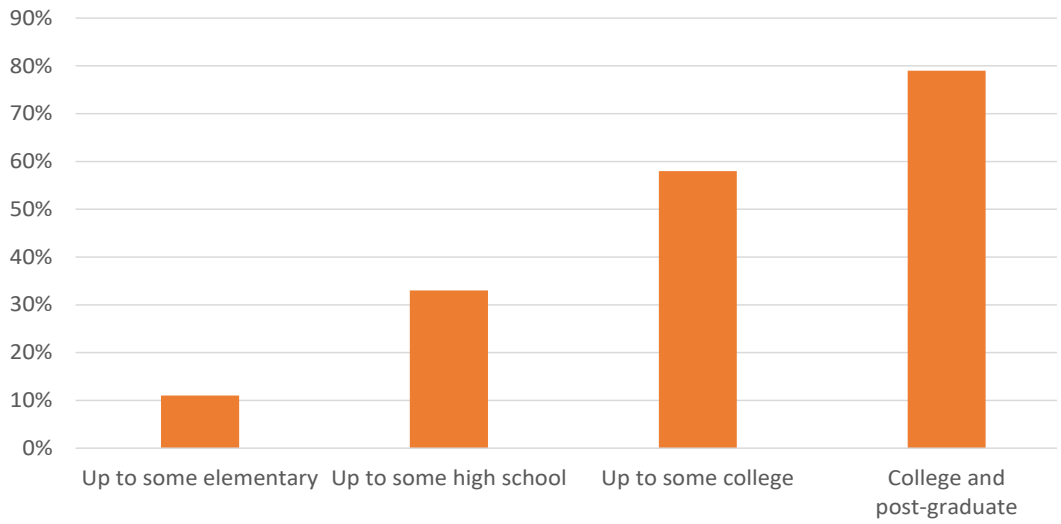
Governments are always under pressure from the citizenry to fulfill their mandates. These pressures from citizens are critical because they encourage governments to improve continuously. Countries have implemented e-Government initiatives or the use of information and communications technology (ICT) to achieve these improvements (Estevez et al. 2007).

The concept of e-government is not new. The term e-government was coined as early as the 1990s, but the use of "IT in government" even started way back in the 1970s (Gronlund and Horan 2004). In the Philippines, e-government has been in existence since the early 2000s when the national government developed the Government Information System Plan. The plan harnesses ICT to promote transparency in government. Despite its long history, the application of *e-government* solutions has remained incremental in the Philippines. The COVID-19 pandemic response has unfolded the county's long-standing challenges in using ICT to address governance and delivery problems.

*Digital divide***.** The population's ability to use computers and their internet access are necessary to implement *e-government* solutions. Digital divide refers to the gap between sociodemographics with access to ICT (see Figures 3.1 and 3.2). Without addressing the unequal internet access, the *e-government* solution will lead to social exclusion.

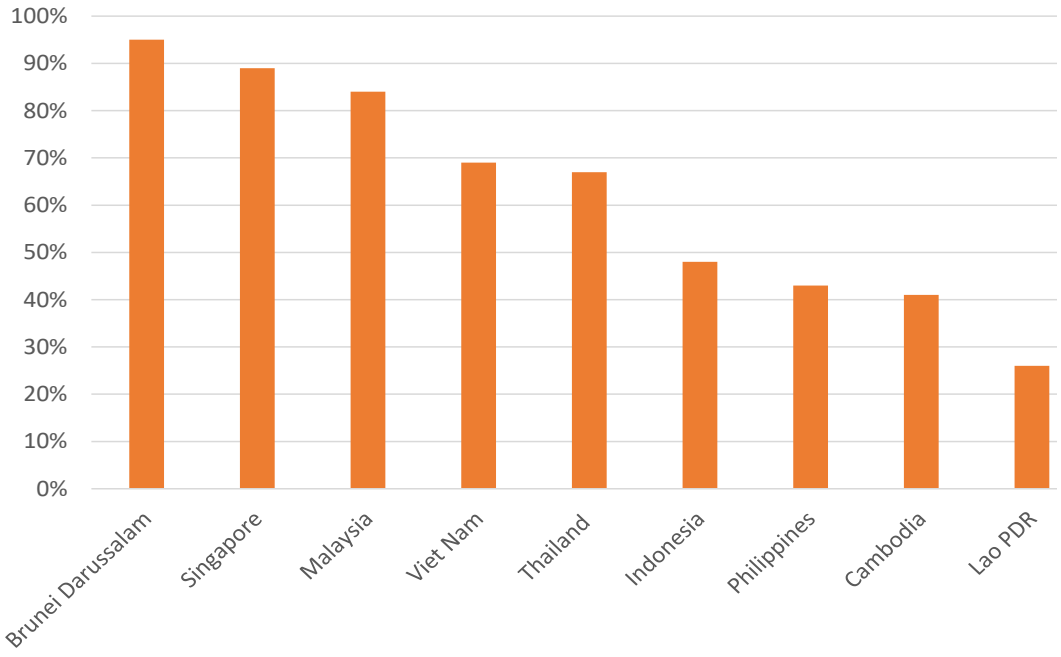
Legal framework. The success of e-government implementation is dependent on the presence of a proper legal framework, which should address a wide range of issues, including electronic data archiving, transmission of information, data protection and privacy, and copyright. Outdated laws and policies and overlapping functions of authorities can hinder the implementation of e-government initiatives. Complex laws and regulations can also be a barrier to agencies and stakeholders as these increase the agencies' costs to collaborate.

Figure 3.1
Percentage of adult population using the internet, by educational attainment in the Philippines, 2019



Source: Social Weather Stations (2019)

Figure 3.2
Proportion of population in selected ASEAN countries using the internet, 2019



ASEAN = Association of Southeast Asian Nations
Source: World Bank (2019)

ICT infrastructure. The inadequacy of ICT infrastructure is one of the main challenges of e-government implementation. Barriers can be classified into the following:

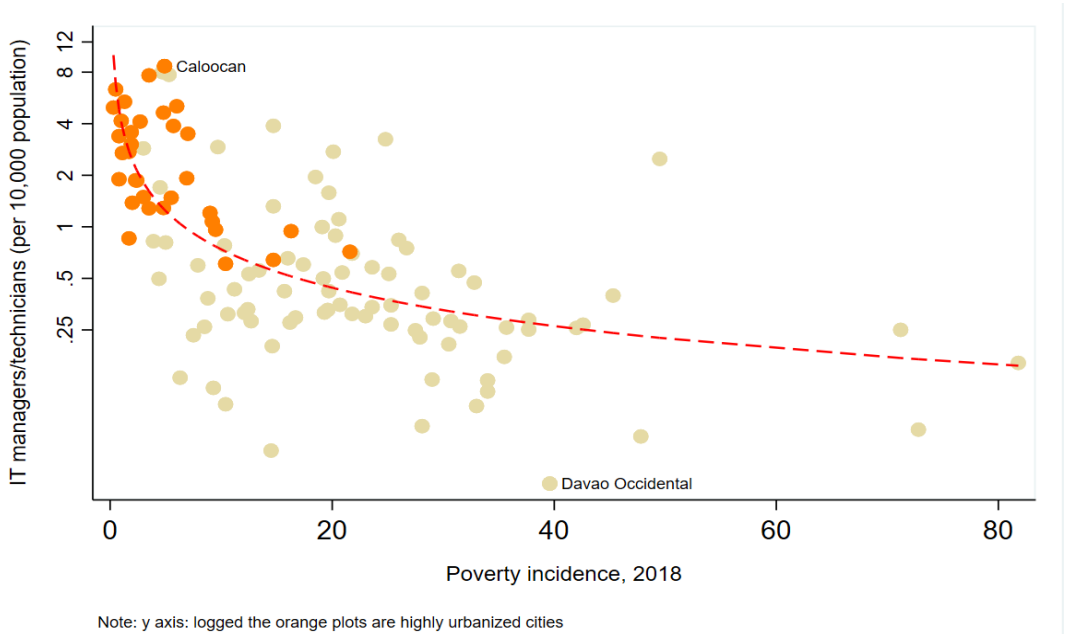
- Lack of technological skills (among leaders, employees, citizens, vulnerable population)
- Lack of qualified IT developers or managers (see Figure 3.3)
- Lack of interoperability or lack of shared standards and compatible infrastructure across government agencies
- Lack of hardware

Coordination

In terms of operational capacity, the fragmentation of administrative structures and often disjointed government efforts present the most significant challenge in service delivery. The challenges of interagency coordination amid the COVID-19 pandemic were highlighted in a Senate investigation on February 4, 2020, where the DOH bared difficulties in contact tracing. Legislators noted the seeming lack of communication among the DOH, Civil Aviation Authority of the Philippines, and the Civil Aeronautics Board. This is reflective of the apparent lack of clear protocols on not only interagency information-sharing but also communication in times of crisis.

Another existing problem that surfaced with recent shocks was the lack of coordination between the different government levels and the varied governance

Figure 3.3
IT managers and technician, by province



IT = Information technology
Note: The orange plots (y axis) are highly urbanized cities.
Source: PSA (2015)

capacities that affected local government response. Sicat et al. (2019) examined the planning-budgeting framework of LGUs and mapped it in the national development planning and budgeting framework. It found that despite the mandate of the provincial government having oversight and considering development plans of component cities and municipalities, such oversight was rarely practiced. The two agencies responsible for aligning local development plans to national development plans are the National Economic and Development Authority (NEDA) and the Department of the Interior and Local Government (DILG). NEDA is mandated to review provincial development plans through the regional development council. On the other hand, under DILG oversight, the provincial government is responsible for ensuring the integration of component city and municipal development plans in the provincial development plan. This important link for the harmonization of municipal/component city plans to the provincial plans was identified as an area of improvement under the supervision of the DILG (Sicat et al. 2020).

DILG reiterated throughout the ECQ period that the LGUs have the mandate to declare total lockdown in portions of, or the entire LGU (CNN Philippines 2020). It stated that for areas opened up under the general community quarantine, towns and barangays that wanted to revert to ECQ had the mandate to do so but with concurrence of the regional IATF (Fonbuena 2020). In the case of provinces, highly urbanized and independent component cities, reverting to ECQ would need the national IATF approval.

The *Bayanihan* Heal as One Act authorized the President to ensure that all LGUs are acting within the letter and spirit of all the rules, regulation, and directives issued by the national government and implementing standards of community quarantine consistent with what the National Government has laid down for the subject area, while allowing LGUs to continue exercising their autonomy in matters undefined by the national government or are within the parameters it has set; and are fully cooperating toward a unified, cohesive, and orderly implementation of the national policy to address COVID-19 provided that all LGUs shall be authorized to utilize more than five percent of the amount allocated for their calamity fund subject to additional funding and support from the national government. In addition, the *Bayanihan* Grant for Cities and Municipalities gave an additional one month of internal revenue allotment (IRA) for purposes of fighting COVID-19 (DBM 2020a).

Through these COVID-19 related expenditures being allowed under the *Bayanihan* Act, the Department of Budget and Management (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 Annual Investment Programs" (DBM 2020b). Another PIDS study found that in 2017, only 31 percent of Local Development Investment Programs were updated by municipalities that claimed to have such (Sicat et al. 2020). Another governance gap identified by the same study was the insufficient observance of DILG-prescribed guidelines in planning and prioritizing investment programming. The hope is that the LGU PPAs implemented in response to the COVID-19 pandemic impact the local economy and citizens the most.

Feedback/participation

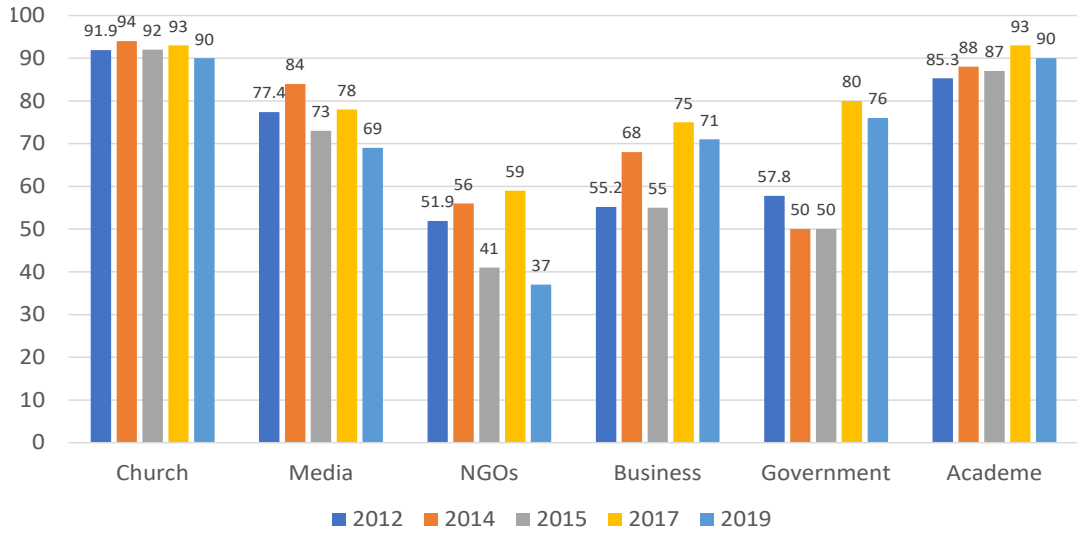
The participation of people and civil society organizations in decisionmaking is enshrined in the country's various laws. Embedded in the policy process are established consultation mechanisms at both national and local levels. The country is said to have the largest and most vibrant civil society in the Southeast Asian region (Turner 2011). However, while civil engagement is highly visible through their strategies and activities, their impact on societal change has been typically incremental (Turner 2011). Still, society engagement has been empowered by technology and social media in recent times.

Leadership and trust

Political capacity also encompasses political will. Indeed, one of the key barriers to effective civil service reforms is the lack of political will (Repucci 2012). To address this, she recommended an incremental approach to reform. The other solutions are initiating reforms after a strong electoral victory and strengthening civil society that can put pressure on the government. Aside from lack of political will, the system of patronage also results in vested interests. Therefore, reforms do not gain much support as these are often seen as threats against the ability of interest groups to gain benefits.

Trust is a vital issue in governance. Unfortunately, a survey on people's trust in the Philippine government and other key institutions, such as business and media, has been declining (Mercado 2019). This is consistent with outcomes of opinion polls in America and Europe, where trust in the government has been declining sharply in

Figure 3.4
Trust index in key institutions, Philippines



NGOs = nongovernment organizations
Source of basic data: Philippine Trust Index, EON corporation

recent years (Eide 2014). Nonetheless, in the Philippines, the trust in the President has been improving. This presents a significant opportunity. The exercise of political will from the Office of the President to support and drive reforms is likely to earn people's confidence because of the high popularity it enjoys.

Government organization

The 1991 Local Government Code of the Philippines gave LGUs meaningful local autonomy, turning them into more effective partners in achieving the national policy agenda. It instituted a decentralization system, supposedly giving LGUs more powers, authority, responsibilities, and resources. This devolution, although beneficial in many aspects, also presented negative consequences and widened regional disparities. Despite the augmented powers and resources at the disposal of LGUs, most provincial and municipal governments are still highly dependent on their IRA and other shares from national revenues. This bears direct implications on the provision of critical services to local constituents. Figure 3.5 presents a simple diagram on how health services were devolved in the country.

A comprehensive review of redevolution options is also in order, especially with the advent of the *Mandanas* ruling. On the average, provinces and municipalities are dependent on their shares in the national taxes at 79 percent and 80 percent, respectively, of their operating income, although cities have a lower dependence rate at 46 percent (DBM 2016). This may be a good opportunity to actualize the vision of the Code for LGUs to become resource-sufficient and self-reliant.

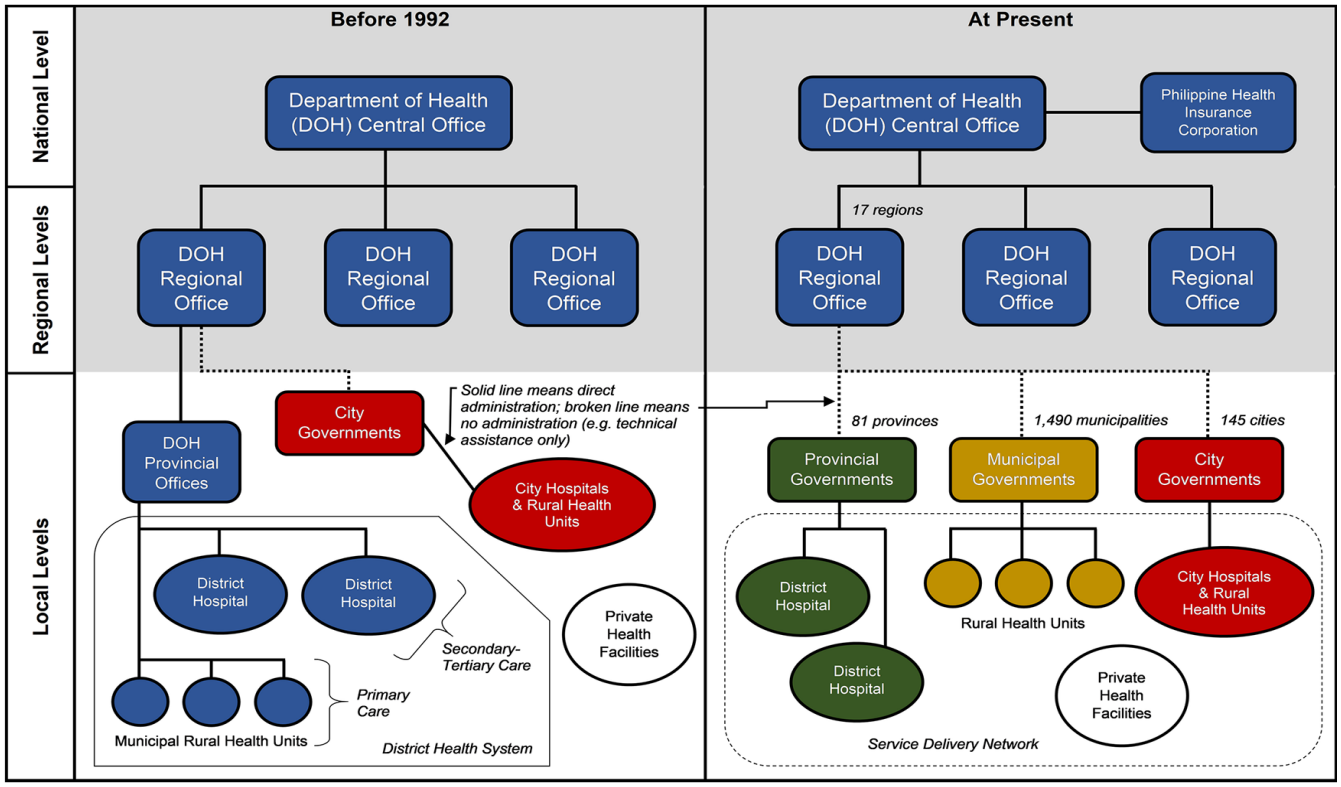
Governance innovations

Institutional innovations and reforms

In his Nobel prize lecture, Douglass North (1994) defined institutions as "the rules of the game, the humanly devised constraints that structure human interaction. They are made up of formal constraints (such as rules, laws, constitutions), informal constraints (such as norms of behavior, conventions, self-imposed codes of conduct), and their enforcement characteristics". New institutional economics "incorporates a theory of institutions into economics. It builds on, modifies, and extends neoclassical theory. It retains and builds on the fundamental assumption of scarcity and hence competition—the basis of the choice theoretic approach that underlies microeconomics" (North 1992).

In a survey article, Williamson (2000) presented the economics of institutions, showing the relationship among the four levels of social analysis (Figure 3.6). The assertion is that traditional neoclassical economic decisionmaking happens in the environment defined first by informal institutions, such as customs, traditions, and norms. The first level of informal institutions impacts the second level that defines the institutional landscape. This level "includes the executive, judicial, and bureaucratic functions of government, as well as the distribution of powers across different levels of government (federalism)" (Williamson 200, p. 598). These first two levels provide the environment for governance at the third level. This level's main objective is to correctly align governance structures commonly embodied in a contract with transactions, knowing that said structures reshape agents'

Figure 3.5
Devolution of the Philippine basic health system



Source: Liwanag and Wyss (2018)

incentives (i.e., ensure that the prescribed governance structure is implemented as envisioned using the institutions). Finally, the last level is where typical neoclassical economic decisionmaking, such as resource allocation, happens.

Figure 3.6 also presents the perceived frequency (in terms of years) of reforms in these different levels of social analysis. The informal institutions in Level 1 are the hardest to reform, being embedded in that society's culture. Level 2's formal rules of the game are perceived to change more often than the embedded institutions of Level 1 but less frequent than Level 3's governance. The latter is seen to change within a decade while the former's changes will most likely happen anytime between a decade to a century. Level 4 is perceived to change continuously.

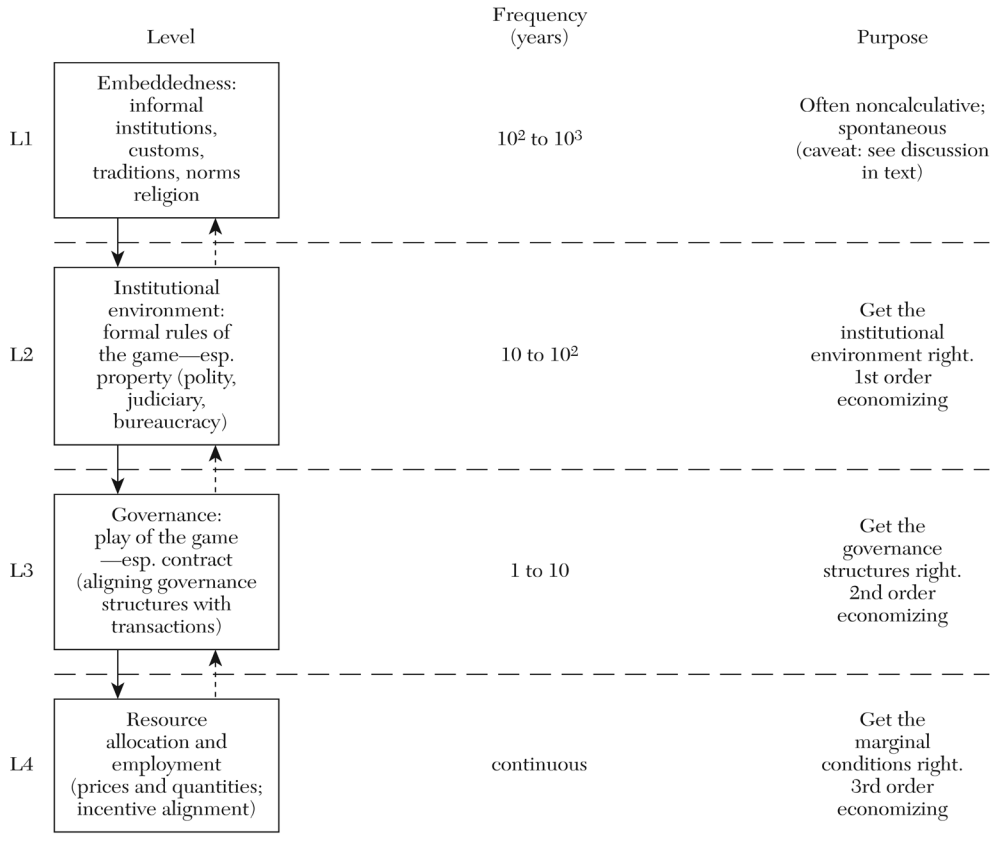
However, Williamson (2000) highlighted that sometimes, sudden or drastic shocks to society, such as a revolution or pandemic, provide rare windows of opportunities to effect change, particularly in established procedures and institutions. The COVID pandemic and the Taal Volcano eruption are two such shocks that should propel reform in formal institutions and how these are implemented.

Several institutional innovations and reforms done in other countries are noteworthy.

South Korea

One of the countries that flattened the curved of confirmed COVID-19 cases in their country is South Korea. The number of confirmed cases peaked on February 29, 2020, with 909 recorded cases and was flattened in seven weeks. The country managed to have a lower mortality rate than the global mortality rate, despite not imposing a lockdown (McClean 2020). South Korea has four main policies in preventing the spread of COVID-19. The first policy is the complete openness and transparency. The second policy is for containment and mitigation to identify infected patients and isolate them to interrupt transmission immediately. Third, a policy for triage and treatment system was in place wherein five isolation hospitals take care of 19 percent of critical and severe cases while a network of public community hospitals handled patients with moderate cases. And lastly, Korea's fourth policy is to promote massive screening

Figure 3.6
Williamson's Economics of institutions



L1: social theory
L2: economics of property rights/positive political theory
L3: transaction cost economics
L4: neoclassical economics/agency theory

Source: Williamson (2000)

and fast-tracking of suspect cases through accelerated production of emergency diagnostic kits (McClean 2020).

The successful response of South Korea was due to the reforms implemented after its experience with the Middle East Respiratory Syndrome (MERS) outbreak in 2015. This experience made their government more prepared in dealing with an outbreak (Kim 2020). South Korea created a central control and command center and sought good public health by amending the law to empower public health authorities to access the relevant information in dealing with the public health crisis. The act has a legal basis for allowing Article 23 in emergencies with flexibility for public health, safety, and security (Ko 2020).

Viet Nam

Viet Nam is also one of the countries with a successful response to COVID-19 by providing immediate instructions and measures on the prevention of visas, entry bans, and work permits. The Vietnamese government implemented an entry ban on all foreign nationals, and all overseas Vietnamese and their dependents were granted visa exemption certificates. Viet Nam's early response to the pandemic was because of its experience in dealing with the Severe Acute Respiratory Syndrome (SARS) virus in 2003.

Singapore

Singapore got its coronavirus response right without imposing a restrictive lockdown, though a second wave is currently upon the country. Its confirmed cases grew from 266 to over 5,900 on March 17, 2020. At first, Singapore was able to contain the initial wave of COVID-19 cases by instituting quarantines and contact tracing to anyone arriving by air that might be exposed, accompanied by isolation and monitoring. For its second wave, Singapore formed a "circuit breaker", a package of restrictions and new rules, combined with harsh punishments, designed to control the new wave of cases.

Taiwan

East Asian countries were the first ones to be exposed to COVID-19. As Wuhan authorities declared the unknown type of pneumonia, Taiwan's first response was to activate stricter border control measures immediately. According to Chen Chi-mai, the vice premier of Taiwan, they were the earliest to activate epidemic prevention measures against the disease.

On January 11, 2020, Taiwan had its presidential and legislative elections. After the election, the government listed the virus as category 5 communicable disease, giving Taiwan the legal basis to quarantine individuals with symptoms and fine those doctors who fail to report suspected cases within 24 hours. All these actions by Taiwan were implemented before the number of confirmed cases in Wuhan had reached 50.

Taiwan was one of the countries with an exemplary response to the COVID-19 outbreak, and this is because of their experience from the SARS outbreak in 2003. One of the government's efforts was enacting the "Provisional Act for Prevention and Relief Measures for Severe Acute Respiratory Syndrome". From their experience, Taiwan made substantial improvements to the legal mechanism for preventing and treating contagious diseases.

On February 25, 2020, the Parliament passed the "Special Act for Prevention,

Relief and Revitalization Measures for Severe Pneumonia with Novel Pathogens" (COVID-19 Special Act) with effectivity from January 15, 2020 to June 30, 2021. This Act took the effects of and issuance of an emergency decree, something absent in several other emergency experiences of Taiwan. It was only now that political will was exercised to pass an emergency decree (Lee 2020). Through its Central Epidemic Command Center (CECC), Taiwan implemented a ban on all exports of surgical masks on January 24 and, subsequently, on January 29, banned the entry of Chinese nationals from the Province of Hubei.

Technology played a leading role in the success of Taiwan's government. One example is that the travel records from their National Immigration Agency were integrated with their existing database on the National Health Insurance Administration (NHIA) to alert the doctors about their patient's travel history. There were no large-scale store closures, travel restrictions, or physical contact bans implemented by the government because of its early deployment of resources and rapid containment of the epidemic. One concern of the people is the protection of privacy over personal information. However, it was clarified that personal information linked or integrated by the government would be terminated after the pandemic (Lee 2020).

The Philippines should follow the examples of South Korea, Taiwan, and Viet Nam. These countries used their experiences of past epidemics to (1) build their information systems, (2) allow for complementary laws and guidelines to work around data privacy and trust issues,

(3) integrate databases, such as immigration and health insurance records, for ease of determination of travel history of patients, (4) immediately recognize the threat early on and close borders, and (5) create necessary systems and applications to facilitate contact tracing and stop the transmission of disease.

From these international examples, the next steps of the Philippines could be grouped under two themes:

- Institution as information
  - ◊ Laws that could have expedited the response of the government to COVID-19 were already in place but were not yet fully implemented to the spirit and letter of the law. These are the PhilSys Act and the Free Internet Access in Public Places Act. The role of trust is crucial to having a complete, integrated, and secure database of all Filipino citizens. This is a behavioral aspect that the national government must communicate if citizens have not yet realized the importance of being included in a national system.
  - ◊ There must be attempts to institutionalize creative solutions, such as DSWD issuances on data-sharing guidelines to go around the Data Privacy Act.
  - ◊ The Bangko Sentral ng Pilipinas also highlighted how its goal of financial literacy and information contributes to financial inclusion. This would facilitate the distribution of social protection programs to those who need it the most.
- National and local government coordination and integration
  - ◊ As in information institutions, the laws and mandates were already present in the Local Government Code, numerous DILG issuances, and the Bayanihan Act and related IATF on Emerging Infectious Diseases. Unfortunately, they were either not fully implemented or disregarded.
  - ◊ The DILG was able to strongly exert its oversight function of LGUs during the ECQ, which could also be maintained to enforce LGUs' mandates in planning and governance.

Innovations in the civil service

The PS21 reform of Singapore

Singapore implemented mixed strategies and processes in its public service reform (Becerra 2013). The Public Service for the 21st Century (PS21) program is Singapore's most prominent internal public sector management reform. The strong political will that supports, if not drives, the PS21 is manifested by the official documentation of the reform and the creation of four

committees dedicated to work on the four components of the program, namely, staff well-being, excellence through continuous enterprise and learning, organizational review, and quality service. The reform has a two-pronged objective, namely, "to nurture an attitude of service excellence in meeting the needs of the public with high standards of quality, courtesy, and responsiveness", and "to foster an environment which induces and welcomes continuous change for greater efficiency and effectiveness by employing modern management tools and techniques while paying attention to the morale and welfare of public officers" (Cheung 2003 as cited in Becerra 2013).

From the PS21 perspective, proactivity means continuously expanding capacity with a mindset that change is continuous instead of discrete. It is therefore essential to implement a learning organization approach in managing change and innovation (Pitts and Lei 1999 as cited in Becerra 2013). In an organizational learning scheme, public officers were made to adapt to continuous change by allotting not lower than five percent of weekly work length to training (Lim 1997; Common 2001). As an overall strategy, although PS21 acknowledges the importance of managerialism espoused in the New Public Management, the reform's encompassing vision must be accompanied by concrete action. It puts leadership at the "crux of the reform as PS21 is about coordinated vision rather than coordinated action" (Lim 1996, p. 128–131).

The Zambian experiment

To attract the strongest applicants into government jobs, an experiment was recently done by the Ministry of Health of Zambia in partnership with researchers from Harvard Business School, Harvard Medical School, and London School of Economics. It focused on selection as a strategy and uses career incentives right at the recruitment process. The proponents noted the difficulty in designing performance-based incentives for people already employed in the public sector because of the difficulty of measuring outcomes attributable to one's performance. They then focused on "using career incentives to recruit the stronger candidates in the first place" (Bandiera and Tobias n.d.).

The argument for using incentives to begin with is to attract workers with hidden traits, such as motivation that contributes to better performance. In the experiment, job performance cannot be predicted solely by measurable characteristics, such as age or education. Governments in developing countries wanting to attract better-quality workers often identify a list of qualifications they think are likely to predict good job performance. The experiment shows that it is wise to implement mechanisms that "allow a greater role for self-selection and encourage the most motivated candidates to apply". The note to policymakers is that to boost the performance of the public sector, there must be greater emphasis on using incentives to attract the right people at the start, rather than just motivating existing people to improve their performance (Bandiera and Tobias n.d.).

The Nordic public sector innovations

Nordic countries, namely, Denmark, Iceland, Norway, and Sweden, recently examined the organization and promotion strategies for public sector innovation (see Bloch 2011). Despite some country variations, the most common strategies

entail both management and staff involvement in innovation. There is less emphasis on conducting regular evaluation and development of a department devoted to innovation.

Bottom-up and knowledge-scanning approaches

Studying innovation activities in Europe, Arundel et al. (2015) found examples of innovation methods with the characteristics of the abovementioned governance styles. They categorized these into bottom-up, knowledge-scanning, and policy-dependent innovation methods. They found that bottom-up and knowledge-scanning approaches were associated with positive outcomes. Bottom-up methods had some of the characteristics of organizational entrepreneurship, wherein public managers actively invested in programs that facilitated innovative ideas of personnel and middle managers. These programs included the provision of incentives for staff and support for experiments and evaluation methods.

Knowledge-scanning methods, which have some similarities with lateral innovation, pertain to those that draw ideas from external sources. Agencies that conduct such methods also use bottom-up strategies but provide greater emphasis on training, collaboration with external bodies, and collect crucial knowledge from outside the country for their innovation activities. An interesting characteristic of public agencies implementing knowledge-scanning method is that they are from relatively poorer transition countries of the European Union. This suggests that organizations in more impoverished areas tend to imitate the innovations from other countries or areas.

Top-down, policy-dependent innovations, Arundel et al. (2015) noted, arise from political mandates or decisions made by elected officials, new policy priorities, new legislations, changes in budgetary allocations, or the introduction of new services. There is less collaboration with external agencies and information from external sources is not sought. Under this innovation method, encouraging staff participation through workgroups and training is less likely.

Team construction

To innovate, the government needs people with the right mix of not only skills but also attitudes. The construction of teams is crucial. Diversity is vital as roles will vary. It is further noted that innovation entails mindsets that are almost contradictory. Therefore, the incentive structure must be designed to motivate risk-taking, and development policies must draw in creative people and acclimatize officials to innovations.

Fostering an innovative culture in the civil service and civil servants requires analytical, operational, and political capacities. Arundel et al. (2015, p. 1281) noted that for countries with meager resources and a "less developed innovation culture knowledge", the knowledge-scanning method may be more appropriate. The Philippines is likely to fall into this category. Applying the capacity framework of Wu et al. (2015), this method is likely to require strong operational capacities at all levels. Because the knowledge-searching method actively seeks external sources of information and best practices, it also requires a fair amount of political capacity at the organizational level.

Without question, analytical capacities at all levels are basic requirements in the innovation processes. From the Singapore experience, we learned the importance of continuous learning, internal feedback loops, public consultations, constant monitoring, and foremost, and visionary bureaucratic leadership and direction. On the other hand, the Zambian experiment illustrates that incentives can work from the beginning to attract better quality of workers into the public service.

At the micro level, building on the analytical capacities is most urgent. The government must implement an effective incentive structure that attracts and retains people, training programs that suit organizations' needs, mechanisms for continuous learning and innovation, and an environment that fosters adaptation and experimentation. At the broader levels, it must foster intra- and interorganizational interactions driven by results and performance. There is a great need for visionary leaders with strong political will. Successful innovation that improves efficiency results in cost reduction may lead to reduced funding (Bloch 2011). Therefore, institutionalizing incentives that support and motivate governance innovations is also crucial to counter such an impact on the organization's resources.

Building capacities are essential but there are vital contextual factors that must be accounted for to sustain efforts. Continuous learning suffers from high turnover of workers and leaders, and coordinated visioning is extremely challenging under a fragmented administration and political jurisdiction system. Having thousands of local governments means that there are thousands of employees requiring continuous training. Efforts must focus on ensuring highly capable employees and public managers are retained and remunerated appropriately. Overall, capability building is essential, but it would entail substantial resources to ensure a decent number of technical personnel and public managers. This would also require educational programs that produce an adequate pool of people from which local governments can draw their human resources.

Smart systems

E-government

Aside from the technical dimension, e-government should also consider other factors, such as strategy, governance structure, and culture of institutions. Without these, any initiative is bound to fail. The use of ICT in the private sector is straightforward. However, its application in the public sector becomes trickier. There is a need to navigate politics, law, national security, and privacy. E-government solutions must be complemented with other policy reforms, particularly the amendment of outdated laws related to national security and privacy. The country must also overcome the institutional legacies of archaic rules and systems in managing the government bureaucracy. E-government solutions henceforth should be accompanied by a paradigm shift on how public service should be viewed and managed (see Table 3.1).

Lee and Layne (2001) suggest that the development of e-government follows certain stages (Figure 3.7). *Cataloguing* (first stage) occurs when the government starts publishing information on the internet. *Transaction* (second stage) occurs when

Table 3.1
Differences between traditional and e-government

Traditional government	E-government
Controlled bureaucratically, authority of hierarchy clearly defined	Client service and community empowerment, blurred hierarchy
Process centricity	Customer centricity
Isolated administrative functions and gathering data	Integrated resource service and focus on knowledge
Functional specialization of units or geographic bias	Eliminate unit barrier, integrated government
Decision based on organizational rules and reporting approvals	Negotiable decision and implicit controls and approvals
Separate administrative functions	Integrated resource services
Siloed information technologies	Integrated network solutions
Slow process, time-consuming	Fast, streamlined responses

Source: Meiyanti et al. (2018)

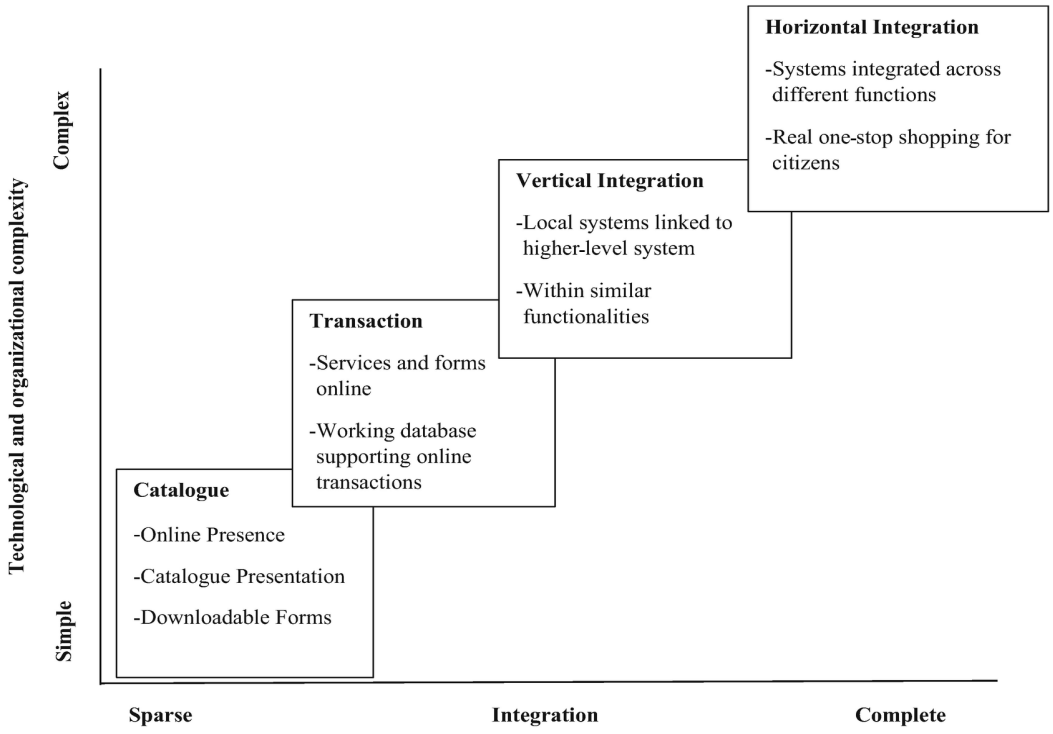
there is bidirectional transaction between the government and other stakeholders. *Vertical integration* (third stage) occurs when central agencies integrate with local offices with the same function. *Horizontal integration* (last stage) allows the coordination of offices with different functions in different regions. Wider integration of managerial and organizational structures and strong political will are likewise required. Governments should aspire for horizontal integration to achieve seamless delivery of public services.

Smart city initiative

Beyond e-government, addressing complex and interrelated social issues requires the much broader paradigm of the smart city initiative. The term "smart city" was first used in the 1990s when the emphasis was given to the integration of ICT and modern infrastructure in response to the growth of urban centers. The City of Ottawa (2017) referred to smart strategies as proactively using technology as a means to accelerate economic growth, advance the knowledge-based economy, attract investment and business expansion, provide entrepreneurial support, develop local talent, and ensure efficient and effective municipal services. These characterizations, although appropriate in their respective applications, are largely technocentric. They dismissed the inclusion of critical cultural and historical urban fabrics that bind a society together and the role of people and their interactions (Barns 2018; Albino et al. 2015).

At the national and subnational levels, governments are looking at creating smart cities or applying smart solutions to urban and local dilemmas. They also deal with the broader issues of culture and humanity, development management and governance, and sustainability. This means that the smart governance term is also applicable in describing activities that invest in emerging technologies along with innovative

Figure 3.7
Stages in the development of e-government



Source: Lee and Layne (2001)

strategies to achieve more agile and resilient government structures and governance infrastructures (Gil-Garcia et al. 2014).

The smart concept has gained even more traction with discussions on risk resiliency, sustainable consumption, connectivity, and inclusiveness. This is particularly true for the Philippines, where climate change, natural disaster risks, and most recently, the COVID-19 pandemic impact sociocultural advancement, economic growth, and development sustainability.

The world's urban populations are projected to rise substantially, raising the demand for process, product, organizational, and communication innovations. Like global trends, the Philippines' urban populations are growing at a sustained rate (Figure 3.8). To provide perspective on urbanization levels in the country, the Philippine Statistics Authority (2019) reported that the Philippines had an urban population of 51.7 million in 2015. Digital governance indices in the Philippines have also been increasing over recent years (Figure 3.9). Despite much room for improvement, there is a good indication that the country is moving toward acquiring competency in adopting e-governance platforms. Human capital investment will have to be augmented if future gains are to be sustained.

Table 3.2
Urban population growth in the Philippines

Region	2010	2015
Philippines	**41,855,571.00**	**51,728,697.00**
NCR	11,855,975.00	12,877,253.00
CAR	424,771.00	524,672.00
Region 1	600,945.00	1,029,562.00
Region 3	5,232,569.00	6,914,703.00
Region 4A	7,526,882.00	9,564,515.00
Region 4B	612,615.00	905,666.00
Region 5	831,380.00	1,344,903.00
Region 6	2,466,109.00	2,868,795.00
Region 7	2,969,340.00	3,656,628.00
Region 8	358,405.00	529,902.00
Region 9	1,156,754.00	1,373,274.00
Region 10	1,773,032.00	2,272,001.00
Region 11	2,649,039.00	3,108,872.00
Region 12	1,911,253.00	2,346,149.00
Region 13	666,849.00	869,195.00
ARMM	446,246.00	878,912.00

Source: PSA (2019)

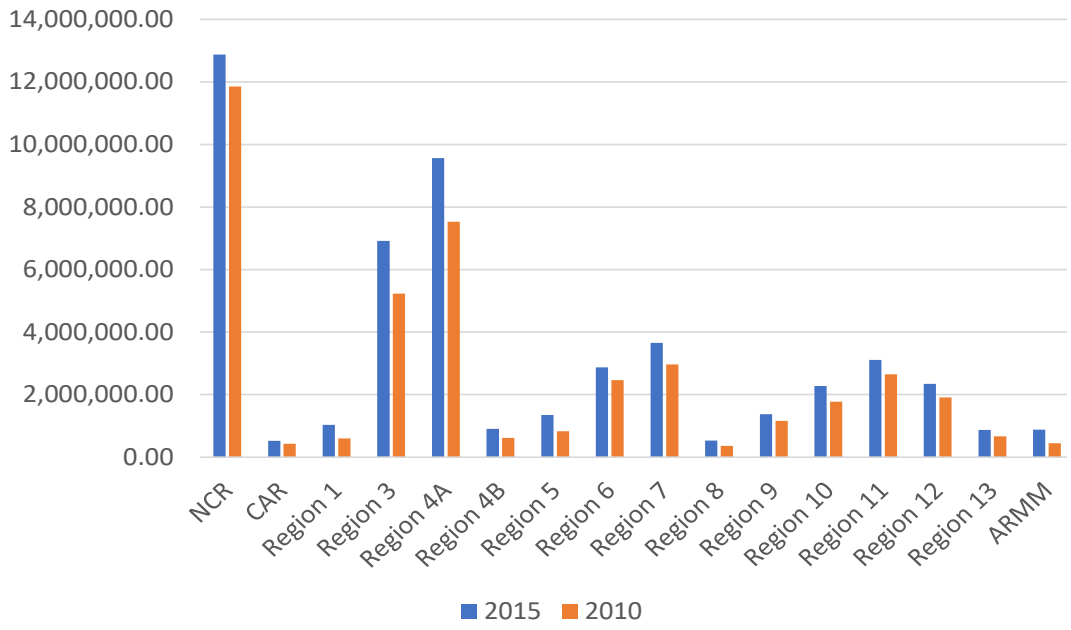
A good example of the application of ICT infrastructure and innovation can be seen in Davao City. The city has been applying smart organizational, product, process, and communication innovations in safety and security by establishing its Public Safety and Security Command Centre (PSSCC). Modern IT applications are also enabling Davao City to reach its goal to reduce the crime rate to 10 percent. PSSCC uses various technological tools, including a city-wide closed-circuit television (CCTV) surveillance system and real-time data mapped out in geographic information systems. It is also linked to the Interpol's I-24/7 database through the Philippine Centre on Transnational Crime. The same smart ICT innovations are also being employed by most of the cities in Metro Manila.

The National Disaster Risk Reduction Management Council (NDRRMC) is the country's interagency body responsible for ensuring the protection and welfare of the people during disasters. It connects the 17 regional NDRRMC offices for up-to-date video, audio, and data communications feed from the ground.

As most departments in the executive branch have their versions of ICT-based command facilities, the next logical step would be digital sharing and integration. There must be interoperability among the command centers while taking into consideration security and data privacy issues.

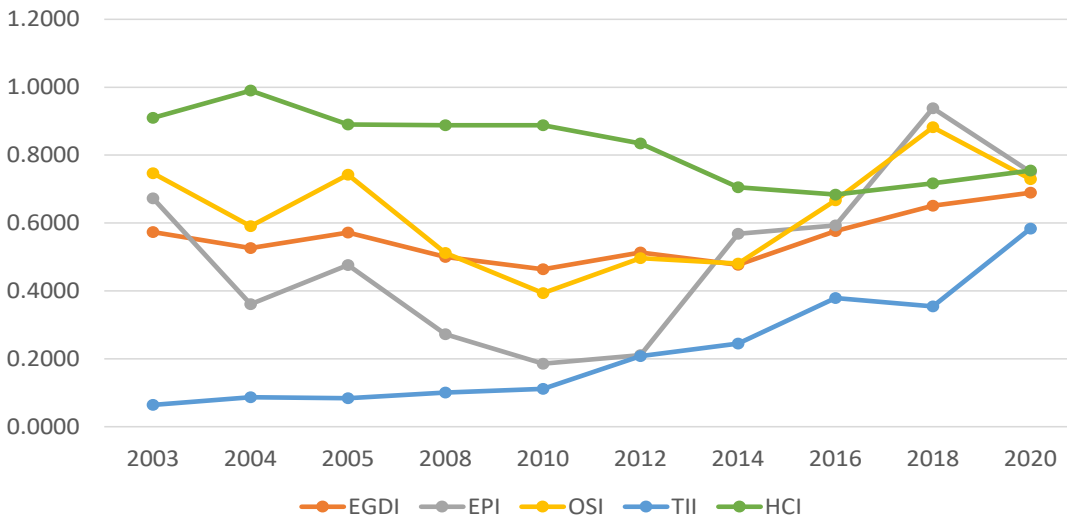
The Department of Information and Communications Technology is perfecting the E-Government Masterplan 2022

Figure 3.8
Urban population growth across regions, Philippines, 2010 and 2015



Source: Lee and Layne (2001)

Figure 3.9
UN e-government survey data for the Philippines



EGDI = e-government development index; EPI = e-participation index; OSI = online service index; TII = telecommunication infrastructure index; HCI = human capital index
Source: United Nations (n.d.)

to harmonize and ensure interoperability among ICT-related resources, programs, and projects across the government. It will improve the organizational and intergovernmental coordination and address personnel and capability issues in utilizing ICTs for more efficient operations and public service delivery, and support business to perform more effectively.

Policy insights

The COVID-19 pandemic has brought immense challenges to a country already overwhelmed with many social problems. The country's inadequate capacity to arrest the spread of the virus resulted in the imposition of government actions whose unintentional effects include a likely contraction of the economy and an impending eradication of any recent gain in poverty reduction efforts. Lessons, therefore, must be learned.

The government must substantially improve all its efforts in enhancing basic capacities and retooling toward an innovative culture for building resilience against future risks and threats. The report discusses four key aspects in which significant development must occur. These are the civil service, which can both be the driver and implementer of innovation, the institutions that significantly shape how organizations behave, the platforms for delivering services, and local governance that plays a crucial role in providing much of the essential services on the ground.

Strengthening the civil service's multidimensional and multilevel capacities is essential in the exercise of policy mandates and in the development of public sector innovations. First, it is crucial to address the high turnover rate and lack of technically capable people in the civil service. There are problems concerning remuneration, lack of career progression, and lack of progressive working attitudes among the government workforce that must be tackled. Meanwhile, the lessons from an experiment about how career incentives can attract better-quality applicants at the start of the recruitment process can easily be adopted. This basic human resource requirement must be there for the government to foster an innovative culture in the civil service.

Developing an innovative culture requires an appropriate institutional environment. The country must undertake reforms to build the needed capabilities of the health system and foster an enabling environment for R&D. The policy must also clearly identify key actors and establish manuals of operations that must be activated in the event of a crisis.

The Philippines' own experience in addressing the pandemic's challenges illustrated the importance of having clear protocols in such dire situations. For instance, the Data Privacy Act can cause some data-sharing issues among government organizations. Hence, there must be a clear understanding of how this law is to be implemented in such cases. Of course, data-sharing arrangements for emergencies and the success of responses based on such are premised on the presence of data that the Philippines is still developing through the PhilSys Act.

The viability of integrating information systems among government agencies and even among units within government agencies rests upon the ICT infrastructure.

Well-designed e-government platforms are crucial in achieving efficiency in the delivery of services. To fully transition to e-government, a policy architecture that provides a uniform set of guiding principles and standards is needed. Moreover, the problem of digital divide must be addressed squarely.

All the requirements mentioned above for developing capacities of the public sector and corollary aspects toward building resilience entail long-term, proactive planning. This is evident from other countries' experiences applying the smart city framework. To succeed in meeting future challenges, the government must adopt proactive approaches in various aspects of governance and all stages of the policy cycle. Proactive planning requires no less than a responsive and focused leadership, a profound understanding of the issues backed by evidence, and active participation of all stakeholders. To understand the problems well, government workers must have adequate analytical capacity. Leaders must possess an ounce of technical capability and a decent amount of political capacity. Both must have access to knowledge that comes from updated, verified, and integrated information systems. Policies must be established or be made clear to achieve the abovementioned requirements. For this, the country needs strong high-level political will to compel units to operate in harmony and avoid redundancies and conflicting policies and actions toward an innovative culture of policymaking, governance, and service delivery.

References

Albino, V., U. Berardi, and R.M. Dangelico. 2015. Smart cities: Definitions, dimensions, performance, and initiatives. *Journal of Urban Technology* 22(1):3–21.

Arundel, A., L. Casali, and H. Hollanders. 2015. How European public sector agencies innovate: The use of bottom-up, policy-dependent and knowledge-scanning innovation methods. *Research Policy* 44:1271–1282.

Bandiera, O. and J. Tobias. Hiring do-gooders or go-getters: Attracting talent to improve public service delivery. International Growth Center Blog Post. https://www.theigc.org/blog/hiring-do-gooders-or-go-getters-attracting-talent-to-improve-public-service-delivery/ (accessed on May 19, 2020).

Barns, S. 2018. Smart cities and urban data platforms: Designing interfaces for smart governance. *City, Culture and Society* 12:5–12.

Becerra, P.A.V. 2013. Public sector management in Singapore: Examining the public service for the 21st century reform. *Explanans* 2(2)33–45. http://eprints.uanl.mx/7553/1/Public%20Sector%20Management%20in%20Singapore%20Examining%20the%20Public%20Service%20for%20the%2021st%20Century%20Reform.pdf (accessed on October 12, 2020).

Bloch, C. 2011. *Measuring public innovation in the Nordic countries*. Aarhus, Denmark: The Danish Centre for Studies in Research and Research Policy.

Brillantes, A. and M. Fernadez-Carag. 2016. Building executive capacity in the public service for better governance: The Philippine Civil Service. In *Sharpening the sword of state*, edited by A. Podger and J. Wanna, 151–180. Canberra, Australia: Australian National University Press. https://pdfs.semanticscholar.org/94a7/ee6bfc59bb0798acefa89d8335fd11ef8d0e.pdf (accessed on Oct. 12, 2020).

City of Ottawa. 2017. Smart City 2.0: Planning, infrastructure and economic development. https://documents.ottawa.ca/sites/documents/files/smart_city_strategy_en.pdf (accessed on Oct. 12, 2020).

CNN Philippines. 2020. Duterte meets tasks force to discuss fate of Luzon lockdown. https://cnnphilippines.com/news/2020/4/23/Philippines-Luzon-lockdown-enhanced-community-quarantine-Duterte-decision-COVID-19.html (accessed on May 22, 2020).

Common, R. 2001. Public management and policy transfer in Southeast Asia. Aldershot, UK: Ashgate. https://www.researchgate.net/publication/247295486_Public_Management_and_Policy_Transfer_in_South_East_Asia (accessed on October 12, 2020).

Department of Budget and Management (DBM). 2016. A meaningful devolution. Manila, Philippines: DBM. https://www.dbm.gov.ph/wp-content/uploads/Executive%20Summary/2016/A2.%20Meaningful%20Devolution%20updated.pdf (accessed on May 24, 2020).

———. 2020a. Guidelines on the release and utilization of the Bayanihan Grant to cities and municipalities. Manila, Philippines: DBM.

———. 2020b. Policy guidelines on the provision of funds by local government units for programs, projects, and activities to address the coronavirus disease (COVID-19) situation. Manila, Philippines: DBM.

Department of Information and Communications Technology (DICT). 2017. National Broadband Plan: Building infostructures for a digital nation. Quezon City, Philippines: DICT.

Department of Social Welfare and Development (DSWD). 2020. Simplified data sharing guidelines on the provision of DSWD programs and services during a national state of emergency. Quezon City, Philippines: DSWD.

Eide, E. 2014. How can governments use technology to restore trust? https://www.weforum.org/agenda/2014/06/governments-technology-trust/ (accessed on October 12, 2020).

Estevez, E., P. Fillottrani, and T. Janowski. 2007. From e-government to seamless government. In *Proceedings of the conference on collaborative electronic commerce technology and research*). Elsa_Estevez/publication/242584754_From_E-Government_to_Seamless_Government/links/0c9605295d6fe72a1d000000/From-E-Government-to-Seamless-Government.pdf (accessed on May 22, 2020).

Fonbuena, C. 2020. Año: LGUs may declare ECQs in towns, barangays with regional task force approval. *Rappler*. https://www.rappler.com/nation/259811-lgus-may-declare-coronavirus-ecqs-towns-barangays-regional-task-force-approval (accessed on May 22, 2020).

Gil-Garcia, J.R., N. Helbig, and A. Ojo. 2014. Being smart: Emerging technologies and innovation in the public sector. *Government Information Quarterly* 31:11–18.

Gronlund, A. and Horan, T. A. 2005. Developing a generic framework for e-government. *Communications of the Association for Information Systems* 15:713–729.

Hartley, J., E. Sørensen, and J. Torfing. 2013. Collaborative innovation: A viable alternative to market competition and organizational entrepreneurship. *Public Administration Review* 73(6):821–830.

Kim, H. 2020. South Korea learned its successful COVID-19 strategy from a previous coronavirus outbreak: MERS. Bulletin of the Atomic Scientists. https://thebulletin.org/2020/03/south-korea-learned-its-successful-covid-19-strategy-from-a-previous-coronavirus-outbreak-mers/ (accessed on May 19, 2020).

Ko, S. 2020. COVID-19 pandemic response with ICT and AI: The case of Korea. Bangkok, Thailand: United Nations Economic and Social Commission for Asia and the Pacific. https://www.unapcict.org/sites/default/files/2020-04/KISDI%20%28Mr.%20Nam%20Sang-yirl%29.pdf (accessed on May 25, 2020).

Lee, C. 2020. COVID-19 and states of emergency: Taiwan's proactive prevention of COVID-19 under constitutionalism. https://verfassungsblog.de/taiwans-proactive-prevention-of-covid-19-under constitutionalism/ (accessed on October 12, 2020).

Layne, K. and J.W. Lee. 2001. Developing fully functional e-government: A four stage model. *Government Information Quarterly*, 18(2)122–136.

Lim, S.G. 1996. The public service. In *Singapore: The year in review*, edited by L.H. Yeo. Singapore: The Institute of Policy Studies.

———. 1997. Sustaining excellence in government: The Singapore experience. *Public Administration and Development* 17(1):167–174.

Liwanag, H.J. and K. Wyss. 2018. What conditions enable decentralization to improve the health system? Qualitative analysis of perspectives on decision space after 25 years of devolution in the Philippines. *PLoS ONE* 13(11):e0206809.

McClean, D. 2020. How South Korea is suppressing COVID-19. Prevention Web. https://www.preventionweb.net/news/view/71028 (accessed on October 12, 2020).

Meiyanti, R., M. Misbah, D. Napitupulu, R. Kunthi, T.I. Nastiti, D.I. Sensuse, and Y.G. Sucahyo. 2017. Systematic review of critical success factors of e-government: Definition and realization. 2017 International Conference on Sustainable Information Engineering (IEEE) and Technology-SIET. Malang, Indonesia: IEEE.

Mercado, N. 2019. Filipinos' trust in government, 5 other institutions decline. *Inquirer.net*. https://newsinfo.inquirer.net/1163225/filipinos-trust-in-government-5-other-institutions-decline (accessed on October 12, 2020).

North, D.C. 1992. The new institutional economics and development. St. Louis, MO: Washington University in St. Louis.

———. 1994. Economic performance through time: Nobel Prize Lecture on December 19, 1993. *The American Economic Review* 84(3):359–368.

Philippine Statistics Authority (PSA). 2015. Census of Population and Housing (Dataset). Quezon City, Philippines: PSA.

———. 2019. Urban population in the Philippines. Quezon City, Philippines: PSA. http://www.psa.gov.ph/content/urban-population-philippines-results-2015-census-population (accessed on May 19, 2020).

Republic Act 10173. 2012. An act protecting individual personal information in information and communications systems in the government and the private sector, creating or this purpose a National Privacy Commission, and for other purposes. Manila, Philippines: Congress of the Philippines.

Repucci, S. 2012. Civil service reform: A review. WIDER Working Paper 2012/090. Helsinki, Finland: United Nations University World Institute for Development Economics Research.

Sicat, C.J.D., M.A.P. Mariano, A.F.G. Castillo, C. Adaro, and R.B. Maddawin. Assessment of the Philippine local government planning and budgeting framework. 2019. PIDS Discussion Paper Series No. 2019-18. Quezon City, Philippines. Philippine Institute for Development Studies. https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps1918.pdf (accessed on March 23, 2020).

Sicat, C.J.D., C.E. Adaro, R.B. Maddawin, A.F. Castillo, and M.A. Mariano. 2020. Baseline study on policy and governance gaps for the Local Government Support Fund Assistance to Municipalities (LGSF-AM) Program. PIDS Discussion Paper Series No. 2020-03. Quezon City, Philippines: Philippine Institute for Development Studies. https://pidswebs.pids.gov.ph/CDN/PUBLICATIONS/pidsdps2003.pdf (accessed on October 12, 2020).

Social Weather Stations. 2019. First Quarter 2019 Social Weather Survey: Internet usage steady at 46% of adult Filipinos. https://www.sws.org.ph/swsmain/artcldisppage/?artcsyscode=ART-20190604221437 (accessed on October 8, 2020).

Sørensen, E. and J. Torfing. 2012. Introduction: Collaborative innovation in the public sector. *The Innovation Journal* 17:1–14.

Turner, M. 2011. How to win friends and influence people: Civic engagement in the Philippines. *Public Administration and Development* 32(2):91–101.

United Nations. n.d. UN e-government knowledgebase: Philippines country data. https://publicadministration.un.org/egovkb/en-us/Data/Country-Information/id/134-Philippines/dataYear/2020 (accessed on October 8, 2020).

Williamson, O.E. 2000. The new institutional economics: Taking stock, looking ahead. *Journal of Economic Literature* 38:595–613.

World Bank. 2019. Individuals using the Internet (% of population). https://data.worldbank.org/indicator/IT.NET.USER.ZS (accessed on April 1, 2020).

Wu, X., M. Ramesh, and M. Howlett. 2015. Policy capacity: A conceptual framework for understanding policy competences and capabilities. *Policy and Society* 34(3–4):165–171.

THE AUTHORS

Michael Ralph M. Abrigo is a research fellow at the Philippine Institute for Development Studies (PIDS). He obtained his PhD in Economics from the University of Hawai'i at Manoa. He was a postdoctoral fellow at the East-West Center in Honolulu, Hawaii. His areas of specialization are in health, labor, and population economics.

Jose Ramon G. Albert is a senior research fellow at PIDS. He is former chief statistician of the Philippines as the secretary-general of the defunct National Statistical Coordination Board. He earned his PhD in Statistics from the State University of New York at Stony Brook. His areas of specialization include statistical analysis especially on poverty measurement and diagnostics, agricultural statistics, survey design, data mining, and statistical analysis of missing data.

Jenica A. Ancheta is a research analyst at PIDS. She earned her degree in AB Economics at the Ateneo de Manila University. She has provided research assistance in the areas of agrarian reform, social protection, housing, and energy.

Lora Kryz C. Baje is a research analyst at PIDS. She obtained her Bachelor's degree in Economics from the University of the Philippines (UP) Diliman. Her current research involvements are in the area of gender and development and poverty.

Marife M. Ballesteros is the vice president of PIDS. She has a PhD in Social Sciences from the University of Nijmegen, Netherlands. Her areas of specialization are development economics and housing and urban development issues.

Roehlano M. Briones is a senior research fellow at PIDS. He has a PhD in Economics from UP. His areas of specialization are in agriculture, CGE modeling, and rural development.

Carlos C. Cabaero is a research analyst at PIDS. He obtained his Bachelor's degree in Economics from UP. His current research involvements are in the area of social sector policy.

Sylwyn C. Calizo Jr. is a research specialist at PIDS. He holds a Bachelor's degree in Economics from the University of Santo Tomas. He has coauthored papers on international trade, digital economy, and innovation activities. His research interests extend to APEC, which he participates through the Philippine APEC Study Center Network.

Janet S. Cuenca is a research fellow at PIDS and holds a PhD in Public Policy from the Lee Kuan Yew School of Public Policy, National University of Singapore. She has done work relating to health devolution, fiscal decentralization, government budget analysis, health, education, social protection, and Millennium Development Goals/Sustainable Development Goals.

Connie B. Dacuycuy is a senior research fellow at PIDS. She has a PhD in Economics from Kyoto University, Japan. Her areas of specialization include household, family, and gender issues, poverty analysis, and applied economic modeling.

Margarita Debuque-Gonzales is a senior research fellow at PIDS. She obtained her PhD from the UP School of Economics, where she was also an associate professor. Her research interests are in the areas of monetary economics, financial economics, macroeconomics, and development.

Sonny N. Domingo is a senior research fellow at PIDS. He has a PhD in Applied Economics from Charles Sturt University, Australia. His areas of specialization are in agricultural science and resource economics, mathematical programming, and disaster risk reduction and management.

Ricxie B. Maddawin is a research analyst at PIDS. She is taking a master's program in public policy at the National Graduate Institute for Policy Studies in Japan. She holds a bachelor's degree in Statistics from UP Los Baños. Her current research involvement is in the area of local governance.

Arvie Joy A. Manejar is a research analyst at PIDS. She holds a BS Economics degree from the University of the Philippines - Visayas. She has provided research assistance in the areas of disaster risk management, mining, solid waste, and fisheries studies.

Kris Ann M. Melad is a supervising research specialist at PIDS. She obtained her master's degree in Development Economics from the UP School of Economics. Her current research involvements are in social protection, human capital development, and program evaluation.

Aniceto C. Orbeta Jr. is a senior research fellow at PIDS. He has a PhD in Economics from UP and a postdoctoral degree from Harvard University. He is an economist specializing in applied economic modeling, impact evaluation, social sector issues, demographic economics, and information and communication technologies.

Maropsil V. Potestad is a former research analyst at PIDS. She obtained her Bachelor's degree in Economics from UP Los Baños. Her current research involvement are in the areas of education, labor market, and geographic information systems.

Francis Mark A. Quimba is a senior research fellow at PIDS and project director of the Philippine APEC Study Center Network. He obtained his PhD in Development Economics from the National Graduate Institute for Policy Studies, Tokyo, Japan. He has worked on research studies in agriculture, trade, rural development, and innovation.

Maureen Ane D. Rosellon is a supervising research specialist at PIDS. She obtained her Master's degree in Economics of International Trade and European Integration from a joint international study programme (Erasmus Mundus) hosted by Staffordshire University (United Kingdom), University of Antwerp (Belgium) and Prague University of Economics and Business (Czech Republic). Her research interests include trade, regional integration, industrial development, and innovation.

Ramonette B. Serafica is a senior research fellow at PIDS. She obtained her PhD in Economics from the University of Hawai'i. She was previously trade in services adviser at the Australia-Indonesia Partnership for Economic Governance in Jakarta, senior analyst at the APEC Policy Support Unit in Singapore, and team leader/research manager of the Regional Economic Policy Support Facility at the ASEAN Secretariat in Jakarta. Her research interests include services and trade in services.

Charlotte Justine D. Sicat is an assistant professor at the Virata School of Business, UP and currently on secondment as a research fellow at PIDS. She has a PhD in Business Administration and is a PhD Economics candidate from UP. She currently sits as a Board Member of the Philippine Economic Society. She does research in areas of public expenditures, public financial management, and political economy and institutions at both national and local government levels for both local and international organizations.

Aubrey D. Tabuga is a research fellow at PIDS. She obtained her PhD in Public Policy at the Lee Kuan Yew School of Public Policy, National University of Singapore. Her research interests are in labor migration, network analysis, and evidence-based policymaking.

Valerie Gilbert T. Ulep is a research fellow at PIDS. He has a Master's degree in Epidemiology from UP and PhD in Health Economics from McMaster University in Canada. He was a doctoral fellow at the University of Toronto's Centre for Global Health. He is the team lead in developing the Philippine Health Facility Development Plan (2020–2040) of the Department of Health, which is supported by Asian Development Bank. His research interests include health financing and fiscal space, nutrition, and economic evaluation.

The coronavirus disease 2019 (COVID-19) pandemic is by far the most challenging public health crisis the world has faced in a century. Its effects have now extended beyond healthcare systems to entire economies. During unsettling times like this, the role of evidence-based research cannot be overemphasized.

This issue of the *Economic Policy Monitor* (EPM) focuses on long-standing structural and governance issues that are hampering the COVID-19 response of the Philippines. It highlights issues on human resource, information systems, coordination, public participation, public trust in governance, and the government's bureaucratic organization. These problems have long been disturbing the country, but the pandemic has forced the government to address them head-on. This issue poses the challenge of innovating governance across all sectors of society to build our resilience against this pandemic and other risks.

It also provides policy updates on poverty reduction and social protection; gender; health; education; labor and employment; agriculture; environment and natural resources; energy; infrastructure; science, technology, and innovation; smart cities; trade and industry; services; and fiscal policy. It links the discussion in these areas to the COVID-19 pandemic, paying attention as to how the current crisis has impacted them and the interventions undertaken by the government so far. It also presents a meticulous assessment of the country's macroeconomic outlook as it inches closer to the new normal.

Philippine Institute for Development Studies
Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

18th Floor, Three Cyberpod Centris–North Tower
EDSA corner Quezon Avenue, 1100 Quezon City, Philippines
Telephone Number: (632) 8877-4000
Email: publications@mail.pids.gov.ph
Website: https://www.pids.gov.ph
facebook.com/PIDS.PH twitter.com/PIDS_PH