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COVID-19 IMPACT ON MICRO, SMALL, AND MEDIUM-SIZED ENTERPRISES UNDER THE LOCKDOWN: EVIDENCE FROM A RAPID SURVEY IN THE PHILIPPINES

Shigehiro Shinozaki and
Lakshman N. Rao

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Shigehiro Shinozaki is a senior economist and Lakshman N. Rao is a statistician, both at the Economic Research and Regional Cooperation Department of the Asian Development Bank.

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Please contact the authors for information about this paper.

Email: sshinozaki@adb.org, nagrajrao@adb.org

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Asian Development Bank Institute
Kasumigaseki Building, 8th Floor
3-2-5 Kasumigaseki, Chiyoda-ku
Tokyo 100-6008, Japan

Tel: +81-3-3593-5500
Fax: +81-3-3593-5571
URL: www.adbi.org
E-mail: info@adbi.org

Abstract

The novel coronavirus disease, COVID-19, has brought significant change to people's lives and business activities nationally, regionally, and globally. The Philippines took swift action—including enhanced community quarantine (ECQ)—to contain the pandemic and launched an emergency subsidy program with massive public spending to support disrupted households and businesses. The strict lockdown ran from mid-March to the end of May 2020 in the national capital region and high-risk provinces, causing huge economic losses. Six months after the March lockdown, the Philippine economy has moved to the recovery stage, but micro, small, and medium-sized enterprises (MSMEs) are continuing to confront a sharp drop in demand and revenue. This paper examines the initial impact on MSMEs of the ECQ and lockdown measures using evidence obtained from a rapid nationwide survey conducted from the end of March to mid-April 2020 and derives policy implications.

Keywords: COVID-19, economic crisis, economic impact, MSMEs, SME development, access to finance, SME policy, Philippines

JEL Classification: D22, G20, L20, L50

Contents

1. INTRODUCTION

The novel coronavirus disease, COVID-19, has significantly altered people's lives and business activities at the national, regional, and global levels. The Philippine government responded promptly, imposing enhanced community quarantine (ECQ) to contain the spread of COVID-19 and implementing an emergency subsidy program of massive public spending to support badly affected households and businesses. The lockdown—or strict stay-at-home order—started on 16 March 2020, initially covering the national capital region and high-risk provinces. The government extended it three times until the end of May 2020. During the lockdown, the Philippine economy immediately experienced a sharp decline in domestic and foreign demand, international trade, national production, and consumer confidence. Together with funding constraints on businesses, it signaled the start of huge economic losses (ADB 2020c, 2020d).

The Asian Development Bank (ADB 2020a) estimated that regional economic growth in developing Asia would decline sharply from 5.1% in 2019 to –0.4% in 2020 due to the pandemic's effects. As the contraction did not emanate from economic or financial turmoil, ADB forecast a 6.8% rebound in regional economic growth in 2021. This assumed that the pandemic is contained by using expansionary fiscal and monetary policies among ADB's developing members. The estimation indicated that the Philippine GDP would contract by 8.5% in 2020, with an expected strong recovery to 6.5% growth in 2021, assuming that the restrictions ease and businesses gradually reopen.

According to the Philippine Institute for Development Studies (Abrigo et al 2020), the Philippines may suffer economic losses between P276.3 billion and P2.5 trillion due to the COVID-19 pandemic. The most affected business sectors will be manufacturing, with losses between P82.1 billion and P855.2 billion, wholesale and retail trade, with losses between P93.2 billion and P724.8 billion, and transport/storage/communication, with losses between P11.7 billion and P124.3 billion. Abrigo et al (2020) also estimated that, if the ECQ continued to May 2020, it would potentially cost the Philippine economy at least P150 billion given the decline in household consumption.

The COVID-19 crisis differs from the 1997–1998 Asian financial crisis and the 2008–2009 global financial crisis (GFC) as the primary cause was not regional or global economic or financial turmoil, suggesting a sharp recovery in 2021 from the significant contraction in 2020. The International Monetary Fund (IMF 2020a) estimated that the global economy would drop sharply by –3% in 2020, a far worse fall than occurred during the GFC. However, it will recover by 5.8% in 2021, assuming that countries control the pandemic in the second half of 2020.

The global economy has experienced epidemics in the past—the Severe Acute Respiratory Syndrome (SARS) and the Middle East Respiratory Syndrome (MERS). The SARS outbreak in 2003 involved more than 8,000 cases affecting 26 countries, including Hong Kong, China; the People's Republic of China (PRC); Singapore; Taipei,China; and Viet Nam. The MERS outbreak occurred in Saudi Arabia in 2012 and spread to several Asian economies, including Malaysia, the Philippines, the Republic of Korea, and Thailand. During the MERS outbreak, the number of micro, small, and medium-sized enterprises (MSMEs) fell by 0.4% in the Philippines, with employment dropping by 3.3% during 2012 and 2013. The numbers increased by 0.6% and 2.5%, respectively, after the outbreak settled down in 2014.[1]

[1] Authors' calculation based on the Asia Small and Medium-Sized Enterprise Monitor 2020 database.

The estimates of the pandemic's economic impact assume that countries will contain COVID-19 in 2020. However, if the pandemic is prolonged, with second and third waves, the economic damage will increase exponentially at the national, regional, and global levels. Governments across the region must use their limited budgets effectively to support the most affected groups, including MSMEs.

MSMEs are the backbone of the national economy but remain vulnerable to external shocks, such as financial crises, disasters, and forced changes in the business environment—like the COVID-19 pandemic response. In the Philippines, MSMEs drive the national economy. They accounted for 99.5% of all enterprises and employed 63.2% of the labor force as of the end of 2018 (ADB 2020b). Their ability to access finance faces constraints even during non-crisis periods. The share of MSME loans in the total outstanding bank loans was 6.1% in 2019. Bank loans to MSMEs accounted for only 3.2% of the GDP during the same period. This suggests that a very small number of MSMEs have access to bank credit. A prolonged pandemic will make it more difficult for MSMEs to raise funds from formal financial institutions and to survive the crisis and its aftermath, which could contribute to more potential losses to the Philippine economy and risk the projected economic rebound in 2021.

This paper examines the initial one-month impact on MSMEs of the ECQ lockdown measures imposed by the Philippines, using a multivariate analytical model, and presents policy implications with evidence obtained through a rapid nationwide survey from the end of March to mid-April 2020. The next section reviews the initial policy responses to support MSMEs affected by the COVID-19 in selected Asian economies. The third section examines the methodology that the study used. The fourth and fifth sections discuss the profile of the surveyed MSMEs and the first month impact of the lockdown on MSMEs' sales, revenue, employment, wages, and financial conditions, followed by its policy implications and a concluding section.

2. INITIAL NATIONAL RESPONSES TO THE COVID-19 PANDEMIC IN ASIA

Many Asian countries acted quickly to contain the spread of COVID-19, not only taking quick and responsive healthcare-related actions but also providing economic stimulus packages involving substantial government spending. Table 1 summarizes the initial policy actions to support private businesses, especially MSMEs, which selected Asian countries implemented soon after the COVID-19 outbreak (World Bank 2020 and IMF 2020b).

The countries consist of the 10 members of the Association of Southeast Asian Nations (ASEAN) plus Japan, the PRC, and the Republic of Korea. Each country launched wide-ranging policy packages not only to stop the spread of the virus but also to retain economic activities a month after the World Health Organization (WHO) declared COVID-19 to be a pandemic (on 11 March 2020). Debt finance was the most widely used policy instrument to support MSMEs, followed by tax relief, employment support, and support to retain businesses.

Table 1: Initial MSME Support Measures Responding to COVID-19 in Selected Asian Countries

		Debt Finance					
Item		Liquidity Support for Financial Institutions/ Capital Injection	Debt Restructuring/ Deferral of Debt Payments	Relaxed Lending Conditions/ Interest Rate Reduction	New Lending to MSMEs/ Emergency Refinancing Facility	Special Credit Guarantees	Regulatory Forbearance
Lower-middle-income economies	CAM	√	√	√	√		√
	LAO	√	√	√	√		√
	MYA	√		√	√		√
	PHI	√	√	√	√	√	√
	VIE	√	√	√	√		√
Upper-middle-income economies	INO	√	√	√	√	√	√
	MAL	√	√	√	√	√	√
	PRC	√	√	√	√	√	√
	THA	√	√	√	√	√	√
High-income economies	BRU	√	√				
	JPN				√	√	
	ROK	√	√	√	√	√	
	SIN	√	√		√		√

		Tax Relief			
Item		Corporate Tax Reduction	Expedited Tax Refunds	Incentives for Investors	Payroll, Social Security, VAT, and Land Taxes
Lower-middle-income economies	CAM				√
	LAO				
	MYA	√			
	PHI				
	VIE	√		√	√
Upper-middle-income economies	INO	√			√
	MAL	√		√	√
	PRC	√		√	√
	THA		√		√
High-income economies	BRU				
	JPN				√
	ROK				√
	SIN	√			√

		Employment Support				
Item		Wage Subsidies	Support for Informal/Self-employed Workers	Unemployment Benefits	New Working Arrangements	Labor Training Subsidies
Lower-middle-income economies	CAM	√				
	LAO					
	MYA					
	PHI	√	√	√		
	VIE	√		√		
Upper-middle-income economies	INO					
	MAL	√	√		√	
	PRC	√			√	√
	THA		√	√		
High-income economies	BRU					
	JPN	√	√			
	ROK	√	√		√	√
	SIN	√	√			√

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Table 1 *continued*

Item		Business Support					
		Reduced Utility Payments	Reduced Rent/Leasing	Reduction/ Waiver of Government Fees	Reduced Import Restrictions	Focus Group Expenditure Programs	Vouchers for Remote Business Services
Lower-middle-income economies	CAM				√	√	
	LAO	√					
	MYA						
	PHI					√	
	VIE	√			√		
Upper-middle-income economies	INO				√	√	
	MAL	√	√			√	√
	PRC	√	√	√	√	√	√
	THA	√				√	
High-income economies	BRU						
	JPN						√
	ROK		√		√	√	√
	SIN		√	√		√	√

BRU = Brunei Darussalam; CAM = Cambodia; INO = Indonesia; JPN = Japan; LAO = Lao People's Democratic Republic (Lao PDR); MAL = Malaysia; MSME = micro, small, and medium-sized enterprise; MYA = Myanmar; PHI = Philippines; PRC = People's Republic of China; ROK = Republic of Korea; SIN = Singapore; THA = Thailand; VIE = Viet Nam.

Sources: Recomposed from the World Bank's "Map of SME-Support Measures in Response to COVID-19." 14 April 2020. https://www.worldbank.org/en/data/interactive/2020/04/14/map-of-sme-support-measures-in-response-to-covid-19; International Monetary Fund. "COVID-19 Policy Tracker." https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19. Accessed on 24 June 2020.

Central banks used several liquidity support measures to facilitate banks' lending to MSMEs and those sectors that COVID-19 and the quarantine measures most affected, such as large-scale capital injections for commercial and policy banks (for example, Cambodia, Indonesia, and the PRC), reduced base rates for lending (Cambodia, the Philippines, the Republic of Korea, and Viet Nam), relaxed capital requirements for banks (the Philippines), and related regulatory easing to stimulate MSME finance. Most countries allowed the deferral of loan repayments and loan restructuring for MSMEs. Malaysia granted a 6-month moratorium on loan repayments, and the Philippines set a 30-day grace period for loan repayments.

In parallel, many countries launched emergency concessional loan schemes, special funds, and refinancing facilities to encourage MSMEs to access new loans during the crisis. Cambodia established a new public bank for MSMEs. Malaysia established a COVID-19 special relief facility for working capital financing for MSMEs. Myanmar created a COVID-19 fund to finance affected MSMEs and sectors such as tourism with concessional interest rates of 1%. Thailand and Viet Nam launched soft loan packages for MSMEs with lower interest rates. Japan provided largely zero interest rate loans and full credit guarantees to MSMEs facing a sharp decrease in sales. Malaysia and the Republic of Korea also offered special credit guarantees to affected MSMEs.

Tax relief is a key component of economic stimulus packages in several countries, where corporate tax reductions and exemptions and deferred payments are the major support that MSMEs, such as those in manufacturing and tourism, could tap. Indonesia gradually reduced its corporate income tax to 22% for 2020 and 2021 and to 20% for 2022, mainly targeting manufacturing. Malaysia, Myanmar, and Singapore accepted deferred (for three months) corporate income tax payments for MSMEs. Singapore also offered corporate tax rebates. The PRC accepted 8-year loss carry-overs for sectors such as transport, catering, hotels, and tourism.

Many Asian countries reduced the social security contribution or exempted disrupted MSMEs and industries from paying it (for example, Cambodia, Japan, Malaysia, the PRC, Thailand, and Viet Nam). The payment of value-added tax (VAT) by companies was also reduced or exempted in many countries (Indonesia, Malaysia, the PRC, Singapore, and Viet Nam). They provided various tax holidays/breaks for businesses and some sectors, especially small business owners and the self-employed. In Indonesia, hotels and restaurants in major tourist destinations, such as Bali, enjoyed temporary suspension of tax payments (six months), while the central government compensated local governments for the resultant tax revenue losses.

Several countries created various subsidy schemes for employers to pay wages and cash transfer arrangements for displaced workers, and made them available to qualified MSMEs and priority sectors. Cambodia paid 60% of the minimum wage for furloughed workers in the garment sector. Malaysia launched an enhanced wage support scheme to support MSME employees. The Philippines provided one-off financial assistance for affected workers in businesses adopting flexible work arrangements or temporary closures (P5,000 [or $100]) under its COVID-19 Adjustment Measures Program (CAMP). Singapore's Jobs Support Scheme helped employers to pay wages (25% of the designated first monthly wage for 9 months). Viet Nam provided cash handouts to employees and facilitated zero-interest rate loans for employers to pay salaries. Japan, the PRC, and the Republic of Korea also offered wage subsidies to affected firms, especially MSMEs. Japan, Malaysia, the Philippines, the Republic of Korea, Singapore, Thailand, and Viet Nam used cash transfers to cover informal sector workers, the self-employed, and displaced workers.

Some Asian countries promoted new working environments by revising terms of employment—including pay cuts and unpaid leave options (Malaysia), expediting overtime work for COVID-19-related businesses, such as producers of face masks and disinfection products (the Republic of Korea), and promoting electronic labor contracts (the PRC). The PRC, the Republic of Korea, and Singapore provided labor/vocational training subsidies for the self-employed and laid-off workers either in person or online. The PRC set a maximum layoff rate of 20% for firms with fewer than 30 people.

Several countries discounted or waived utility payments, rental/leasing fees, and government fees and charges. The Lao People's Democratic Republic (Lao PDR) revised its electricity tariff. Malaysia offered a 15% discount on monthly electricity bills for affected businesses, such as hotels, travel agencies, shopping malls, and theme parks. Thailand alleviated water and electricity bill payments. The PRC and Viet Nam temporarily cut electricity prices. Malaysia reduced or waived office rental fees for MSME retailers. The PRC, the Republic of Korea, and Singapore also waived commercial rental fees. Singapore froze all government fees and charges for 1 year, and the PRC provided similar waivers on administrative fees for MSMEs.

MSMEs that rely on imported goods for production benefitted from lenient customer procedures (Cambodia and the Republic of Korea) and deferred import tax payments with relaxed regulations (Indonesia). Some Asian countries encouraged MSMEs to adopt remote business services. Malaysia supported agri-based MSMEs in selling their products through e-commerce platforms. Singapore promoted digital solutions for MSMEs to retain business operations through its enhanced Go Digital program. The PRC and the Republic of Korea encouraged the digital transformation of MSMEs' business, and Japan established special help desks for businesses (consultation services).

To stimulate consumption during the pandemic, several Asian countries used special expenditure programs targeting disrupted industries. Cambodia launched campaigns to promote domestic tourism (such as the Angkor Wat complex). Indonesia implemented stimulus packages to promote tourism (Bali) and financed social media infrastructure to promote tourist destinations. Malaysia offered travel discount vouchers and special income tax relief to promote domestic tourism. The Philippines and Thailand expanded their national budgets to stimulate tourism spending.

The aim of these early policies was to help maintain people's daily lives and business operations as much as possible at the pre-COVID-19 levels. The large government support packages commenced within 1 month of the start of the pandemic. However, they also risked further bloating national budgets and deteriorating banking sector balance sheets in the long term. Given the uncertainty about the length of the pandemic, governments need to focus the budget allocations on those groups that are most devastated by or vulnerable to COVID-19, including MSMEs. It is thus helpful for governments to have a better understanding of the evolving demand-side conditions to design the most feasible and effective policy measures using a phased approach.

This paper assesses the real conditions that MSMEs faced at the start of the COVID-19 pandemic or during lockdowns. The rapid survey aimed to verify the evidence for policy design to support MSMEs in the Philippines.

3. METHODOLOGY

The ADB conducted a rapid survey from 30 March to 16 April 2020 to assess the initial 1-month impact on MSMEs of the COVID-19-associated quarantine and lockdown measures. The survey also explored possible government policy options to support MSMEs' needs. It was carried out online via social media (Facebook) and networks of the Bureau of Small and Medium Enterprise Development under the Department of Trade and Industry and the Philippine Chamber of Commerce and Industry.

The survey questionnaire consisted of four components: (i) a company profile that identified companies' primary business, location, operating period, employment, wage per employee, total assets, internet penetration, and exposure to global business as of the end of 2019; (ii) business conditions after the COVID-19 outbreak, including changes in the business environment, sales volume, revenue, employment, wage payments, and fiscal and funding conditions; (iii) business concerns and obstacles that MSMEs are facing after the outbreak and related government quarantine measures; and (iv) policy interventions that MSMEs would like to receive from the government to maintain or restart their business. The survey set 15 March 2020 as the base date for the COVID-19 pandemic. The MSME classification refers to the employment criterion of the Philippine Statistics Authority (PSA): (i) a microenterprise is a firm with one to nine employees; (ii) a small enterprise is a firm with 10–99 employees; and (iii) a medium-sized enterprise is a firm with 100–199 employees.[2]

This study provides both descriptive and regression analyses to estimate the COVID-19 impact on MSMEs at the initial stage of the pandemic, addressing the impact by firm size and industry.

[2] The Philippines uses two different criteria to classify firm size: (i) employment levels, which the Philippine Statistics Authority (PSA) set for statistical purposes; and (ii) total assets (excluding land), which the Small and Medium Enterprise Development Council Resolution No. 01 Series of 2003 defined. When comparing the ADB and PSA survey data, the definition of firm size corresponds to the employment criterion set by the PSA.

3.1 Data Structure

In total, the survey received 2,329 responses from companies across the Philippines, of which 1,804 were from MSMEs that completed the survey—77.5% of the total respondents. This paper used only completed responses for analysis.

As the respondents were not selected randomly, it is critical to compare the distribution of the unweighted sample with an existing framework to understand the extent of bias and identify ways to minimize its impact on the survey estimates. We thus compared the survey data with the List of Establishments that the PSA surveyed in 2018.

Table 2A presents a breakdown of the enterprises by firm size and aggregated industrial sector. The unweighted sample is under-represented by nearly 8 percentage points when compared with the PSA list for microenterprises, while small enterprises are over-represented by nearly 7 percentage points and medium-sized enterprises by 1 percentage point. The industry data was aggregated into three broad classifications—agriculture, manufacturing (including construction), and services. The unweighted agriculture sample is over-represented by nearly 5 percentage points, and manufacturing by 23 percentage points; while services are under-represented by 27 percentage points.

Table 2A: Comparison between ADB and PSA Surveys by Firm Size and Aggregated Industrial Sector

	ADB Rapid MSME Survey on COVID-19 Impact (Unweighted)		PSA List of Establishments, 2018		Difference between ADB and PSA Surveys (%)
	Employment Grouping		Employment Grouping		
Item	Total	Share (%)	Total	Share (%)	
By firm size, total	1,804	100.0	998,342	100.0	
Micro	1,461	81.0	887,272	88.9	(7.9)
Small	318	17.6	106,175	10.6	7.0
Medium	25	1.4	4,895	0.5	0.9
By aggregated industrial sector, total	1,804	100.0	998,342	100.0	
Agriculture	99	5.5	8,506	0.9	4.6
Manufacturing	629	34.9	120,580	12.1	22.8
Services	1,076	59.6	869,256	87.1	(27.4)

ADB = Asian Development Bank; MSME = micro, small, and medium-sized enterprise; PSA = Philippine Statistics Authority.

Note: The firm size classification of the ADB survey data is based on the number of employees for comparison with the PSA data.

Source: Asian Development Bank, Rapid Survey for the COVID-19 Impact on Micro, Small, and Medium-Sized Enterprises in the Philippines.

A breakdown of the ADB survey data and PSA sampling frame by industry shows the differences in a more granular manner (Table 2B). By industry, the difference in each sector's share of the total respondents between the ADB and PSA data distribution was less than 5 percentage points (the vast majority had less than 1%), except for manufacturing (20 percentage points above the PSA distribution) and wholesale and retail trade (21 percentage points below the PSA distribution).

The geographic distribution of firms responding to the ADB survey reveals another layer of bias (Table 2B). Of the 17 regions, 10 were under-represented in the ADB samples relative to the PSA list. The difference in each region's share of the total respondents between the ADB and PSA data distribution was less than 5 percentage points, except

for Region IV-A (Calabarzon) (10.3 percentage points above the PSA distribution), Region X (Northern Mindanao) (5.6 percentage points above the PSA distribution), and the National Capital Region (NCR) (5 percentage points below the PSA distribution).

3.2 Weighting the Survey Data

For field surveys, a sample is typically drawn from an existing sampling frame that uses a well-defined sampling strategy and includes details on the distribution of the population. To increase the efficiency of the sample design for the survey, it is necessary to divide the sample into strata that are as homogeneous as possible. The number of geographic domains of analysis, the industrial classification, and enterprise type (firm size) are the three main determinants of the sample size and allocation as a minimum level of precision is necessary for each region. This also affects the sampling efficiency because the lower number of firms per primary statistical unit (PSU), especially by region, implies the need to enumerate more sample PSUs. The sample should be designed to provide nationally representative estimates and, if desired, high-precision estimates at the regional level for the key indicators. Ideally, the sample will be representative with respect to all the variables to estimate from the survey data.

However, there are several challenges to utilizing an optimal sampling design in an online survey due to self-selection bias. This typically occurs when respondents have a choice of filling out or not filling out a survey, which is often the case in online surveys.

Furthermore, some respondents may not have access to the Internet, which could lead to over- or under-representation of certain subgroups within a sample. Given these problems, it is difficult to draw unbiased inferences from the observed survey data, and the only way to proceed is to make corrections for the lack of representativeness. A popular correction technique to minimize the bias is weighting adjustments. Researchers assign larger weights to under-represented groups and smaller weights to over-represented groups, making it possible to derive weighted estimates of key indicators.

For this study, the PSA made available key statistics from its 2018 List of Establishments (LE), which includes both registered and unregistered enterprises and forms the basis of the sampling frame for the ADB survey data. The statistical unit of the LE is the establishment. It defines an establishment as an economic unit, which engages, under single ownership or control (under a single legal entity), in one or predominantly one kind of economic activity at a single fixed physical location. The operational definition of an establishment is a unit that engages in the production of the most homogeneous group of goods and services, usually at one location but sometimes over a wider area, for which separate records are available that provide data concerning the production of the goods and services and the materials, labor, and physical resources that it uses in production.

For weighting adjustments, an important requirement is to have auxiliary variables, which are measured in the survey but also available for the total population (for the sampling frame). The ADB survey data contain information on the number of establishments by a combination of variables (municipality, industry, and firm size) for the NCR and a combination of variables (province, industry, and firm size) for non-NCR firms. For each possible combination, the total number of establishments in the LE and the number of establishments surveyed are observed.

Table 2B: Comparison between ADB and PSA Surveys—By Industrial Sector and Region

	ADB Rapid MSME Survey on COVID-19 Impact				
	Employment Grouping				
Item	**Micro**	**Small**	**Medium**	**Total**	**Share** (%)
By industrial sector, total	**1,461**	**318**	**25**	**1,804**	**100.0**
A - Agriculture, forestry, and fishing	79	18	2	99	**5.5**
B - Mining and quarrying	–	–	–	–	**–**
C - Manufacturing	458	111	6	575	**31.9**
D - Electricity, gas, steam, and air conditioning supply	11	1	1	13	**0.7**
E - Water supply; sewerage, waste management, and remediation activities	–	–	–	–	**–**
F - Construction	36	15	3	54	**3.0**
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	393	55	1	449	**24.9**
H - Transport and storage	21	6	–	27	**1.5**
I - Accommodation and food service activities	208	41	4	253	**14.0**
J - Information and communication	29	13	1	43	**2.4**
K - Financial and insurance activities	6	12	1	19	**1.1**
L - Real estate activities	11	2	–	13	**0.7**
M - Professional, scientific, and technical activities	34	9	1	44	**2.4**
N - Administrative and support service activities	63	15	1	79	**4.4**
O - Public administration and defense; compulsory social security	–	–	–	–	**–**
P - Education	8	6	3	17	**0.9**
Q - Human health and social work activities	7	1	–	8	**0.4**
R - Arts, entertainment, and recreation	–	–	–	–	**–**
S - Other service activities	97	13	1	111	**6.2**
By region, total	**1,461**	**318**	**25**	**1,804**	**100.0**
National Capital Region (NCR)	210	63	5	278	**15.4**
Cordillera Administrative Region (CAR)	11	5	–	16	**0.9**
Region I (Ilocos Region)	144	21	1	166	**9.2**
Region II (Cagayan Valley)	58	10	–	68	**3.8**
Region III (Central Luzon)	128	25	1	154	**8.5**
Region IV-A (CALABARZON)	394	57	3	454	**25.2**
MIMAROPA Region	41	11	–	52	**2.9**
Region V (Bicol Region)	103	16	4	123	**6.8**
Region VI (Western Visayas)	33	12	3	48	**2.7**
Region VII (Central Visayas)	88	41	4	133	**7.4**
Region VIII (Eastern Visayas)	26	3	1	30	**1.7**
Region IX (Zamboanga Peninsula)	25	3	1	29	**1.6**
Region X (Northern Mindanao)	133	34	1	168	**9.3**
Region XI (Davao Region)	21	8	1	30	**1.7**
Region XII (SOCCSKSARGEN)	23	6	–	29	**1.6**
Region XIII (Caraga)	22	3	–	25	**1.4**
Autonomous Region in Muslim Mindanao (ARMM)	1	–	–	1	**0.1**

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Table 2B *continued*

Item	PSA List of Establishments, 2018 Employment Grouping					Difference between ADB and PSA Surveys (%)
	Micro	**Small**	**Medium**	**Total**	**Share** (%)	
By industrial sector, total	**887,272**	**106,175**	**4,895**	**998,342**	**100.0**	
A - Agriculture, forestry, and fishing	5,837	2,512	157	8,506	**0.9**	4.6
B - Mining and quarrying	492	302	21	815	**0.1**	(0.1)
C - Manufacturing	103,590	11,678	1,067	116,335	**11.7**	20.2
D - Electricity, gas, steam, and air conditioning supply	478	633	98	1,209	**0.1**	0.6
E - Water supply; sewerage, waste management, and remediation activities	677	711	49	1,437	**0.1**	(0.1)
F - Construction	2,304	1,715	226	4,245	**0.4**	2.6
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	427,101	33,577	1,087	461,765	**46.3**	(21.4)
H - Transport and storage	7,264	3,511	231	11,006	**1.1**	0.4
I - Accommodation and food service activities	125,396	18,802	337	144,535	**14.5**	(0.5)
J - Information and communication	27,421	1,973	153	29,547	**3.0**	(0.6)
K - Financial and insurance activities	37,813	8,053	167	46,033	**4.6**	(3.6)
L - Real estate activities	9,478	1,975	79	11,532	**1.2**	(0.4)
M - Professional, scientific, and technical activities	13,617	2,164	104	15,885	**1.6**	0.8
N - Administrative and support service activities	14,073	3,022	474	17,569	**1.8**	2.6
O - Public administration and defense; compulsory social security	–	–	–	–	**–**	–
P - Education	9,105	8,312	391	17,808	**1.8**	(0.8)
Q - Human health and social work activities	26,076	2,325	200	28,601	**2.9**	(2.4)
R - Arts, entertainment, and recreation	13,755	1,563	34	15,352	**1.5**	(1.5)
S - Other service activities	62,795	3,347	20	66,162	**6.6**	(0.5)
By region, total	**887,272**	**106,175**	**4,895**	**998,342**	**100.0**	
National Capital Region (NCR)	166,921	34,523	1,868	203,312	**20.4**	(5.0)
Cordillera Administrative Region (CAR)	18,783	1,587	47	20,417	**2.0**	(1.2)
Region I (Ilocos Region)	46,708	3,977	122	50,807	**5.1**	4.1
Region II (Cagayan Valley)	28,547	2,119	52	30,718	**3.1**	0.7
Region III (Central Luzon)	104,875	10,754	444	116,073	**11.6**	(3.1)
Region IV-A (CALABARZON)	133,640	13,778	778	148,196	**14.8**	10.3
MIMAROPA Region	21,948	1,914	57	23,919	**2.4**	0.5
Region V (Bicol Region)	37,111	3,215	118	40,444	**4.1**	2.8
Region VI (Western Visayas)	55,482	5,894	214	61,590	**6.2**	(3.5)
Region VII (Central Visayas)	61,176	8,775	444	70,395	**7.1**	0.3
Region VIII (Eastern Visayas)	28,324	2,355	70	30,749	**3.1**	(1.4)
Region IX (Zamboanga Peninsula)	30,888	2,216	73	33,177	**3.3**	(1.7)
Region X (Northern Mindanao)	33,040	4,079	155	37,274	**3.7**	5.6
Region XI (Davao Region)	52,449	5,758	252	58,459	**5.9**	(4.2)
Region XII (SOCCSKSARGEN)	41,581	3,121	120	44,822	**4.5**	(2.9)
Region XIII (Caraga)	18,069	1,687	67	19,823	**2.0**	(0.6)
Autonomous Region in Muslim Mindanao (ARMM)	7,730	423	14	8,167	**0.8**	(0.8)

ADB = Asian Development Bank; MSME = micro, small, and medium-sized enterprise; PSA = Philippine Statistics Authority.

Notes: The firm size classification of the ADB survey data is based on the number of employees for comparison with the PSA data. The ADB survey data are unweighted.

Source: Asian Development Bank, Rapid Survey for the COVID-19 Impact on Micro, Small, and Medium-Sized Enterprises in the Philippines.

A simple correction of the existing bias induced by self-selection and non-response involves dividing the population percentage by the response percentage for each combination to achieve representativity by location, industry, and firm size. It should be noted that the level of aggregation differs between NCR and non-NCR firms simply because more disaggregated auxiliary data are available for NCR firms (at the municipality level) than non-NCR firms (at the provincial level).

This weighting adjustment may not eliminate all the biases in the estimated parameters but helps to minimize self-selection and non-response bias to some extent. For instance, because data for all combinations of location–industry–firm size are not available in the sample, some biases will persist, although the extent may not be statistically significant as they are likely to be less prevalent in the LE anyway.[3] If the unweighted and weighted results are comparable, then self-selection and non-response bias may not be serious in the survey data.

3.3 Analytical Approach

The argument on the choice of econometric modeling in the presence of a binary dependent variable has been explored in detail in economics literature. Generally, it has compared two approaches: (i) the linear probability model (LPM) and (ii) probit and logistic models. The LPM allows the fitting of the data using a simple linear regression following the least squares approach. In contrast, probit and logistic regressions are drawn from the standard normal cumulative distribution function or the cumulative distribution function drawn from a logistic random variable.

The probit and logistic regressions were frequently recommended due to some shortcomings of the LPM: (i) the possibility of obtaining estimated values less than zero or greater than one, which is inconsistent within the context of a limited dependent variable, which in this case falls between zero and one; and (ii) the LPM yields inconsistent estimates (Amemiya 1977[4]). In fact, Horrace and Oaxaca (2006) elucidated the second point by stating that using ordinary least squares (OLS) on the LPM is theoretically possible to yield an unbiased estimation but requires fortuitous circumstances. They added that consistency seems to be exceedingly rare, as one would have to accept extraordinary restrictions on the joint distribution of the regressors, concluding that OLS is frequently a biased estimator and an inconsistent estimator of the LPM. They continued by suggesting that the only situations in which the LPM might make sense is when there are endogenous dummies or when using panel data. Within the context of measurement error associated with a binary dependent variable, misclassification may arise with some values coded as zero when they are in reality equal to one or vice versa. Hausman, Abrevaya, and Scott-Morton (1998) investigated the implications of such an error for the logit and probit models as well as the LPM and found the implications to be more severe for the LPM than for their non-linear counterparts.

[3] If the PSA had made the microdata for the LE available, we could have pursued further attrition correction in addition to the probability weighting that we have already implemented. We would have applied two steps: (i) a propensity score adjustment, which uses the available characteristics of the firms from the LE (age, gender of firm owner, location, sector, type, etc.) to account for unit non-response, and the inverse of this probability; and (ii) a post-stratification adjustment drawn from the LE inflated for industrial growth.

[4] Amemiya (1985) showed that there are some correspondences among LPM, probit, and logit estimators, though.

In contrast, Angrist and Pischke (2008) made several arguments in favor of the LPM. The first is that, while probit and logistic regressions may fit the limited dependent variable bounds, it is the marginal effects that analysts typically care about in these non-linear settings. Through an empirical example, they showed that these marginal effects are close to the LPM's estimated coefficients irrespective of whether the conditional expectation function is linear or non-linear. The second argument is that non-linear models are less computationally tractable, messier to interpret, and less transparent, particularly in the light of weighting, instrumental variables, and panel data. The finding of Angrist and Pischke (2008) is also consistent with that of Wooldridge (2002, 455), which states that "If the main purpose is to estimate the partial effect of the independent variable on the response probability, averaged across the distribution of [the independent variable], then the fact that some predicted values are outside the unit interval may not be very important."

Taking account of all the above, this study chose the LPM for the following reasons. First, probit and logistic models rely on several strong assumptions with respect to error terms, which may not always hold. In addition, probit and logistic models are difficult to interpret and issues arise when justifying the results. Meanwhile, the LPM is convenient and easier to interpret, computationally less intensive, and reveals similar marginal effects to its non-linear counterparts, as Angrist and Pischke (2008) showed.

3.4 Linear Probability Model

To assess the first 1-month impact on MSME operations, employment, wage payments, and fiscal and funding conditions after the COVID-19 pandemic and associated government containment measures, we estimated eight LPMs with six independent variables: industrial sector, business location, operating period, business ownership (gender), global business exposure, and firm size (employment grouping). The survey data were weighted in accordance with the 2018 PSA List of Establishments.

$$Y_i = \alpha + \beta\, Ind_i + \delta\, Reg_i + \phi\, Ops_i + \psi\, Wom_i + \eta\, GVC_i + \tau\, MSME_i + \epsilon \quad (1)$$

In this model, Y includes five areas with eight dimensions (models) that measure the level of a firm's resilience to the COVID-19 pandemic and the associated government measures (Table 3). Y_i in each model is a separate binary dependent variable for each observed firm i; Ind_i is the vector of categories for industry classification with "agriculture" as the base; Reg_i is the vector of categories for business location with "NCR" as the base; Ops_i is the vector of categories for years of operation with "0–5 years" as the base; Wom_i is a binary variable that takes the value one if the owner of the establishment is a "woman" and zero if the owner is a "man"; GVC_i is a binary variable that takes the value one if the establishment is involved in a global supply chain or export/import business and zero otherwise; $MSME_i$ is the vector of categories for enterprise classification with "medium-sized firm" as the base; and ϵ is a residual.

Table 3: Model Specification

Area (5)	Dimension (8)	Definition
1. Monthly sales	Sales 1	Firm's sales condition 1. Totally no sales in March 2020 (after the imposition of ECQ) or not.
	Sales 2	Firm's sales condition 2. A sales decrease in March as compared with February 2020 (before the imposition of ECQ) or not.
2. Monthly revenue	Revenue 1	Firm's income/revenue condition 1. Totally no income/revenue in March 2020 or not.
	Revenue 2	Firm's income/revenue condition 2. An income/revenue decrease in March 2020 from the previous month or not.
3. Employment	Employment	Firm's employment condition assessed by a decrease or increase in employees (including no change) in March 2020 from the previous month or not.
4. Wage payments	Wage 1	Firm's wage/salary payment condition to employees 1. Totally no wage payments to employees in March 2020 or not.
	Wage 2	Firm's wage/salary payment condition to employees 2. A decrease in the total wage payments in March 2020 from the previous month or not.
5. Financial condition	Finance	Firm's financial condition assessed as already having no cash/savings or running out of cash/funds in a month at the time of the survey.

ECQ = enhanced community quarantine.

Notes: The survey set 15 March 2020 as the base date of the COVID-19 pandemic. The ECQ began on 16 March and ended on 31 May 2020.

Source: Authors.

4. PROFILE OF THE SURVEYED MSMES

By firm size, 81.0% of the MSME respondents (1,804 firms) or 1,461 firms were owners of microenterprises, followed by small enterprises (17.6% or 318 firms) and medium-sized enterprises (1.4% or 25 firms).[5] By region, the top response rates were largely concentrated in Luzon, with Region IV-A (Calabarzon) (25.2%), the NCR (15.4%), Region I (Ilocos) (9.2%), and Region III (Central Luzon) (8.5%), accounting for nearly 58% of the responses. For Visayas, Region VII (Central Visayas) accounted for 7.4% of the responses, while in Mindanao, Region X (Northern Mindanao) contributed the most, with 9.3% of the total sample.

Based on the three broad industry classifications (Table 4), 59.6% of the surveyed MSMEs fell into the service category, followed by 34.9% in manufacturing. Agriculture accounted for 5.5% of the respondents. Wholesale and retail trade (24.9%) and accommodation and food services (14.0%) were the second- and third-largest sectors among the respondents.

[5] We caution readers of this article to interpret the statistics on medium-sized enterprises carefully given the small sample size.

Table 4: Industry Classification

Board Industry Classification	PSA Industry Classification
Agriculture	Agriculture, forestry, and fishing
Manufacture	Manufacturing
	Construction
Services	Mining and quarrying
	Electricity, gas, steam, and air conditioning supply
	Water supply; sewerage, waste management, and remediation activities
	Wholesale and retail trade; repair of motor vehicles and motorcycles
	Transport and storage
	Accommodation and food service activities
	Information and communication
	Financial and insurance activities
	Real estate activities
	Professional, scientific, and technical activities
	Administrative and support service activities
	Public administration and defense; compulsory social security
	Education
	Human health and social work activities
	Arts, entertainment, and recreation
	Other service activities

PSA = Philippine Statistics Authority.

Source: Authors.

We found that 59.6% of the surveyed MSMEs had been in operation for between 0 and 5 years (young start-ups mostly belonging to microenterprises and in services), followed by those operating for 6–10 years (18.8%), 11–15 years (8.5%), 16–30 years (9.6%), and over 31 years (3.4%).

More than half (56.1%) of the surveyed MSMEs had a female head. By firm size, women-led MSMEs accounted for 58.0% of microenterprises, 50.3% of small enterprises, and 16.0% of medium-sized enterprises. By sector, they accounted for 58.1% of manufacturing-related enterprises, followed by service-oriented firms (56.0%). The percentage of female ownership was lower for agriculture, with women owning 44.4% of agricultural enterprises.

As the enterprise size increases, so does the percentage of women employed. Based on the responses, 28.0% of microenterprises had female employees of at least 51% of the firm's workforce. This share grew when it came to small enterprises (34.3%) and medium-sized enterprises (40.0%). In contrast, 54.5% of microenterprises, 23.0% of small enterprises, and 4.0% of medium-sized enterprises reported that female comprised less than 10% of the workforce. By industry, nearly half the sample for all three sectors (agriculture [48.5%], manufacturing [49.7%], and services [47.4%]) had less than 10% female employees. The percentage of firms with more than 50% female employees was 30.5% for services, 28.7% for manufacturing, and 20.2% for agriculture.

By wage structure, more than half (60.4%) of firms reported average monthly wages of not more than P9,000. This was followed by 35.1% with average monthly wages ranging between P9,001 and P18,000. Firms with average monthly wages greater than P18,001 accounted for less than 5% of the sample. Notably, more than four-fifths of enterprises in Region I (83.7%) and Region IX (Zamboanga Peninsula, 82.8%) reported average wages of less than P9,000. By comparison, only the NCR,

Region IV-A, Region V (Bicol), and Region X had enterprises reporting monthly wages of over P27,000.

The average monthly wage tends to increase as the enterprise size increases. The share of enterprises with average wages greater than P18,000 increased from 2.9% for microenterprises to 10.4% for small and 20.0% for medium-sized enterprises. Meanwhile, the share of enterprises with an average wage of not more than P9,000 fell from 67.6% for micro to 29.9% for small and just 24.0% for medium-sized enterprises. A similar trend was observable by sector. The share of enterprises with an average wage of less than P9,000 fell from 71.7% for agriculture to 67.2% for manufacturing and 55.3% for services. However, in all three sectors, more than half of the enterprises reported average wages of not more than P9,000.

Nearly three-fourths (74.0%) of the respondents indicated that they used the Internet in their daily business. The Internet use was lower for microenterprises (71.6%) than for small (84.0%) and medium-sized (88.0%) enterprises. Agricultural firms reported the lowest use of the Internet in their daily business with 62.6%. However, relative to the national average, lower Internet penetration was observable in Region XII (SOCCSKSARGEN, 48.3%), Region I (65.7%), Region XI (Davao, 66.7%), Region X (67.3%), Region II (Cagayan Valley, 67.6%), and Region V (69.1%). Higher penetration rates were apparent in Region VII (84.2%), the NCR (83.8%), and Region III (83.8%).[6]

Less than one-tenth (9.8%) of the responding enterprises reported that they were involved in a global value chain (GVC). The percentage of medium-sized enterprises (28.0%) was higher than those of small (20.8%) and microenterprises (7.1%). A similar pattern was also evident across industries. Manufacturing had the largest GVC share (11.5%), followed by agriculture (10.1%) and services (8.8%).

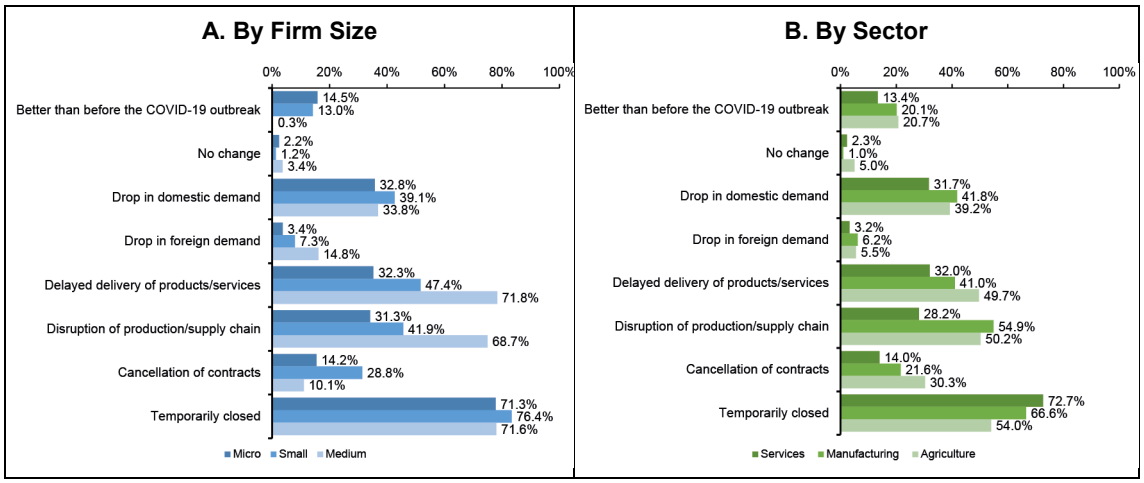
5. FINDINGS FROM THE DESCRIPTIVE STATISTICS AND ECONOMETRIC ANALYSES

The study offers a descriptive analysis based on the survey findings and uses the LPM to estimate the impact on MSME operations, employment, and fiscal conditions. It weighted the survey data based on the PSA list of establishments by firm size, sector, and location.

The survey found that an average 73.1% of MSMEs were forced to close their business a few weeks after the COVID-19 outbreak and the lockdown measures implemented. This was more pronounced for small firms (76.4%) and those in services (72.7%) (Figure 1). They immediately faced delays in the delivery of products and services (average 50.5%, especially for medium-sized firms [71.8%] and agriculture [49.7%]), disrupted supply chains (average 47.3%, especially in medium-sized firms [68.7%] and manufacturing [54.9%]), and a sharp drop in the domestic demand (average 35.2%, especially in small firms [39.1%] and manufacturing [41.8%]). Only 2.3% of MSMEs on average reported no change in the business environment after the outbreak. Meanwhile, some groups of MSMEs (average 9.3%) reported a better business environment than before the pandemic, especially in microenterprises (14.5%) and agriculture (20.7%), due to the increased demand from households and firms for essential goods and services and healthcare.

[6] We removed the Autonomous Region in Muslim Mindanao (ARMM) from this ranking as only one enterprise responded.

Figure 1: Business Conditions during the Pandemic



MSME = micro, small, and medium-sized enterprise.

Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

Table 5 shows the LPM estimate results based on the weighted data. Model (1) was carried out in five areas (sales, revenue, employment, wages, and finance) with eight dimensions that affect firms' resilience to the COVID-19 pandemic and associated government measures.

The eight dimensions are binary dependent variables:

a. *sales1* denotes a dummy variable taking the value one for a firm with no sales in March 2020 and zero for a firm with sales;

b. *sales2* denotes a dummy variable taking the value one for a firm with a sales decrease in March compared with February 2020 and zero for a firm with a sales increase or no change;

c. *revenue1* denotes a dummy variable taking the value one for a firm with no income/revenue in March 2020 and zero for a firm with income/revenue;

d. *revenue2* denotes a dummy variable taking the value one for a firm with an income/revenue decrease in March compared with February 2020 and zero for a firm with an income/revenue increase or no change;

e. *employment* denotes a dummy variable taking the value one for a firm with a decrease in the number of employees in March compared with February 2020 and zero for a firm with an increase or no change in the number of employees;

f. *wage1* denotes a dummy variable taking the value one for a firm with no wage payments to employees after the COVID-19 outbreak (15 March 2020 as the base date) and zero for a firm that has paid wages to employees;

g. *wage2* denotes a dummy variable taking the value one for a firm with a decrease in the total wage payments to employees after the virus outbreak and zero for a firm with an increase or no change in wage payments; and

h. *finance* denotes a dummy variable taking the value one for a firm with no cash/savings at the time of the survey or running out of cash/funds in a month and zero for a firm that reported having enough savings, liquid assets, and other contingency finance to maintain business at the time of the survey.

Table 5: COVID-19 Impact on MSMEs—Linear Probability Model

Variables	(1) sales1	(2) sales2	(3) revenue1	(4) revenue2
Industry (base—agriculture, forestry, and fishing)				
Manufacturing	0.0286	0.09650*	0.0597	0.0533
	[0.0982]	[0.0580]	[0.0910]	[0.0435]
Transportation and storage	0.1259	0.0785	0.0630	–0.0573
	[0.1493]	[0.0689]	[0.1532]	[0.0964]
Power and energy (e.g., electricity and gas)	–0.4098***	0.0949	–0.4256***	0.0314
	[0.1564]	[0.0597]	[0.1434]	[0.0446]
Construction	0.3979***	0.0686	0.3686***	0.0236
	[0.1017]	[0.0638]	[0.0983]	[0.0513]
Wholesale and retail trade	–0.0061	0.0714	0.0164	0.0214
	[0.0930]	[0.0587]	[0.0867]	[0.0444]
Information and communication technology	0.0752	0.0830	0.0260	–0.0185
	[0.1376]	[0.0734]	[0.1352]	[0.0758]
Accommodation and food service activities	0.1492	0.0937	0.1808**	0.0397
	[0.0975]	[0.0576]	[0.0913]	[0.0439]
Financial and insurance activities	–0.1350	–0.2442	0.0413	–0.0941
	[0.1956]	[0.1938]	[0.1926]	[0.1856]
Real estate activities	0.0669	–0.1867	–0.0504	–0.3467*
	[0.2670]	[0.2292]	[0.2467]	[0.2101]
Professional, scientific, and technical activities	0.0281	0.0213	0.0087	0.0082
	[0.1348]	[0.0758]	[0.1290]	[0.0605]
Administrative and support service activities	0.1505	0.0960	0.1685	0.0463
	[0.1139]	[0.0618]	[0.1110]	[0.0492]
Education	0.4791***	0.0754	0.4851***	0.0372
	[0.1135]	[0.0624]	[0.1051]	[0.0490]
Human health and social work activities	–0.0650	0.1123*	–0.0325	0.0665
	[0.2215]	[0.0602]	[0.2200]	[0.0456]
Other service activities	0.1376	0.1145**	0.1196	0.0717
	[0.1118]	[0.0579]	[0.1064]	[0.0437]
Location (base—National Capital Region (NCR))				
Autonomous Region in Muslim Mindanao (ARMM)	–0.6801***	0.04346*	0.3516***	0.05893**
	[0.0611]	[0.0248]	[0.0614]	[0.0269]
Cordillera Administrative Region (CAR)	0.1595	0.0327	0.1793	0.05012**
	[0.1215]	[0.0232]	[0.1246]	[0.0255]
MIMAROPA Region	–0.0877	0.0187	–0.0558	0.05500*
	[0.1300]	[0.0384]	[0.1288]	[0.0304]
REGION I (Ilocos Region)	–0.1008	0.0118	–0.0158	0.0213
	[0.0907]	[0.0264]	[0.0918]	[0.0280]
REGION II (Cagayan Valley)	–0.3472***	–0.0440	–0.3865***	–0.0319
	[0.1242]	[0.0762]	[0.1098]	[0.0768]
REGION III (Central Luzon)	0.0953	0.0052	0.0419	0.0181
	[0.0752]	[0.0401]	[0.0799]	[0.0409]
REGION IV-A (CALABARZON)	–0.0779	0.0006	–0.0641	0.0007
	[0.0610]	[0.0322]	[0.0609]	[0.0346]
REGION V (Bicol Region)	–0.1977	0.0172	–0.1864	0.0067
	[0.1588]	[0.0326]	[0.1655]	[0.0383]

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Table 5 *continued*

Variables	(1) sales1	(2) sales2	(3) revenue1	(4) revenue2
REGION VI (Western Visayas)	–0.1274	0.0447	–0.1091	0.0565
	[0.1173]	[0.0409]	[0.1180]	[0.0412]
REGION VII (Central Visayas)	–0.1064	–0.0357	–0.0890	–0.0117
	[0.0833]	[0.0434]	[0.0827]	[0.0440]
REGION VIII (Eastern Visayas)	–0.1715	0.0595	–0.1619	0.07255*
	[0.1943]	[0.0407]	[0.1984]	[0.0415]
REGION IX (Zamboanga Peninsula)	0.0568	0.0108	0.0585	0.0222
	[0.1338]	[0.0273]	[0.1338]	[0.0286]
REGION X (Northern Mindanao)	–0.1727**	–0.0105	–0.1281*	0.0298
	[0.0785]	[0.0370]	[0.0775]	[0.0295]
REGION XI (Davao Region)	–0.0609	–0.0060	–0.0437	–0.0222
	[0.1385]	[0.0422]	[0.1399]	[0.0514]
REGION XII (SOCCSKARGEN)	–0.4667***	–0.0058	–0.1704	0.0029
	[0.1058]	[0.0415]	[0.1891]	[0.0423]
REGION XIII (Caraga)	–0.4919***	0.0246	–0.4762***	0.03542*
	[0.1291]	[0.0196]	[0.1329]	[0.0212]
Operating Period (base—0–5 years)				
6–10 years	–0.0368	0.0112	0.0353	0.0121
	[0.0551]	[0.0215]	[0.0618]	[0.0222]
11–15 years	0.0368	0.0232	0.0735	0.0274
	[0.0738]	[0.0252]	[0.0748]	[0.0253]
16–30 years	–0.0326	0.0222	–0.0069	0.0097
	[0.0786]	[0.0311]	[0.0771]	[0.0332]
31 years and above	–0.0382	0.0251	0.0105	0.02759*
	[0.1257]	[0.0165]	[0.1193]	[0.0162]
Gender of Owner (base—male owner)				
Woman	0.09479**	0.0127	0.07358*	0.0043
	[0.0414]	[0.0207]	[0.0437]	[0.0215]
Involvement in GVC (base—non-GVC firms)				
GVC firms	0.0019	–0.1092*	0.0378	–0.1045*
	[0.0764]	[0.0615]	[0.0749]	[0.0619]
Enterprise Classification (base—medium enterprise)				
Microenterprise	0.2246*	0.1424	0.2791**	0.1580
	[0.1275]	[0.1301]	[0.1305]	[0.1341]
Small enterprise	0.0383	0.2012	0.1037	0.2080
	[0.1295]	[0.1283]	[0.1327]	[0.1325]
Constant	0.3668**	0.7301***	0.2792*	0.7573***
	[0.1628]	[0.1415]	[0.1616]	[0.1421]
N	1,804	1,804	1,804	1,804
Pseudo R-square	0.1215	0.0826	0.0750	0.0594

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Table 5 *continued*

Variables	(5) employment	(6) wage1	(7) wage2	(8) finance
Industry (base—agriculture, forestry, and fishing)				
Manufacturing	–0.0995	0.1576*	0.2275***	0.0495
	[0.0852]	[0.0920]	[0.0821]	[0.0734]
Transportation and storage	–0.1678	0.1681	0.1536	0.1842**
	[0.1681]	[0.1473]	[0.1238]	[0.0830]
Power and energy (e.g., electricity and gas)	0.1369	–0.4952***	0.1471	–0.0375
	[0.2363]	[0.1267]	[0.1490]	[0.2145]
Construction	–0.3341***	0.1053	0.0831	0.1831**
	[0.1164]	[0.1373]	[0.1205]	[0.0759]
Wholesale and retail trade	–0.2400***	0.0815	0.0771	0.0103
	[0.0809]	[0.0886]	[0.0815]	[0.0705]
Information and communication technology	–0.3907***	0.1347	–0.0345	–0.2158*
	[0.1065]	[0.1326]	[0.1298]	[0.1269]
Accommodation and food service activities	–0.2073**	0.2621***	0.2184***	0.1379*
	[0.0904]	[0.0916]	[0.0826]	[0.0714]
Financial and insurance activities	–0.4296***	0.1504	0.3438***	0.1548
	[0.1324]	[0.1894]	[0.1008]	[0.1060]
Real estate activities	–0.4916***	–0.1943	–0.3451*	–0.0466
	[0.1649]	[0.1904]	[0.1968]	[0.2131]
Professional, scientific, and technical activities	–0.4559***	–0.0426	–0.1884	–0.0440
	[0.0912]	[0.1234]	[0.1251]	[0.1171]
Administrative and support service activities	–0.3757***	0.0989	0.0892	0.1054
	[0.0902]	[0.1121]	[0.1065]	[0.0937]
Education	–0.0495	0.4664***	0.3134**	0.1810
	[0.2069]	[0.1424]	[0.1447]	[0.1273]
Human health and social work activities	–0.4450***	–0.0911	–0.2071	0.2514***
	[0.1477]	[0.2214]	[0.2071]	[0.0757]
Other service activities	–0.2988***	0.1197	0.0638	0.0274
	[0.0969]	[0.1123]	[0.1084]	[0.0919]
Location (base—National Capital Region (NCR))				
Autonomous Region in Muslim Mindanao (ARMM)	0.7935***	–0.5639***	0.2506***	0.1840***
	[0.0598]	[0.0639]	[0.0537]	[0.0482]
Cordillera Administrative Region (CAR)	0.5829***	0.2543*	0.1441	0.0653
	[0.1579]	[0.1305]	[0.0884]	[0.1010]
MIMAROPA Region	0.0224	0.1594	0.0059	–0.1261
	[0.1069]	[0.1199]	[0.1196]	[0.1237]
REGION I (Ilocos Region)	0.1020	0.0455	0.0524	0.0234
	[0.0759]	[0.0896]	[0.0641]	[0.0616]
REGION II (Cagayan Valley)	0.4326***	–0.0213	0.0474	0.0643
	[0.1287]	[0.1379]	[0.1093]	[0.0885]
REGION III (Central Luzon)	0.1572*	0.1051	0.0481	0.0067
	[0.0829]	[0.0829]	[0.0713]	[0.0683]
REGION IV-A (CALABARZON)	0.0650	0.0641	–0.0035	–0.0177
	[0.0556]	[0.0607]	[0.0531]	[0.0503]
REGION V (Bicol Region)	–0.0670	–0.1703	0.0129	0.1697**
	[0.1030]	[0.1614]	[0.0866]	[0.0829]

continued on next page

Table 5 *continued*

Variables	(5) employment	(6) wage1	(7) wage2	(8) finance
REGION VI (Western Visayas)	–0.0739	0.0004	0.0412	0.0736
	[0.0961]	[0.1146]	[0.0972]	[0.0870]
REGION VII (Central Visayas)	0.1005	0.0369	0.0309	–0.0301
	[0.0759]	[0.0835]	[0.0689]	[0.0647]
REGION VIII (Eastern Visayas)	0.3136*	–0.0381	0.1798**	0.0418
	[0.1720]	[0.1938]	[0.0702]	[0.1391]
REGION IX (Zamboanga Peninsula)	–0.0947	–0.0089	–0.1797	–0.1962
	[0.1200]	[0.1643]	[0.1507]	[0.1801]
REGION X (Northern Mindanao)	0.0800	0.0440	0.0031	0.0117
	[0.0725]	[0.0779]	[0.0657]	[0.0584]
REGION XI (Davao Region)	0.3134**	–0.0482	–0.0253	0.0325
	[0.1573]	[0.1443]	[0.1175]	[0.0888]
REGION XII (SOCCSKARGEN)	0.3754**	–0.1251	–0.0946	0.0948
	[0.1691]	[0.2072]	[0.1753]	[0.0705]
REGION XIII (Caraga)	0.3073	–0.4973***	–0.1992	0.2053**
	[0.1946]	[0.0952]	[0.1665]	[0.0829]
Operating Period (base—0–5 years)				
6–10 years	0.0332	–0.0173	–0.0335	–0.0166
	[0.0577]	[0.0631]	[0.0540]	[0.0424]
11–15 years	0.0388	0.0881	0.1297**	–0.1511*
	[0.0792]	[0.0833]	[0.0643]	[0.0852]
16–30 years	–0.0609	–0.0465	–0.0845	–0.0711
	[0.0642]	[0.0805]	[0.0779]	[0.0704]
31 years and above	–0.0889	–0.0614	–0.1641	–0.1617
	[0.1090]	[0.1300]	[0.1127]	[0.1140]
Gender of Owner (base—male owner)				
Woman	–0.0126	0.0562	0.0325	0.0149
	[0.0421]	[0.0445]	[0.0389]	[0.0339]
Involvement in GVC (base—non-GVC firms)				
GVC firms	0.0897	–0.0075	–0.0928	–0.0729
	[0.0646]	[0.0796]	[0.0734]	[0.0729]
Enterprise Classification (base—medium enterprise)				
Microenterprise	0.0505	0.1322	–0.0759	0.0930
	[0.1441]	[0.1708]	[0.1128]	[0.1402]
Small enterprise	0.1779	–0.1268	–0.1734	0.0739
	[0.1454]	[0.1723]	[0.1156]	[0.1401]
Constant	0.4086**	0.2940	0.7157***	0.6979***
	[0.1711]	[0.1991]	[0.1446]	[0.1584]
N	1,804	1,804	1,804	1,804
Pseudo R-square	0.1280	0.0791	0.0831	0.0727

MSME = micro, small, and medium-sized enterprise.

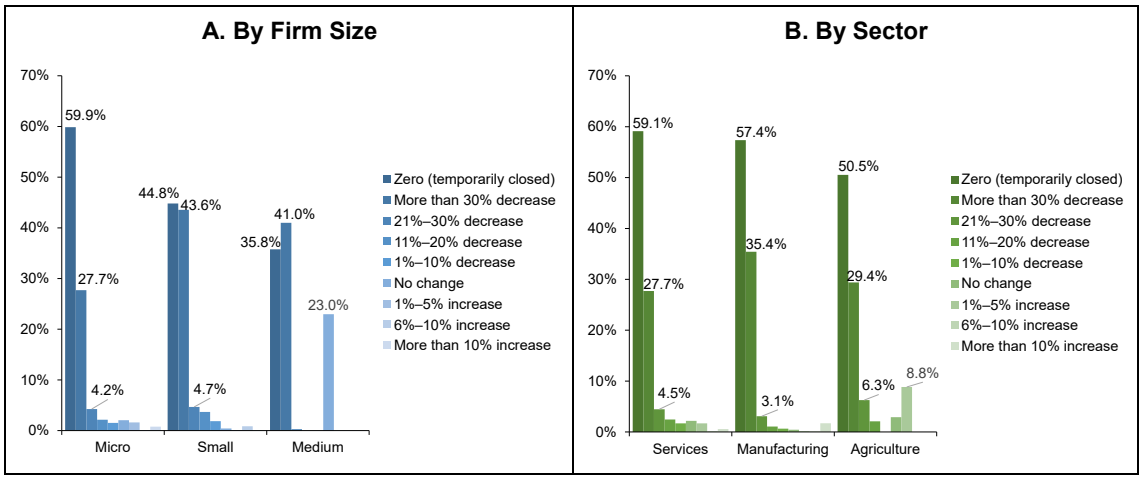
Note: Robust standard errors in brackets. *** p<0.01, ** p<0.05, * p<0.10.

Source: Authors' calculation based on the Asian Development Bank Rapid Survey for the COVID-19 Impact on Micro, Small, and Medium-Sized Enterprises in the Philippines, 30 March–16 April 2020.

5.1 Impact on MSME Sales

The survey found that 59.9% of microenterprises had no sales in March 2020 due to the temporary closure of business, followed by small firms (44.8%) and medium-sized firms (35.8%), suggesting a more serious impact on microenterprises (Figure 2). MSMEs that operated continuously during the lockdown faced a significant drop in sales: 27.7% of micro, 43.6% of small, and 41.0% of medium-sized firms experienced a sales decrease of over 30% in March from February (the month before the lockdown). All three industrial sectors—services, manufacturing, and agriculture—also had no sales immediately after the lockdown (more than half of MSMEs in each sector). However, some MSMEs had a sales increase due to special demand during the lockdown, such as retail trade offering daily goods and food.

Figure 2: Sales in March 2020



MSME = micro, small, and medium-sized enterprise.

Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

The LPM result provided a more detailed picture of the lockdown's impact on MSMEs (Table 5). By sector, the regression result (*sales1*) indicated that education and construction were more likely to have no sales in March 2020 than agriculture (base) due to temporary business closures. Specifically, in comparison with agriculture-based firms, the number of MSMEs with no sales was 47.9 percentage points higher in education and 39.8 percentage points higher in construction, both with significance at the 1% level. As the ECQ included school closures and limited business operations, it makes sense that the lockdown affected education most seriously and that construction (given the government's build-build-build program) immediately slowed. The power and energy sector (including electricity and gas) was less likely to report no sales. The number of no-sales MSMEs in the power and energy sector was 41.0 percentage points lower than that of agriculture-based firms at the 1% significance level due to the increased demand for electricity and gas from households under ECQ stay-at-home orders.

For firms that operated continuously during the pandemic, the estimates (*sales2*) indicated that other services (including tourism), human health and social work activities, and manufacturing were more likely to have decreased sales in March 2020 than agriculture. The number of MSMEs with decreasing sales was 11.5 percentage points higher in other services (the 5% significance level), 11.2 percentage points higher in

human health and social work activities (the 10% significance level), and 9.7 percentage points higher in manufacturing (the 10% significance level) than in agriculture. These industries continued operating, but their sales declined immediately after the lockdown.

By region, compared with NCR-based firms (base), MSMEs in Caraga (Region XIII), SOCCSKARGEN (Region XII), Cagayan Valley (Region II), and Northern Mindanao (Region X) were less likely to have no sales in March 2020 or no business closures. The number of no-sales MSMEs was 49.2 percentage points lower in Caraga than in the NCR, 46.7 percentage points lower in SOCCSKARGEN, 34.7 percentage points lower in Cagayan Valley, and 17.3 percentage points lower in Northern Mindanao at the 1% significance level (except Region X at the 5% significance level). This suggests that MSMEs in the NCR or capital city were more likely to see declines in sales than those in the provinces. MSMEs in the Autonomous Region in Muslim Mindanao (ARMM) were less likely to have no sales (68.0 percentage points lower) but more likely to have decreased sales in March 2020 (4.3 percentage points higher) than NCR-based firms—however, it should be noted that there was just one firm from this region. Therefore, the analysis of MSMEs will exclude the ARMM for the rest of this paper.

Compared with young enterprises operating for up to 5 years, longer-established MSMEs were less likely to have no sales (no closure of business) in March 2020, suggesting the immediate negative impact on the sales of young firms after the lockdown due to business closures. For instance, the number of no-sales MSMEs was 3.8 percentage points lower in firms that had operated for more than 31 years than in those that had operated for up to 5 years; however, those decreasing sales increased by 2.5 percentage points in firms aged 31 years and over, although they were statistically not significant.

Women-led MSMEs seemed to face more serious effects of the pandemic and lockdown in sales than men-led MSMEs. The number of women-led MSMEs with no sales due to business closures was 9.5 percentage points higher than that of men-led MSMEs at the 5% significance level. For those that operated continuously during the pandemic, women-led MSMEs with decreasing sales in March 2020 increased by 1.3 percentage points compared with men-led MSMEs, but this was not statistically significant.

For MSMEs involved in GVCs, we did not see any statistically significant result for no-sales GVC firms or immediate business closure after the lockdown. They were less likely to have decreased sales in March 2020 than domestically focused MSMEs or non-GVC MSMEs. The number of GVC MSMEs with decreased sales was 10.9 percentage points lower than that of non-GVC firms at the 10% significance level. Internationalized MSMEs could survive the first month after the virus outbreak and lockdown imposed more easily than domestically focused firms.

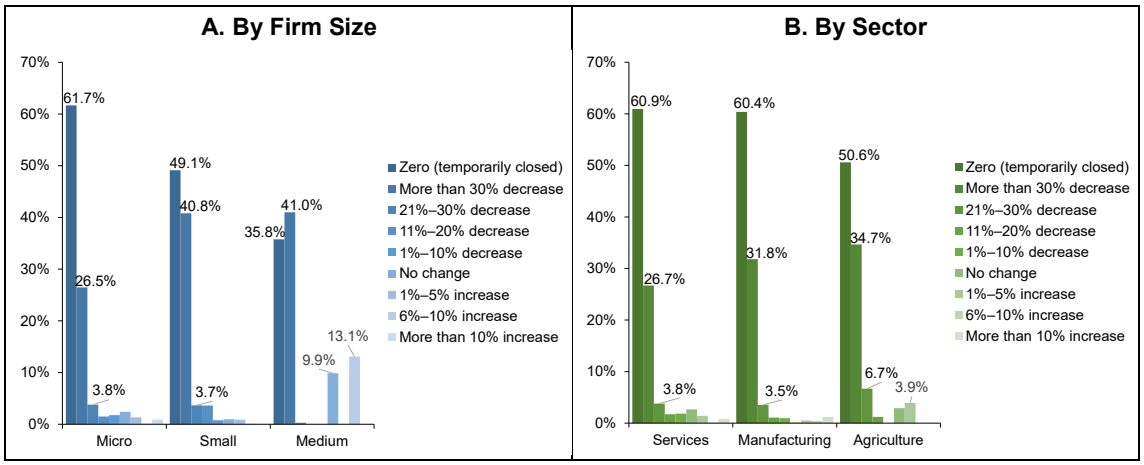
By firm size, compared with medium-sized firms, microenterprises were more likely to have no sales after the outbreak and lockdown. The number of microenterprises with no sales was 22.5 percentage points higher than that of medium-sized firms, with significance at the 10% level. Small firms with no sales increased by 3.8 percentage points compared with medium-sized firms, but this figure was not statistically significant. We did not see any statistically significant results for firms with decreased sales by size.

5.2 Impact on MSME Revenue

The impact on MSME revenue was similar to the results for MSME sales. There were 61.7% of microenterprises with no revenue in March 2020 due to business closures, followed by small firms (49.1%) and medium-sized firms (35.8%) (Figure 3). MSMEs that

operated during the lockdown had a sharp drop in revenue, with 26.5% of micro, 40.8% of small, and 41.0% of medium-sized firms having more than a 30% revenue decrease in March from February. All three industrial sectors also had no revenue after the lockdown (more than 60% of MSMEs in services and manufacturing, respectively). Some groups of MSMEs increased their revenue due to the special demand brought by the lockdown.

Figure 3: Revenue in March 2020



MSME = micro, small, and medium-sized enterprise.

Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

According to the LPM, the impact of COVID-19 and quarantine measures on MSME revenues followed a similar pattern to MSME sales but differed slightly (Table 5). By sector, the estimates (*revenue1*) indicated that education, construction, and accommodation and food services were more likely to have no revenue in March 2020 than agriculture (base) due to temporary business closures. In comparison with agriculture-based firms, the number of MSMEs with no revenue was 48.5 percentage points higher in education (the 1% significance level), 38.9 percentage points higher in construction (the 1% significance level), and 18.1 percentage points higher in accommodation and food services (the 5% significance level). The results clearly identified the impact on operations in the education and construction sectors. As accommodation and food services include the tourism industry, the result also suggests that tourism closures contributed to the immediate revenue decline in this sector. Similar to the analysis of sales, the power and energy sector was less likely to have no revenue. The number of no-revenue MSMEs in the power and energy sector was 42.6 percentage points lower than that of agriculture-based firms at the 1% significance level due to the household demand for electricity and gas during the stay-at-home order.

For firms that operated continuously after the outbreak, the estimates (*revenue2*) indicated that real estate services were less likely to have decreased revenue in March 2020 than agriculture. The number of MSMEs with decreasing revenue was 34.7 percentage points lower in real estate services than in agriculture (the 10% significance level). The real estate sector continued operations, and the ECQ that required people to stay at home somewhat ensured its revenues. This suggests that the lockdown forced people to keep their housing/property lease contract during the pandemic, supporting relatively stable revenues in the sector.

By region, similar to the analysis of sales, MSMEs in Caraga (Region XIII), Cagayan Valley (Region II), and Northern Mindanao (Region X) were less likely to have no revenue in March 2020 or no closure of business than NCR-based firms. The number of no-revenue MSMEs was 47.6 percentage points lower in Caraga than in NCR, 38.7 percentage points lower in Cagayan Valley, and 12.8 percentage points lower in Northern Mindanao at the 1% significance level (except Region X at the 10% significance level). In other words, MSMEs in the NCR seem to have had no revenue as compared with those in the provinces. However, for MSMEs that operated continuously during the pandemic, the number of MSMEs with decreasing revenue was 7.3 percentage points higher in Eastern Visayas (Region VIII) than in the NCR, 5.5 percentage points higher in MIMAROPA Region, 5.0 percentage points higher in Cordillera Administrative Region (CAR), and 3.5 percentage points higher in Caraga at the 10% significance level (except CAR at the 5% significance level). Firms with declining revenue had grown more widely outside the NCR.

By operating period, we did not see any statistically significant result for no-revenue MSMEs or immediate business closure after the lockdown, but longer-established MSMEs were more likely to have decreased revenue in March 2020. The number of revenue-declined MSMEs that had operated for more than 31 years was 2.8 percentage points higher than the number that had operated for up to 5 years at the 10% significance level.

Women-led MSMEs, similar to the analysis of sales, faced a more serious impact from the pandemic and lockdown than men-led MSMEs. The number of women-led MSMEs with no revenue due to business closures was 7.4 percentage points higher than that of men-led MSMEs at the 10% significance level. For those that operated continuously, we did not see any statistically significant result for women-led MSMEs with decreasing revenue in March 2020.

Again, we did not see any statistically significant result for no-revenue GVC firms or immediate business closure after the lockdown, but GVC firms were less likely to have decreased revenue in March 2020 than non-GVC MSMEs. The number of GVC MSMEs with decreasing revenue was 10.5 percentage points lower than that of non-GVC firms at the 10% significance level. The results supported the relatively higher survival ratio of internationalized MSMEs than of domestically focused firms during the survey period.

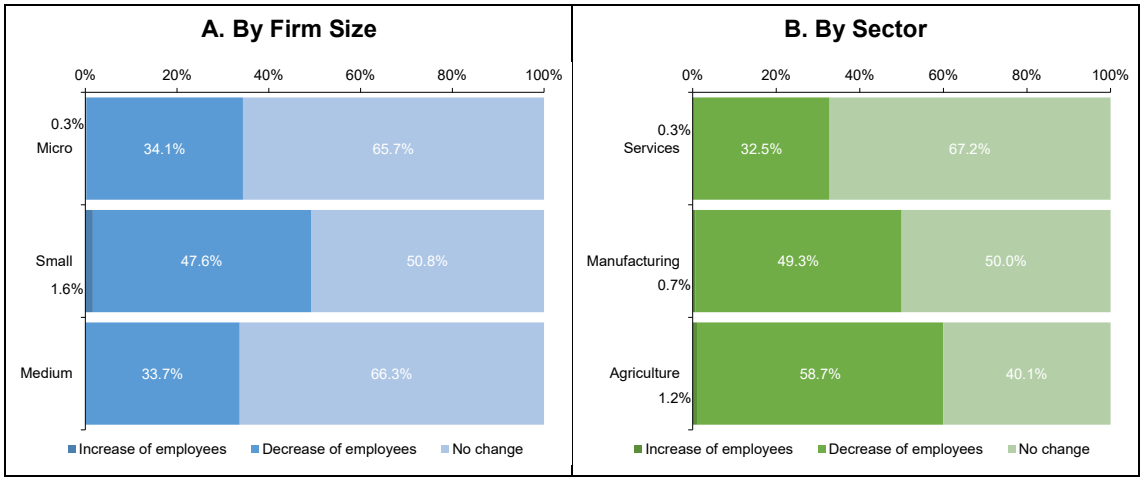
The firm size results were also similar to the analysis of sales, with microenterprises being more likely to have no revenue after the outbreak and lockdown than medium-sized firms. The number of microenterprises with no revenue was 27.9 percentage points higher than that of medium-sized firms with significance at the 5% level. Small firms with no revenue increased by 10.4 percentage points compared with medium-sized firms, but this was not statistically significant. We did not see any statistically significant result for firms with decreasing revenue by size.

5.3 Employment during the COVID-19 Pandemic

Generally, in most MSMEs, employment experienced no change during the first month following the lockdown (65.7% of micro, 50.8% of small, and 66.3% of medium-sized firms) (Figure 4), but MSMEs began laying off employees at a relatively early stage to survive (68.0% of micro, 59.5% of small, and 78.6% of medium-sized firms), especially in manufacturing (69.4%) and services (67.3%) (Figure 5). The larger the firm size, the more working options were available. Among medium-sized firms, 41.1% reduced their employee working hours, followed by 34.8% of small firms and 26.5% of microenterprises. Work-from-home was not a preferred option for many MSMEs. Smaller

firms had much more difficulty in introducing this arrangement: 24.9% of medium-sized, 19.8% of small, and 11.3% of microenterprises.

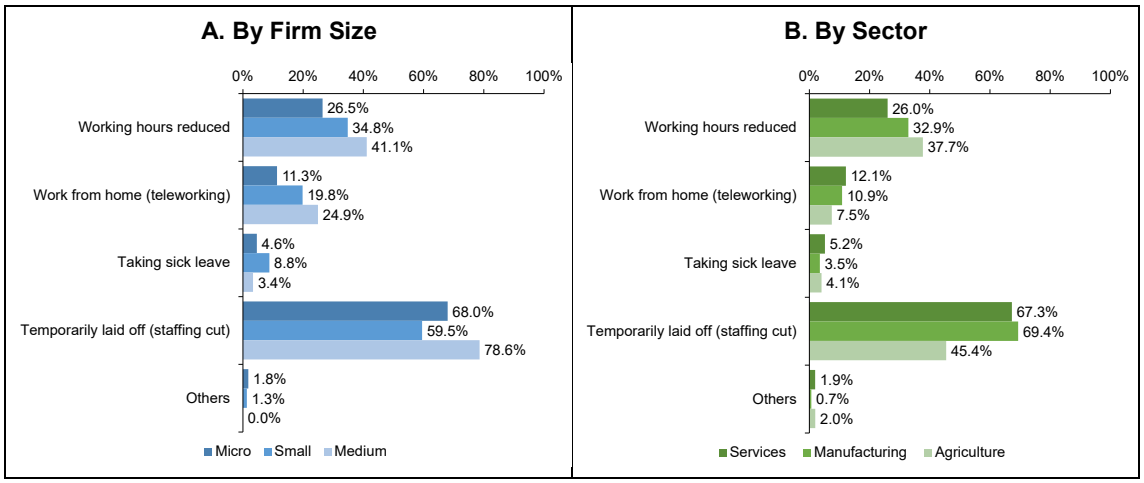
Figure 4: Employment by MSMEs in March 2020



MSME = micro, small, and medium-sized enterprise.

Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

Figure 5: Change in Working Environment



MSME = micro, small, and medium-sized enterprise.

Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

The LPM estimates (*employment*) indicated that most industrial sectors were less likely than agriculture to decrease their employees in March 2020 or mostly retained their employees (Table 5). In comparison with agriculture-based firms, the number of MSMEs that decreased their number of employees was more than 20 percentage points lower in real estate, professional services, human health and social work, financial services, information and communication technology, administrative services, construction, other services, wholesale and retail trade, and accommodation and food services, all at the 1% significance level. This suggests that no significant change in employment occurred among MSMEs in the first month after the lockdown.

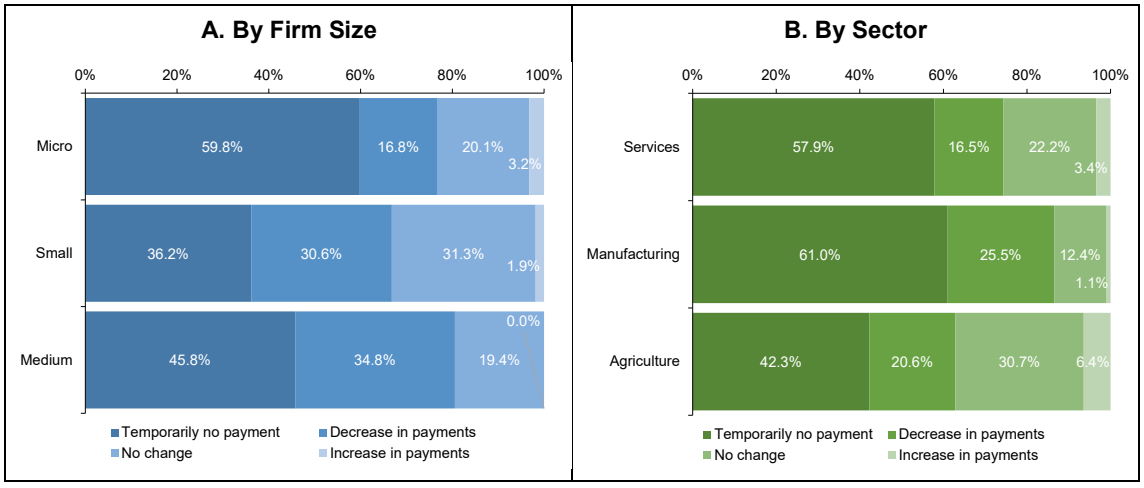
However, by region, as compared with NCR-based firms, MSMEs in CAR, Cagayan Valley (Region II), SOCCSKARGEN (Region XII), Eastern Visayas (Region VIII), Davao (Region XI), and Central Luzon (Region III) were more likely to decrease their number of employees in March 2020. The number of MSMEs that decreased their number of employees was 58.3 percentage points higher in CAR (the 1% significance level), 43.3 percentage points higher in Cagayan Valley (the 1% significance level), 37.5 percentage points higher in SOCCSKARGEN (the 5% significance level), 31.4 percentage points higher in Eastern Visayas (the 10% significance level), 31.3 percentage points higher in Davao (the 5% significance level), and 15.7 percentage points higher in Central Luzon (the 10% significance level). This suggests that provincial MSMEs were more likely to decrease their employee numbers than those in the NCR.

The results by operating period, the gender of MSME owners, the involvement in GVCs, and the firm size did not show any statistically significant results.

5.4 Wage Payments during the COVID-19 Pandemic

A large portion of MSMEs suspended wage payments to employees after the COVID-19 outbreak and lockdown, and this was more pronounced for microenterprises (59.8%) and manufacturing (61.0%) (Figure 6). More than 30% of small and medium-sized enterprises reported a decrease in the total wage payments to employees after the outbreak. By sector, more than 20% of MSMEs in manufacturing and agriculture reduced their total wage payments.

Figure 6: Total Wage Payments after the Outbreak



MSME = micro, small, and medium-sized enterprise.

Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

The LPM results (*wage1*) showed that education, accommodation and food services, and manufacturing were more likely to have made no wage payments to employees after the outbreak compared with agriculture, mainly due to temporary business closures (Table 5). Compared with agriculture-based firms, the number of MSMEs with no wage payments was 46.6 percentage points higher in education (the 1% significance level), 26.2 percentage points higher in accommodation and food services (the 1% significance level), and 15.8 percentage points higher in manufacturing (the 10% significance level). Similar to the analysis of sales and revenue, the power and energy sector was less likely not to pay employee wages. The number of MSMEs with

no wage payments in the power and energy sector was 49.5 percentage points lower than that of agriculture-based firms at the 10% significance level, supported by the demand for the electricity and gas supply.

For firms operating after the outbreak, the estimates (*wage2*) indicated that financial services, education, manufacturing, and accommodation and food services were more likely to have decreased total wage payments to employees after the outbreak than agriculture. The number of MSMEs with decreasing wage payments was 34.4 percentage points higher in financial services than in agriculture (the 1% significance level), 31.3 percentage points higher in education (the 5% significance level), 22.8 percentage points higher in manufacturing (the 1% significance level), and 21.8 percentage points higher in accommodation and food services (the 1% significance level). Meanwhile, real estate services were less likely to have decreased wage payments than agriculture. The number of MSMEs decreasing their wage payments was 34.5 percentage points lower in real estate services than in agriculture (the 10% significance level).

The COVID-19 pandemic and lockdown measures hit education, accommodation and food services (including tourism), and manufacturing the hardest in sales and revenue, and they moved to cut wages at the same time. Financial services also moved to cut their internal costs. Meanwhile, the stay-at-home orders created a new demand for electricity and gas and real estate services for households, leaving a more favorable business and employment climate in these sectors than in other sectors.

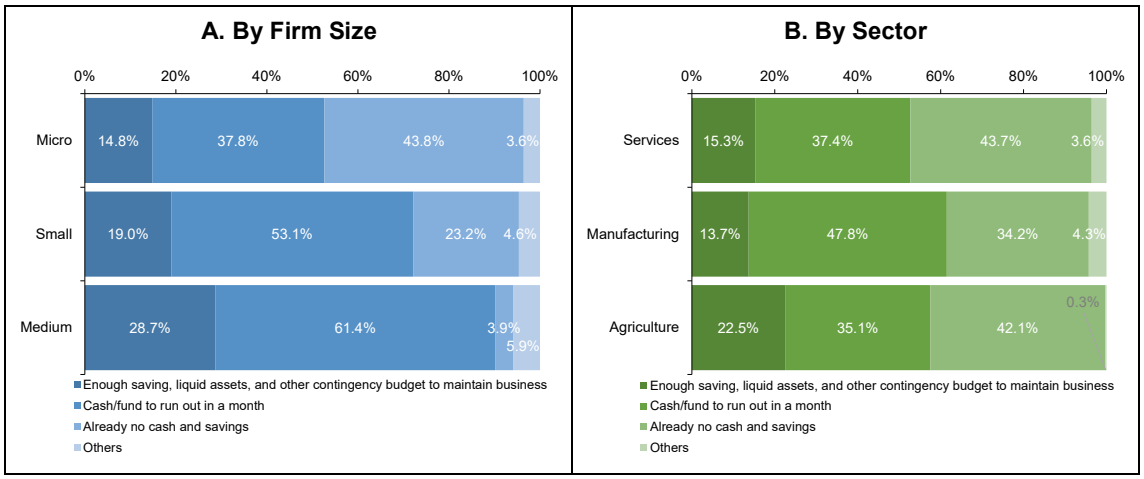
By region, the wage payment situation varied. MSMEs in CAR were more likely to promote no wage payments during the pandemic, while those in Caraga (Region XIII) were less likely to do so than NCR-based firms. The number of MSMEs with no wage payments was 25.4 percentage points higher in CAR (the 1% significance level) and 49.7 percentage points lower in Caraga than in the NCR (the 10% significance level). MSMEs in Eastern Visayas (Region VIII) were more likely to decrease their wage payments than NCR-based firms (18.0 percentage points higher at the 5% significance level).

Regarding firms' operating period, there were no statistically significant results for MSMEs stopping wage payments after the lockdown, but those operating for 11–15 years were more likely to decrease their wage payments (13.0 percentage points higher than those operating for up to 5 years at the 5% significance level). We did not see any statistically significant results by gender of MSME owners, involvement in a GVC, and firm size.

5.5 Financial Condition during the COVID-19 Pandemic

Most MSMEs immediately lacked the funds necessary to maintain their business after the lockdown. The magnitude of the working capital shortage was more serious in smaller firms. There were 43.8% of micro, 23.2% of small, and 3.9% of medium-sized enterprises with no cash or savings at the time of the survey (Figure 7). In addition, 61.4% of medium-sized, 53.1% of small, and 37.8% of microenterprises reported that they would run out of funds within a month. Only 14.8% of micro, 19.0% of small, and 28.7% of medium-sized enterprises had enough cash and savings to keep their business going for 1 month. All the sectors faced a serious lack of funds to operate. There were 43.7% of service MSMEs with no cash or savings at the time of the survey, followed by agricultural (42.1%) and manufacturing MSMEs (34.2%). Many manufacturing MSMEs (47.8%) stated that their funds would run out in a month, followed by those in services (37.4%) and agriculture (35.1%). Some 22.5% of agricultural MSMEs also reported that they had enough cash and savings to maintain their business for a month.

Figure 7: Financial Condition after the Outbreak



MSME = micro, small, and medium-sized enterprise.

Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

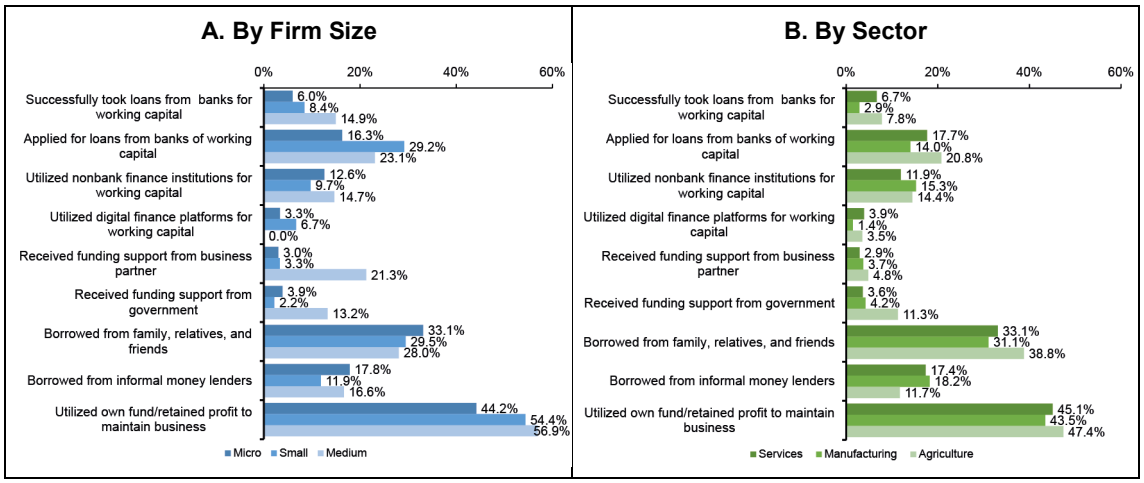
The LPM results (*finance*) indicated that human health and social work, transportation and storage, construction, and accommodation and food services were more likely to lack working capital after the outbreak than agriculture (Table 5). Compared with agriculture-based firms, the number of MSMEs that had no cash/savings or would run out of cash/funds in a month was 25.1 percentage points higher in human health and social work (the 1% significance level), 18.4 percentage points higher in transportation and storage (the 5% significance level), 18.3 percentage points higher in construction (the 5% significance level), and 13.8 percentage points higher in accommodation and food services (the 10% significance level).

Meanwhile, the information and communication technology sector was less likely to face a lack of working capital. The number of MSMEs in this sector that had no cash/savings or would run out of cash/funds in a month was 21.6 percentage points lower than that of agriculture-based firms at the 10% significance level, supported by the demand for Internet connections caused by the stay-at-home order and teleworking (work-from-home) arrangements.

By region, MSMEs in Caraga (Region XIII) and Bicol (Region V) were more likely to lack working capital during the pandemic than NCR-based firms. The number of MSMEs with no cash/savings or cash/funds that would run out in a month was 20.5 percentage points and 17.0 percentage points higher in Caraga and Bicol, respectively, than that of NCR-based firms (both at the 5% significance level).

By age, MSMEs that had operated for over 6 years were less likely to lack working capital than those that had operated for up to 5 years, though this was not statistically significant except for MSMEs operating for 11–15 years (15.1 percentage points lower at the 10% significance level). This suggests that young start-ups faced a more serious lack of funds during the pandemic. The gender of MSME owners, involvement in a GVC, and firm size produced no statistically significant results.

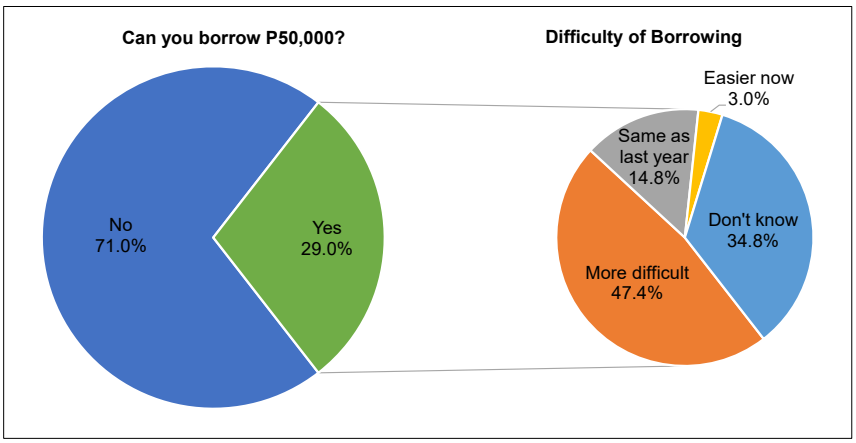
Figure 8: Funding after the Outbreak



MSME = micro, small, and medium-sized enterprise.

Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

Figure 9: Borrowing Small Amounts Quickly



MSME = micro, small, and medium-sized enterprise.

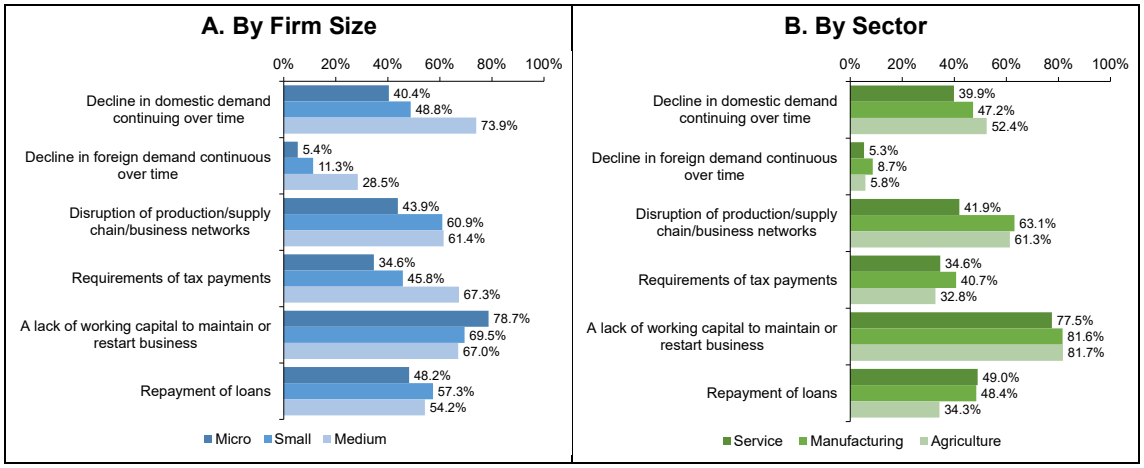
Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

The descriptive analysis showed that more than half of MSMEs on average (44.2% of micro, 54.4% of small, and 56.9% of medium-sized firms) used their own funds or retained profits to survive after the lockdown was implemented (Figure 8). However, this was not sufficient to continue operating. Relatively large numbers of microenterprises (33.1%) relied on borrowing from close relatives. Meanwhile, small and medium-sized firms could apply for and obtain bank loans (8.4% of small and 14.9% of medium-sized firms). This suggests that financial accessibility differs by firm size. Ensuring immediate working capital is crucial for MSMEs to survive, but most MSMEs (71.0%) faced difficulty in raising even small amounts of funds (P50,000) quickly (Figure 9). The survey found that the majority of MSMEs (77.3%) needed up to P10 million ($200,000) to survive during the pandemic.

6. POLICY IMPLICATIONS

The survey also asked about MSMEs' main concerns and obstacles should the pandemic continue for over a month from the time of the survey. The top-ranked concern was a lack of working capital, especially for microenterprises (78.7%) and all sectors (77.5% of services, 81.6% of manufacturing, and 81.7% of agriculture) (Figure 10). This was followed by supply chain disruptions (especially for small [60.9%] and medium-sized firms [61.4%] and manufacturing [63.1%] and agriculture [61.3%]), loan repayments, and the decline in the domestic demand (especially for medium-sized firms [73.9%]). MSMEs' concerns strongly focused on financing matters.

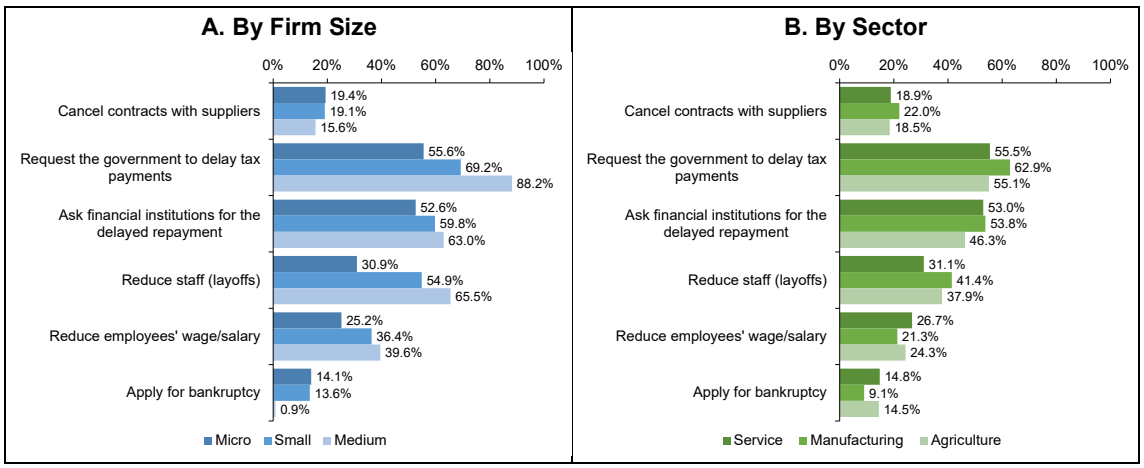
Figure 10: Concerns and Obstacles Faced by MSMEs



MSME = micro, small, and medium-sized enterprise.

Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

Figure 11: Actions Considered by MSMEs



MSME = micro, small, and medium-sized enterprise.

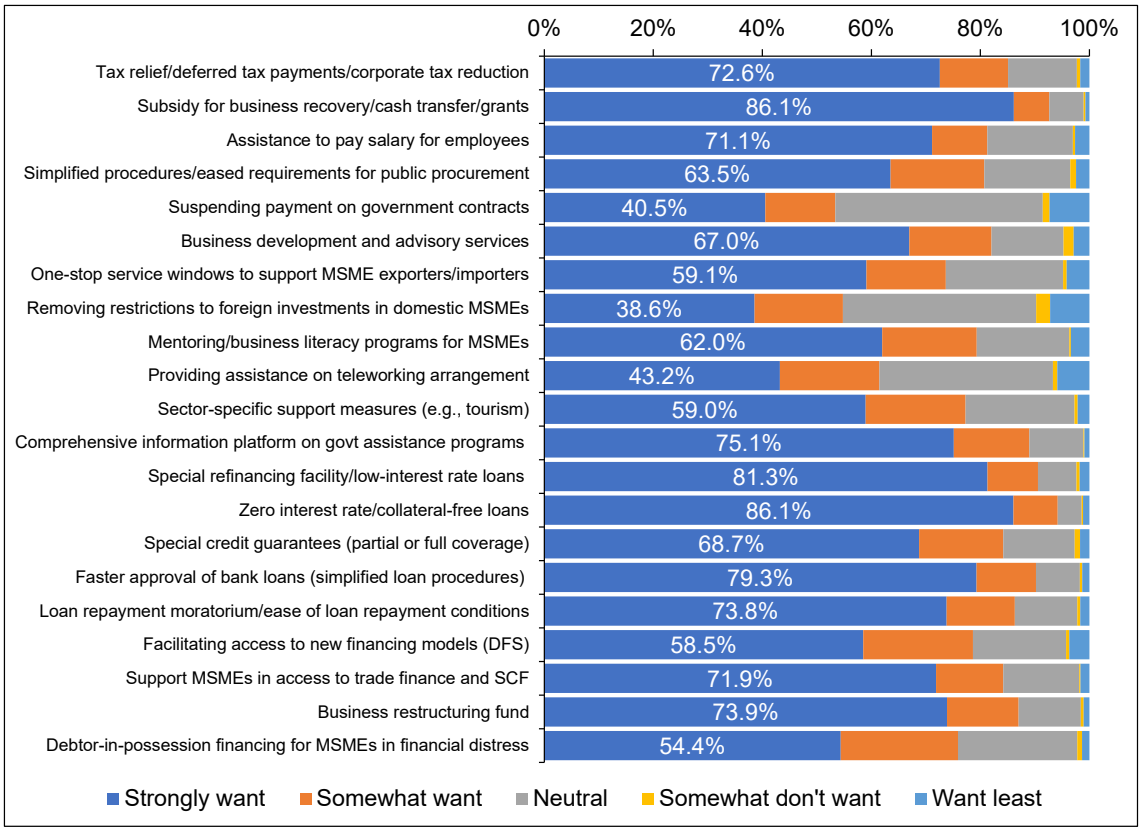
Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

If the pandemic lasted for over a month from the time of the survey, more than half of the MSMEs surveyed wanted a deferment of tax payments and loan repayments

(Figure 11). More than half of small (54.9%) and medium-sized firms (65.5%) would consider further staff layoffs, and a third (36.4% of small and 39.6% of medium-sized firms) would seek employee wage cuts. This was a common trend across the industry.

Among 21 policy options, we found that most MSMEs strongly desired financial support from the government. The top-ranked policy measure that firms selected was "zero interest rate and collateral free loans" and "subsidies and grants for business recovery of MSMEs" (86.1% indicated a strong wish) (Figure 12).

Figure 12: Policy Measures Desired by MSMEs



MSME = micro, small, and medium-sized enterprise.

Notes: 1,804 valid samples in the Philippines. Calculation based on weighted data from the rapid MSME survey in the Philippines, 30 March–16 April 2020.

The LPM estimates found that the COVID-19 pandemic and lockdown measures had created two streams of business clusters: (i) contracting firms hurt badly by the pandemic and lockdown and (ii) firm groups that benefitted from the lockdown. The first group includes manufacturing, transportation and storage, construction, accommodation and food services (including tourism), education, and human health and social work. The second group includes power and energy, information and communication technology, and real estate.

In particular, education, construction, accommodation and food services (represented by tourism), and manufacturing were the hardest hit sectors in sales and revenue. The ECQ included school closures, travel bans, and limited business operations. It immediately affected education and tourism-related sectors and slowed construction (which the government's build-build-build program promoted). It largely limited or shut down manufacturing production. These industries, however, did not cut their workforce

immediately but quickly moved to internal cost controls (wage cuts) to survive during the pandemic. Financial services also cut costs by reducing wage payments. Transportation and storage, construction, accommodation and food services, and human health and social work also faced a lack of working capital immediately after the virus outbreak and lockdown.

The stay-at-home orders under the lockdown generated a new demand for electricity and gas, Internet connections, and real estate, creating a more favorable business and employment environment in the power and energy sector, information and communication technology, and real estate services than in other sectors. MSMEs operating in power and energy were less likely to have no sales or revenue and less likely to impose wage cuts. The stable demand for household energy use supported them. MSMEs in information and communication technology had relatively sufficient working capital during the first month of the lockdown. MSMEs in real estate largely benefited from stay-at-home orders under the lockdown as their revenues were somewhat ensured. The LPM estimates showed no statistically significant results in the wholesale and retail trade sector, except employment (less likely to reduce the number of employees).

By region, MSMEs in the NCR were more likely to have no sales than those in the provinces. However, MSMEs with declining revenue were more evident outside the NCR. Provincial MSMEs cut employees more than those in the NCR. Trends in MSMEs' wage payments and financial condition differed by region.

The lockdown immediately affected young firms (operating for up to 5 years), causing no sales and business closures. Longer-established MSMEs (operating for over 31 years) did not immediately close their business and maintained some sales in the first month following the lockdown, but they tended to lose revenue. MSMEs operating for 11–15 years had more working capital but initiated wage cuts to save funds to survive. Young start-ups faced a more serious lack of funds for survival during the pandemic.

Women-led MSMEs faced more serious impacts from the pandemic and lockdown in sales and revenue than men-led MSMEs. Although the LPM results showed no statistically significant results in their financial condition, the ADB rapid surveys indicated that "women-led MSMEs had more difficulty in raising enough working capital through formal financial services than men-led MSMEs, partly caused by the lack of women owning immovable assets (land and buildings) as loan collateral" (ADB 2020c). This suggests that a more serious lack of working capital contributed to greater losses in sales and revenue among women-led MSMEs.

MSMEs that were involved in GVCs continued to have sales and revenue in the first month following the lockdown compared with domestically focused MSMEs or non-GVC MSMEs. Internationalized MSMEs could survive the first month after the outbreak more easily than domestically focused firms. The LPM results also showed no statistically significant results regarding their financial condition, but the ADB surveys revealed that GVC MSMEs had "sufficient cash and savings to maintain operations and had better access to bank credit and funding support from business partners" (ADB 2020c). This suggests that a relatively sufficient amount of working capital helped internationalized MSMEs to survive during the initial stage of the pandemic.

Overall, microenterprises had more temporary business closures, no sales, and no revenue compared with larger firms after the outbreak and lockdown imposed. This suggests different coping abilities to the impact by firm size.

Considering the LPM results and the survey findings, it is possible to view the Philippine government's initial response to the pandemic as being in the right direction given the urgent need to contain the virus and continue some economic activity. The government launched a large-scale, four-pillar socioeconomic strategy in May 2020 (P1.74 trillion or 9.1% of the annual GDP) (ADB 2020d): (i) emergency support for vulnerable groups and individuals (P595.6 billion or 3.1% of the GDP), including wage subsidies, soft loans and credit guarantees for MSMEs, and cash assistance; (ii) expanded medical resources to fight COVID-19 (P58.6 billion or 0.3% of the GDP), including assistance for purchasing medical equipment and supplies along with special compensation for healthcare workers; (iii) fiscal and monetary actions to finance emergency initiatives including the central bank's purchase of government bonds to fund COVID-19 response measures; and (iv) an economic recovery program focused on creating and sustaining jobs (P1.1 trillion or 5.7% of the GDP for (iii) and (iv)). This package covered some of what MSMEs desired and the concerns that they raised in the survey (especially financial assistance and wage subsidies). However, based on the LPM findings, the following two policy approaches require further examination as recovery begins.

6.1 Identifying Focus Groups for Assistance

The ECQ and other lockdown measures included travel bans and temporary closures of schools and businesses. To ease the impact on businesses, the government increased spending to support tourism. To support employment, the government provided one-off financial assistance to the most affected workers (P5,000), a temporary employment program for informal workers, P1.2 billion to support displaced workers, and unemployment insurance. To increase access to working capital financing, the central bank offered a 30-day grace period for loan repayments and reduced loan interest rates by 25 basis points. However, most of these policy measures came after the fact.

The LPM estimates showed that the lockdown measures hit MSMEs in education, construction, accommodation and food services, and manufacturing the hardest. The government already knew the importance of focus group discussion and addressed this in its assistance package. However, some groups slipped through the net. The LPM results suggested that the government should address education, construction, accommodation and food services, and manufacturing as focus groups for assistance. Moreover, it could expand these efforts to identify those cities, municipalities, provinces, and regions where the LPM results found geographical differences in the impact. The LPM results also showed that young firms (operating for up to 5 years) and women-led MSMEs faced a more serious pandemic impact than others; they could be included in the focus group as well.

To identify needy focus groups and adjust policy support directions, it is crucial to monitor MSMEs' business conditions periodically. Focus group assistance is critical to optimize the effective use of the limited budget and support the hardest hit groups of firms, sectors, and areas in a timely manner. This is particularly true given the uncertainty over containing the pandemic and building a strong recovery. Assistance should be well balanced between financial and nonfinancial measures in accordance with those desired by focus groups, referring to the survey findings.

6.2 Differentiating Policy Measures by Firm Size

The LPM and survey results found that it is necessary to differentiate policy measures by firm size, given the different abilities to cope with the impact among micro, small, and

medium-sized enterprises, respectively. In particular, microenterprises had more serious difficulties than small and medium-sized firms according to the LPM results. The survey found that larger firms could more successfully arrange a new working environment during the pandemic and lockdown than smaller firms, such as work-from-home arrangements and reduced employee working hours. The government could adjust or customize policy measures by firms' size according to their abilities to respond to the pandemic's impact. It is also important to strengthen the assistance for informal sectors, including distributive trade, sole proprietorship, and family-run home businesses; they are typical microenterprises and affected groups.

7. CONCLUSION

This paper examined the initial 1-month impact on MSMEs in the Philippines after the ECQ or lockdown began. It described the effect of the initial policy measures and some policy implications with evidence obtained through the nationwide rapid survey conducted from the end of March to mid-April 2020. The COVID-19 pandemic and lockdown measures created two streams of business clusters—contracting firm groups that were devastated by the lockdown and those that benefitted from the lockdown. The LPM regression identified the MSME groups that were hurt most and those that benefited most. It found that education, construction, accommodation and food services (including tourism), and manufacturing were hurt most; power and energy, information and communication technology, and real estate coped better. The findings of this paper addressed the importance of two policy approaches in the early stage following the lockdown—timely identification of focus groups for assistance and differentiation of policy measures by firm size.

Toward the year 2021, Asian economies gradually shifted to the recovery stage. However, the overall business environment has yet to adjust; there is a continued sharp drop in demand and revenue according to the follow-up survey in the Philippines covering August and September 2020. Business and employment conditions differ by firm size, but MSMEs are evolving under a new normal that requires a more contactless society. Assistance for MSMEs to shift their business to digital transactions is another policy priority given that their traditional business model requires physical and personal contact. Six months after the outbreak, MSMEs have started introducing work-from-home arrangements. However, working capital shortages are continuing to rise, as the follow-up survey found. There is increased need among MSMEs for further financial assistance from the government. COVID-19 containment will continue into 2021. Given the different abilities of MSMEs to adjust by firm size, the government could pay more attention to a phased approach and differentiate policy measures by firm size and sector. Now is the time to consider an optimal approach that offers targeted assistance yet ensures fiscal sustainability in a post-COVID-19 environment.

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