

The Adverse Economic and Labor Market Shock of Protracted COVID-19 Community Quarantine Measures in the Philippines

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Abstract

The paper examines the negative shock of stringent long-running stay-at-home measures to suppress the COVID-19 contagion on the Philippine economy and the labor market in 2020. The protracted economic lockdowns plunged the Philippine economy into its deepest recession in the post-war period with GDP annual growth declining at -9.6% in 2020 setting back the Philippine economy by several years. The supply shock created from mandated business closures and travel restrictions engendered a demand shock when the extended lockdowns triggered a massive loss of jobs, work hours and incomes, and reduced labor quality and aggregate labor productivity. The drop in GDP in 2020 was largely explained by the plummets in both investment and household consumption spending. The hardest hit industries included construction and manufacturing and travel and tourism-related services. The pandemic-induced economic recession exacerbated the already elevated levels of youth unemployment and adult underemployment. Regions that were affected disproportionately by the COVID-19 crisis were

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those that imposed the longest strict lockdowns as indicated by the percentage decline in work mobility rates, and those that were heavily dependent on the most severely affected industries. The paper cautions the government against imposing prolonged intense lockdowns across the nation or major island groups without due consideration of their long-term effects on the economy and human capital.

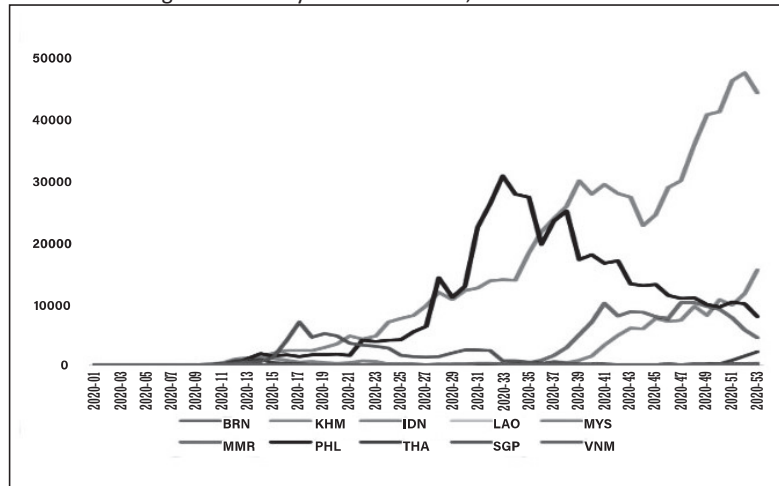
Keywords: COVID-19, Philippine economy, Labor market, ASEAN

Introduction

The COVID-19 virus that first appeared in Wuhan, China in December 2019 and morphed into a pandemic has affected countries differently. Within the Southeast Asian region, the Philippines recorded the highest weekly COVID-19 cases for the most part of the third quarter and was second to Indonesia in the tally of COVID-19 cases for 2020 (see Figure 1). To mitigate the spread of the highly transmissible disease, many countries imposed community containment interventions, with the Philippines having one of the longest stay-at-home measures in the world. The prolonged lockdown measures that started in mid-March of 2020 for the entire Luzon island, which accounted for almost 70% of the country's gross domestic product (GDP), propelled the Philippines into an economic recession by the second quarter of 2020, the first—after 29 years—since 1981. The decline in GDP growth rate by -9.6% for the full year of 2020 was the Philippine's deepest economic slump in the post-war period and a marked turnabout from the rapid annual growth of 6.3% in the period 2010—2019 (see Figure 2). Along with Cambodia, Myanmar, Lao PDR, and Vietnam (CMLV), the Philippines has had the strongest economic growth in the Association of Southeast Asian Nations (ASEAN) region in the decade before the COVID crisis, but suffered the sharpest decline in economic output in the region in 2020. In contrast, Vietnam remained a top economic performer in 2020 with a positive GDP (at constant 2015 United States dollar [US \$]) growth rate of 2.9%, while Brunei Darussalam's and Lao PDR's economies grew by 1.1% and 0.5%, respectively between 2019 and 2020. The corresponding figures for other ASEAN countries were -3.1% for Cambodia, -4.1% for Singapore, -5.6% for Malaysia and

-6.2% for Thailand. Indonesia, which surpassed the Philippines in COVID-19 cases by the fourth quarter of 2020 but imposed limited localized lockdowns and less stringent mobility restrictions than the Philippines, recorded only a slight decline in GDP by -2.1% in 2020.

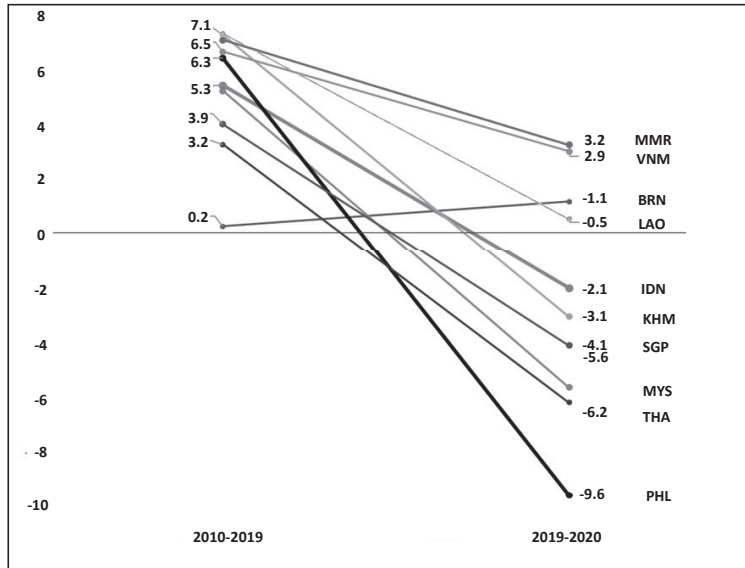
Figure 1. Weekly COVID-19 Cases, ASEAN Countries*



*Brunei Darussalam (BRN), Cambodia (KHM), Indonesia (IDN), Lao People's Democratic Republic (LAO), Malaysia (MYS), Myanmar (MMR), Philippines (PHL), Singapore (SGP), Thailand (THA), Viet Nam (VNM). Source: European Disease Centre for Disease Prevention and Control. Geographic distribution of COVID-19 cases worldwide. <https://www.ecdc.europa.eu/en/publications-data/download-todays-data-geographic-distribution-covid-19-cases-worldwide>

The imposition of tighter community quarantine measures in the Philippines to implement physical distancing—including closures of schools and non-essential businesses, prohibition of mass gatherings, and suspension of public transport—is evidenced by the sharp decline in the frequency of people's visits to transit stations (e.g., train stations, bus and jeepney terminals) relative to the baseline five-week period from 03 January to February 2020 in the Google community mobility reports. The decline in transit mobility rate relative to the baseline period averaged -77.9% from mid-March to May 2020 and -54.8% from June 2020 to the end of the year for the Philippines while the corresponding figures for Indonesia were, respectively, -52% and -33.3% (see Figure 3). The more severe, widespread, and protracted lockdown measures may have plunged the Philippine economy into the steepest downturn among the member states of the ASEAN region.

Figure 2. GDP (constant 2015 US\$) annual growth rate*

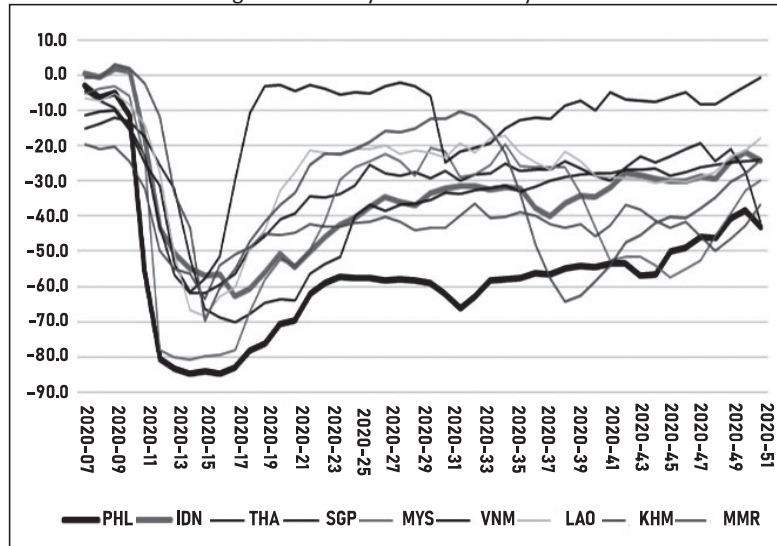


*Brunei Darussalam (BRN), Cambodia (KHM), Indonesia (IDN), Lao People's Democratic Republic (LAO), Malaysia (MYS), Myanmar (MMR), Philippines (PHL), Singapore (SGP), Thailand (THA), Viet Nam (VNM).

Source: World Bank data; Author's calculations.

This paper examines the differential adverse consequences of the lockdown measures and mobility restrictions due to the pandemic on total output and economic sector components, and labor markets at the national and regional levels. The imposition of strict community quarantine measures and public transport restrictions have been uneven across the regions and were longest in Luzon and in other more developed regions in Visayas and Mindanao. Lockdowns and the ensuing business closures have caused both supply and demand shocks (Bekaert et al., 2020; Chudik et al., 2020; del Rio-Chanona et al., 2020; Guerrieri et. al, 2020)—including the reduction in labor supply and labor productivity and disruption in supply chains (supply-side), and the contraction in investments and household consumption resulting from loss of jobs and incomes (demand-side). The hardest-hit regions were those with the longest lockdowns and whose economies rely on the contribution of manufacturing, construction, and tourism-related industries.

Figure 3. Weekly Transit Mobility Rate



*Brunei Darussalam (BRN), Cambodia (KHM), Indonesia (IDN), Lao People’s Democratic Republic (LAO), Malaysia (MYS), Myanmar (MMR), Philippines (PHL), Singapore (SGP), Thailand (THA), Viet Nam (VNM).

Source: Google COVID-19 community mobility reports, Author’s calculations. <https://www.google.com/covid19/mobility/>

Data and Methods

The stringent, long-lasting community quarantine measures to contain the COVID contagion created a dominant external shock to the Philippine economy resulting in its deepest recession during the post-war period. GDP plummeted to -9.6% between 2019 and 2020 translated to an absolute reduction in economic output by 1.9 trillion Philippine Pesos (₱; at constant 2018 prices).

Data Sources. The Philippine National Income Accounts produced by the Philippine Statistics Authority (PSA) provide the basis for measuring GDP and its components, allowing the analysis of the changes in the overall economy and impacts of external shocks such as the COVID pandemic.

Methods. The paper employs a simple decomposition analysis of GDP (i.e., the value of all the final goods and services within a country over a given period) as measured in three approaches:

- (a) the expenditure approach illustrated by the following identity,

$$GDP = C + I + G + NX, C = \sum C_i, I = \sum I_j \quad [1]$$

where C = consumption, I = investment, G = government spending, NX = net exports = exports less imports, where C_i denotes consumption expenditures on item i , and I_j denotes investment in item j ;

- (b) the production approach, where GDP is the sum of Gross Value Added (GVA) for all industries, where value-added is the value of gross output less the value of intermediate inputs, and where $k = 1, \dots, n$ industries,

$$GDP = \sum GVA_k \quad [2]$$

- (c) and the income approach,

$$GDP = \sum CE_r + \sum GOS_r + \sum (T_r - S_r); \quad [3]$$

where GDP is the sum of payments to domestic factors of production (e.g., wages, rent, interest, profit) plus other taxes less subsidies, where CE = compensation of employees, GOS = gross operating surplus, T = taxes on products and imports, S = subsidies on products, and where $r = 1, \dots, 4$ institutional sectors as follows: (1) non-financial corporations; (2) financial corporations; (3) general government; and (4) households, including non-profit institutions serving households (NPISHs).

The basis for the decomposition of the annual change in GDP (denoted by ΔGDP) during the COVID-19 pandemic, particularly between 2019 and 2020, is premised on the aggregate change being the sum of the change of its parts,

$$\Delta GDP = \sum \Delta GDP_i, \quad [4]$$

where $i = 1, \dots, n$ sources.

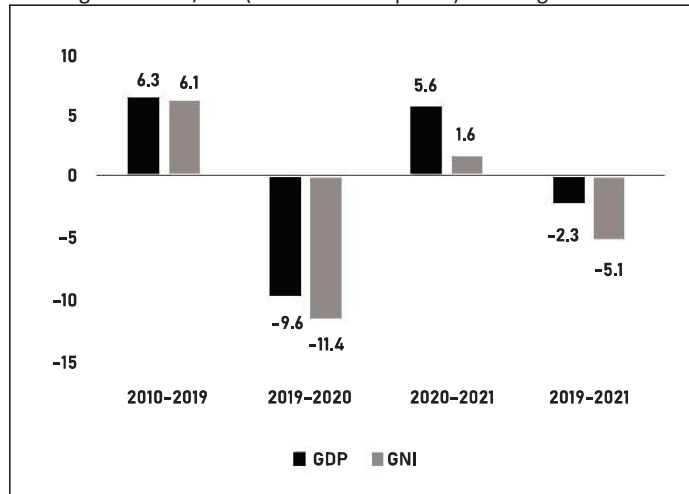
A related measure of GDP is Gross National Income (GNI) which is the value of all the final goods and services produced in a period by a country's citizens located domestically or abroad. GNI is defined as GDP plus net primary income from the rest of the world.

Impact on National Output and Economic Sectors

The COVID-19 crisis has set back the Philippine economy by several years and forestalled the attainment of its medium-term target of becoming an upper-middle income country by 2020 with a GNI per capita of US \$5,000 by 2022 (National Economic Development Authority, 2017). Following the precipitous economic decline in 2020, the Philippines made a significant recovery in 2021 with real GDP growing by 5.6% but not sufficient to reach pre-pandemic GDP level. Relative to 2019, GDP (at constant 2018 prices) was about 10% lower in 2020 and 5% lower in 2021 while GDP per capita was 11% lower in 2020 and 7% lower in 2021. The global pandemic also adversely affected the jobs and incomes of Overseas Filipino Workers (OFWs) leading to a pronounced decline in remittances and a larger contraction in GNI annual growth rate from 6.1% in the pre-pandemic period (2010–2019) to -11.4% between 2019 and 2020 and -5.1% between 2019 and 2021 (see Figure 4).

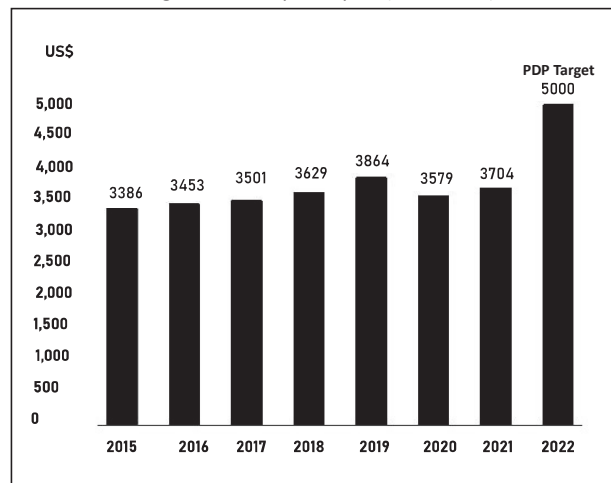
Amidst a growing population, the GNI per capita which experienced accelerated annual growth from 3.7% in 2018 to 6.5 % in 2019 dropped from US \$3,864 in 2019 to US \$3,579 in 2020, averting the advancement from a lower-middle income country to an upper-middle income country (see Figure 5). The World Bank classifies an upper-middle income country as economies with a GNI per capita of between US \$4,046 and US \$12,535. The Philippine economy was forecasted to attain upper-middle income status by 2020 and join Malaysia and Thailand which had a GNI per capita in 2020 of, respectively, US \$10,570 and US \$7,040. The Philippine GNI per capita of US \$3,704 in 2021 was short by 8.5% of the threshold of US \$4,046 for an upper-middle income country, and by 4.1% of the pre-pandemic level in 2019.

Figure 4. GDP/GNI (constant 2018 prices) annual growth rate



Source: National Accounts, Philippine Statistics Authority; Author's calculations.

Figure 5. GNP per capita (US dollars)

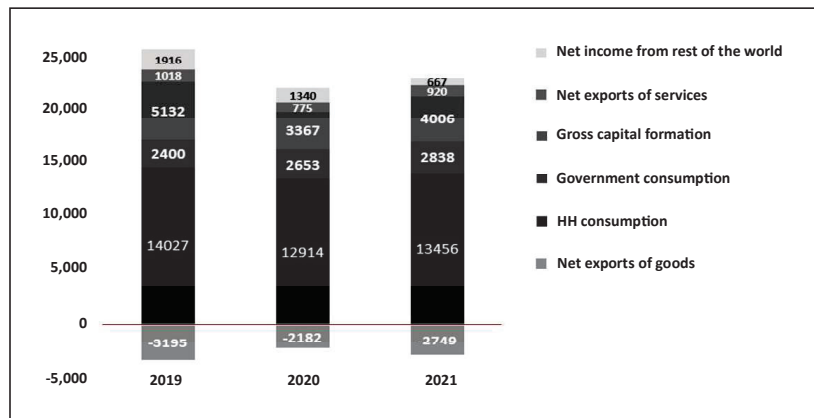


Source: Bangko Sentral ng Pilipinas. Table 29. Gross National Income and Gross National Product by Industrial Origin. https://www.bsp.gov.ph/Statistics/Real%20Sector%20Accounts/tab29_giu.aspx; For 2022 figure, National Economic and Development Authority (2017).

The steep decline in the Philippine GDP growth was attributed largely to the plunge in household consumption spending and investments which accounted for 72.4% and 26.5% of GDP in 2019, respectively.

The extended community quarantines led to more permanent business closures, and the attenuating loss of jobs and incomes triggered a demand shock reflected in a sharp fall of consumption and investments. The annual growth rate in household spending (at constant 2018 prices) dropped to -15.9% in the second quarter and to -7.9% for the full year of 2020. This translated into a reduction in household consumption by ₱1.11 trillion: from ₱14.03 trillion in 2019 to ₱12.91 trillion in 2020 (see Figure 6). There was some recovery in household spending in 2021 but this remained short by 4% of the pre-pandemic level in 2019. The larger contraction of ₱1.77 trillion was observed for gross capital formation, from ₱5.13 trillion in 2019 to ₱3.37 trillion, and due primarily to a marked decline in the construction and durable equipment spending.

Figure 6. GDP and GNI (in billion pesos at constant 2018 prices) by expenditure components

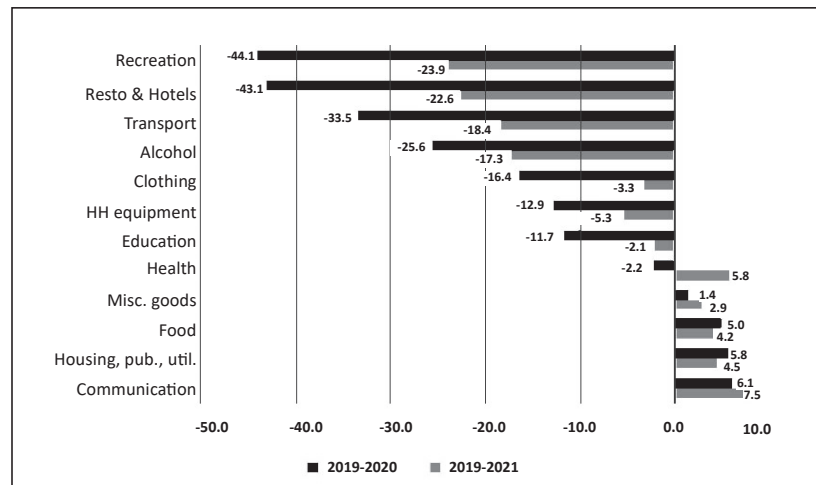


Source: National Accounts, Philippine Statistics Authority; Author's calculations

Changing household consumption patterns due to the quarantine measures. As a result of government measures to contain the the spread of the virus (e.g., stay-at-home and social distancing guidelines, prohibition of mass gatherings, suspension of non-essential businesses, significant restriction of public transport and travel bans) and subsequent loss of jobs and incomes, households responded by a reduction and reconfiguration of consumption spending patterns. Recreation, restaurants and hotels, and transport expenditure items experienced the sharpest declines with annual growth rate of between

-34% to -44% between 2019 and 2020 (see Figure 7). Significant decreases were also observed for other non-essential items like alcohol and tobacco, clothing and footwear, and household furnishings and equipment with annual growth rates of between -13% to -26% for the same 2019—2020 period. The continuation into 2021 of community quarantine measures in major cities and urban areas has slowed down the pace of recovery in household consumption in recreation, restaurants and hotels, transport, alcohol and tobacco, clothing and footwear, and household furnishings and equipment, which remained below pre-pandemic levels.

Figure 7. Annual Growth Rate in Household Consumption Items, 2019-2020 and 2019-2021



Source: National Accounts, Philippine Statistics Authority; Author's calculations

The Philippines is among the countries with the longest school closures due to the pandemic, with schools being fully closed for more than 200 days between February 2020 and April 2021 (Asian Development Bank, 2021). School closures and lack of access to remote instruction and learning, along with the negative income shocks, was associated with reduced education expenditures by 12% between 2019 and 2020 and adversely affected the continuity of learning for almost a million Filipino students. Primary and secondary enrolment in public and private schools and universities declined by 803,369: from 27.030 million in school year (SY) 2019—2020 to 26.227 million in SY 2020—2021 (Department of Education, 2021). Private schools recorded the

largest decline in enrolment—by 21.6%—while enrolment in state and local universities and colleges dropped by 9.4%. There appears to be some switching from the higher-cost private schools to tuition-free public schools which recorded an increase in enrolment by 0.6%. Some recovery in household spending for education was reported for 2021 but remained short of pre-pandemic levels.

The pandemic has accelerated digital transformation with the need for social distancing propelling the shift to online transactions and virtual interactions. Household consumption spending in communication and public utilities grew annually by respectively 6.1 percent and 5.8 percent between 2019 and 2020. There was also a corresponding increase in food consumption spending by 5 percent while the decline in health expenditures between 2019 and 2020 was reversed to a positive annual growth of 5.8 percent between 2019 and 2021.

Fall in investments primarily due to a sharp decline in construction expenditures. The annual growth rate of gross capital formation declined by 34.4% between 2019 and 2020. Construction expenditures, which accounted for 63% of gross capital formation in 2019, had very strong financial support through the government's Build, Build, Build infrastructure program for the medium-term period 2016 to 2022. The annual growth rate in construction spending averaged 5.6% in the period 2000—2010 and 9.9% in the period 2010—2019. Due to the economic lockdowns that caused supply chain disruptions which in turn led to shortages and higher costs of building materials and the downsizing of manpower to implement social distancing and other safe and security measures, the annual growth rate in construction spending dropped to -30.3% (or a decline of almost ₱1 trillion) between 2019 and 2020. Relative to 2019, construction expenditures was lower by 30% in 2020 and 23% in 2021.

The plunge in remittances contributed to the sharp decline in household consumption and investments. Several studies (Amuedo-Dorantes & Pozo, 2006; Batista & Umblijs, 2016; Lucas & Stark, 1985; Yang, 2011) assert that remittances act as a social insurance mechanism that buffers negative income shocks and helps smooth consumption and increase investments in human capital and entrepreneurial activities in remittance-receiving households. Remittances tend

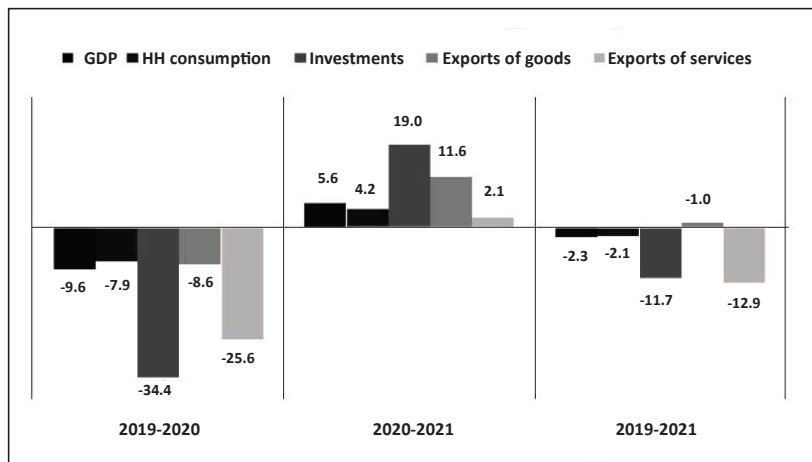
to be countercyclical, increasing during an economic slump due to a natural disaster or financial and political crisis in the migrant's country of origin (Bettin et al., 2015; Mughal & Ahmed, 2014; World Bank, 2006; Yang, 2008). However, since the COVID-19 pandemic is a global phenomenon adversely affecting both rich and poor economies worldwide and contracting global GDP by 3.4% in 2020 (World Bank, 2022), many OFWs experienced job and income losses that hampered their ability to send remittances.

The imposition in countries worldwide of travel bans, border closures, and domestic mobility restrictions to prevent the spread of the virus led to the temporary suspension of economic activities in a number of global industrial hubs and tourism and travel related industries, and to the disruption of global supply chains. The Philippines is a major global labor sending country and is the fourth biggest largest remittance-recipient in the world. The economic crisis brought about by the COVID-19 pandemic resulted in a massive loss of employment of Filipino overseas contract workers in their host countries, many of whom were compelled to repatriate to the Philippines. The PSA (2022) reported that the number of OFWs declined by 18.6% from 2.18 million in 2019 to 1.77 million in 2020 while data from the Bangko Sentral ng Pilipinas (2022) showed a decrease in remittances by US \$230.04 million: from US \$30.133 billion in 2019 to US \$29.903 billion in 2020. Remittances from sea-based OFWs contributed 21% of total remittances. With tourism and travel industries among the hardest hit by the COVID-19 pandemic, resulting in the shutdown of ports and closures of many international travel and shipping agencies, many sea-based OFWs were displaced from work. Economic uncertainty and travel restrictions also delayed the deployment and resumption of work for other OFWs. Remittances from sea-based workers accounted for 80% of the decline in the Philippine remittances or a drop of US \$185.7 million in sea-based worker remittances (from US \$6.54 billion in 2019 to US \$6.35 billion in 2020).

Uneven economic effects and recovery across economic sectors and industries. While all the three major economic sectors (i.e., agriculture, services, and industry sectors) suffered economic losses from the COVID-19 crisis, some have experienced a more destructive hit relative to others. The Philippine economy is primarily a service economy with the services sector accounting for 60% of total GDP in 2019, while

the industry sector contributed 30%. Rapid and accelerated annual growth rates in the period 2010—2019 were recorded for the services and industry sectors at 7.1% and 6.4% respectively (see Figure 8). The COVID-19 pandemic has reversed several years of progress in the medium-term for these economic sectors, with annual GVA growth rates for the period 2019—2020 declining to 13.2% for the industry sector and -9.2% for the services sector. This plunged the GVA (at constant 2018 prices) for the industry sector in 2020 to a level that was lower than that in 2017, and for the services sector, to a level below that in 2018. With the easing of community quarantines in 2021, GDP grew by 5.6% for the period 2020—2021 and by 8.2% and 5.3% respectively, for the industry and services sectors. However, these annual increases were not sufficient to reach pre-pandemic trends. Relative to 2019, GDP (at constant 2018 prices) in 2021 was lower by 4.5%: the GVA for the industry sector was lower by 6.1% and the GVA for the services sector by 4.4%.

Figure 8. Annual growth rates in GDP/GVA (at constant 2018 prices) by sector

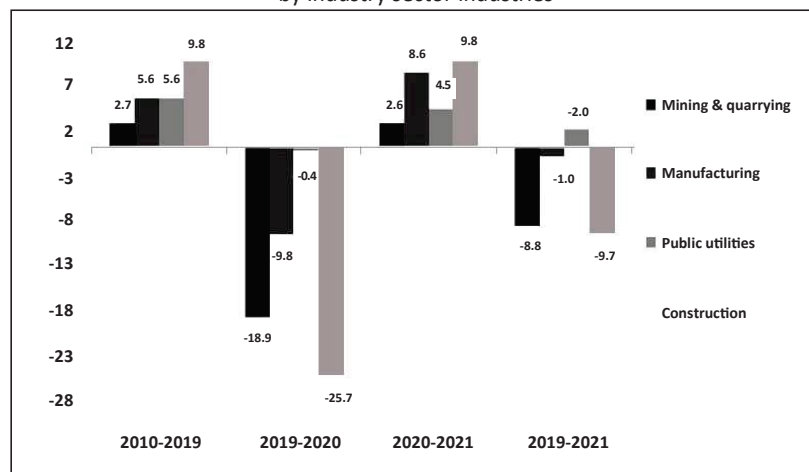


Source: National Accounts, Philippine Statistics Authority; Author's calculations

The agriculture sector has been more resilient than the industry and services sectors, bolstered by a strong annual GVA growth in palay and corn production at 3.2% and 2.3% respectively for the period 2019—2021. This may be attributed to the Rice Competitiveness Enhancement Fund (RCEF) created under the Rice Tariffication Law

of 2019 that appropriated ₱10 billion annually for farm machinery and equipment, rice seed development, expanded rice credit services, and capability building of farmers and farmers’ associations. The gains from palay and corn production were offset by a sharp decline in output for livestock by an annual average of 12.3% for the period 2019—2021 due to the outbreak of the African Swine Fever.

Figure 9. Annual growth rates in GVA (at constant 2018 prices) by industry sector industries



Source: National Accounts, Philippine Statistics Authority; Author’s calculations

The steep decline in the the industry sector in 2020 was largely driven by the downturn in construction and manufacturing industries. Manufacturing was the largest contributor to the industry sector, accounting for 61.5% of GVA in the industry sector in 2019, followed by construction which contributed 25.6%. These two industries, along with mining and quarrying, were among the hardest hit by the mandated business closures, supply chain disruptions, and downscaled manpower, with pronounced declines in GVA annual growth rate: -25.7% for construction, -18.9% for mining and quarrying, and -9.8% for manufacturing (see Figure 9). Out of the 278 mining and quarrying industries in 2018, 50% were sand and gravel quarrying and 8.3% were limestone quarrying (PSA, 2020). These produce essential materials for construction and the generation of electricity. Recovery in 2021 has been slow for both construction, and mining and quarrying, with their 2021 GVA (at constant 2018 prices) lower by 18.4% and 16.8%

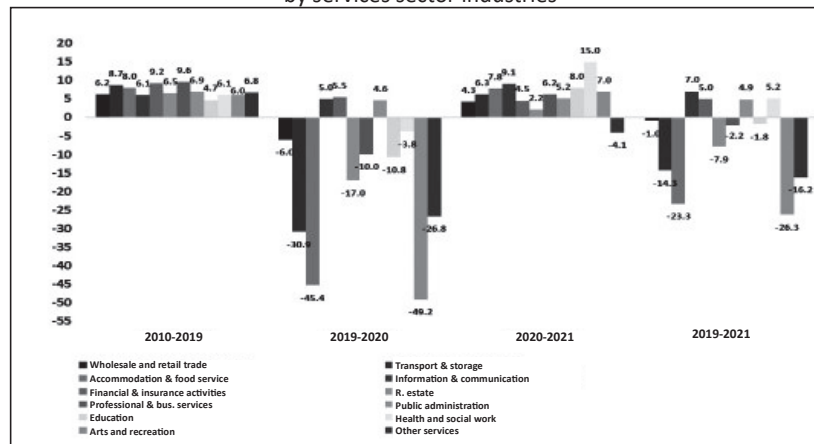
respectively, relative to 2019 levels. Manufacturing has recovered faster than either the construction or mining and quarrying industries, with GVA in manufacturing in 2021 almost reaching the pre-pandemic level in 2019. The largest rebound in manufacturing were in the following industries which have GVAs in 2021 that surpassed their pre-pandemic levels in 2019: food products, chemical and pharmaceutical products, computer and electronic products, furniture and wood products, basic metals, and non-metallic mineral products. Included among those with the steepest declines and the slowest recovery were industries in non-essential products such as textiles, wearing apparel and footwear, and transport equipment.

In the services sector, travel- and tourism-related industries were hit hardest by the COVID-19 crisis. The imposition of travel bans and mobility restrictions on foreign and domestic tourists to contain the contagion led to a sharp drop in the number of foreign visitors by about 6.79 million—from 8.19 million in 2019 to 1.40 million in 2020—and a large fall in international tourism receipts by about ₱399.91 billion—from ₱482.15 billion in 2019 to ₱82.24 billion in 2020 (Department of Tourism, 2021a, 2021b). The GVA annual growth rate in the period 2019—2020 plunged from 8% to -45.4 percent for food and accommodation, from 6% to -49.2% for arts and recreation, and from 8.7% to -30.9% for transport services (see Figure 10). The slump in tourism, mandated business closures, and sizable loss of jobs and incomes contributed to a reduced demand for offices and commercial and residential facilities and properties, and a drop in GVA growth rate in real estate which was at -17% between 2019 and 2020. The strict mobility restrictions and the downturn in local consumption also negatively affected the GVA in wholesale and retail trade, which fell by -6%, and professional and business services, which declined by -10%, but these industries had a speedier economic recovery as it almost reached pre-pandemic levels in 2021. In contrast, output in food and accommodation, arts and recreation, and transport services remained far below the pre-pandemic trend with GVAs in 2021 lower by 41.2%, 45.7% and 26.6% respectively, relative to 2019.

The positive growth in information and communication, and financial intermediation services helped mitigate the negative impact of the pandemic on economic output. Service industries that sustained their high productivity amidst the pandemic include financial

intermediation, and information and communication, with GVAs that grew by more than 5% for the 2019—2020 period, while GVA in public administration grew by 4.6%. Accelerated annual GVA growth for information and communication and public administration were recorded between 2020 and 2021 at, respectively, 9.1% and 5.2%. These industries jointly accounted for 16% and 18% of GDP in 2019 and 2020 respectively.

Figure 10. Annual growth rates in GVA (at constant 2018 prices) by services sector industries



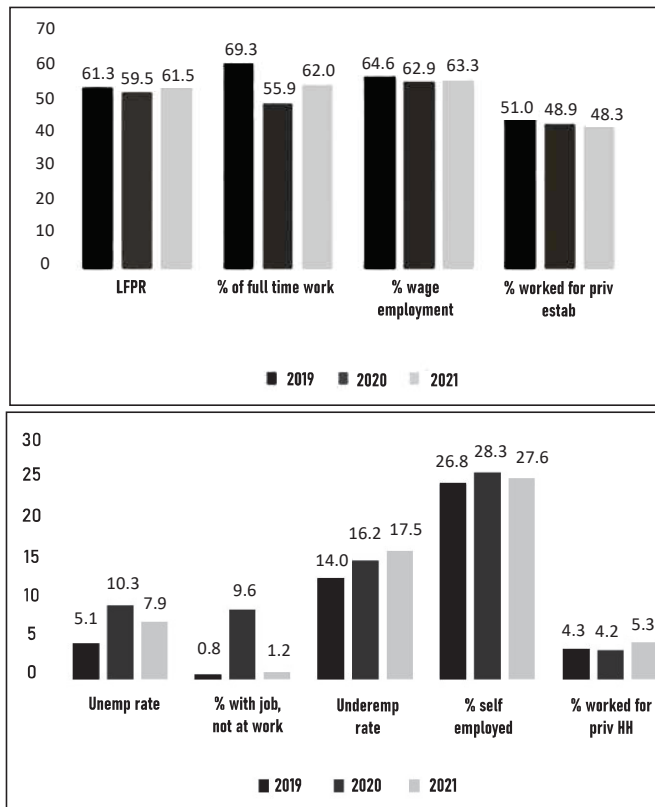
Source: National Accounts, Philippine Statistics Authority; Author's calculations

COVID-19 effect on Employment, Labor Productivity and Income

The pandemic led to a sharp contraction in employment, work hours, and quality of jobs. The negative effect of the COVID-19 pandemic on labor market outcomes has been a pronounced decline in both the quantity of employment and the quality of labor. Between 2019 and 2020, the number participating in the labor force dropped by 814,120 persons and the number of employed declined by 3.05 million workers. Unemployment rate more than doubled from 5.1% in 2019 to 10.3 in 2020 (see Figure 11) which translates to an increase in the unemployed population by 2.24 million—from 2.26 million in 2019 to 4.5 million in 2020. The deteriorating quality of labor was manifested in the increase in underemployment rate, the percent of workers with a job but not at

work, and the percent of precarious workers such as the self-employed workers and workers in private households. Underemployment rate increased from 14% in 2019 to 16.2% in 2020—or from 5.9 million to 6.4 million underemployed workers.

Figure 11. Employment indicators



Source: Labor Force Survey, Philippine Statistics Authority; Author’s calculations

The protracted control measures to mitigate the transmission of the virus have increased financial pressures of employers who have suffered significant revenue losses from the lower demand and supply-side disruptions. Micro, Small, and Medium enterprises (MSMEs) which accounted for 99.5% of total business establishments and 63.2% of all workers in the Philippines in 2020 were disproportionately affected by the containment measures. Findings from an enterprise survey

in the Philippines indicated that MSMEs were the hardest hit by the economic shutdown to contain the virus outbreak with revenues from sales between March 2020 and April 2020 declining by more than 80% for 77% of small and micro enterprises, and by 76% for 77% of medium-sized enterprises (Shinozaki & Rao, 2021). About 70% of the enterprises surveyed between 28 April 2020 to 22 May 2020 perceived themselves to be at risk of drying up their financial capital to sustain business operations within three months from the time of the survey, and another 17% of them expected to run out of funds within six months from the time of the survey. More than half of the small and medium-sized enterprises surveyed considered further reductions in workforce if the pandemic will last longer than a month from the time of the survey, and more than one third of them considered cutting salaries and wages.

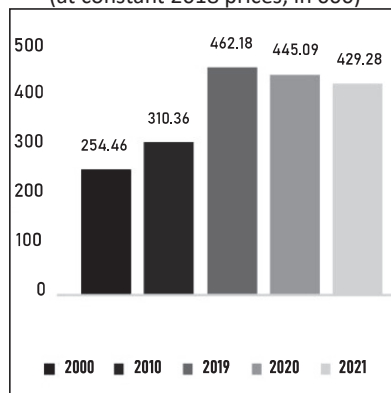
The extended business closures and increasing revenue losses has triggered a shift in the distribution of workers from formal sector establishments to informal sector enterprises and private households. The decline in the share of workers in private establishments by 2 percentage points from 2019 to 2020 was associated with an increase in the share of self-employed workers which are typically characterized by low pay, poor working conditions, and lack of social security and collective representation.

The higher underemployment rate was accompanied by a large reduction in the number of full-time workers (or those who worked for at least 40 hours a week) and an increase in the number of part-time workers and workers with a job but not at work, possibly due to a temporary lay off in the case of salaried workers or the inability to do work remotely from home in the case of self-employed workers. There were 7.06 million less full-time workers in 2020 than in 2019, while there were 3.44 million more workers who reported having a job but not at work, and 1.06 million more part-time workers. This is reflected by a lower share of full-time workers, from 69.3% to 55.9% for the period of 2019—2020, and a higher share of workers with a job but not at work, from 0.8% to 9.6%.

Unemployment, underemployment, and vulnerable employment remained more pervasive in 2021 than it had been in 2019. The confinement measures were eased in 2021 but employers needed

to ensure a safe and healthy workplace that minimizes the exposure and transmission of COVID-19 at work. The guidelines by the Department of Trade and Industry and the Department of Labor and Employment (2020) included the observance of health protocols and physical distancing between workers, the adoption of flexible work arrangements such as rotation in works days of in-office and telework, and providing education and information to keep safe from the virus in the workplace. Amid the restrictions in public transportation, private establishments were encouraged to provide for shuttle services or accommodation of their workers to minimize the virus transmission while commuting to work. More business activities have resumed but to a limited extent, as reflected by the 2021 output production that remained below pre-pandemic levels and adversely affected the recovery of the labor market. Relative to 2019, there were more unemployed and underemployed workers in 2021, by 1.4 million and 1.51 million respectively. While there was a slight decline in unemployment rate in 2021 compared to 2020, the rate of underemployment continued to accelerate indicating more slack in the labor market beyond what was reflected by the unemployment rate alone. The share of workers in private establishments continued to decelerate and appeared to be reallocated largely to self-employment in 2020 and work in private households in 2021.

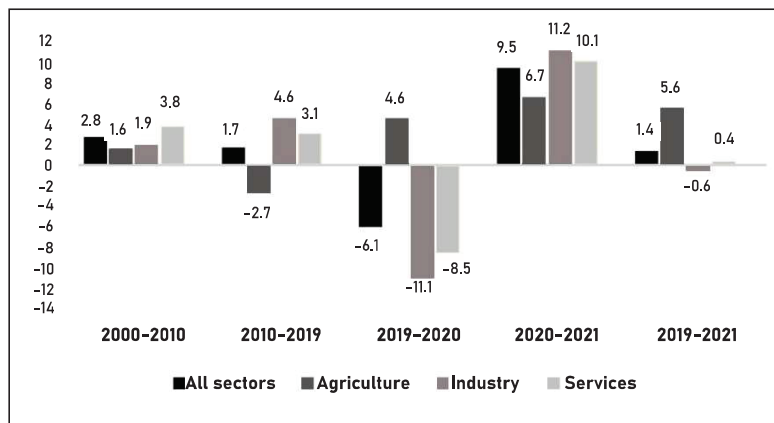
Figure 12. Labor productivity
(at constant 2018 prices, in 000)



Source: Labor Force Survey, Philippine Statistics Authority; Author's calculations

Aggregate labor productivity fell in 2020 and diminished further in 2021 as the COVID-19 crisis reversed the accelerated growth in within-sector labor productivity and the positive structural transformation in the decade preceding the pandemic. Labor productivity, measured as output (i.e., real GDP) per worker, is an important indicator of standards of living, with low productivity associated with economic slack and low labor incomes. The accelerated increase in aggregate labor productivity in the past two decades—from an annual growth rate of 2% for the period 2000—2010 to 4.5% for the period 2010—2019—was inverted by the pandemic as it contracted to -3.7% between 2019 and 2020 and -3.6% for the period 2020—2021. Aggregate labor productivity (at constant 2018 prices), which increased from 310,361 pesos per worker in 2010 to 462,176 per worker in 2019, dropped to 445,092 per worker in 2020 and further down to 429,284 per worker in 2021 (see Figure 12).

Figure 13. Annual employment growth (%) by sector

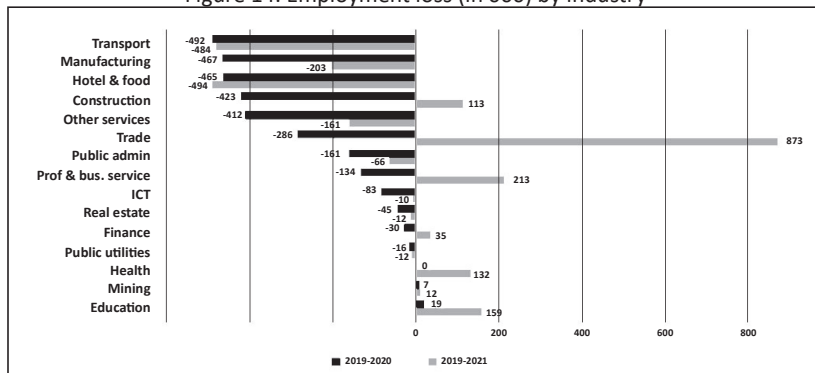


Source: Labor Force Survey, Philippine Statistics Authority; Author's calculations

The pandemic has rolled back years of progress in labor productivity in two ways: (a) reduction of labor productivity for the three major sectors, with agriculture suffering the steepest decline at -5.6% per year between 2019 and 2021, followed by the industry sector at -2.5%, and the services sector at -2.6%; and (b) reallocation of labor from the higher-productivity industry and services sectors to the lower-productivity agriculture sector. In 2021, the labor productivity gap between the agriculture and non-agriculture sectors widened, with the

services sector having close to three times higher labor productivity, and the industry sector more than four times higher labor productivity, than the agriculture sector. The economic shutdown and mandated business closures resulted in massive loss of jobs in both the industry and services sectors as indicated by a sharp contraction in employment growth rate to, respectively, -11.1% and -8.5% between 2019 and 2020 (see Figure 13). This was associated with an increase in employment growth in the lower-productivity agriculture sector by 4.6%. The restoration of total employment in 2021 involved a change in sectoral composition with agriculture picking up a higher share of total employment along with declining shares of the industry and services sectors. The decomposition of aggregate labor productivity decline between 2019 and 2021 indicate that about 78% was attributable to the contraction in labor productivity within the three major sectors while the remaining 22% was due to the shift of labor away from the higher-productivity, non-agricultural sectors to the lower-productivity agriculture sector.

Figure 14. Employment loss (in 000) by industry

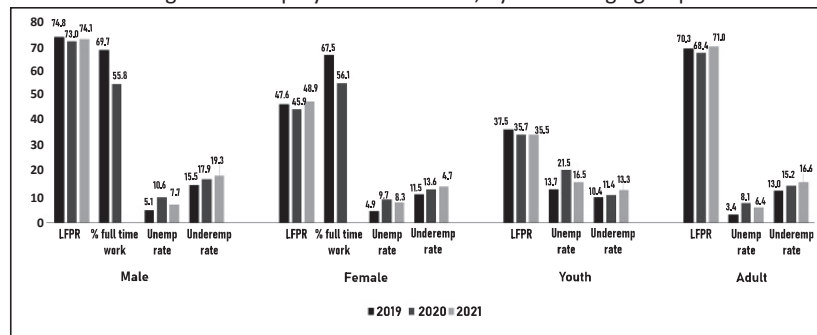


Source: Labor Force Survey, Philippine Statistics Authority; Author's calculations

Employment losses were largest in manufacturing, construction, transport, food and accommodation services, and other services in 2020 with only construction employment taking a full rebound in 2021. The travel restrictions along with the suspension in business operations, disruptions in global supply chains, and erosion in aggregate demand have triggered massive employment losses in 2020 by close to 1.4 million workers in travel and tourism-related industries (e.g., transportation, food and accommodation, and other services which

includes rest and recreation), and 893,523 workers in manufacturing and construction (see Figure 14). Except for the construction industry, all the rest of these industries continued to suffer a large reduction in employment in 2021 relative to 2019. There was a reallocation of labor towards the largely informal sectors of agriculture and retail trade which both experienced very rapid employment growth in 2021.

Figure 15. Employment indicators, by sex and age group



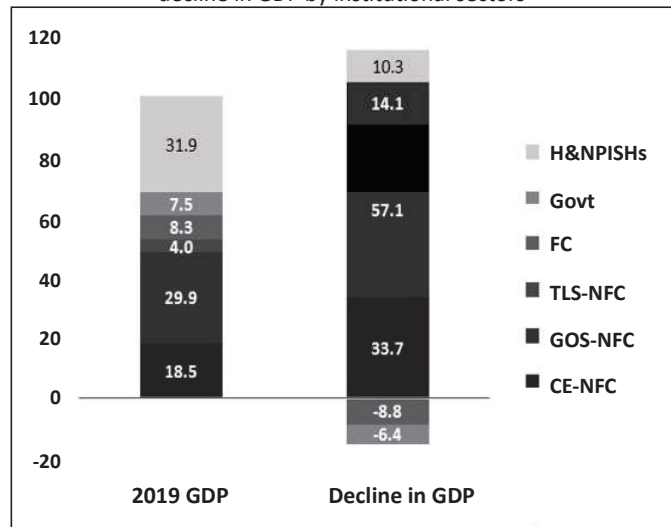
Source: Labor Force Survey, Philippine Statistics Authority; Author's calculations

The pandemic exacerbated the already-high rates of youth unemployment and adult underemployment. The youth (aged 15 to 24 years old) unemployment rate which was already high before the pandemic increased further from 13.7% in 2019 to 21.5% in 2020 (see Figure 15). This represents an increase in the unemployed youth by more than half a million, or from 1.02 million to 1.53 million. The already elevated underemployment rates of adult workers aged 25 years old and over worsened from 13% in 2019 to 15.2% in 2020. Unemployment rates have improved slightly in 2021 compared to 2020 but remained higher than pre-pandemic levels for both the youth and adult workers, while underemployment rates continued to accelerate for both age groups, reaching 13.3% for youth workers and 16.6% for adult workers in 2021.

The employment of both men and women workers have been adversely affected by the COVID-19 crisis. Both men and women experienced sharp declines by more than ten percentage points in full-time employment for the period 2019—2020 as they worked in industries which were hardest hit by the pandemic, such as the male-dominated industries of construction, transportation, and manufacturing; and

female dominated industries of wholesale and retail trade, and food and accommodation industries. Unemployment rates doubled for both men and women between 2019 and 2020, while underemployment rates increased by two percentage points. As containment measures relaxed in 2021, more women have participated in the labor force compared to 2019, although the likelihood of their being unemployed reflected a larger increase than that of the men: Unemployment of women increased from 4.9% in 2019 to 8.3% in 2021, surpassing the 7.7% unemployment rate for men. The higher labor force participation rates of women relative to pre-pandemic levels may indicate an added worker effect where women household members increase labor supply to compensate for the loss of jobs and incomes of the male household members.

Figure 16. Percentage distribution of 2019 GDP and 2019-2020 decline in GDP by institutional sectors*



*NFC (Non-financial corporation); FC (Financial corporation); Govt (General government); H&NPISHs (Households and non-profit institutions serving households). Source: Consolidated Accounts and Income and Outlay Accounts, Philippine Statistics Authority; Author's calculations

The massive loss of employment and work hours was associated with a severe decline in total compensation of employees primarily in non-financial corporations. GDP can also be measured as the sum of the incomes from domestic factors of production plus other taxes less subsidies on production. The compensation of employees accounted

for 34% of GDP at current prices in 2019, gross operating surplus took up 58%, and taxes less subsidies contributed the remaining 8%. This relative composition has remained largely unchanged in 2020. The fallout in GDP was attributed largely to the plunge in the compensation of employees and gross operating surplus in non-financial corporations, which respectively explained 33.7% and 57.1% of the decline in GDP for the 2019—2020 period (see Figure 16). Total compensation of employees dropped by -14.6% between 2019 and 2020 for non-financial corporations which was more than double that for the whole country which was at -7.1%.

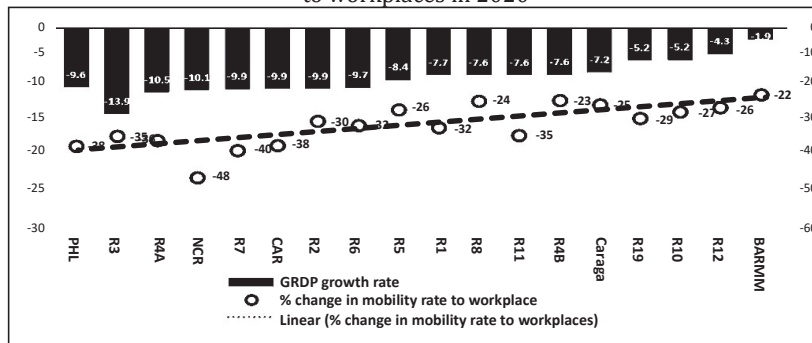
COVID-19 Impact on Regional Economies and Labor Markets

Regions that imposed longer quarantine measures and were more heavily dependent on the industry sector and tourism-related industries were disproportionately affected by the pandemic. The extent of the adverse economic impact of the COVID-19 crisis on regions appears to be directly associated with the percentage change decline in people's mobility to places of work indicated by the annual average of weekly workplace mobility rates. The Enhanced Community Quarantine (ECQ)¹ first imposed in mid-March to April 2020 for the entire Luzon, and extended until most of May 2020 for many regions in Luzon, accounted for close to 70% of the total national output. This was relaxed to a General Community Quarantine (GCQ) for the rest of 2020, with a reimposition of a stricter Modified Enhanced Community

¹ The Philippines imposed community quarantine measures at varied levels of strictness as follows: (a) Enhanced Community Quarantine is the strictest form of quarantine where the population is placed under stay-at-home orders, suspension of public transportation and inter-island travel, suspension of face-to-face classes, prohibition of mass gatherings, and mandated closure of businesses other than those providing essential goods and services (e.g. food, public utilities, medicine, medical devices, banking services, etc.); (b) Modified Enhanced Community Quarantine – stay-at-home orders in place with limited outdoor exercise and mass gatherings up to a maximum of five people allowed, suspension of inter-island travel and public transport except for public shuttles, partial opening of limited businesses and relevant value chains with up to 50% of total workers allowed to work onsite; (c) General Community Quarantine – stay-at-home orders for the youth below 21 years old and elderly aged 60 and above, mass gatherings up to a maximum of ten people are allowed, resumption of public transportation with social distancing measures and limited inter-island transport; opening of businesses except for personal care services, gyms and arts and entertainment industries; and (d) Enhanced General Community Quarantine – stay-at-home orders for youth and elderly, mass gatherings allowed up to 50% of venue capacity, tourism-related travel allowed subject to regulations, businesses resume with salons and dine-in restaurants allowed up to a maximum of 50% of venue capacity.

Quarantine (MECQ) in Metro Manila and adjacent provinces in August 2020. In contrast, most regions in Mindanao did not deploy the stricter community quarantine measures (e.g., MECQ) until the second half of 2020 resulting in lower average annual decreases in mobility rates and less pronounced declines in economic output relative to regions in Luzon. Central Visayas (Region 7) and the Luzon regions of the National Capital Region (NCR), Cordillera Autonomous Region (CAR), Central Luzon (Region 3), and Southern Tagalog Mainland (Region 4A, also known as CALABARZON), which imposed the more stringent lockdown measures in 2020, suffered a relatively larger contraction in economic output (see Figure 17).

Figure 17. GRDP growth rate (2019-2020) and average of weekly mobility rate to workplaces in 2020

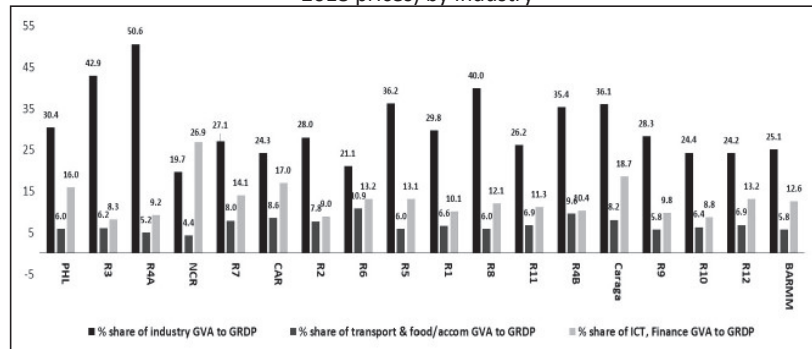


Source: Regional Accounts, Philippine Statistics Authority; Google COVID-19 community mobility reports, Author's calculations. <https://www.google.com/covid19/mobility/>

The gravity of the impact of the COVID-19 containment measures is higher in regional economies that are heavily dependent on the industry sector and travel and tourism-related industries. Although the NCR imposed the longest and strictest quarantine measures in 2020 indicated by an average annual percentage decline, relative to the baseline period in workplace mobility rate, of -48.3%, it recorded a lower contraction in Gross Regional Domestic Product (GRDP) growth rate at -10.1% compared to the adjacent regions of Central Luzon and CALABARZON which experienced the steepest decline in GRDP growth rate at -13.9% and -10.5% respectively. Both Central Luzon and CALABARZON have the highest shares of industry sector Gross Value Added (GVA) to GRDP at more than 42% compared to the NCR, and a lower share of tradable services which experienced growth amidst the COVID-19 crisis, namely the information and communication,

and financial intermediation services (see Figure 18). The NCR has the highest share to GRDP of value added by the information and communication, and financial intermediation services at 27% in 2019, which is three times the share of Central Luzon and CALABARZON.

Figure 18. Share to Gross Regional Domestic Product (GRDP) in 2019 (at constant 2018 prices) by industry



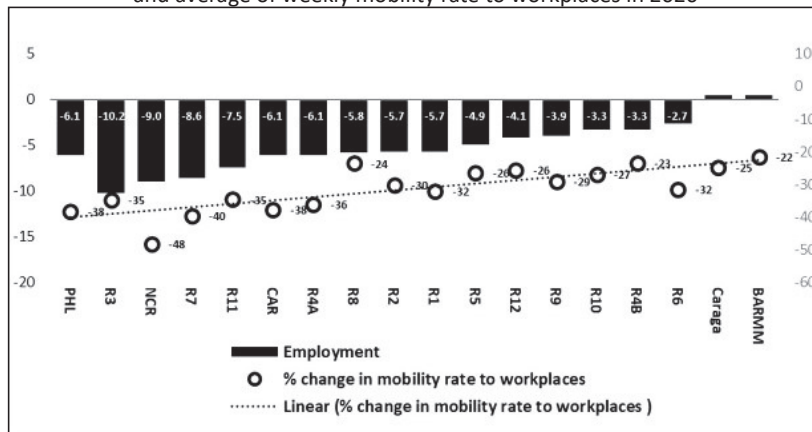
Source: Regional Accounts, Philippine Statistics Authority, author's calculations

By comparison, the Mindanao regions of Zamboanga Peninsula (Region 9), Northern Mindanao (Region 10), Soccsksargen (Region 12) and the Bangsamoro Autonomous Region of Muslim Mindanao (BARMM) had the least contraction in GRDP growth rate, the lowest at -5.2 %, and which was also associated with the lowest percent change decline in work mobility rates, not being lower than -30%, reflecting the shorter duration of imposing strict community quarantine measures. Other regions that had lower percentage declines in work mobility rates but experienced larger contraction in GRDP growth rates, ranging between -7.2% to -8.4%, include those regions with higher than the national average share of the industry value added such as the Bicol (Region 5), Eastern Visayas (Region 8), Southwestern Tagalog (Region 4B, also known as Mimaropa) and Caraga regions. The latter two regions had the highest share of value added in mining and quarrying industries while Bicol and the Eastern Visayas had among the highest share of value added in construction industries which were among the hardest hit by the pandemic.

Regions that imposed the longest stringent community quarantine measures had the largest contraction in annual employment growth in 2020. While the deployment of lockdowns is an important preventive

measure to contain the contagion of COVID-19, it also had dire unintended consequences on both economic output and employment. Regions that had larger declines relative to the baseline period in work mobility rates also experienced larger reductions in employment growth rates. The metropolitan regions of the NCR, Central Visayas, and Davao (Region 11), and the Luzon regions of Central Luzon, CALABARZON, and the Cordillera Autonomous Region, which imposed more stringent community quarantine measures and indicated a percentage reduction in work mobility rates of at least -35%, also had the larger contraction in annual employment, with growth rates lower than -6% in 2020 (see Figure 19).

Figure 19. Employment growth rate (2019-2020) and average of weekly mobility rate to workplaces in 2020



Source: Regional Accounts & Philippine Labor Survey, Philippine Statistics Authority; Google COVID-19 community mobility reports, Author's calculations. <https://www.google.com/covid19/mobility/>

Summary and Policy Implications

The Philippines has effectuated one of the longest stringent community quarantine measures to contain the contagion. While this slowed down COVID-19 transmission, the protracted lockdown measures came at a high cost of plunging the Philippine economy into its deepest recession during the postwar period, triggering massive loss of jobs and work hours, and causing a decline in labor quality and labor productivity. The pandemic-driven economic recession has set back the economy several years and forestalled the attainment of the country's goal of becoming an upper-middle income country in 2020, with a targeted GNI per capita

of US \$5,000 by 2022, that would have entailed better health and living conditions for the majority of the Filipinos.

Economic losses can be mitigated if the Philippines is better prepared to manage future communicable disease outbreaks by strengthening healthcare systems and public health response to deal with future pandemics, and enabling the deployment of localized stringent lockdowns in virus hot spots rather than enforcing them nation-wide or throughout whole island groups such as Luzon, which accounts for close to 70% of national output and more than half of the country's workforce.

The COVID-19 pandemic has surfaced the severe financial fragility of Philippine industries and enterprises—of which virtually all are MSMEs—and exposed the economic vulnerabilities of their workers. There is need to improve resilience and sustainability of production and supply chain systems during a pandemic outbreak. To lessen the disruption in business and commercial operations, there is need to: (a) develop the country's production capacity for essential protective equipment, supplies, and medical devices to ensure a sufficient supply for the healthcare and frontline workers and the general public during a pandemic outbreak; and (b) accelerate the development of a strong telecommunication and digital infrastructure that would allow the transition to online economic and business transactions that may be necessitated by social distancing restrictions to reduce the contagion. The COVID-19 crisis further elevated youth unemployment rates and worsened the already high underemployment rates for adult workers 25 years old and over. There is need to foster continuous social dialogue with the workforce to account for the differentiated impact of a pandemic outbreak across worker demographic and socioeconomic characteristics, and promote greater inclusion in interventions towards a recovery to decent work.

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