Report

# MSME Finance Gap

*An updated Estimation and Evolution of the Micro, Small and Medium Enterprises (MSME) Gap in Emerging and Developing markets.*


MARCH 2025

IFC International Finance Corporation
WORLD BANK GROUP

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# Acronyms

| | |
|---|---|
| ADB | Asian Development Bank |
| AFI | Alliance for Financial Inclusion |
| BIS | Bank for International Settlements |
| BOW | Banking on Women |
| BoZ | Bank of Zambia |
| CAGR | Cumulative Adjusted Growth Rate |
| CBJ | Central Bank of Jordan |
| CENFRI | Centre for Financial Regulation and Inclusion |
| CGAP | Consultative Group to Assist the Poor |
| DEC | Development Economics |
| DECEA | Enterprise Analysis Unit |
| DGE | Dynamic General Equilibrium |
| DI | Diffusion Index |
| DTF | Distance to Frontier |
| EAP | East Asia and the Pacific |
| ECA | Europe and Central Asia |
| ECB | European Central Bank |
| EIB | European Investment Bank |
| EIF | European Investment Fund |
| EMDEs | Emerging Market and Developing Economies |
| ES | Enterprise Survey |
| EU | European Union |
| FAS | Financial Access Survey |
| FCC | Fully Credit-constrained |
| FCI | Finance, Competitiveness & Innovation |
| FI | Financial Institution |
| 20 | |
| FIG | Financial Institutions Group |
| FMO | Netherlands Development Finance Company |
| GDP | Gross Domestic Product |
| GSMA | Mobile Network Operators (Groupe Spéciale Mobile Association) |
| HIE | High-Income Economy |
| IFC | International Finance Corporation |
| IFRS | International Financial Reporting Standards |
| IMF | International Monetary Fund |
| IRR | Internal Rate of Return |
| ISIC | International Standard Industrial Classification |
| IT | Information Technology |
| JLGF | Jordan Loan Guarantee Facility |

| | |
|---|---|
| KPI | Key Performance Indicator |
| KYC | Know Your Customer |
| LAC | Latin America and the Caribbean |
| LIC | Low-Income Country |
| LIFT | Livelihoods and Food Securities Trust Fund |
| LMICs | Lower-Middle-Income Countries |
| LTDB | Long-Term Debt |
| MENA | Middle East and North Africa |
| MIMIC | Multiple Indicators Multiple Causes |
| MIX | Microfinance Information Exchange |
| MPOS | Mobile Point-of-sale |
| NBR | National Bank of Romania |
| NCC | Not Credit-constrained |
| NFS | Non-financial Services |
| NPL | Non-performing Loan |
| OECD | Organisation for Economic Co-operation and Development |
| OLS | Ordinary Least Squares |
| OPEC | Organization of the Petroleum Exporting Countries |
| PCC | Partially Credit-constrained |
| PO | Purchase Order |
| MAPE | Mean Absolute Percentage Error |
| MENA | Middle East and North Africa |
| MFI | Microfinance Institution |
| MSMEs | Micro, Small and Medium Enterprises |
| PKR | Pakistani Rupee |
| RoA | Return on Assets |
| RoE | Return on Equity |
| SA | South Asia |
| SAFE | Survey on the Access to Finance of Enterprises |
| SCF | Supply Chain Financing |
| SMEs | Small and Medium Enterprises |
| SMEDA | Small and Medium Enterprise Development Authority |
| SBP | State Bank of Pakistan |
| SSA | Sub-Saharan Africa |
| UMICs | Upper-Middle-Income Countries |
| UNCDF | United Nations Capital Development Fund |
| UNDP | United Nations Development Programme |
| UNIDO | United Nations Industrial Development Organization |
| WBES | World Bank Enterprise Surveys |
| WBG | World Bank Group |
| WDI | World Development Indicators |
| WDR | World Development Report |

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# Foreword

MSMEs are core drivers of global economic activity. They account for 90% of businesses, over 70% of employment, and 50% of GDP. Yet, in emerging markets and developing economies (EMDEs), access to financial services remains a critical challenge for MSMEs to grow and create jobs. In addition, MSMEs endured the worst of the pandemic and are still being impacted adversely by a wave of external shocks that threaten to slow economic growth and increase extreme poverty.

To better support MSME growth and job creation in emerging markets, there is a clear need for new financial instruments that leverage technology and data while reducing risk and transaction costs. In this context, IFC recently launched a new MSME Finance Platform, targeting $4 billion from IFC's own account for banks, non-bank financial institutions (NBFIs), microfinance institutions, and innovative digital lenders.

IFC's work to develop new lending and advisory instruments to help expand MSMEs' access to finance is supported by efforts to monitor industry trends and ascertain the evolution of the MSME Finance Gap. In EMDEs, this gap increased by over 6 percent annually between 2015 and 2019, reaching US$5.7 trillion or 19 percent of GDP at the end of this period.

The report utilizes data from 2019, which at the time of writing was the most recent cross-country data available, as most data collection activities halted during the pandemic. The pre-COVID estimate helps assess how the gap evolved prior to the global economic shock caused by the pandemic. The report also discusses the impact of the pandemic on MSME finance. It is complemented by country-specific case studies (available online) using data for the period after the onset of the pandemic to provide additional context on its impact on MSME finance in six emerging markets.

The third in our series of updates, this MSME Gap report aims to inform the design of public policies and private investments. Indeed, effective interventions in this area require a combination of innovative financial instruments that leverage technology and data, with the provision of capacity building support for financial service providers, and the improvement of legal and regulatory frameworks.

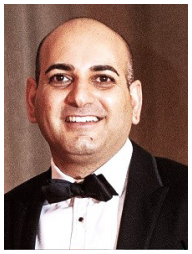
At IFC, we are leveraging our Investment, Upstream, and Advisory Services to support the sector. We have deployed innovative instruments and resources to help our clients provide critical financial services to underserved MSMEs, enabling them to better reach their full potential and increase their contribution to GDP and job creation.

For example, we are working to integrate alternative data-driven products in South Africa, supporting digital banks in Mongolia, and helping enable the growth of Fintechs and NBFIs with innovative business models in India and Colombia.

To further increase our impact in this area, IFC's new MSME Platform will also utilize various forms of credit enhancement that allow to mobilize more private capital, including an innovative Catalytic First Loss Guarantee.

We are working hard to foster innovative solutions, finding ways to leverage blended finance, and utilize technology to boost transparency, improve data quality, minimize risk, and reduce transaction costs for MSMEs. We are also working to help address the massive, untapped potential of female entrepreneurs.

As we move forward, collaboration between governments, regulators, financial institutions, and innovative finance and technology providers will be key to unlocking the full potential of data-driven lending for MSMEs. We are committed to contributing to making progress in this important agenda and look forward to partnering and succeeding together.



**Adel Meer**
Acting Director
Non-Banking and Alternative Finance, IFC

**Pablo Fajnzylber**
Director
Development Impact Measurement, IFC

Reference Documents

1. MSME Finance Gap Report 2017

2. IFC Annual Report 2024

3. IFC VP Industries Talking Points – Global SME Finance Forum 2024, São Paulo, Brazil

# 1
# Executive Summary

This report re-estimates the finance gap pertaining to Micro, Small and Medium Enterprises (MSMEs) in Emerging Market and Developing Economies (EMDEs). It utilizes the same methodology as in the previous report (2017). It estimates the MSME finance gap at two points in time separated by four years. It also re-uses the same conceptual framework, methodology, and data sources. Thus, this report represents a first attempt at tracking the evolution of the MSME finance gap over time.

This report estimates that for 119 EMDEs around the world, there is a potential demand for MSME finance of US$10.3 trillion as of 2019. This compares to the credit supply of US$4.6 trillion. Consequently, there exists a financing gap attributed to formal MSMEs in EMDEs of US$ 5.7 trillion, which is equivalent to 19 percent of the gross domestic product (GDP) and 20 percent of the overall private sector credit supplied by banks to these economies. This report also estimates that among formal MSMEs, 40 percent in EMDEs are credit constrained, of which 19 percent are fully credit constrained and 21 percent are partially constrained. When gender-disaggregated by ownership and management, women-MSMEs (W-MSMEs) face a finance gap of US$1.9 trillion, representing 34 percent of the MSME finance gap.

In addition to the finance gap in the formal sector, there is an additional US$2.1 trillion in estimated potential demand for finance from informal enterprises in developing countries. This figure is indeed sizeable, amounting to an equivalent of 8 percent of the GDP in these countries.

Using this methodology, the previous MSME Finance Gap Report (2017) estimated the potential demand for and supply of MSME finance in 128 countries[1] in order to determine the finance gap. That report found an estimated total of US$8.9 trillion in potential demand for MSME finance as of 2015; however, only US$3.7 trillion was supplied. The MSME finance gap — that is, the unmet potential demand for financing — was valued at US$5.2 trillion[2], representing 19 percent of these countries' cumulative GDP. Women-owned businesses accounted for 32 percent of the MSME finance gap, estimated to be US$1.5 trillion.

Hence, over the four-year period from 2015 to 2019, the report reaches the alarming conclusion that the MSME finance gap increased from US$4.4 trillion[3] (17.2 percent of GDP) to US$5.7 trillion (19 percent of GDP) in EMDEs — on average increasing by over 6 percent annually.

1 That report covered 128 countries that were covered by the World Bank Enterprise Surveys (WBES), of which 112 were low- and-middle income countries.
2 Among only the subset of EMDEs, the MSME finance gap was estimated at US$4.6 trillion.
3 This number from the previous report represents the MSME finance gap within a common subset of the 119 EMDEs covered in both reports.

Although the supply of financing meaningfully increased by 7 percent annually from US$3.6 trillion (14 percent of GDP) to US$4.6 trillion (16 percent of GDP) in 2019[4].

A limitation of the report is that the time period overlapped with the COVID-19 pandemic. The data, especially the country-representative, firm-level surveys, were extremely limited during this period. This report presents case studies for 6 countries across several continents. It focuses on identifying trends in MSME financing and policy responses during the COVID-19 pandemic-affected years. Although salient differences emerge across the six countries, a unifying theme emerges. The trajectory of the MSME finance supply and demand was negatively impacted, but not to such a high degree as initially feared.

The efforts by countries and a multitude of supportive stakeholders are a contributing factor in the robustly increasing supply of MSME financing evidenced during the study period. For example, the World Bank Group (WBG) continues to leverage its expert knowledge to work globally with public stakeholders and private sector intermediaries in partnership with other multilateral and bilateral development organizations to support SME finance development in EMDEs. The WBG assists the EMDEs by increasing access to finance for MSMEs through both lending and advisory instruments. These range from: (i) financial sector assessments to determine areas of improvement in regulatory and policy aspects, thereby enabling increased responsible SME access to finance; (ii) implementation support for initiatives, such as the development of an enabling environment, or the design and creation of credit guarantee schemes; (iii) improvements in credit infrastructure (credit reporting systems, secured transactions and collateral registries, and insolvency regimes), which can lead to greater SME access to finance), and so on. The International Finance Corporation (IFC) has been actively working with financial institutions to expand lending to MSMEs, with interventions across investments and advisory services. Thus, it has leveraged blended finance instruments to incentivize financial institutions (FIs) to expand access to finance to MSMEs, thereby leading to catalytic market effects.

As access to finance for MSMEs continues to be a critical policy issue, the availability and analysis of cross-country data will become vital, especially gender-disaggregated data. The WBES remains the most comprehensible data source for firm-level data. However, gaps persist, particularly gender-disaggregated data concerning the supply of formal finance. A number of limitations of this study relate to the lack of appropriate data at the country and firm level. Both are necessary to better understand MSME financing constraints and shortfalls.

4 This was largely due to the outsized influence of China. However, it was dwarfed by the increase in potential demand.

# 2

# Introduction

## 2.1 Background

A growing body of literature reinforces the notion that formal MSMEs employ a large share of the total workforce and create the most jobs in developing economies (IFC 2021). MSMEs identify a lack of access to finance as the biggest hurdle they face, preventing them from sustainable growth and job creation. Indeed, inadequate access to finance is identified by 14 percent of MSMEs as the biggest obstacle, topping all other issues, such as corruption, infrastructure and taxes.[5] The adverse effects of the COVID-19 pandemic have only exacerbated the constraint of accessing finance.

Financial constraints on MSMEs are a well-documented phenomenon in the literature. The constraints that have given rise to the notion of a MSME finance gap are well identified through various studies and literature reviews.[6] Traditional lenders, such as banks, often perceive MSMEs as riskier investments due to their size, limited collateral, and sometimes volatile cash flows. This restricted access to external funding options makes it challenging for MSMEs to finance their operations, invest in growth opportunities, and/or innovate. MSMEs may also face difficulties in providing adequate information to lenders, resulting in information asymmetry. Lenders may lack sufficient information to accurately assess the creditworthiness of MSMEs, leading to higher perceived risk and a reluctance to extend credit. This problem is compounded in industries with high uncertainty or asymmetric information, further restricting access to finance. Many MSMEs lack sufficient tangible assets to offer as collateral for loans, which is a common requirement for traditional financing. This limitation makes it harder for them to secure debt financing, as lenders often rely on collateral to mitigate the risk of default. Additionally, MSMEs may struggle to meet stringent collateral requirements, thus constraining their access to external funding. Regulatory frameworks and institutional factors can also contribute to financial constraints on MSMEs. Complex regulations, bureaucratic processes — especially concerning firm registration, bankruptcy and exit, as well as limited financial infrastructure in certain regions — may hinder the ability of MSMEs to access finance.

Overall, factors that give rise to financial constraints on MSMEs are multifaceted and influenced by a combination of external market conditions, institutional factors, and internal resource limitations. The reasons for the MSME financing gap may be apparent; however, the quantification of the size of the resulting gap has only been attempted sporadically.

5 https://www.enterprisesurveys.org/en/data/exploretopics/biggest-obstacle.
6 See the MSME Finance Gap Report (IFC, 2017) for a full literature review of this topic.

## 2.2 Motivations and Considerations

The previous MSME Finance Gap Report (2017) found that a fundamental impediment to understanding the scale of constraints faced by MSMEs and their distribution across the Emerging Market and Developing Economies (EMDEs) was the lack of a robust methodology to estimate the MSME finance gap. The private and public sectors can better address this problem if they have better insights into the magnitude and nature of the MSME finance gap and how it has evolved over time. Therefore, in 2017, the International Finance Corporation (IFC) led a research team consisting of researchers from across the World Bank Group (WBG). Together, they developed a new methodology utilizing better and more diverse data from both the supply and demand sides to reassess the finance gap in developing countries. The proposed methodology, termed the "potential demand approach", was selected after experimenting with various other approaches. Specifically, the team focused on their robustness and replicability in the future.

As the name suggests, the methodology entails estimating the potential demand for financing by MSMEs under more favorable conditions than what currently exists in EMDEs. To accomplish this, the report relies on benchmarking how firms of various size and age and operating in specific sectors borrow in high-income economies with more robust regulatory and enabling environments. When the benchmark is applied to firm-level data of MSMEs in EMDEs, it leads to a counterfactual scenario, that is, the potential demand. Comparing the potential demand with the current supply results in the estimated MSME finance gap. Chapter 3 describes the methodology in further detail.

Using this methodology, an evolution of the MSME finance gap can be traced for the first time. Also, in utilizing the same data sources and methodology, some interesting observations emerge regarding how MSME finance has evolved over the four-year period from 2015 to 2019.

First, the supply of financing increased meaningfully by 7 percent annually, that is, from US$3.6 trillion (14 percent of GDP) to US$4.6 trillion (16 percent of GDP) in 2019[7]. However, the growth in the supply of MSME lending has been inconsistent across countries. Most countries experienced modest growth. However, in a few countries, most notably China, supply increased by 35 percent between 2015 to 2019. This was in part due to the substantial development of the banking sector, capital markets and cross-border capital inflows. However, excluding China, the total MSME supply for the rest of the EMDEs stayed constant at 7 percent of GDP.

Second, the increase in potential demand for MSME financing dwarfed the changes in supply. As new firms entered the market, existing MSMEs grew, economies further formalized, and MSMEs re-oriented toward finance-heavy sectors. Thus, the demand for financing continued to increase and outpace the supply. Specifically, the potential demand for financing increased from US$8.1 trillion in 2015 (31 percent of GDP) to US$10.3 trillion in 2019 (36 percent of GDP). In addition, unlike the supply side where China was a main driver, the overall potential demand increases were due to widely variable changes across countries. The majority of EMDEs (92 of the 119 countries) experienced growth in their potential demand over this period. However, 25 countries experienced a decline in demand for MSME credit. Also, 75 countries experienced growth in demand of over 10 percent (see Section 4.2).

7 When normalizing by GDP the report uses a 4 year (2016-2019) average GDP to take into account any volatility in GDP over the 4 year period

Third, putting together the demand and supply sides, the report reaches the conclusion that the MSME finance gap increased from US$ 4.4 trillion[8] (17.2 percent of GDP) to US$ 5.7 trillion (19 percent of GDP) in EMDEs, increasing by over 6 percent annually on average. The gender finance gap has also increased. The women (W)-MSME portion of the MSME finance gap increased slightly from 33 percent to 34 percent in 2019.

As the update was conducted during the COVID-19 pandemic, the data — especially from the country-representative firm-level surveys — were extremely limited during this period. The main source of firm-level data for this report came from the World Bank Enterprise Surveys (WBES). The data focused exclusively on shorter, phone-based COVID-19 surveys. As these surveys did not contain the information needed to compute potential demand, the report is unable to estimate the finance gap during a particularly relevant period of time. The changes in potential demand precipitated by structural changes in the economy are likely to be important drivers of post-pandemic MSME finance gap estimations. The supply side data, primarily the Financial Access Survey (FAS), continued to be updated. It found meaningful shifts that may indicate that a re-estimation of the MSME finance gap following the COVID-19 shock would look significantly different. For example, the Organization for Economic Co-operation and Development (OECD) shows a decline in the balances of outstanding loans to SMEs in 2022 as compared to 2021, a pattern not previously noticed in prior years.

In lieu of providing an estimate of the MSME financing gap after the onset of the pandemic, the report aims to provide some insights through case studies in selected economies using country specific data during and after the pandemic. To assess the COVID-19 implications on the finance gap, detailed studies are conducted in six countries, namely, Indonesia, Jordan, Mexico, Pakistan, Romania, and Zambia. They were chosen based on the availability of requisite, country-level COVID-19 data, thereby ensuring representation among various regions and income groups. The objective is to identify relevant financing information from the demand and supply sides to better understand how these might be impacting the financing gap. The WBES is targeting the collection of firm-level data in 180 economies by 2025, with 59 Enterprise Surveys conducted in 2023 alone. As a critical mass of new surveys emerges, they provide a clearer picture of the demand for financing. Therefore, an update to the report will re-estimate the MSME finance gap. As such, it will provide new perspectives concerning the evolution of the supply and demand for MSME financing, and consequently the financing gap through the current macroeconomic challenges.

The current estimate covers all EMDEs with available Enterprise Surveys, including estimates for five new economies that were not included in the previous estimate, namely, El Salvador, Gabon, Liberia, Sierra Leone, and the West Bank and Gaza. New firm-level surveys from the WBES were used for 50 of the 119 countries. On the supply side, the country coverage in the reported supply-side data expanded from 52 to 61 countries.

The same methodology is also used in the estimation of the MSME gender finance gap, albeit with a more streamlined definition than the previous estimate. Enterprise Surveys continue to remain the best source of systematically collecting enterprise-level data about women- and men-owned enterprises. In recent surveys, the Enterprise Survey started collecting information about ownership percentages not contained in the older surveys. The lack of gender-disaggregated data continues to be a considerable constraint, with no disaggregated data available on the supply side.

8 This number from the previous (2017) report represents the MSME finance gap within the common subset of 119 EMDEs covered in both reports.

Challenges persist regarding the availability and reliability of good data needed to make strategic decisions for servicing MSMEs. This highlights the need for further improvements in MSME-related data on both the supply and demand sides. This includes data gathered globally through investments in primary data collection and secondary data aggregation. In addition, further investments are needed to facilitate the comprehensive standardization of improved data.

Even when data is available, the dichotomy between MSME definitions used by governments and those used by banks and other lenders makes it challenging to consistently collect and analyze lending data. The report can use a consistent definition when aggregating firm-level data. For a consistent global definition, the most prevalent threshold is used, that is, the number of employees — 250 employees or less — as the definition of MSMEs.[9] However, the supply-side data suffers from inconsistency, and it could be a source of weakness for cross-country comparability. This report attempts to mitigate this issue by using MSME supply data that is broadly similar in scope. Thus, it omits the use of country data when the divergence is too large.

Another important consideration in using the headline MSME finance gap is that it only includes formal MSMEs. The definition of formality varies from country to country, and it is not always clearly demarcated from informality. The report relies on the definition of formality as used by the statistical body of the country supplying population frames for the Enterprise Surveys. As such, it may not be entirely consistent across countries.

This report will delve further into these issues and provide details in the sections that follow. After providing a brief review of the literature relating to the MSME finance gap that has been produced since the last report, the report summarizes the methodology used in both the previous and current report, as well as minor changes introduced due to changes in data. In the next section, the results from the re-estimation of the MSME finance gap are presented, as well as the examination of shifts in supply and potential demand since the last report. This is followed by a discussion of the pandemic's implication on MSME finance and some conclusions. An annex available online contains six country case studies. These delve deeper into MSME financing after the onset of the COVID-19 pandemic.

## 2.2 Review of Other Studies Measuring the MSME Finance Gap

Despite the rich literature regarding the MSME financing field, alternative methodologies for the assessment of the MSME financing gap are limited and narrow. In the years following the publication of the previous MSME Finance Gap Report, researchers, including both academics and policymakers, have continued to empirically investigate the relationship and difference between the supply and demand of financing to MSMEs. The next section reviews the literature conducted in recent years that has explored this relationship.[10]

Some papers and reports have attempted to develop new methods to estimate the financing gap of MSMEs. For example, fi-compass (2019) proposes an approach to estimate the financing gap and market failure vis-a-vis MSME financing at the European Union (EU) member-state level. They employ both quantitative and qualitative approaches. The quantitative data analysis involved using available data about

9 See the SME Finance Forum's MSME Economic Indicators (IFC 2019) for the documentation of MSME definitions used across countries.
10 For a broader literature review, please refer to the previous MSME Finance Gap report (IFC 2017) that summarized the available literature until 2016.

MSME financing produced by various sources to calculate financing gaps at the member-state level for debt and equity financing. The qualitative analysis consists of reviewing the literature about the access of European MSMEs to finance by conducting interviews with experts from the European Investment Bank (EIB) concerning SME financing. The quantitative approach is to estimate the unmet demand of financially viable, but unsuccessful MSMEs, that is, firms that should have access to finance, but do not. The gap is calculated (for both financial instruments) as the product between the number of MSMEs, the average loan size to the MSMEs, and the share of financially viable, but unsuccessful MSMEs. Applying this approach to the 2018 data concerning European countries, the report highlights that the debt gap is €176.7 billion (US$ 209 billion). This allows for the estimation that 4.3 percent of MSMEs in the EU are considered viable, but unable to access debt financing. Finally, the analyses show that equity financing gaps, which indicate the maturity of equity markets in the EU, are higher than debt financing gaps.

Lopez-de-Silanes and others (2019) propose an approach to gap estimation. Specifically, the objective of their approach is to estimate the gap between the supply and demand of financing for MSMEs in several European countries (including France, Germany, the Netherlands, Poland, and Romania). The approach quantifies the financing gap as the difference between the demand for and supply of loans to MSMEs and the available equity capital. The supply of loans or equity is the product between the percentage of outstanding MSME loans or equity issued relative to total loans or equity and the total outstanding loans or equity issued. The demand estimation is like the supply approach. As such, it is estimated as the product of the number of firms by size, the average size of loans or equity requested by firm size, and the percentage of firms needing loans/equity by firm size.

Abraham and Schmukler (2017) also propose to calculate the credit gap as the amount of credit needed to meet the demand of unserved and underserved, formal MSMEs. Underserved MSMEs are those that do not have a loan but need one. Alternatively, they constitute those MSMEs that have a loan, but for whom access to finance remains an operational constraint.

A recent analysis by Beck and Kessler (2023) provides another methodology for assessing the financing gap. Specifically, the authors use an approach that measures the MSME financing gap, that is, the gap between the demand for and supply of external financing for MSMEs in several European countries in different sectors and over a given period (2013-2020). The approach is to define the gap as the difference between the benchmark debt-to-sales ratio and the median value. The median value of debt to sales is calculated for the combination of all (N) firms, in a given country (c), industry (l) and year (y). The benchmark ratio is defined as the highest debt-to-sales ratio in each industry (l), in all countries (c) and all years (y), when the country/industry combination covers at least 1,000 firms. It should be noted that the authors use long-term debt as the main variable, and not non-current liabilities.

This is because the non-current liabilities measure includes additional long-term liabilities, for example, pension plans, which are not necessarily credits in the traditional sense. Koriakin and others (2021) conduct a financing gap analysis in Moldova using data on equity and debt held by companies.
The gap is defined as the difference between the demand and supply of financing.

Finally, Lin and others (2022) construct the MSME financing gap as the difference between a country's potential demand and its existing supply. It divides the MSME financing gap by the amount of financing

provided or total financing supply.A sizeable number of papers that have examined the issue of MSME financing are solely based on an analysis of firm financing. As such, they fail to measure the financing gap. For example, Yoshino and others (2018) provide a picture of access to finance in Asia. The authors stress that the lack of information is the major problem regarding: (i) firms' access to credit; (ii) the development of infrastructure, such as credit information for SMEs; (iii) the utilization of credit-rating techniques to address the asymmetric information problem; and (iv) the development of a sustainable credit guarantee scheme to solve the collateral issue of the SMEs. The annual OECD report on Financing SMEs and Entrepreneurs (2022) paints a picture of SME financing in 48 countries from 2007 to the first semester of 2021. The report provides a picture of the evolution of indicators, such as debt, equity, asset-based financing, and framework conditions for SME and business financing. This is complemented by information about demand, as well as recent developments in public and private initiatives to support MSME financing (for monitoring the needs of SME financing). Using the same approach, Runde and others (2021) map the financing problem of MSMEs in African countries. They highlight the role of blended finance in reducing the financial constraints of MSMEs.

Looking at China from 2011 to 2018, Guo and others (2023) examine the impact of financial technology (FinTech) on the financing constraints faced by firms. The authors show that the development of FinTech can significantly reduce firms' financing constraints. This effect is partially driven by the facilitation of direct and indirect financing of firms, as well as by the promotion of interbank competition.

A summary of the studies, including country coverage and estimation methodologies is presented in the online annex.

However, it is important to note that there continue to be no other studies or papers estimating the MSME finance gap for all EMDEs using a consistent methodology.

# 3
# Methodology

## 3.1 Motivation

Any proposed methodology to estimate the MSME financing gap faces several conceptual and data availability challenges. Guided by the leading question of why a financing gap might exist, this chapter examines the methodology that was used to estimate the MSME financing gap in EMDEs. As such, it will focus on summarizing the overall methodology, which remains the same as the one used in the previous MSME Finance Gap Report (IFC 2017). Finally, it will discuss the changes necessitated by the data challenges.

Keeping the methodology and data sources the same as the previous database has several obvious benefits. The current methodology is a result of trialing several alternate methodologies and arriving at one that is robust, but not as sensitive to the data challenges. The update process was also considerably streamlined because the estimation process and data have already been established. Most importantly, keeping the methodology and data sources the same has resulted in a re-estimation of the gap that, for the first time, establishes and informs the evolution of the gap over a four-year period (2015-2019). The division in the methodology between estimating the supply and demand of financing can also lead to important granular trends in the shift to these components in EMDEs. A potential drawback of keeping the data sources the same is that it would exclude potentially new and improved sources of data, particularly firm-level surveys. However, as highlighted below, this is not the case.

As described in the previous MSME Finance Gap Report (2017), the core of an empirical strategy in estimating the financing gap is to frame the effect of the challenges that leave firms unable to access external financing. The concept of a MSME financing gap proposed here relies on estimating how much financing MSMEs in a country would have sought (willingness) and been able to obtain (ability) if they operated in a better institutional, regulatory, and macroeconomic environment. On the supply side, this environment would allow financiers to make available more financing as challenges, such as asymmetric information, would be mitigated.

The second, more practical issue related to the estimation of the financing gap is the scarcity of broadly available cross-country data concerning both the supply and the demand of financing by MSMEs.

Several institutions collect data concerning the supply of finance. For example, IFC surveys approximately 400 financial institutions annually (the Reach Survey). It also collects data concerning the loan portfolios to MSMEs, as well as retail and corporate customers. The data collection also includes deposit volumes, channels, and demographic information regarding the client base of the financial institution (FI).11

11 The report does not use the IFC Reach Survey because it is not representative at the country-level, as it is only administered to IFC clients. In some countries, coverage may be very low. Although not a primary data source, the report does use Reach data from countries with good coverage as a data point for cross-checks/robustness.

The Financial Access Survey (FAS) of the International Monetary Fund (IMF) is a global data depository of statistics about outstanding loan portfolios of financial institutions around the world, as collated and reported by their respective central banks. Although this database is not complete for all countries, it is one of the most comprehensive attempts to harmonize the supply side of data collection. Continued progress is being made in expanding the coverage and depth of MSME supply-side data, which will bolster further research on the topic.

Due to its global coverage and harmonization of data collection, FAS data was used as a primary source of supply-side data for the present study. It was supplemented by the data from the OECD's SME Scorecard[12], as well as data from the Asian Development Bank (ADB) SME Monitor[13], as described in more detail in Step 3 below. When data is missing across these two cross-country surveys, country-level sources of data are sought, such as data from central banks or another MSME-specific regulatory agency.

Finally, credit markets around the world are transforming with the advent and increasing scale of new types of financial intermediaries relying on digital lending models. Researchers with the Bank for International Settlements (BIS) have compiled a database that aggregates FinTech and big tech credit volumes for 79 countries around the world from 2013 to 2019.[14]

Estimations relating to the demand for financing require detailed firm-level data that is comparable across countries. Some institutions conduct in-depth, firm-level surveys and studies to identify demand for finance and constraints regarding access to finance at the country level. This encompasses initiatives supported by development financial institutions, including the Consultative Group to Assist the Poor (CGAP), IFC,[15] the World Bank, the Netherlands Development Finance Company (FMO), the United Nations Capital Development Fund (UNCDF), FinScope,[16] and national statistical bureaus, among others.

However, these surveys and studies lack cross-country harmonization. Thus, detailed, firm-level data with comprehensive information about the current financial standing and financing needs of MSMEs are unavailable at the global level. This restriction implies that any estimation of the financing gap must rely on less complex, firm-level data sources, for example, data collected by the WBES. The lack of data also imposes the need to make stronger assumptions than would be necessary if data availability was not an issue.

The lack of uniform data about the informal MSME market segment represents an especially serious constraint. Currently, there are a few agencies working on collecting data from microfinance institutions, of the ones which they are limited to mobile network operators, including the Mobile Network Operators (*Groupe Spéciale Mobile Association*) (GSMA), where many informal enterprises might be traced.

However, there is no governing body or unified data aggregator that can be confidently used as a source of firm informality data across all developing countries. Firm-level data concerning informal enterprises is also scarce. The WBES has conducted a series of Informal Sector Surveys to measure the characteristics and activities of unregistered businesses. However, country coverage continues to be limited.[17]

12 https://www.oecd.org/cfe/financing-smes-and-entrepreneurs-23065265.htm.
13 https://www.adb.org/publications/asia-sme-monitor-2022-volume-1.
14 https://www.bis.org/publ/work887.htm.1
15 Multiple studies, including Bangladesh, Indonesia, Mongolia, and Vietnam.
16 Multiple country-level studies, including Cambodia, India, Myanmar, Pakistan, and Tanzania.
17 https://www.enterprisesurveys.org/en/informal-businesses.

## 3.2 Overview of Methodology

The methodology proposed for calculating the MSME financing gap relies on estimating the "potential demand" for financing by MSMEs in emerging economies, and then comparing it with the current supply of financing. The notion of potential demand expresses the amount of financing that MSMEs would need, and that financial institutions would be able to supply if they operated in an improved institutional, regulatory, and macroeconomic environment. Conceptually, this methodology concretely bases the calculation of the financing gap on underlying issues that initially give rise to it.

For this purpose, and as a first step, the methodology entails benchmarking the prototypical financing environment in which MSME credit markets function with minimal imperfections. How much do MSMEs of a certain size and a certain maturity level (age) operating in a certain industry/sector typically borrow under "ideal" conditions? The second step is to apply these benchmarks to MSMEs operating in the emerging economies where the gap is to be calculated. This results in the estimated "potential demand." Finally, the third step is to compare the potential demand with the existing supply within these countries to quantify the MSME financing gap. From a data availability standpoint, this approach also has the practical benefit of requiring more detailed, firm-level financial information only for MSMEs in the benchmarked developed economies.

The underlying thrust of this methodology arises from assumptions first proposed by Rajan and Zingales (1998). In particular, the methodology here relies on three assumptions set forth in their influential paper, namely that: (1) "there are technological reasons for variability in dependence on external finance across industries"; (2) "technological differences persist across countries"; and, therefore (3) "we can use an industry's dependence on external funds as identified in the United States as a measure of its dependence in other countries". Although Rajan and Zingales use these assumptions for a very different purpose, they can peripherally guide the starting point of the methodology proposed here.

This proposed approach has several advantages, as well as limitations, over the other financing gap estimation methods.

### 3.2.1 Advantages of the Methodology

By its very nature, the estimation of the financing gap requires contemplating a counterfactual scenario. As discussed, computing the actual demand for the countries is not helpful, as it would equal supply under market-clearing equilibrium conditions. Therefore, the thrust behind the existence of a gap lies with those MSMEs that would/could borrow more, given certain improvements in the financing environment. This can also be thought of as the higher willingness of financial institutions to finance credit-worthy MSMEs.

The problems with the approaches commonly used in the literature estimating the MSME financing gap are primarily twofold. First, the assumptions about how much credit-constrained firms would borrow was highly arbitrary. Second, the counterfactual under which the gap exists was not well defined. The problem stemming from the counterfactual definition was that it was difficult to comprehend the total increase in the demand for finance. The changes in the enabling environment would allow for an expansion of access to those MSMEs currently without sufficient financing, as well as trigger even more borrowing by those MSMEs that currently had financing. On the supply side, the lack of a definition of the counterfactual also raises uncertainty about the bankability of those currently unserved or underserved MSMEs.

In fact, other MSME financing gap methodologies typically did not consider how much financial institutions would want to finance. Hence, the bankability consideration is entirely absent.

The methodology continued to be used by this report defines the counterfactual more concretely. By relying on a benchmarking approach, the regulatory and macroeconomic changes required for the gap to manifest are clearly defined.

### 3.2.2 Limitations of the Methodology

This methodological approach has several limitations. For example, the benchmarking exercise assumes that a MSME financing gap and market distortions in MSME lending do not exist in the benchmarked countries. In addition, the benchmarking concentrates simply on the debt-to-sales ratio. There is a strong assumption that debt levels are primarily a function of sales. Perhaps the most important limitation is in terms of interpretation and usability. The estimated MSME financing gap utilizing this methodology captures the latent demand that is only realized over the long-term, that is, when these economies approach a level of financial development and regulatory sophistication similar to that of the benchmarked countries. This may not be the most useful measure of the gap for some scenarios and countries. For example, in a low-income country with very little financial development and an inadequate enabling regulatory environment, the gap — when its level of development approaches that of an advanced economy — may not be the appropriate comparator. For this country, a much more actionable data feature could be the gap when benchmarked against a regional comparator.

The methodology is fluid enough to be adapted to such a comparison. Data permitting, the ratios of debt-to-sales for a regional comparator can be utilized as the appropriate benchmark. For the purpose of this report, however, the benchmarked countries are defined globally so that the resulting gap is comparable across countries.

## 3.3 Methodological Steps

Each of the three computation steps of the methodology are now described in more detail.

## Step 1: Benchmarking

As outlined above, the first step of the methodology entails estimating the financing needs of MSMEs in benchmarked countries where credit markets function relatively smoothly. Rajan and Zingales (1998) use the United States as their sole benchmark. However, they acknowledge that any country with a well-functioning credit market can, in principle, be used to measure the industry's dependence on external financing. A wider selection of benchmark countries will also broaden coverage to a diverse number of industries.

Ten countries serve as benchmarks: Australia, Canada, Denmark, Germany, Ireland, Israel, New Zealand, Switzerland, the United Kingdom, and the United States.[18] These countries were selected based on the criteria that they are high-income and ranked highest on the "Getting Credit" module of the World Bank's Doing Business Index. The Getting Credit module explores two sets of issues, namely, the strength of credit reporting systems and the effectiveness of collateral and bankruptcy laws in facilitating lending. In addition, income-level proxies are used for a host of characteristics related to regulatory efficiency. Together, these

18 As discussed later in the chapter, the benchmarks and the benchmark countries are kept the same as the previous iteration of the gap estimation.

two criteria drive the selection of countries in which the regulatory and institutional environment favors well-functioning credit markets.

In the spirit of Rajan and Zingales' original assumption, three broad industry groupings — Manufacturing, Services and Retail — are chosen as the first category to benchmark MSME financing profiles. In addition, departing from their assumption, two additional layers of disaggregation are introduced, namely the size and age of the MSMEs.

The additional granularity introduced by these two categories within an industry is based on guidance from the existing literature. An extensive literature review has shown that smaller firms tend to be more financially constrained than their larger counterparts (Beck and others 2005, 2006, and 2008; Cressy 2002; IADB 2004; and Schiffer and Weder 2001). Meanwhile, younger firms are more likely to struggle in a credit environment that lacks a strong regulatory environment because they have shorter credit histories and typically do not have established relationships with lenders (Berger and Udell 1995; Chakrobarty and others 2006; Cole 1998; Ezeoha and Botha 2012; and Steijvers and others 2009).

The firm-level information regarding the amount of borrowing by typical firms within these categories in the ten benchmark countries is provided by Bureau van Dijk's ORBIS database. It is a commercial dataset, which contains administrative data about balance sheets and income statements for over 130 million firms worldwide. The ORBIS database harmonizes the collected data into a standard "global" format that facilitates both within and cross-country comparisons of firms. The work done by Kalemli-Ozcan and others (2015) to determine the representativeness of the ORBIS database regarding firms in select European countries finds that ORBIS covers 75-80 percent of the economic activity reported in Eurostat. It also matches the official size distribution of firms provided by Eurostat.[19]

For each of the three categories described above, the mean debt-to-sales ratio is computed across firms in the ten countries. Debt is the sum of short-term loans[20] and long-term debt.[21] Other non-current liabilities, such as trade debts, are not included. Sales refers to the operating revenues of the company.
To limit the effect of outliers, the top and bottom 5$^{th}$ percentile of the distribution of the variables is omitted from the analysis. The assumption inherent in the benchmarking relies on an unconstrained business environment that allows for a true financial equilibrium to emerge. Therefore, the post-global financial crisis years from 2011-2015 are selected. The final dataset contains over 800,000 observations. Table 1 summarizes the computed mean debt-to-sales ratio for the intersection of each of the three categories.[22,23]

19 Fattal-Jaef (2022) compares the coverage in the ORBIS/Amadeus to Eurostat, and it does not use Denmark, Germany, Ireland, Switzerland, and the United Kingdom due to low coverage. The coverage may be lower in some countries. Thus, the benchmark represents firms that were included in the ORBIS database (with different selection criteria across countries).

20 The variables name in ORBIS is LOAN, and it is defined as short-term financial debts (for example, to credit institutions), plus part of long-term financial debts payable within the year.

21 The variables name in ORBIS is Long-Term Debt (LTDB), and it is defined as long-term financial debts with maturities longer than a year (for example, to credit institutions) in the form of loans and credits.

22 There is significant variation in the definition of MSME size categories, and it often relies on a combination of employees, assets and revenues. Even for a categorization based on the number of employees, there is substantial variation in definitions across countries. This study defines microenterprises as those with less than 10 employees, and MSMEs as those with less than 250 employees. This is the most widely used definition in the publications. According to research by IFC's MSME Country Indicators (2014), it is also the most widely used definition by individual countries.

23 A simple robustness check was performed while estimating the benchmark; thus, removing one country out produces 10 variations of results that are almost identical.

Table 1: Mean Debt-to-Sales Ratios

| Size of MSME (number of employees) | 0-9 employees | | 10-19 employees | | 20-49 employees | | 50-99 employees | | 100-249 employees | |
|---|---|---|---|---|---|---|---|---|---|---|
| Age of MSME | Young | Mature | Young | Mature | Young | Mature | Young | Mature | Young | Mature |
| Manufacturing | 0.34 | 0.28 | 0.32 | 0.22 | 0.33 | 0.21 | 0.31 | 0.20 | 0.34 | 0.19 |
| Retail | 0.25 | 0.21 | 0.22 | 0.17 | 0.22 | 0.16 | 0.25 | 0.14 | 0.31 | 0.14 |
| Services | 0.25 | 0.28 | 0.24 | 0.23 | 0.31 | 0.24 | 0.52 | 0.28 | 0.52 | 0.32 |

Source: MSME Finance Gap study calculations (based on the Orbis dataset).

The current iteration of the MSME finance gap estimation does not update the benchmarking step. It keeps the benchmarked data as of 2011-2015 and the countries the same. The expectation is that, as in Rajan and Zingales (1998), these are meant to be from a period where MSME financing was not atypically constrained in these markets and a financial equilibrium emerged that represent a benchmark. Further evidence that the benchmarks can be considered stable comes from analyzing the benchmarks over shorter periods. The changes to the benchmark with the use of three-year rolling data are statistically insignificant. Furthermore, given the short 4-year lag of the benchmark period, as well as the relative stability observed in aggregate credit in the benchmarked countries, the report is working with the assumption that the benchmarks may not have undergone significant change.

The summary provided in table 1 conforms to prevalent understandings of MSME financing needs in various categories. Young firms, defined as firms that commenced operations within five years, require more credit than their more mature counterparts within the same size and industry categories. For young firms, an increase in size is generally correlated with higher financing needs, whereas the opposite holds true for more mature firms. On average, holding other variables constant, MSMEs in the retail sector obtain the least amount of financing. However, beyond the patterns that emerge in table 1 that confirm the general understanding of financing needs across size, age and sector, some marginal movements can be quite high. For example, the ratio jumps from 0.31 among young firms employing between 24 to 49 workers to 0.52 among young firms with 50 workers or more in the services sector. The magnitude is significantly larger than in the other sectors. As such, it has important implications in the estimates of the finance gap[24].

An implicit assumption in the benchmarking exercise is that the observed use of financing by firms in these economies represents the actual demand. Furthermore, for the benchmarked countries, an additional supposition is that there is no potential demand beyond the actual demand. In other words, there is no MSME finance gap in these countries.

24 The report does not seek to fully explain patterns in the debt-to-sales ratio across size, industry and age. Such research could be part of future work.

## Step 2: Extrapolate potential demand in target countries

The second step of the methodology entails applying the ratios obtained in the first step to the universe of MSMEs at the enterprise level for all emerging economies. The World Bank Enterprise Surveys furnish this data in a consistent and comparable manner across countries.

The Enterprise Surveys use a common questionnaire and a uniform sampling methodology to produce survey data about manufacturing and service sector firms that are comparable across countries. In total, 119 emerging economies are covered by the Enterprise Surveys. The stratification of the sample is based on three criteria: sector, firm size (the number of employees), and geographic location. The stratified random sampling methodology is used to generate a sample large enough to be representative of the non-agricultural, formal private economy, as well as key sectors and firm size classifications.

For the purpose of this methodology, it is crucial that the Enterprise Surveys provide estimates of the universe of MSMEs using the survey weights. Applying the benchmark ratio to the sales of the universe of MSMEs provided by the Enterprise Surveys and summing them up produces the potential MSME demand for financing in each country.

An estimation issue was identified when comparing total sales calculated for the universe of firms through the Enterprise Survey with known total aggregates from other sources. For example, for the manufacturing sector, the United Nations Industrial Development Organization (UNIDO) provides total sales (disaggregated by the International Standard Industrial Classification [ISIC] industry classification) for a large array of countries. Similarly, for the service sector, the World Bank's World Development Indicators (WDIs) provide the total value added by the service sector (a lower-bound on sales). Using these comparisons, the total sales for each of the categories under the respective industries was scaled up to compensate for the non-universal coverage of the Enterprise Surveys.[25] As the adjustment is made with the sector aggregate as of 2019, this scaling also makes the Enterprise Surveys conducted over different years somewhat comparable. By updating the Enterprise Survey sales in this way, the report is assuming that the structure and distribution of MSMEs is as of the survey year. However, the sales are rescaled to match the aggregate output of 2019 for each sector.

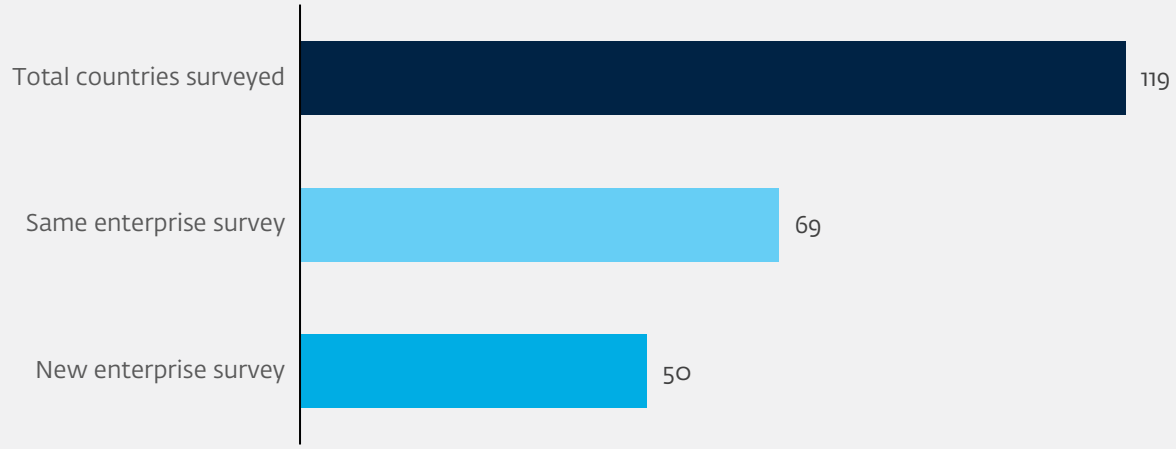
The resulting potential demand for each country is interpreted as the hypothetical equilibrium amount of financing for MSMEs in the country as a result of higher firm demand, as well as the higher propensity by financial institutions to lend given their operations in an institutional, regulatory and macroeconomic environment similar to that of the benchmarked countries.

Since the last report, the WBES has conducted new surveys in 50 economies.[26] Of this expansion, a substantial share (30 of the 50 countries) is in Latin America and the Carribean and Europe and Central Asia, regions which are primarily home to upper-middle-income economies (figure 1). Considering only low-income economies, eight of the 23 economies had an updated survey since the last estimation.

25 In many countries, under-sampling by the Enterprise Survey is a known issue because, for example, of the sizes of the economies and available sampling resources. The population of firms covered by the Enterprise Surveys does not include firms with fewer than 5 employees, as well as firms in the following sectors: agriculture, extractive industries, personal services, financial services, education, healthcare, and utilities, among others.

26 See Annex 3 for details of all the Enterprise Surveys used in the study

Figure 1: Share of New/Same Enterprise Surveys




Source: Authors' calculations based on WBES.

## Step 3: Existing supply of MSME financing

Existing lending to MSMEs by financial institutions is available from a few data sources, namely the IMF's Financial Access Survey, the OECD's SME Scorecard and the ADB's SME Monitor.[27]

The FAS is a cross-country, aggregated, supply-side database regarding access to, and the use of, financing and financial services by resident households and nonfinancial corporations, including MSMEs. The FAS is administered annually and data is collected from national regulators and supervisors based on the IMF's guidelines and survey formats. The FAS covers commercial banks, credit unions and financial cooperatives, deposit-taking microfinance institutions, as well as other non-deposit-taking financial corporations. The OECD's report on Financing SMEs and Entrepreneurs (2020) provides information about debt, equity, asset-based finance, and framework conditions for SME and entrepreneurship finance in 48 countries. The ADB's Asia Small and Medium-Sized Enterprise Monitor provides credit volumes of MSMEs for many Asian economies not covered by the FAS. When available, the FAS is the primary data source. Data from the OECD's SME Scorecard and the ADB are used to augment any missing data. Finally, central bank and other official country sources are used to supplement the cross-country databases when available.

Relevant to the analysis at hand, all datasets provide lending information specifically related to MSMEs. Although almost all countries report total lending activities, only 52 countries report disaggregated MSME lending through the FAS. The MSME lending volume for another six countries not covered by FAS is available through the OECD's SME Scorecard, and another two are available through the ADB. The reported MSME lending volumes were compared to total lending, as well as to private sector credit provided by the financial sector (IMF) to identify outliers. For countries where the ratios were too high or too low,[28] the MSME lending data was substantiated through their central banks or through public information from statistical agencies. Furthermore, for countries not reporting to the FAS or the OECD,

27 Other data sources reporting supply-side data for microenterprises in particular were also considered. These included, for example, data collected as part of the MIX Market Partnership and the GSM Association (GSMA).

28 In particular, the top and bottom 3 countries ranked by the ratios were considered for further substantiation. A few additional countries were chosen for further research when the ratios were flagged as an outlier for the country's income group.

MSME lending data was ascertained from credible country sources. Thus, the total MSME lending volume data is available for 61 countries.[29]

The current coverage represents a marked improvement in MSME financing volume over the years. Only 52 countries in total reported actual MSME financing volume for the previous report.

For the remaining countries, the previous report used a regression framework to predict the missing MSME volume. The following cross-sectional ordinary least squares (OLS) regression is estimated using country-level data:

$$\text{MSME Lending} = \boldsymbol{\alpha}\{\text{MSME}\} + \boldsymbol{\beta}\{\text{Macro}\} + \boldsymbol{\gamma}\{\text{Banking}\} + \boldsymbol{\eta} \quad (1)$$

The dependent variable is the log of the current MSME lending in the country. MSME refers to a vector of country characteristics relating to MSMEs, specifically the number of MSMEs as a percentage of the total, the share of MSMEs with access to external financing, and the MSME lending volume as a percentage of the total. All of these variables come from the Enterprise Surveys. Countries where there are more MSMEs in the economy, and where there is more access to finance, are expected to have higher MSME lending volume.

Macro refers to a vector of variables relating to the general macroeconomic environment, including population, the real GDP growth, and a dummy variable to indicate whether the country is fragile or conflict affected. All these variables are sourced from the World Bank's World Development Indicators (WDIs). The first two macro variables relating to the size of the economy are general, positive predictors of MSME lending. The dummy variable reflecting fragility and conflict is expected to have a negative effect.

Finally, banking refers to a collection of variables relating to the banking, regulatory and institutional environment, including the lending interest rate (WDI); the Z score;[30] the Lerner Index;[31] credit bureaus; movable collateral registry dummies; contract enforcement; and distance to frontier (DTF).[32]
The lending interest rate conveys information about the price of direct financing. The Lerner index captures the market competition. A more competitive market is expected to serve MSMEs better; as such, it will have higher MSME lending volumes. Establishing a credit bureau or collateral registry has been shown to increase access to financing for MSMEs. The two remaining regulatory variables point to the general, enabling regulatory environment that may be conducive to overall lending. The $\boldsymbol{\eta}$ refers to robust standard errors. The use of logs helps deal with outliers and prevents negative predicted values. In addition, to reduce noise and increase observations, three-year averages of all variables are used.

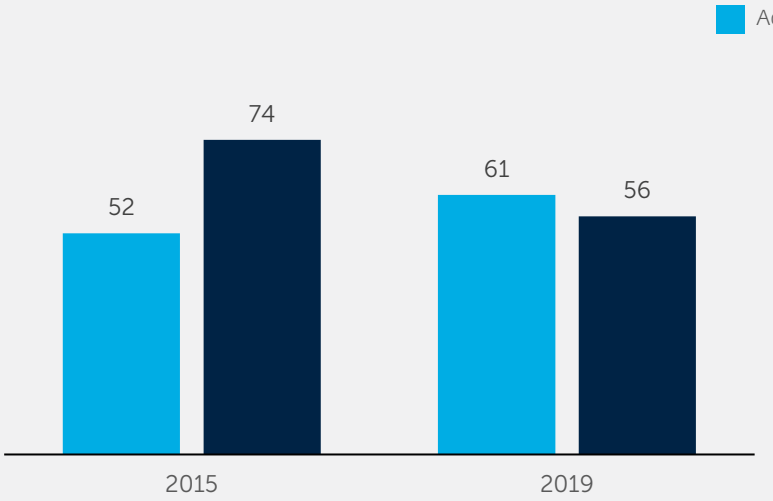
The primary motivation for the regression and the choice of variables lies in their predictive power. Details of the predictive power of the regression and robustness checks are described in more detail in the methodology section of the previous report. For this revision, an update is provided regarding the predictions of missing supply data based on the growth of private sector credit since the last report was

29 These include both developed and emerging economies.
30 The Z-score compares the buffer of a country's commercial banking system (capitalization and returns) with the volatility of those returns. It captures the probability of default of a country's banking system.
31 These two variables are banking sector stability and competition from the World Bank's Global Financial Development Database.
32 These three variables are provided by the IFC's Doing Business dataset. DTF refers to the "Distance to Frontier" rating mechanism of the Doing Business dataset. "The distance to frontier score aids in assessing the absolute level of regulatory performance and how it improves over time. This measure shows the distance of each economy to the 'frontier,' which represents the best performance observed on each of the indicators across all economies in the Doing Business sample since 2005." http://www.doingbusiness.org/data/exploretopics/starting-a-business/frontier

published.[33] Predicted MSME lending volume ratios were compared to total lending, private sector credit provided by financial institutions, and GDP to check for the reasonableness of the ratios.

Figure 2 summarizes the number of countries where actual supply of MSME finance is reported against the number of countries where the above methodology was used for the prediction, and how this has evolved over the two estimation timeframes.

Figure 2: Supply Source of MSME Finance: Previous and Current Estimates




Source: Authors' calculations.

## 3.4 The MSME Finance Gap

Bringing together the potential demand calculated in step 2 with the current supply collated/computed in step 3 produces the MSME finance gap for each country.

$$\text{MSME finance gap} = \text{Potential demand} - \text{Existing supply} \quad (2)$$

This is the MSME finance gap, assuming firms in a developing country have the same willingness and ability to borrow as their counterparts in well-developed credit markets, that they operate in comparable institutional environments — and that financial institutions lend at similar intensities as their benchmarked counterparts.

In this update, the MSME finance gap is not disaggregated further by firm size, that is, microenterprises and SMEs. An analysis of repeated cross-sections of the enterprise survey and the lack of disaggregated supply data by firm size has led to a focus only on the supply, demand and resulting gap at the overall MSME level.

33 Predicted supply was used in the previous report. However, actual supply is available now. Similarly, an update is provided for the old supply prediction by filling data backward using the growth of private sector credit. As a result, supply is restated as of 2015 for 40 countries.

## 3.5 Gender Disaggregation

An important consideration in the gap estimate is the disaggregation of the overall MSME finance gap for female- and male-owned firms. There is no standardized definition across multilateral institutions or researchers as to what comprises a woman-MSME (W-MSME). IFC uses a definition that relies on a majority ownership stake by women or management by women to classify W-MSMEs.[34]
The report follows this definition. However, separate supply data for W-MSMEs is not available from any source for almost any EMDE. As a result, the report is unable to improve the simplified methodology presented in the previous report. That methodology disaggregated the finance gap for female- and male-owned and managed firms by applying the ratio of the overall sales of each category. As a result, the gender-disaggregated MSME finance gap represents primarily the gap manifested by the existing distribution of output of W-MSMEs and Male (M)-MSMEs in an economy, as measured by the WBES.

## 3.6 Informal Finance Gap

Cross-country data with broad coverage about the universe of informal firms, their economic activity and financing sources is not available.[35] Both demand-side and supply-side data are missing. As such, estimating the finance gap for the informal MSME sector is extremely difficult. Schneider (2012) defines the "shadow" economy as part of the economy that "includes all market-based legal production of goods and services that are deliberately concealed from public authorities for a variety of reasons." (Schneider 2012). This was the source of the data concerning informality in the previous MSME finance gap report (2018).

More recently, the World Bank has constructed a global database of informal economic activity.
The database includes all countries covered by this report, including the twelve most commonly used measures of the informal economy. In terms of estimates of the size of the informal economy, as measured by output, they produce: (i) a Dynamic General Equilibrium (DGE) model for estimates of informal output and (ii) a Multiple Indicators Multiple Causes (MIMIC) model for estimates of informal output (Elgin and others 2021). The report updates the source of information for this measure.

Armed with assessments of the size of the informal economy, it is still far from a straightforward exercise to arrive at an estimate of the finance gap for informal firms. A stronger assumption regarding the demand for financing by informal firms compared to their formal counterparts has yet to be made. Under the more idealized institutional and regulatory environment that underlies all computations of the formal firm finance gap, it is perhaps reasonable to assume that informal firms of similar sizes and sales as their formal counterparts would have similar financing needs. Thus, the potential demand for the formal sector is used to proportionally extrapolate the potential demand for the informal sector.

Using this extrapolation, a stronger implicit assumption is made regarding the structure of the informal economy in terms of the similarity of industry distribution to the formal economy. The final step of computing the current volume and estimating the gap is neither feasible nor relevant. Presumably, the amount of formal lending to informal firms is close to zero. Thus, the potential demand is the more relevant metric to articulate the financing gap that may potentially arise if and when these firms formalize and become serviceable by formal financial institutions.

34 At least 50 percent female ownership, or Sole Proprietorships that are female-owned, or female participation in ownership and management (top manager).
35 The Enterprise Surveys have included a few surveys of the informal sector, but they do not provide broad coverage across countries.

## 3.7 Credit-Constrained Enterprises

This report also complements the MSME finance gap by computing the percentage of credit-constrained MSMEs.

There are a number of approaches that can be used to potentially identify whether a firm is credit constrained. In the World Bank's Enterprise Surveys, for example, the firms are asked to self-rate the perceived scale at which financing presents an obstacle. As a subjective measure, this identification is problematic. Another approach is to look at firms that do not currently have a loan, a line of credit, or overdraft protection. Identification solely based on usage is also problematic because firms without current financing may not require external financing. Thus, a more robust and multidimensional identification strategy is required.

The estimation of the share of credit-constrained enterprises in this report relies on a proposed measure by Kuntchev and others (2014). Based on a variety of questions (see box 1) regarding both usage of and the ability to obtain new credit, enterprises are categorized as fully credit-constrained (FCC), partially credit-constrained (PCC), and not credit-constrained (NCC) firms. Credit-constrained firms are defined as those that are fully constrained (FCC) or partially constrained.

## Box 1: Methodology for Determining Credit-constrained Enterprises

Figure 3 provides a schematic representation of the approach used to define credit-constrained enterprises. Definitions of the various categories are included below the figure.

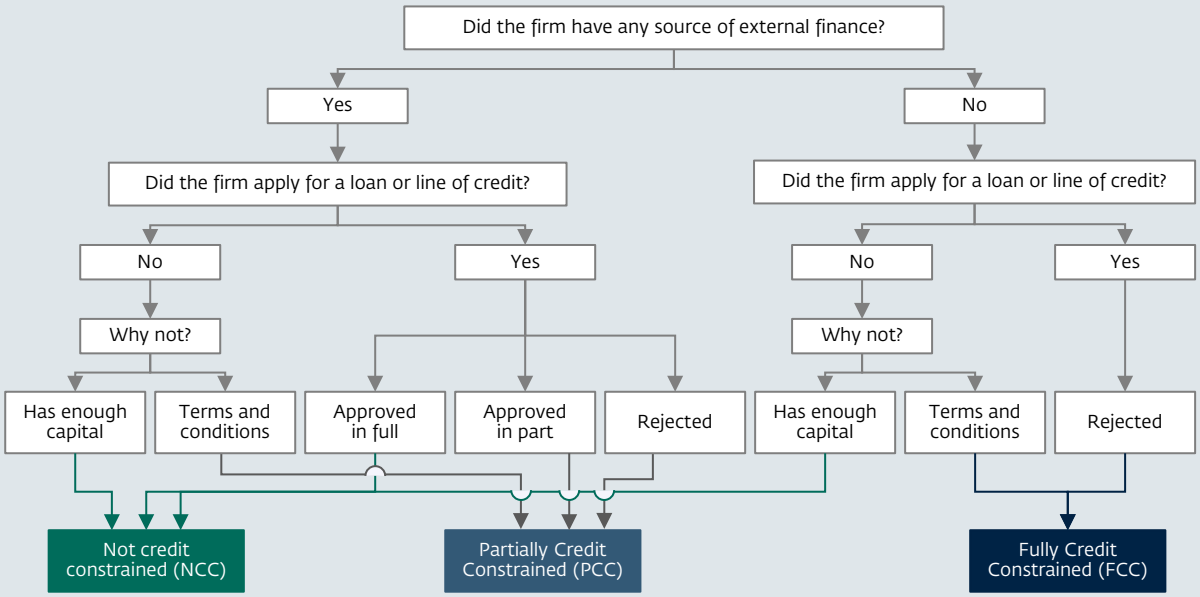
Fully credit-constrained (FCC) firms are defined as those that find it challenging to obtain credit. These are firms that have no source of external financing. They typically fall into two categories: (i) those that applied for a loan and were rejected; and (ii) those that were discouraged from applying either because of unfavorable terms and conditions, or because they did not think the application would be approved. The terms and conditions that discourage firms include complex application procedures, unfavorable interest rates, high collateral requirements, and insufficient loan size and maturity.

Partially credit-constrained (PCC) firms are defined as those that have been somewhat successful in obtaining external financing. PCC firms include those that have external financing, but were discouraged from applying for a loan from a financial institution. They also include firms that have an external source of financing, and firms that applied for a loan that was then partially approved or rejected.

Non-credit-constrained (NCC) firms are those that do not appear to have any difficulties accessing credit or do not need credit. Firms in this category encompass those that did not apply for a loan because they have sufficient capital either on their own or from other sources. It also includes firms that applied for loans that were approved in full.

There are limitations to the credit-constraint indicator. The indicator does not incorporate any information about the creditworthiness of the firm. Therefore, among the credit-constrained firms, there may be some that were credit-rationed for good reasons, such as insufficiently productive projects or a poor repayment history.

Figure 3: Correspondence between Credit-constrained Groups and questions in enterprise surveys




Source: Kuntchev and others (2014)

# 4

# Quantifying the MSME Finance Gap

## 4.1 Existing Supply of Financing for MSMEs

### 4.1.1 Current Supply Estimate (2019)

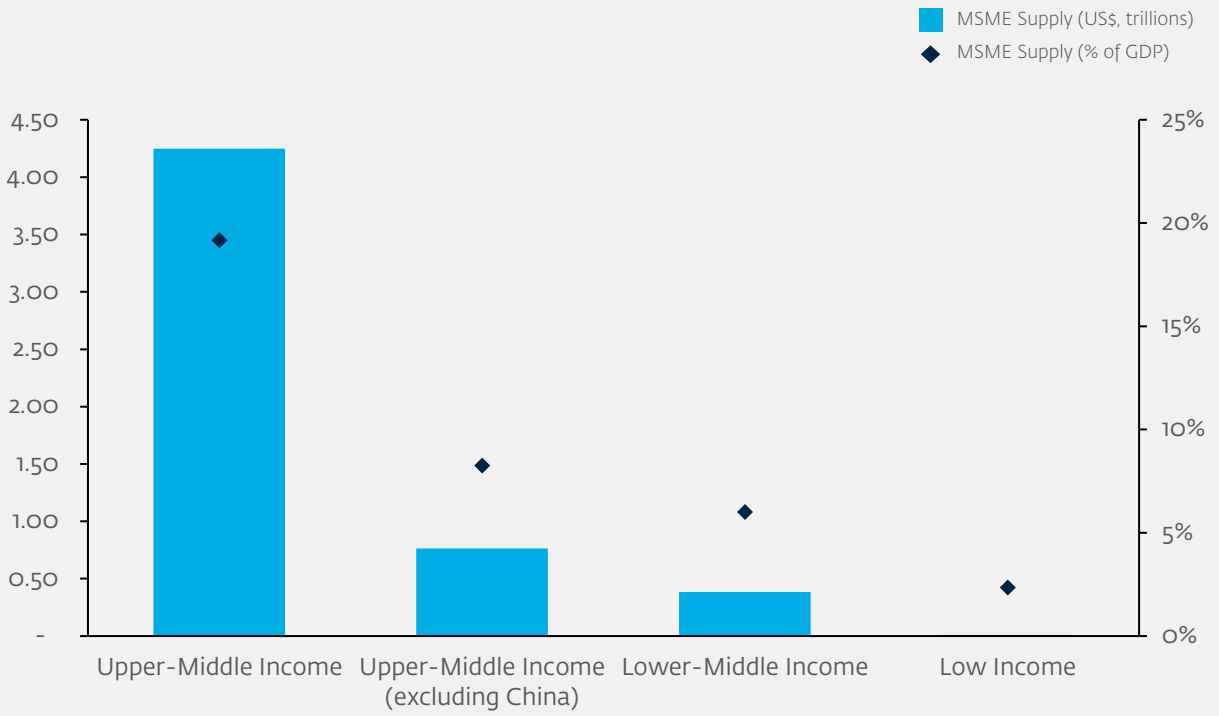
A comprehensive stocktaking of the financing supplied to MSMEs in EMDEs shows that there is limited availability of formal financing. Indeed, MSMEs face many constraints in obtaining formal financial services. These include structural barriers, such as a lack of collateral and regulatory barriers, as well as both pecuniary and non-pecuniary costs. Consequently, the supply of formal credit has remained limited. As of 2019, the supply of formal finance to MSMEs was estimated at US$4.6 trillion in EMDEs. This is equivalent to 16 percent of the GDP of the EMDEs. When expressed as a share of the overall domestic credit provided to the private sector by the banks, the share available to MSMEs is only 16 percent. Among the 68 EMDEs where the number of formal MSMEs is known[36], the average supply of financing available is US$15,310 per enterprise.

There is considerable variation in the supply of financing for MSMEs across EMDEs, reflecting income differences as well as differences in financial regulations and enabling regimes. Three of the top five countries in terms of the current volume to GDP reside within East Asia and the Pacific, the most populous region. It also has by far the highest ratio of any region of domestic credit provided to the private sector by banks to GDP, that is, 63 percent as of 2019 (Latin America and the Caribbean is second at 46 percent of GDP). Conversely, four of the five lowest countries in terms of volume to GDP reside in Sub-Saharan Africa, which supplies the lowest domestic credit to the private sector at 22 percent of GDP. Looking beyond the regional level and across income groups, the supply of MSME financing across EMDEs is unevenly distributed, with a staggering 92 percent concentrated in upper-middle-income countries (UMICs). This includes 8 of the 10 countries[37] with the largest supply by volume, including China. In this regard, China has the largest volume of financing compared to all other countries in this review (US$3.49 trillion, and 27 percent of GDP).

The lower-middle-income countries (LMICs), which have the largest country coverage (with 48 of 119 countries), have a total MSME finance supply of US$383 billion (6 percent of GDP, and 14 percent of overall bank credit). This is followed by the low-income countries (LICs), which have a MSME finance supply of only US$8.9 billion (2 percent of GDP, and 16 percent of overall bank credit, see figure 4). Unsurprisingly, there is a high correlation between GDP and the volume of MSME finance it can intermediate, as well as the size of the private sector in terms of the number of MSMEs (figure 5a and 5b).

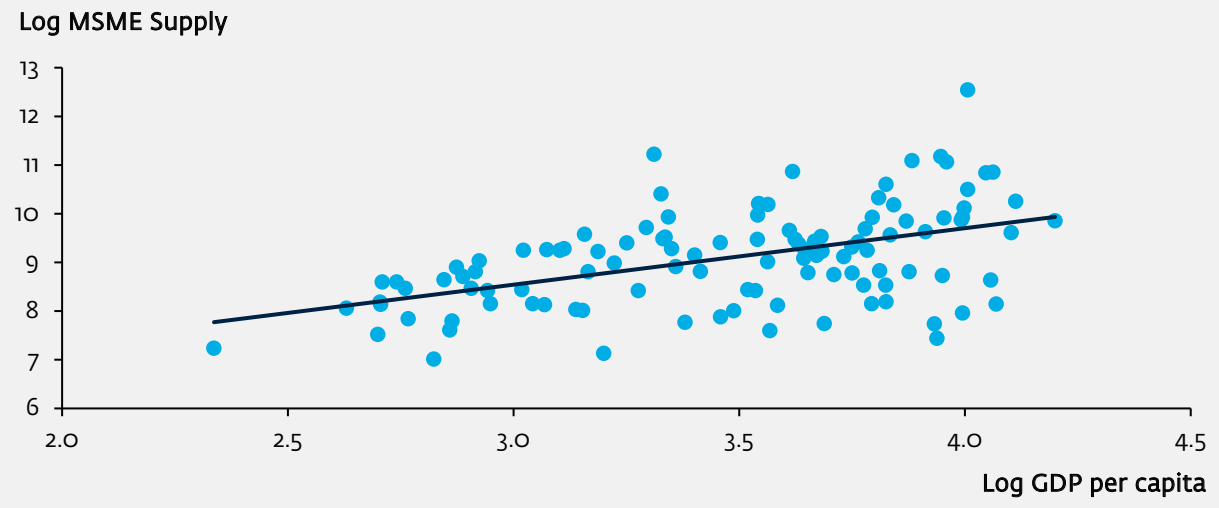
36 https://www.smefinanceforum.org/data-sites/msme-country-indicators.
37 These include Brazil, China, Malaysia, Mexico, Thailand, Turkey, Russia, and South Africa.

Figure 4: Supply of MSME Finance by Country Income Group



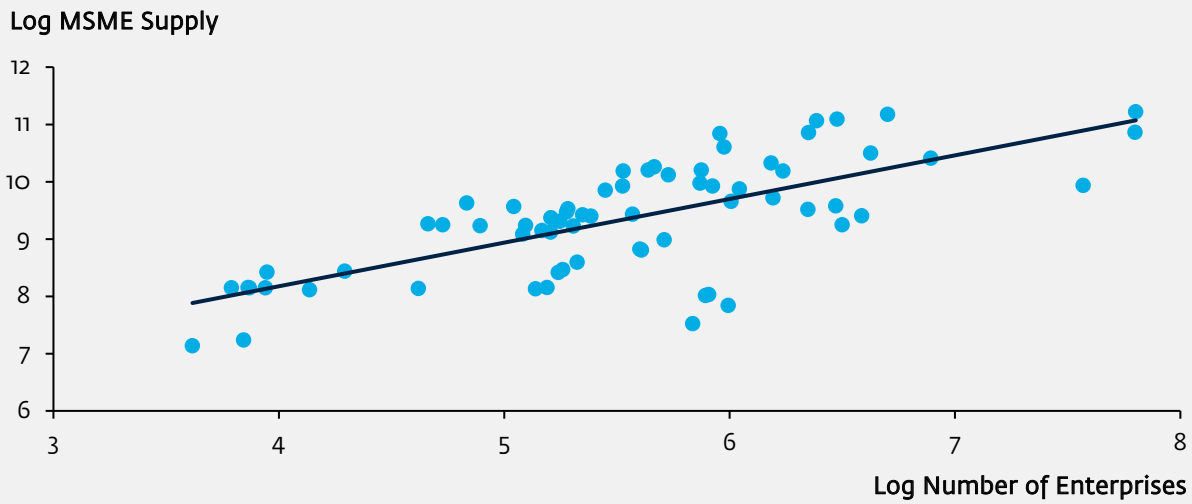

Source: Authors' calculations.

Figure 5a: Supply of MSME Finance Correlated with GDP per Capita




Source: Authors' calculations based on World Development Indicators.

Figure 5b: Supply of MSME Finance Correlated with Number of Enterprises

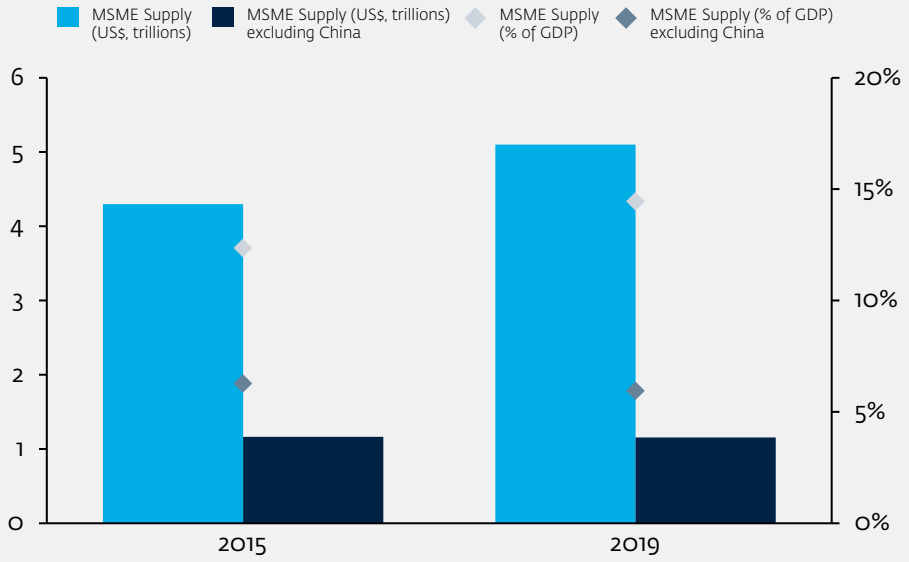



Source: Authors' calculations based on SME FF MSME Economic Indicators Database.

## 4.1.2 Growth in Supply (2015-2019)

In 2019, the supply of MSME credit in EMDEs showed meaningful growth compared to the 2015 estimate. In the four-year period from 2015 to 2019, the supply of financing grew by an average annual rate of 7 percent (see figure 6).[38]

Figure 6: Growth in Supply of MSME Finance

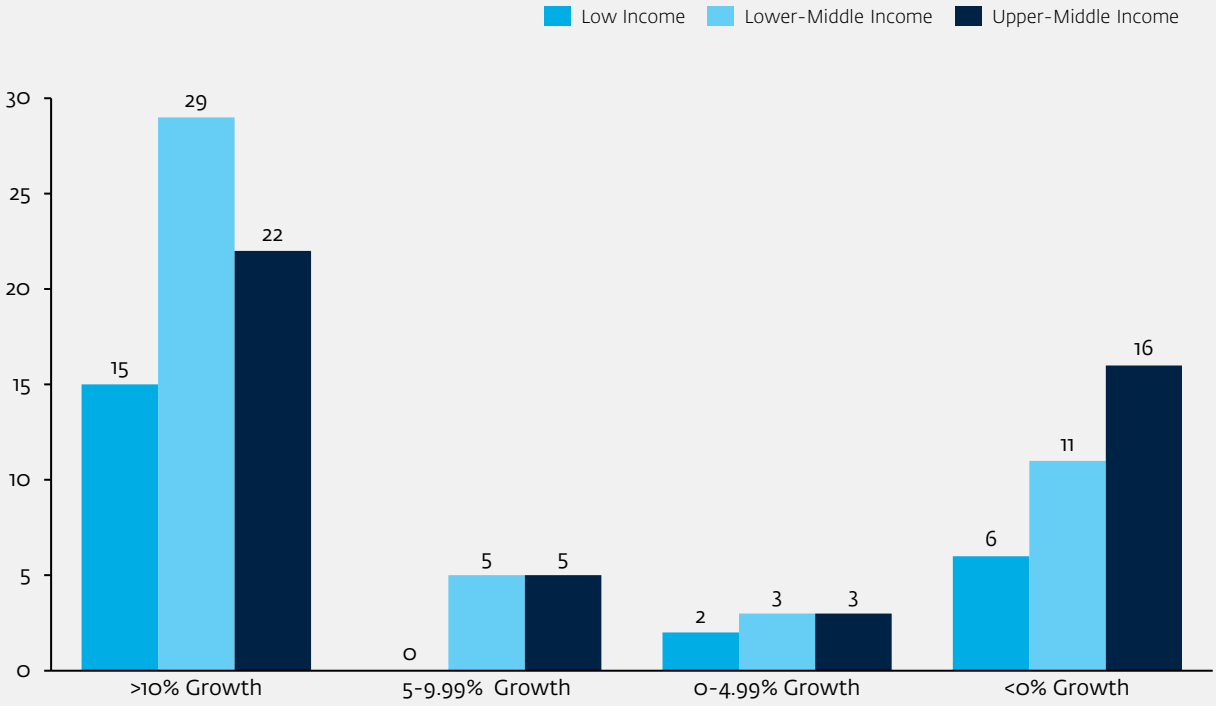



Source: Authors' calculations.

38 All analyses presenting the growth from 2015 to 2019 in this section only consider the 119 common countries covered by both the previous and current reports. Thus, the 2015 numbers here may differ from the aggregate number presented in the previous report due to changes in country coverage.

The growth in the supply of MSME lending between 2015-2019 was 24 percent, thus exceeding GDP growth in EMDEs, which averaged 12 percent. However, the growth in the supply of formal finance has been uneven across countries. In this context, 66 of the 119 EMDEs grew by over 10 percent annually, whereas 33 countries experienced a decline in supply (see figure 7).

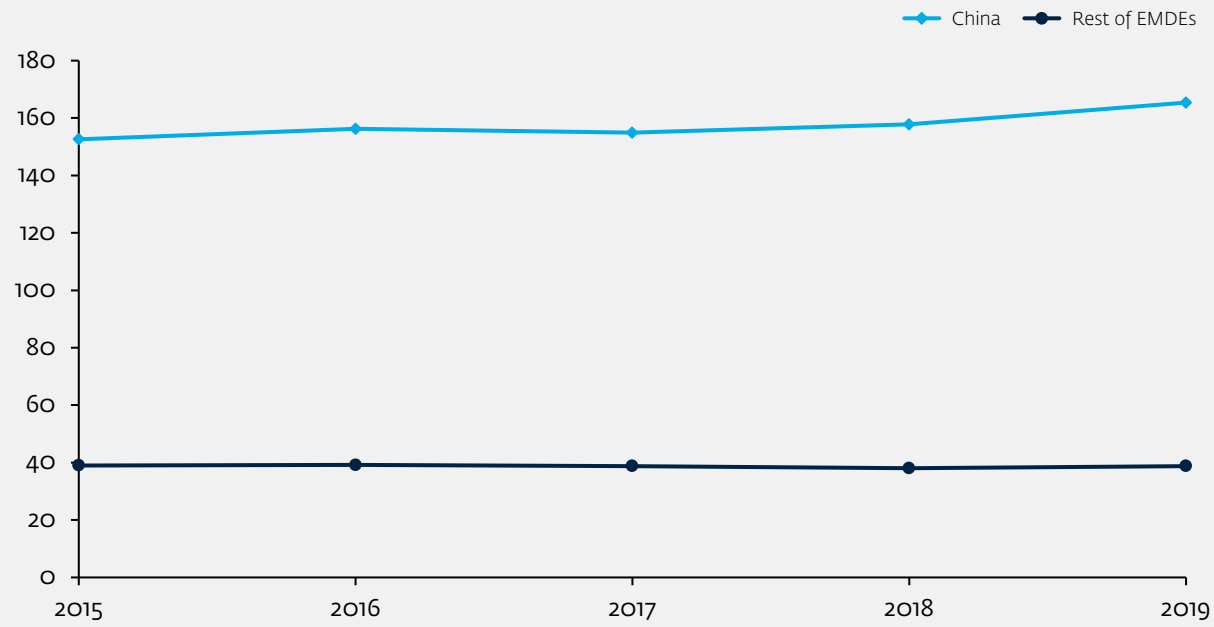
Figure 7: Number of Countries by Growth in the Supply of MSME Finance




Source: Authors' calculations.

Overall, the growth in supply of MSME lending has been modest for most countries with few exceptions, most notably China where supply increased by 35 percent between 2015 to 2019, in part due to substantial development of the banking sector, capital markets and cross-border capital inflows.
Excluding China the total MSME supply for the rest of the EMDEs stayed more or less constant, at 7 percent of GDP. During the same period MSME credit as a share of domestic credit provided to the private sector by banks rose modestly from 14 percent to 16 percent, implying growth in MSME financing to be slower than growth to larger enterprises (figure 8).

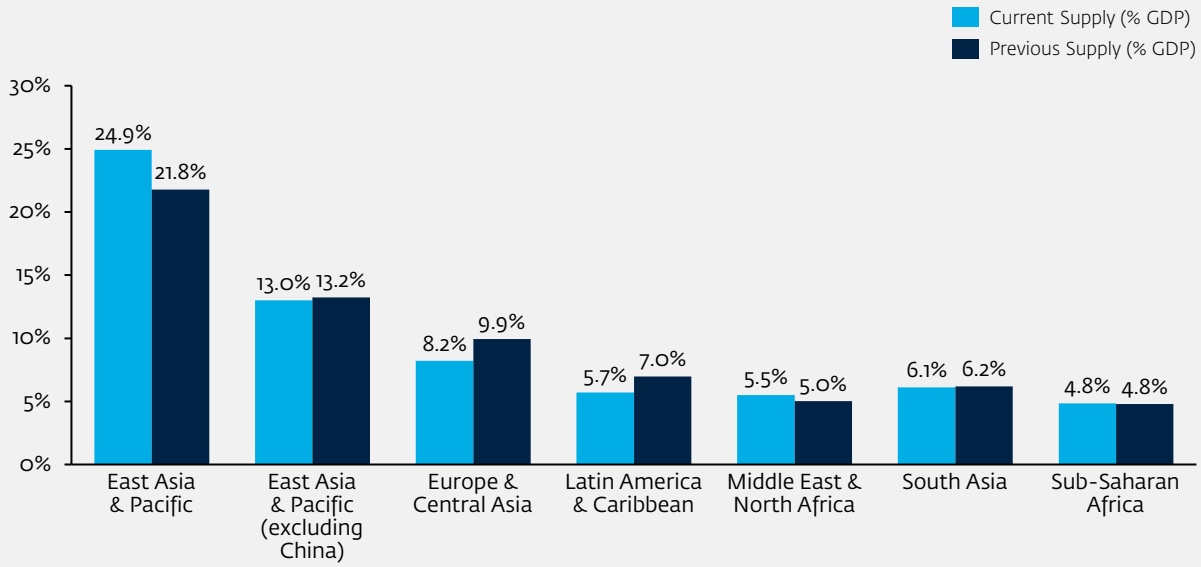
Figure 8: Domestic Credit to Private Sector (% of GDP)




Source: World Development Indicators.

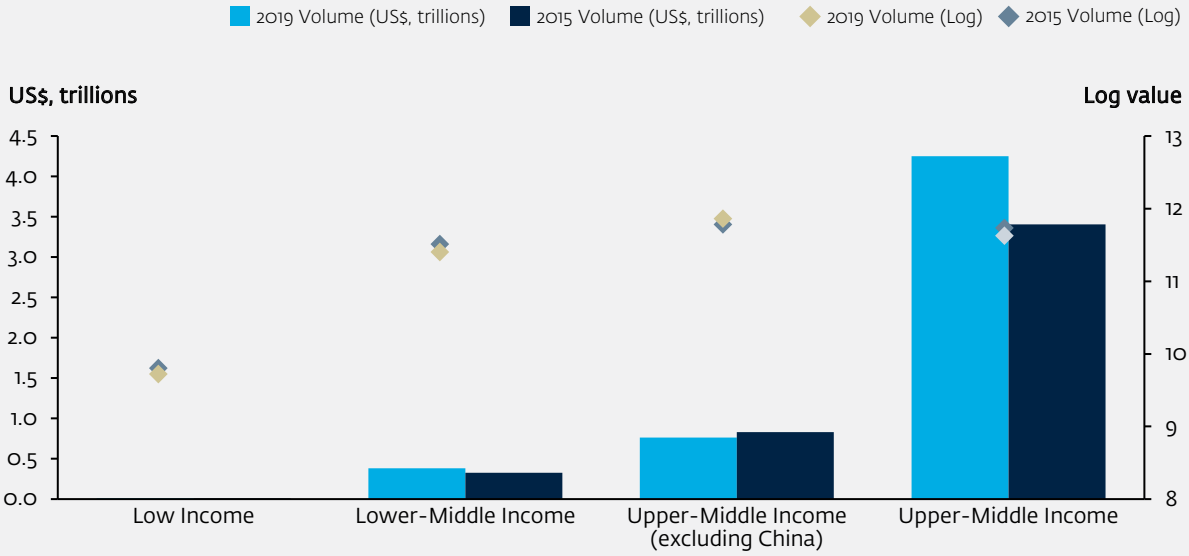
At the regional level, the report finds disparities, with some regions seeing a significant increase in the supply of formal finance, whereas others saw a contraction. For instance, the East Asia and Pacific (EAP) region saw a 33 percent growth in supply of formal finance as compared to the previous estimate of an 8 percent average increase per year. This was followed by South Asia at 22 percent. However, Latin America and the Caribbean (LAC) and Europe and Central Asia (ECA) both saw a contraction in supply over the 4-year period, with an approximately 4 percent and 3 percent decrease per year, respectively. Both the Middle East and North Africa (MENA) region and the Sub-Saharan Africa (SSA) saw relatively low overall growth of 7 percent and 2 percent, respectively. However, when taking into account the average growth of supply as a percentage of GDP, almost all regions stayed more or less constant, with the difference of less than 1 percentage point. However, ECA and EAP are the only exceptions, with growth in EAP being approximately 3 percentage points, and ECA, which experienced a decline of approximately 2 percentage points (figure 9).

Figure 9: Evolution of Supply of MSME Finance/GDP by Region




Source: Authors' calculations.

Figure 10: Evolution of Supply of MSME Finance by Income Group, (US$, trillions)

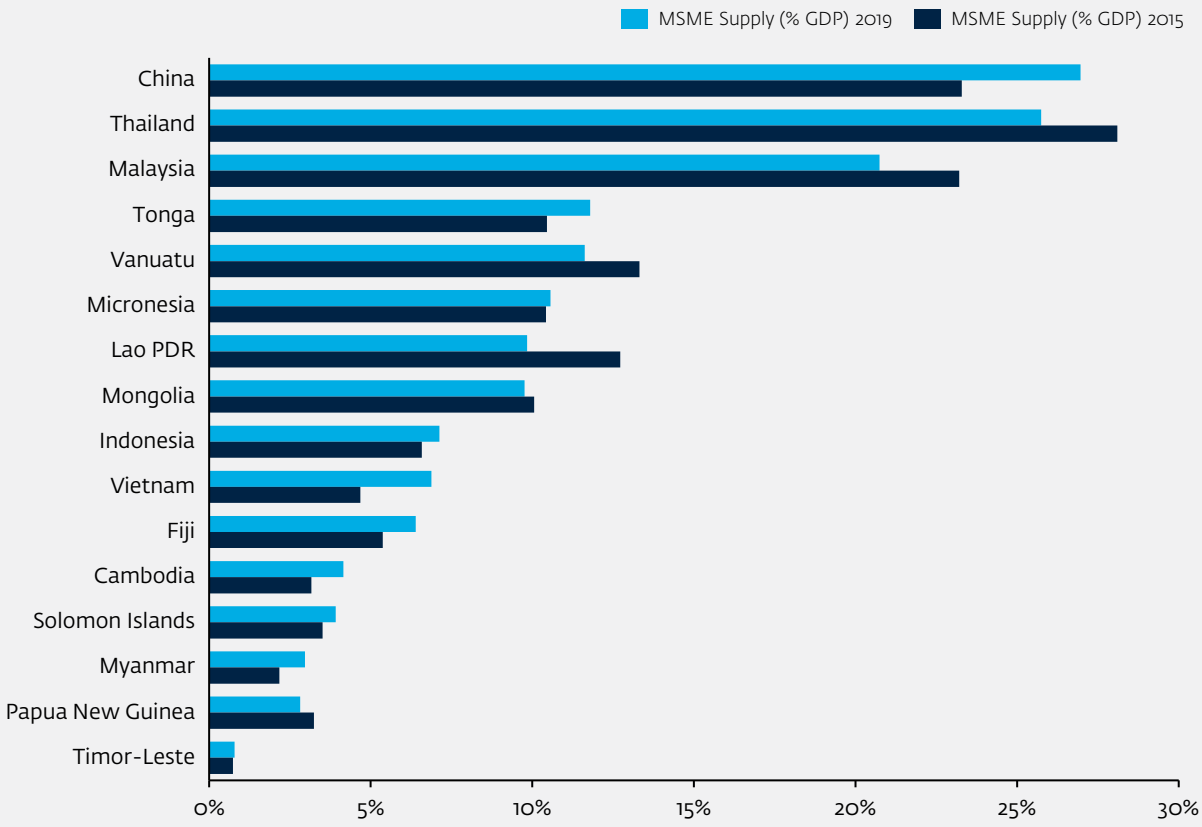



Source: Authors' calculations.

Additional factors such as government policy and the regulatory environment could have also played a part. For example, in East Asia and the Pacific, formal finance to MSMEs was equivalent to on average of 25 percent of a country's GDP. It saw an increase in overall volume of formal credit across almost all economies, with the exception of Lao People's Democratic Republic (PDR). The regional increase in supply was led primarily by China. However, Cambodia and Vietnam—both LMICs—also saw a significant increase. Even after excluding China, the supply of MSME credit still increased by 13 percent over the 2015-2019 period. When taking the supply of MSME credit to GDP into consideration, there is relatively lower

growth across all economies (i.e., from 21 percent in 2015 to 25 percent in 2019). It has also contracted slightly in some middle-income economies, such as Thailand and Malaysia (Figure 11). The increase in supply, both in terms of volume and percentage share of GDP, could be due to the growing focus by the governments in the region on MSMEs and inclusive growth, including conducive policies incentivizing banks as well as MSMEs to grow and expand. For example, the growth of MSME credit has been the most significant in China. It can be attributed to the conducive policies and focus of the government on inclusive financing. The government has also encouraged financial institutions to increase the supply of credit to MSMEs, including reducing the cost of borrowing. Furthermore, the growth in the formal supply also followed the overall economic growth in these economies, as well as the relative importance of the MSME sector.[39]

Figure 11: Supply of MSME Finance in East Asia and the Pacific



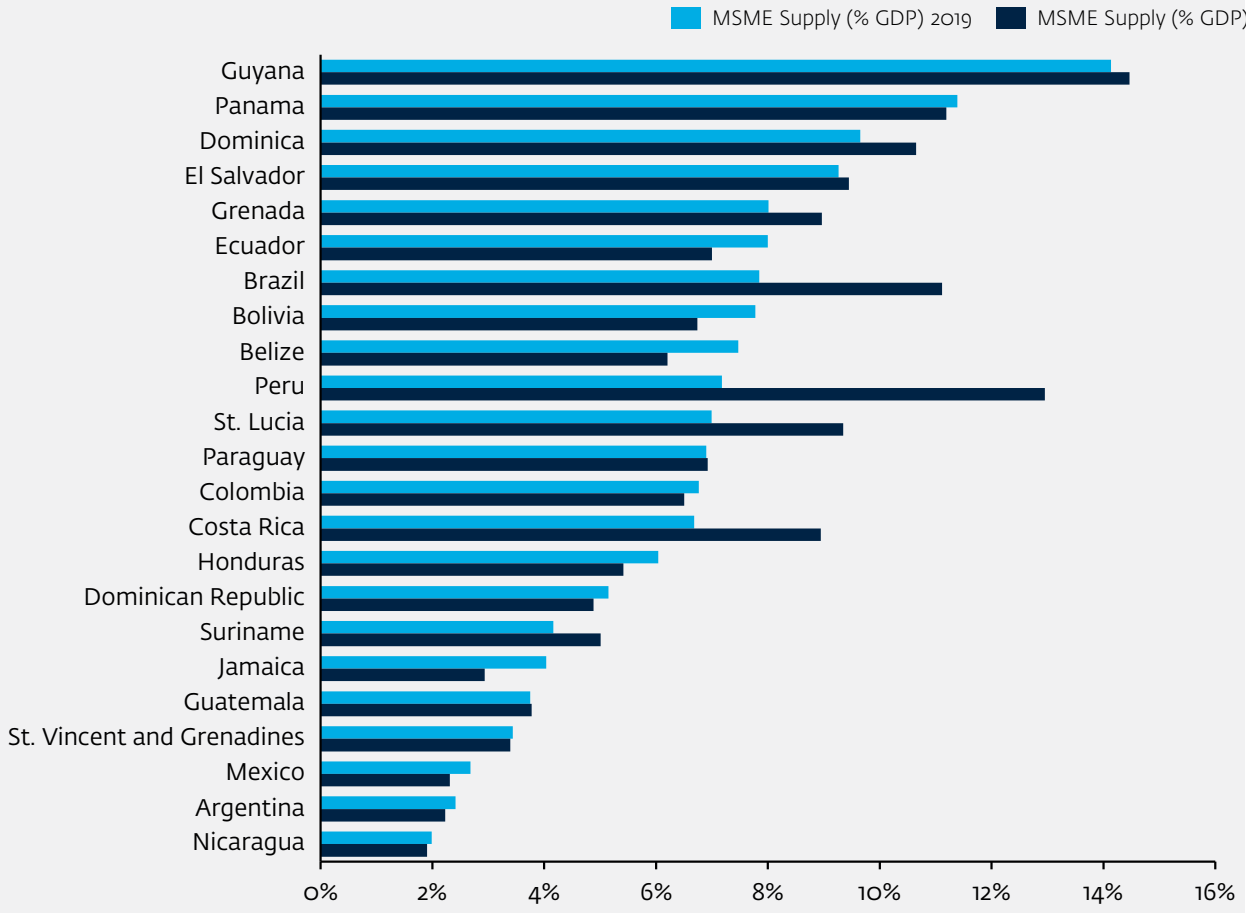

Source: Authors' calculations.

In contrast, Latin America and the Caribbean saw a decrease in the supply of formal finance by 16 percent between 2015-2019. At the same time, formal finance to MSMEs averaged 6 percent of a country's GDP in 2019. Whereas most countries in the region saw an increase in the supply of credit to MSMEs, three of the largest economies in the region saw a contraction in supply.

39 According to the ADB's Asia Small- and Medium-Sized Enterprise Monitor in 2020, MSMEs on average account for 97 percent of all enterprises and 69 percent of the national labor force. They average 41 percent of each country's GDP.

For example, Brazil saw a 25 percent decrease in the total supply of credit, and Peru saw an almost 40 percent decline (Figure 12).

Figure 12: Supply of MSME Finance in Latin America and the Caribbean



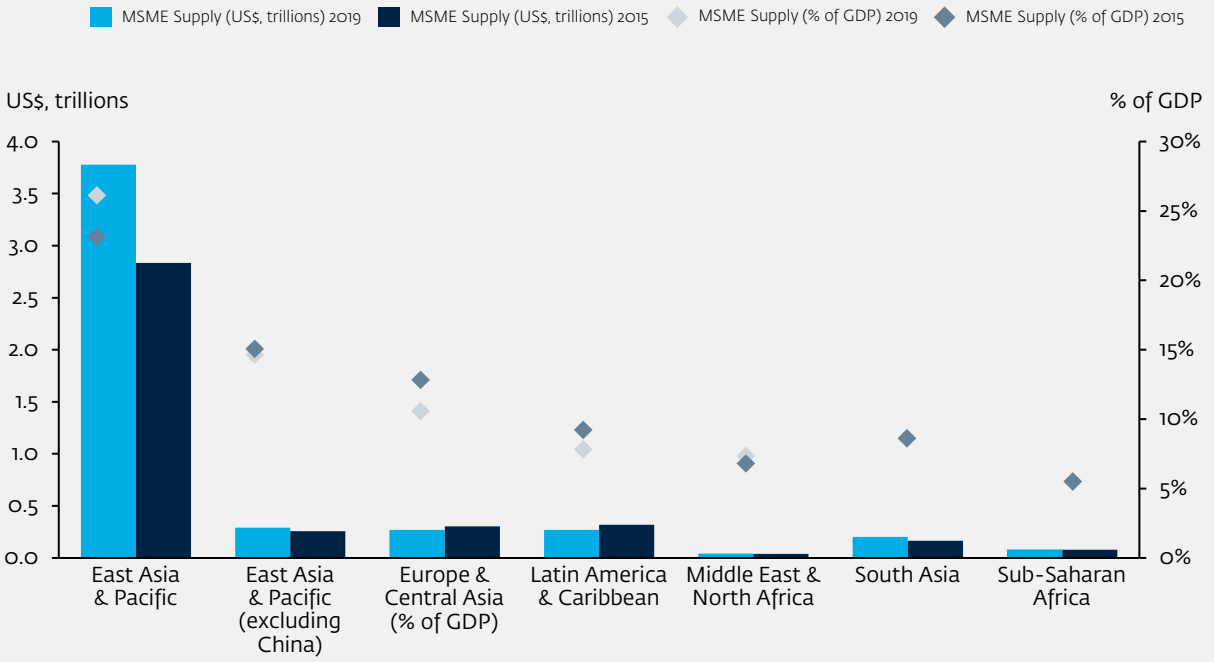

Source: Authors' calculations.

In terms of the supply of MSME credit to GDP ratio, the LAC region saw no growth. For example, there was a contraction in Brazil of almost 3 percentage points, thus negating any growth seen by some of the smaller economies in the region. In the case of Brazil, the steep decline in formal MSME credit supply has followed the trend of slow economic growth with limited growth in domestic credit to the private sector as a percentage of GDP, thus growing by only 0.6 percentage points from 2015 to 2019.[40]

This decline can also be attributed to a variety of reasons, such as private banks favoring larger companies in terms of lending, the outsized role of state-owned banks in providing credit, and the overall high interest rate environment that has persisted in the country, thereby putting downward pressure on the demand and consequently supply of credit.

40 https://data.worldbank.org/.

Figure 13: Evolution of Supply of MSME Finance Across Regions




Source: Authors' calculations.

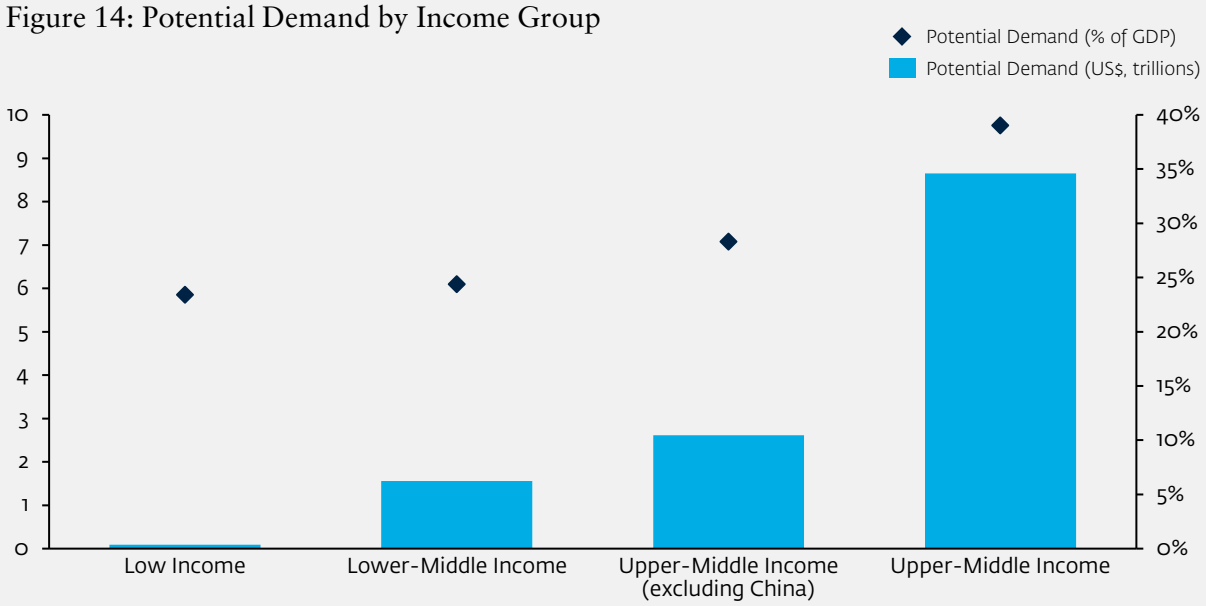
Comparing the growth of supply from 2015 to 2019, more heterogeneity emerges beyond regional groupings to reflect broader macroeconomic trends (figure 13). Three ECA countries comprise 75 percent of the bottom four in terms of the decreasing magnitude of supply, namely, Azerbaijan, Kazakhstan, and Tajikistan. Apart from being neighboring countries, all three have seen their 2019 GDP decline relative to 2015. This is potentially due to the decline in oil prices between 2014 and 2016, revenues on which Azerbaijan and Kazakhstan are heavily reliant. Angola, the country which experienced the most precipitous decline in MSME financing volume, also relies heavily on revenues from oil exports. In terms of growth, Guinea-Bissau, Nepal, Cambodia, and Chad top the list, with all seeing MSME volume increasing by more than 50 percent. For these four, their impressive growth in the four-year time span may be due to their previously low levels of MSME financing. As of 2019, all four still register MSME volume to GDP of less than five percent, that is, lower than the full 119 country average of 7 percent.

## 4.2 Potential Demand for Finance by MSMEs

### 4.2.1 Current Potential Demand (2019)

The potential demand for formal finance by MSMEs in EMDEs is estimated to be US$10.3 trillion, equivalent to 36 percent of the GDP of these economies. The aggregate potential demand across EMDEs was concentrated primarily in the UMICs, which were responsible for 84 percent of the total demand in 2019. However, excluding China, demand as a percentage of GDP drops to 5 percent of GDP (figure 14).

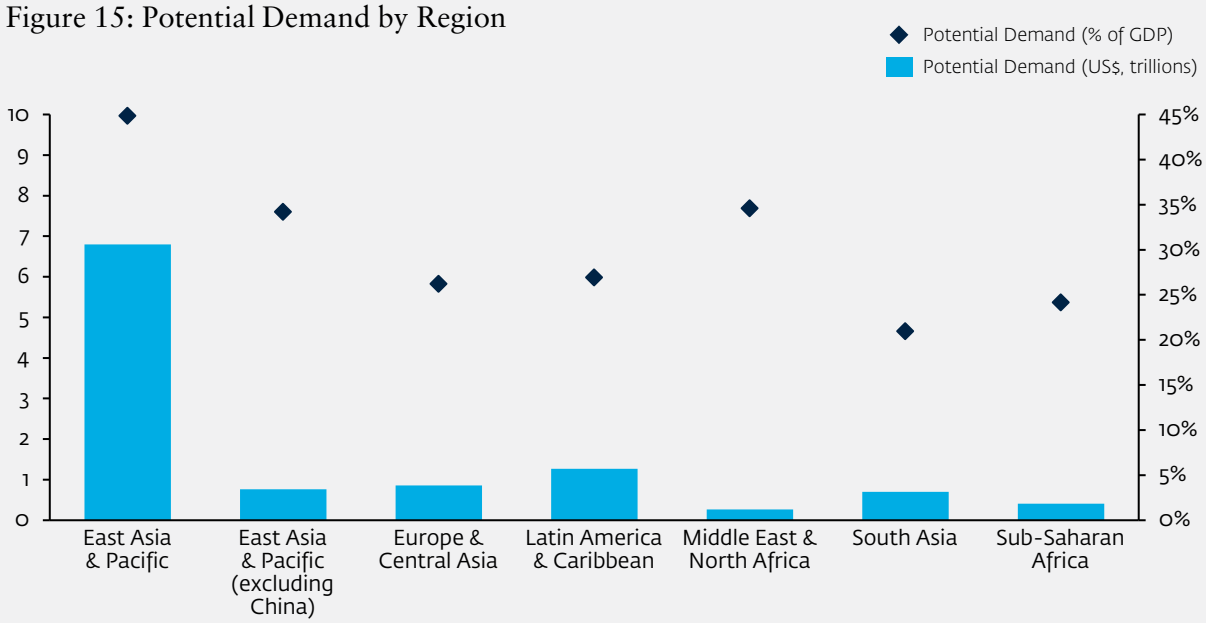
Figure 14: Potential Demand by Income Group




Source: Authors' calculations.

In terms of regional distribution, East Asia and the Pacific had the highest total demand in terms of volume, standing at US$6.7 trillion, accounting for 65 percent of demand. It was followed by Latin America and the Caribbean at 12 percent, and the Middle East and North Africa, which had the lowest share at 3 percent. In terms of average demand as a percentage of GDP, EAP leads at 45 percent, followed by MENA at 35 percent, followed by LAC at 27 percent (figure 15). As with overall supply in EMDEs, taking into account China, demand in EAP still accounted for 18 percent of GDP; as such, it was the highest among the regions.

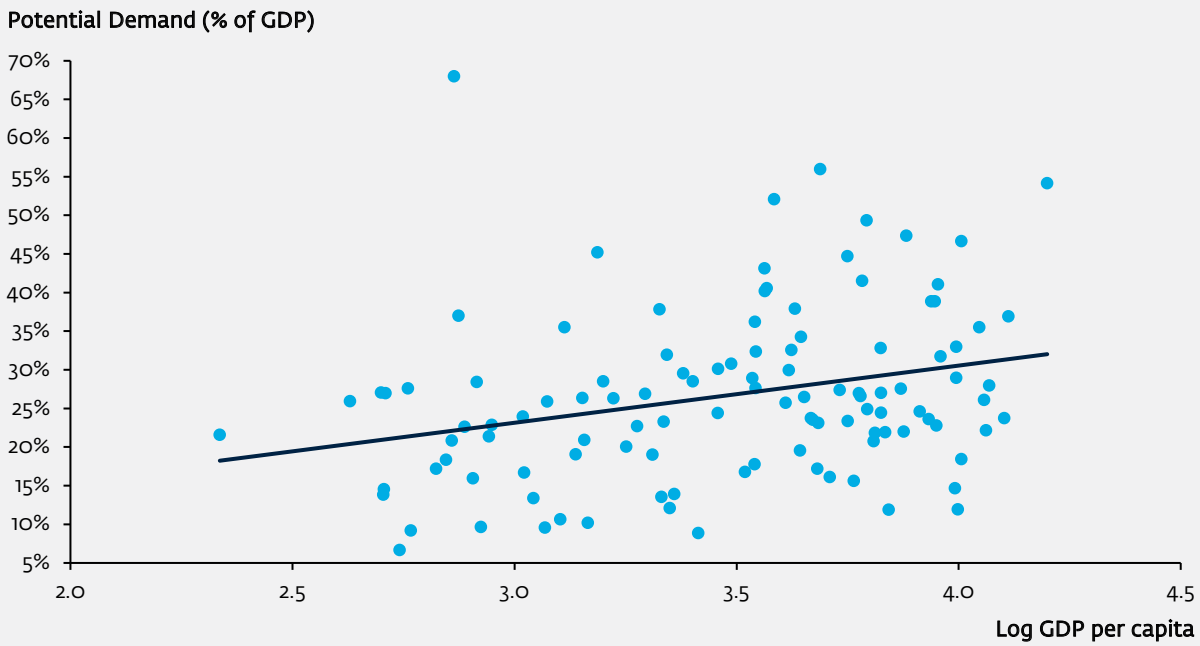
Figure 15: Potential Demand by Region

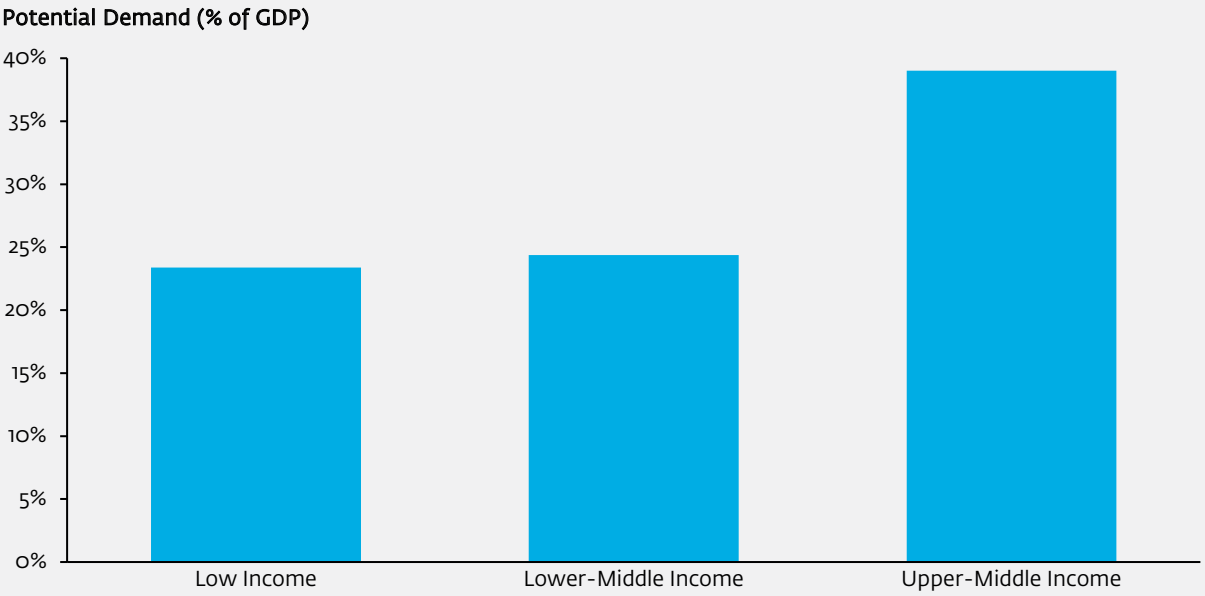



Source: Authors' calculations.

Unlike the supply of financing — and in line with estimates from the previous study — this report finds that the demand for formal financing may not linearly correlate with the GDP per capita of a particular economy (figure 16)

Figure 16: Potential Demand and income levels



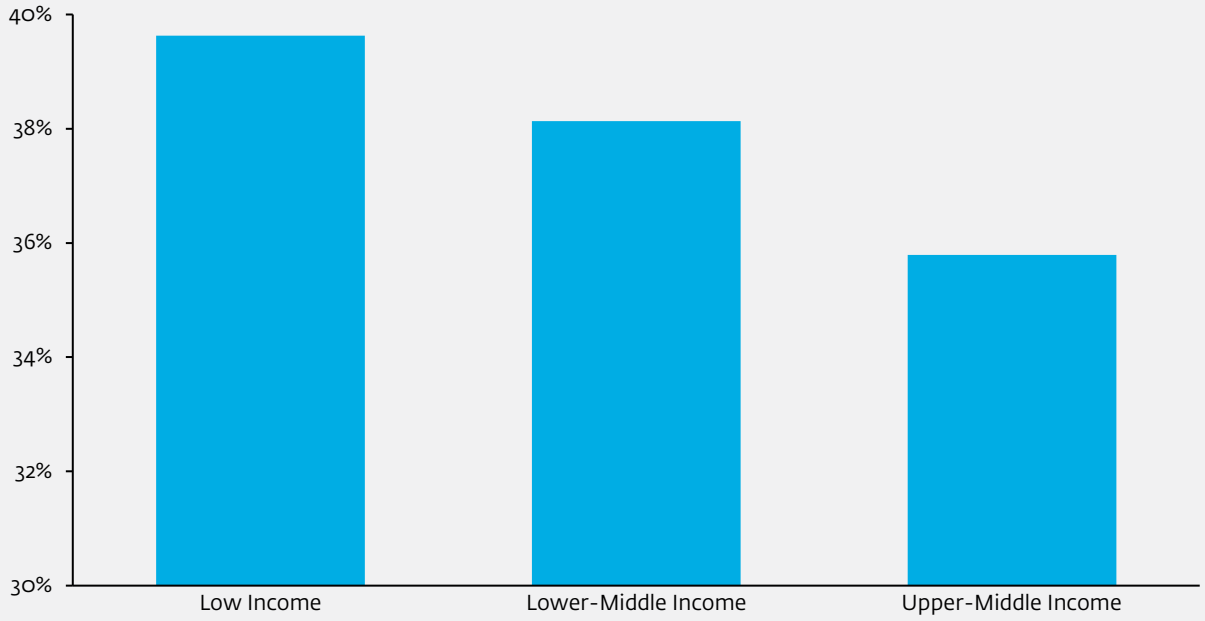




Source: Authors' calculations based on World Development Indicators

The determination of potential demand from factors beyond income level is a key aspect of this estimation methodology. Unlike supply, the potential demand for financing may lead the gap into not correlating negatively with income levels, as would be intuitive. This is because the demand may be lower in low- and low-middle income economies due to factors that include the following:

- Informality and undermeasurement: Economies in low- to low-middle income economies exhibit high levels of informality, especially in the MSME sector. The estimate of potential demand presented here relies on the Enterprise Surveys, which only cover the formal sector, that is, only formal MSMEs. Thus, potential demand in low- to low-middle income economies may be underestimated even when represented as a percentage of GDP (figure 17).

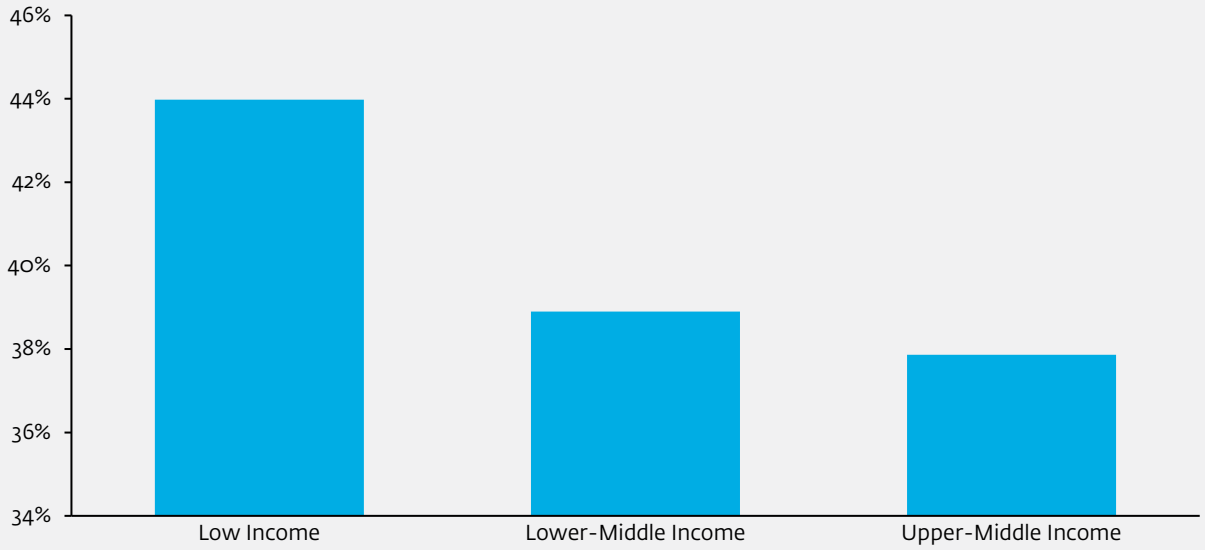
Figure 17: Informality by Income Group




Source: Authors' calculations.

- **Small firms skewing distribution:** Low to low-middle income economies are typically characterized by a MSME sector that has not grown in scale. Thus, as a result of an overabundance of smaller firms with low output, the potential demand (volume) for financing may be depressed (figure 18).

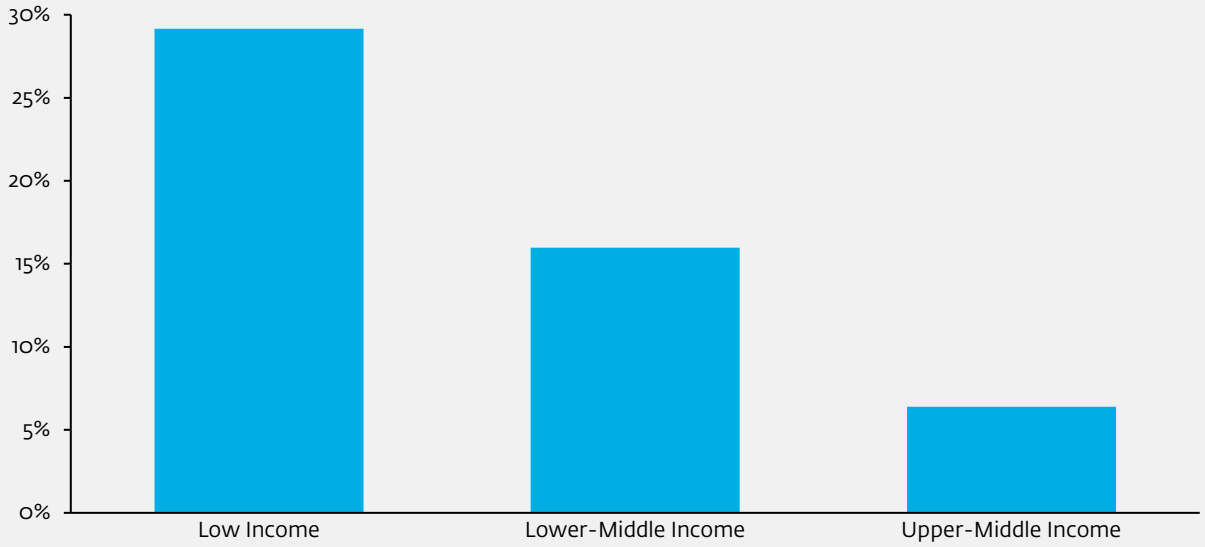
Figure 18: Share of Microenterprises by Income Group




Source: Authors' calculations.

- **Negative feedback loops:** When financing is scarce, MSMEs may tend to concentrate in sectors that are less reliant on financing. This creates a negative feedback loop that further leads to depressed demand for financing. For similar reasons, although there is a strong "need" for financing in such economies, it may not translate to demand because these firms may not be bankable.
- **Representation in Enterprise Surveys:** Relatedly, MSMEs in low- to lower-middle income economies are also characterized by a concentration in the agricultural sector. Thus, this does not translate to demand due to the lack of representation in the Enterprise Surveys (see figure 19).

Figure 19: Agriculture Value Added by Income Group (% of GDP)



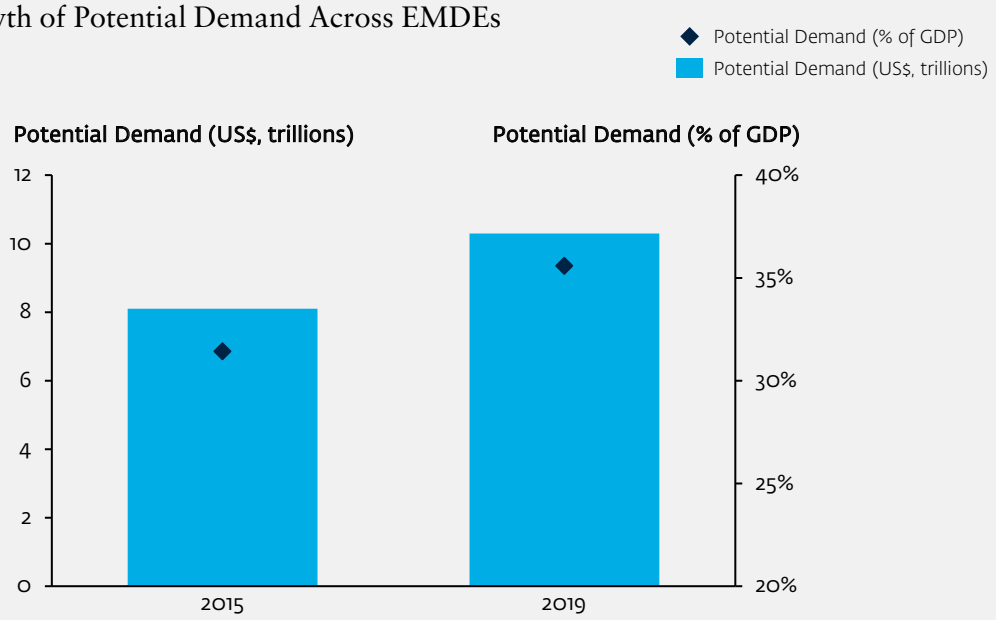

Source: Authors' calculations.

A multitude of factors jointly determine potential demand in a way that may not be intuitive when viewed from an income perspective. Taking into account demand for MSME financing in conducting the MSME gap analysis adds a layer often missing in other gap studies (see literature review in section 2).

### 4.2.2 Growth in Potential Demand (2015-2019)

Comparing the potential demand in 2019 with that of 2015, the report finds robust growth of 27 percent over the four-year period, that is, from US$8.1 trillion to US$10.3 trillion. Over the same period, the GDP in these economies grew by an average rate of 12 percent. As a result, the potential demand, expressed as a percentage of GDP, also grew from 31 percent to 36 percent (figure 20). Even after considering the case of China, potential demand grew at an even higher rate of 42 percent over the 2015-2019 period, representing an average annual increase of more than 10 percent. The change in GDP over the same period was 9 percent for the EMDEs (excluding China).

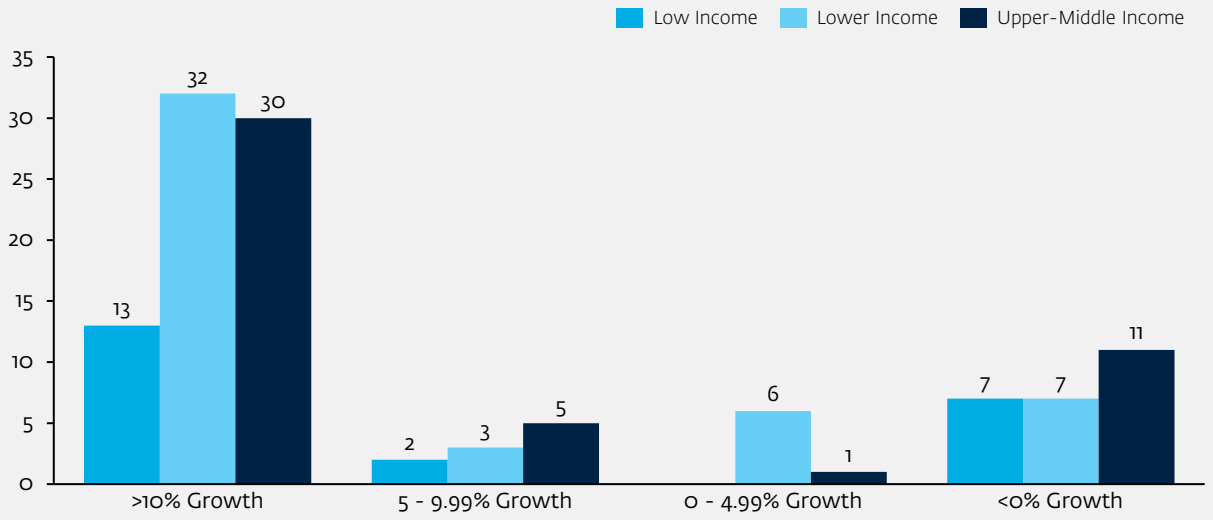
Figure 20: Growth of Potential Demand Across EMDEs




Source: Authors' calculations.

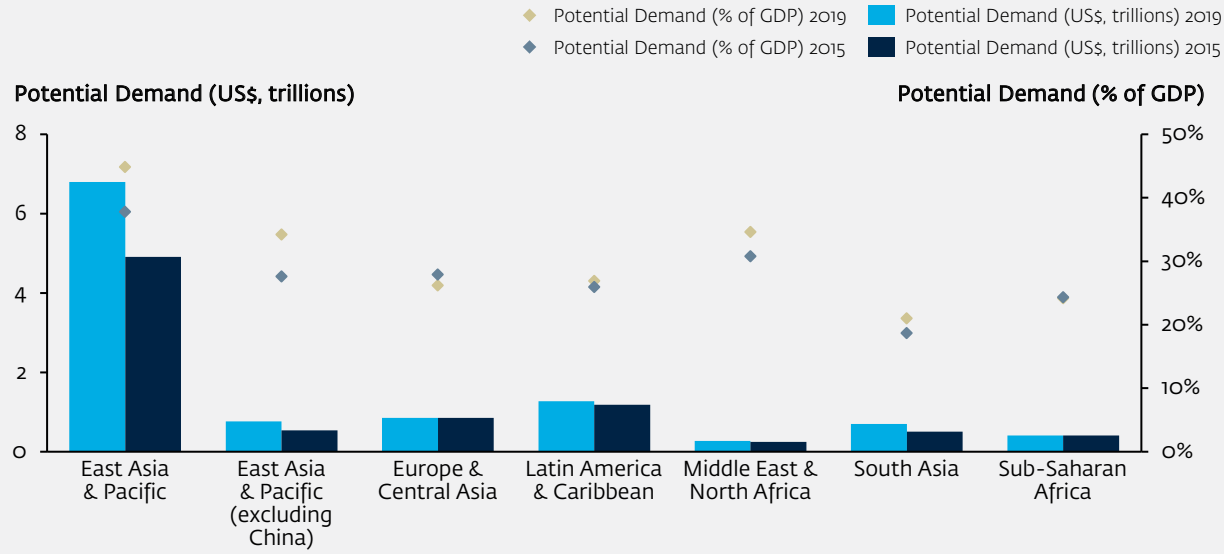
The growth in the demand of formal finance varied considerably across countries. The majority of EMDEs (92 of the 119) saw growth in potential demand over the period. In this context, 75 countries experienced growth of over 10 percent (figure 21). However, 25 countries experienced a decline in demand for MSME credit.

Figure 21: Number of Countries Experiencing Growth in Potential Demand




From a regional perspective, the growth in demand of MSME financing presents an interesting picture. In most regions, the demand has grown relatively modestly (figure 22). However, in terms of volume, the demand for financing increased annually by approximately 10 percent in both East Asia and the Pacific as well as South Asia over the 4-year period. This stands in contrast to the annual average increase in GDP during the same time period, which was 4 percent and 7 percent, respectively. As a result, when expressed as a share of GDP, the potential demand for financing increased by only 3 percentage points in South Asia and 7 percentage points in East Asia and the Pacific. However, it shows a decline of 2 percentage points for ECA. Overall, there is an increase in demand in terms of volume across all regions, with the exception of ECA (figure 22).

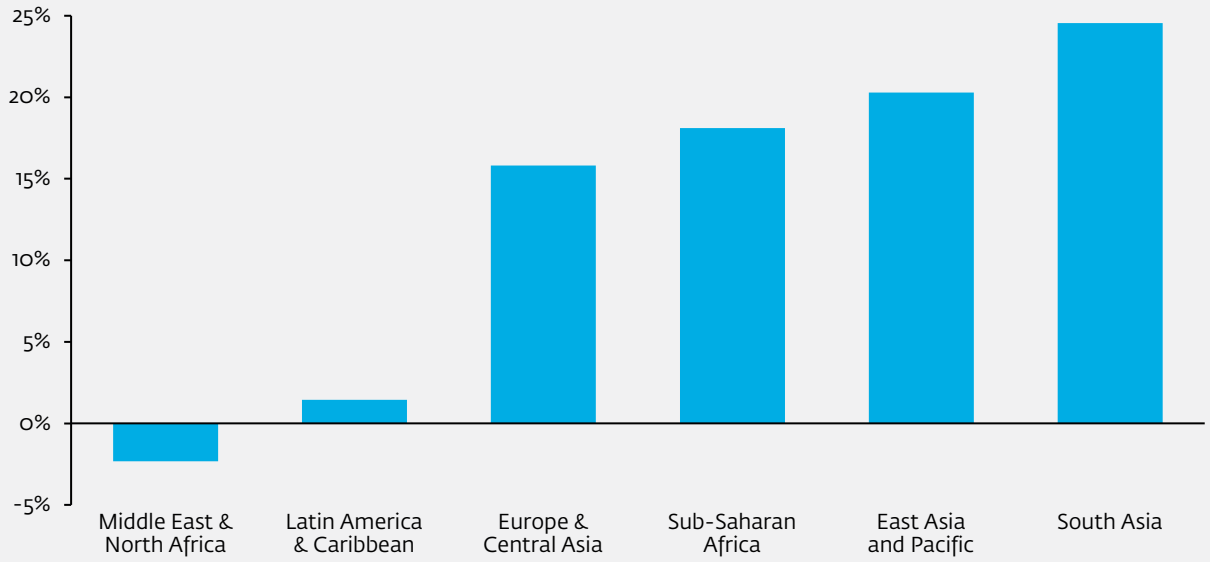
Figure 22: Evolution of Potential Demand by Region



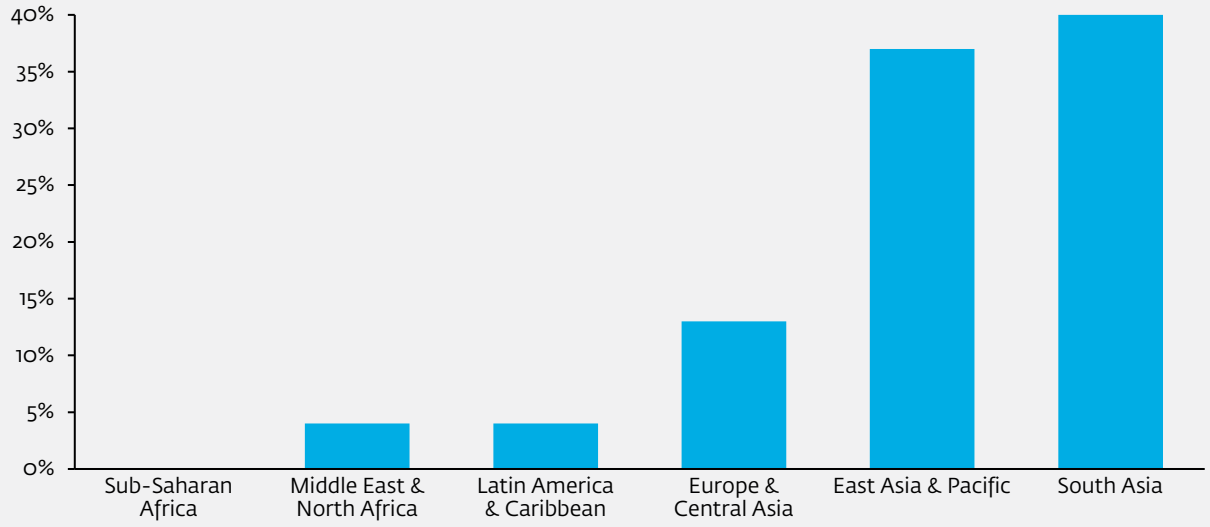

Source: Authors' calculations based on MSME Finance Gap Report (2017)

The outsized growth in demand relative to GDP can potentially be contextualized when looking at individual sector growth. Across all EMDEs, Enterprise Survey data indicates robust growth across the three broad sectors that contribute to the calculation of potential demand. Looking at the 119 countries that comprise the 2019 MSME finance gap, 78 register growth in services, 77 in manufacturing, and 76 in the retail sector. The sectoral value-added data for key sectors (WDI) highlights the fact that growth rates in the services and manufacturing sectors for both South Asia and East Asia and the Pacific boomed from 2015 to 2019, particularly in the services sector (figure 23).

Figure 23: Manufacturing Growth Rate by Region (value added, % of GDP)



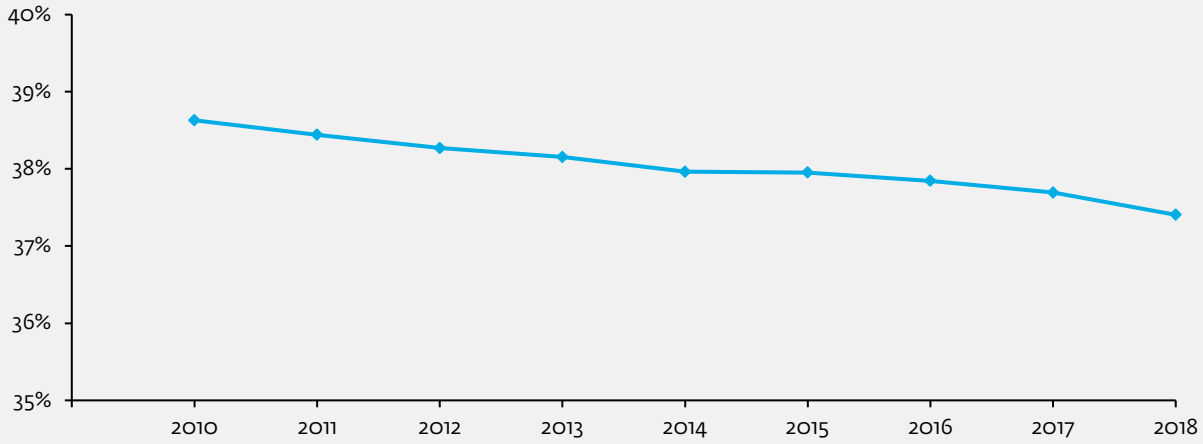

Services Growth Rate by Region (value added, % of GDP)




Source: World Development Indicators.

Beyond sectoral growth, firm-level data from the new Enterprise Surveys indicate a growing share of MSME sales relative to larger firms, as experienced in countries such as Bulgaria, Chad, Egypt, Jordan, Kosovo, Lebanon, Mozambique, Romania, Tunisia, Türkiye, and Uzbekistan — all of whom saw potential demand at a country level match or exceed GDP growth from 2015 to 2019. Concurrent with growing their share of the economic pie, MSMEs across EMDEs have exhibited increasing formality — an additional driver of the increase in potential demand across EMDEs (figure 24).

Figure 24: Evolution of Informality in EMDEs, 2010-2018




Source: World Development Indicators.

## 4.2.3 Drivers of Decline in Potential Demand, 2015-2019

A closer look at countries where the demand for financing has decreased reveals several plausible explanations. The causes are tied to the macroeconomic and external shocks, as well as to internal firm dynamics. For example, three of the top five countries in terms of potential demand decreases (Kazakhstan, South Sudan, and Sudan) are large oil exporters and members of Organization of the Petroleum Exporting Countries (OPEC)+. From the summer of 2014 through the spring of 2016, oil prices plunged to historic levels. What followed in the immediate years was a slowing of growth and declines in investment, with more than 70 percent of oil-exporting EMDEs registering a slowdown or recession in 2015 and 2016 (World Bank, 2018). In Europe and Central Asia, the lone region with decreased demand, within-region spillovers from declining oil revenues in Azerbaijan, Belarus, Kazakhstan, and Russia could be a potential explanation for the overall dampening of regional demand. Other large oil exporters, such as Angola, Azerbaijan, Belarus, and Nigeria, also reported potential demand declines of 20 percent or more. Non-oil, commodity-export-oriented economies affected by price declines, such as copper-producing countries, Zambia and Peru, also experienced potential demand declines exceeding 20 percent.

For low-income oil exporters, such as Sudan and South Sudan, the commodities bust exacerbated security concerns, serving as a parallel shock to demand. Regarding security, Yemen, which registered the second largest potential decline, civil war has decimated the nation's economy and created the world's largest humanitarian crisis. Yemen's GDP in 2015, standing at US$42.44 billion, has halved as of the World Bank's latest estimate in 2018.

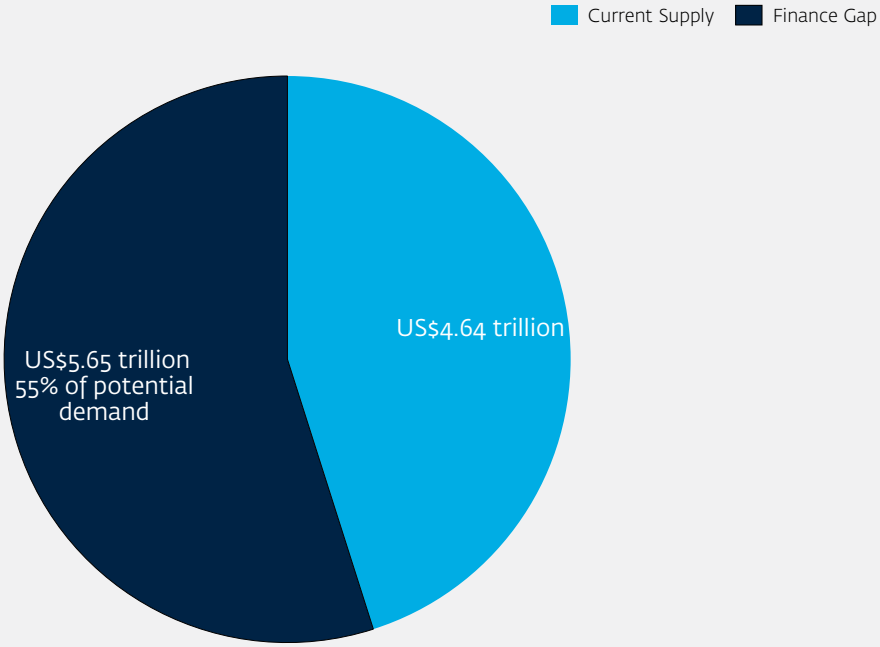
Economic slowdown is the intuitive answer to potential demand declines. However, intra-country firm dynamics can also offer an explanation for potential demand declines — even in countries where macroeconomic indicators point to robust growth. Morocco and Serbia, whose economies grew by 16 percent and 30 percent, respectively, from 2015 to 2019, both registered potential demand declines of approximately 15 percent. Both also experienced a graduation of firms to larger sizes. Specifically, the share of firms with 250+ employees in their economies more than doubled between the previous and new Enterprise Surveys. Thus, this structural shift upward in firm size composition can potentially dampen demand in the MSME segment.

## 4.3 The MSME Finance Gap

### 4.3.1 Current MSME Finance Gap, 2019

In 2019, there was a total of US$10.3 trillion in potential demand for MSME finance; however, only US$4.6 trillion was supplied. As a result, the MSME gap, measured as the unmet potential demand for financing, is estimated to be around US$5.7 trillion, representing 19 percent of the countries' cumulative GDP. This finance gap suggests that 55 percent of potential demand for MSME finance is unmet, and that the gap is over 120 percent of the current level of financing (figure 25).

Figure 25: The MSME Finance Gap

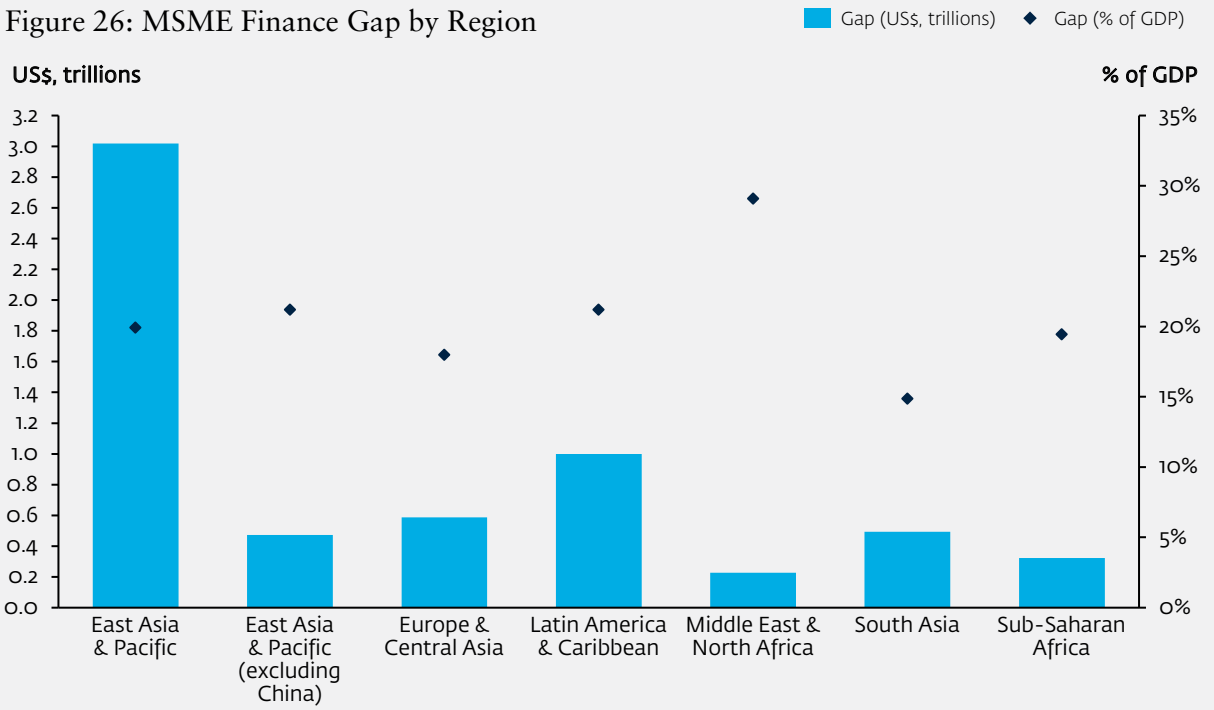



Source: Authors' calculations.

A regional analysis of the MSME gap demonstrates that, as in the 2015 estimate, it is highest in the East Asia and Pacific region — with almost 53 percent of the total gap. This is mainly driven by the outsized contribution of China, where it alone accounts for 67 percent of the regional gap and 45 percent of the total gap. The finance gap in Latin America and the Caribbean is the second largest with 18 percent of the total gap. It is mainly driven by Brazil (US$593 billion). India is another big contributor country,

with a finance gap of US$333 million, representing 68 percent of the total gap in the South Asia region (figure 26).

Figure 26: MSME Finance Gap by Region




Source: Authors' calculations.

Measured relative to the size of the economies, the MSME finance gap represents 19 percent of the GDP of the individual countries. In upper-middle-countries and low-income countries, it is 20 percent, and in lower middle-income countries, it is 18 percent. Regionally, the dispersion of this indicator is more evident, with the highest gap being in the Middle East and North Africa (29 percent), followed closely by LAC, EAP and SSA. South Asia (15 percent) has the lower gap as a percentage of its GDP (figure 26). Ultimately, the regional and income group dynamics for the gap are a result of how the potential demand and supply are interacting, as described in earlier sections.

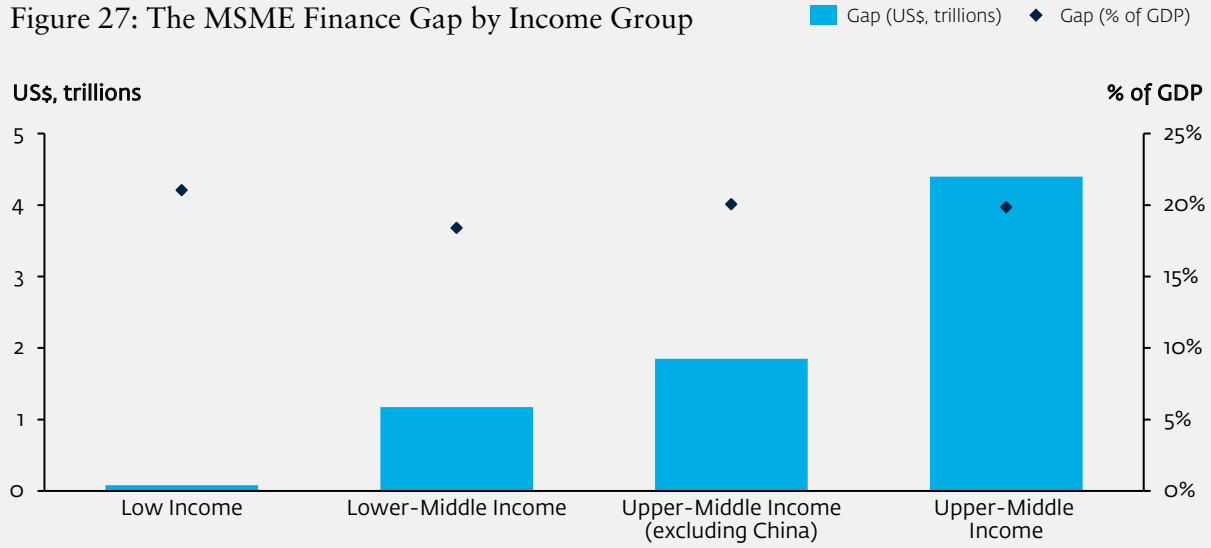
The regional disparity in the gap when expressed as a percentage of GDP shows MENA at the highest, implying the demand for formal financing is outpacing the growth in supply for formal credit. The MENA region saw a 10 percent increase in demand from 2015 to 2019, whereas the supply only increased by 7 percent. As a percentage of GDP, supply grew an average of 0.25 percent a year during that period, while demand grew an average of 1 percent a year. It can be hypothesized that the MENA region is dominated by microenterprises. As these microenterprises grew in size, the demand for financing increased (see section 4.2.1). However, the slow growth in the supply of credit could be the main reason for the large MSME gap in the region. It should be noted that the region also has one of the largest gaps in terms of financial inclusion[41], pointing to barriers to financial access more broadly. Despite a reasonable share of private credit in GDP compared with other regions, credit tends to be concentrated in large corporations (IMF 2019a). This could be in part due to the outsized importance that the public sector plays in this region in

41 According to the latest Global Findex (2021), the MENA region has the lowest proportion of adults with a financial account in the world. Only 48 percent of adults in the region, excluding high-income economies, have an account. This is 23 percentage points lower than the developing economy average.

particular. Although the governments in the region have taken steps to improve the finance environment for MSMEs, they still lag behind the rest of EMDEs in terms of a conducive policy environment, especially in terms of accessing finance by MSMEs (IMF 2019b).

The finance gap in UMIC constitutes close to 77 percent of the finance gap in the developing countries in this review. This can partially be attributed to the fact that about 40 percent of the countries (47 of 119 countries) are in this category, and partially to the fact that China (which has a very high potential finance demand and gap) is one of the countries in this category. The Lower-middle-income countries, which have the largest country coverage (with 48 of 119 countries), have a total MSME finance gap of $1.18 trillion (figure 27).

Figure 27: The MSME Finance Gap by Income Group




Source: Authors' calculations.

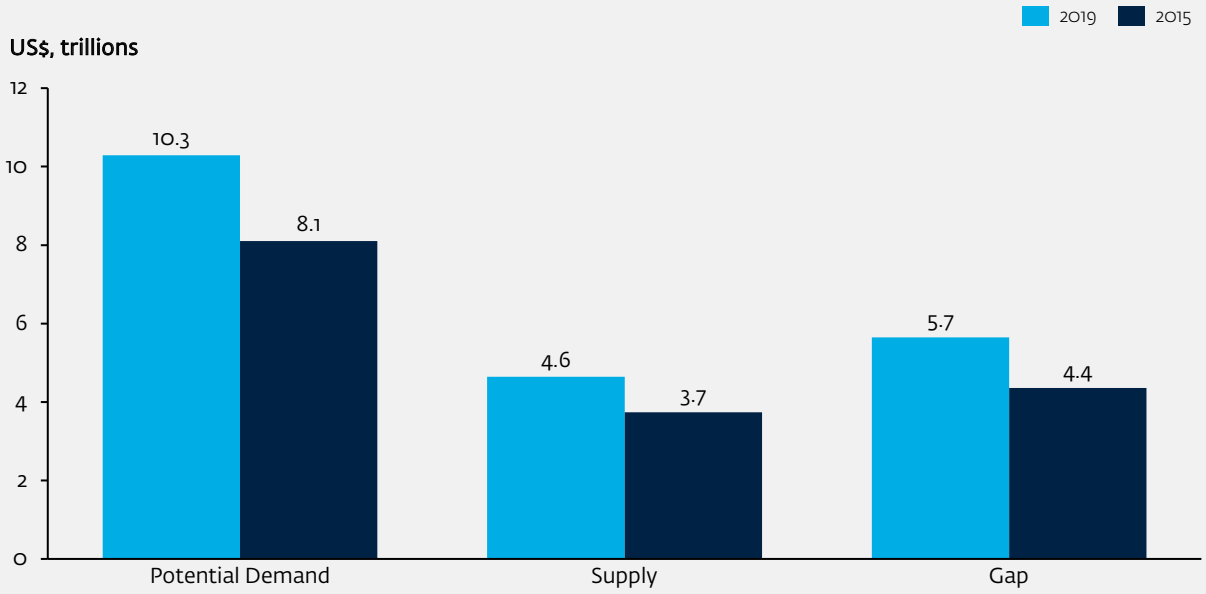
## 4.3.2 Growth in the MSME Finance Gap, 2015-2019

From 2015 to 2019, the overall MSME finance gap has increased by over US$1.1 trillion, that is, from US$4.4 trillion to US$5.7 trillion. The 27 percent growth in the MSME finance gap represents a growth also relative to GDP, with total demand for credit increasing by US$2.2 trillion. Although the supply of financing has increased by US$991 billion, demand has still outpaced supply (figure 28). Indeed, the overall gap increased by 27 percent from 2015 to 2019, more than double the growth in GDP, which averaged 13 percent during the same period. The gap as a percentage share of GDP has increased by 2 percentage points, that is, from 17 percent in 2015 to 19 percent in 2019. This suggests that an improvement in closing the relative gap (as a percentage of GDP) has not been achieved through this time period.

The potential demand represents a long-term indicator of the financing needs of MSMEs in developing countries. In this context, these growing needs can potentially be met only if there is a change in trajectory of reform by public sector institutions, and if private sector financiers find more innovative approaches to serve MSMEs with more financing within constantly changing macroeconomic environments.[42]

42 For one country in this analysis, Mauritania, the current volume of MSME finance is estimated to be US$722 million, and the estimated potential demand is US$384 million. This results in a negative MSME finance gap of US$337 million (the difference between potential and current needs). This may either reflect data issues or the fact that MSMEs in the country are truly over-indebted.

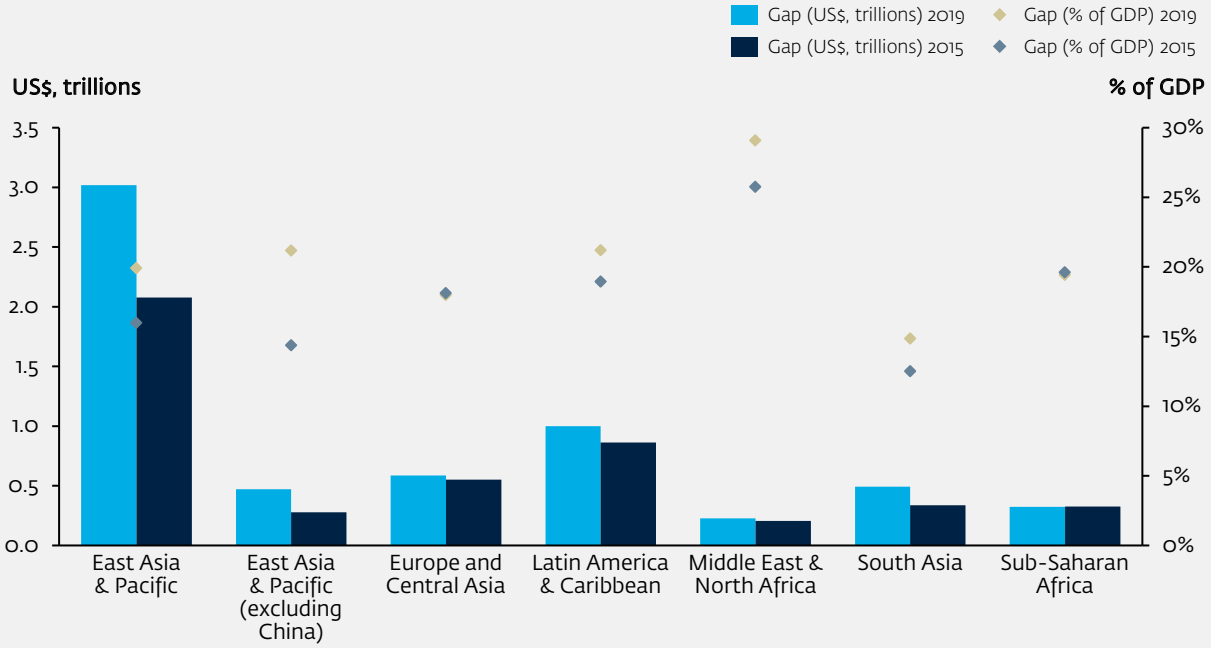
Figure 28: Evolution of the MSME Finance Gap




Source: Authors' calculations.

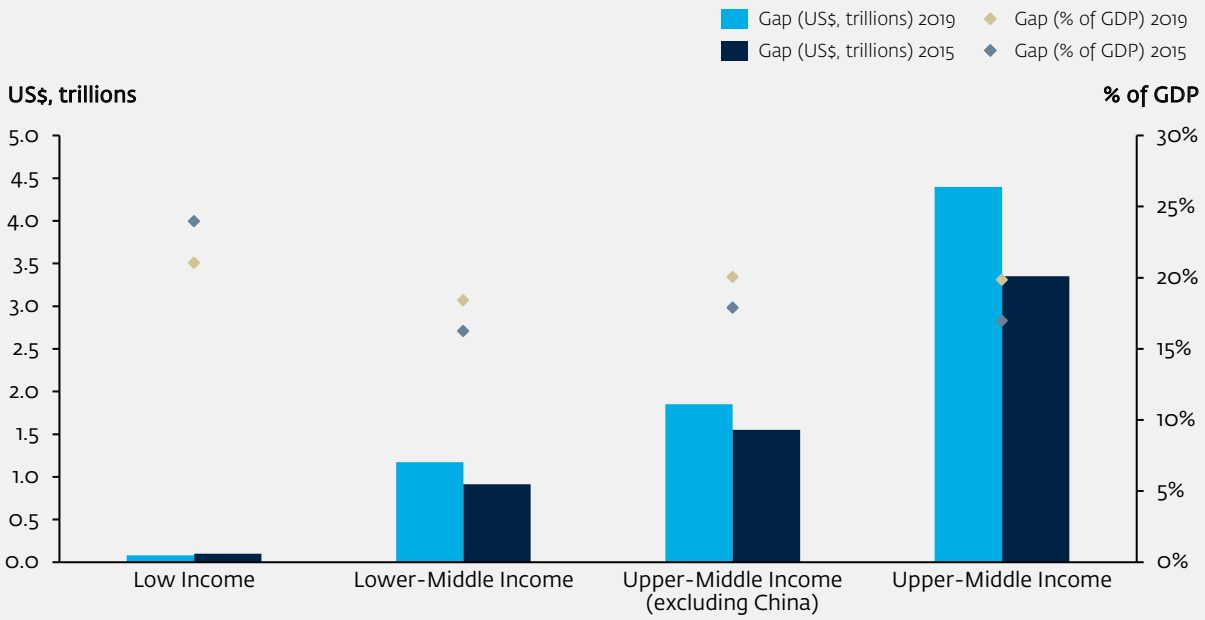
Regional and income group variations of the MSME finance gap are a result of potential demand and supply variations, as discussed in earlier sections. Figures 29 and 30 summarize these variations.

Figure 29: Evolution of the MSME Finance Gap by Region




Source: Authors' calculations.

Figure 30: Evolution of the MSME Finance Gap by Income Group



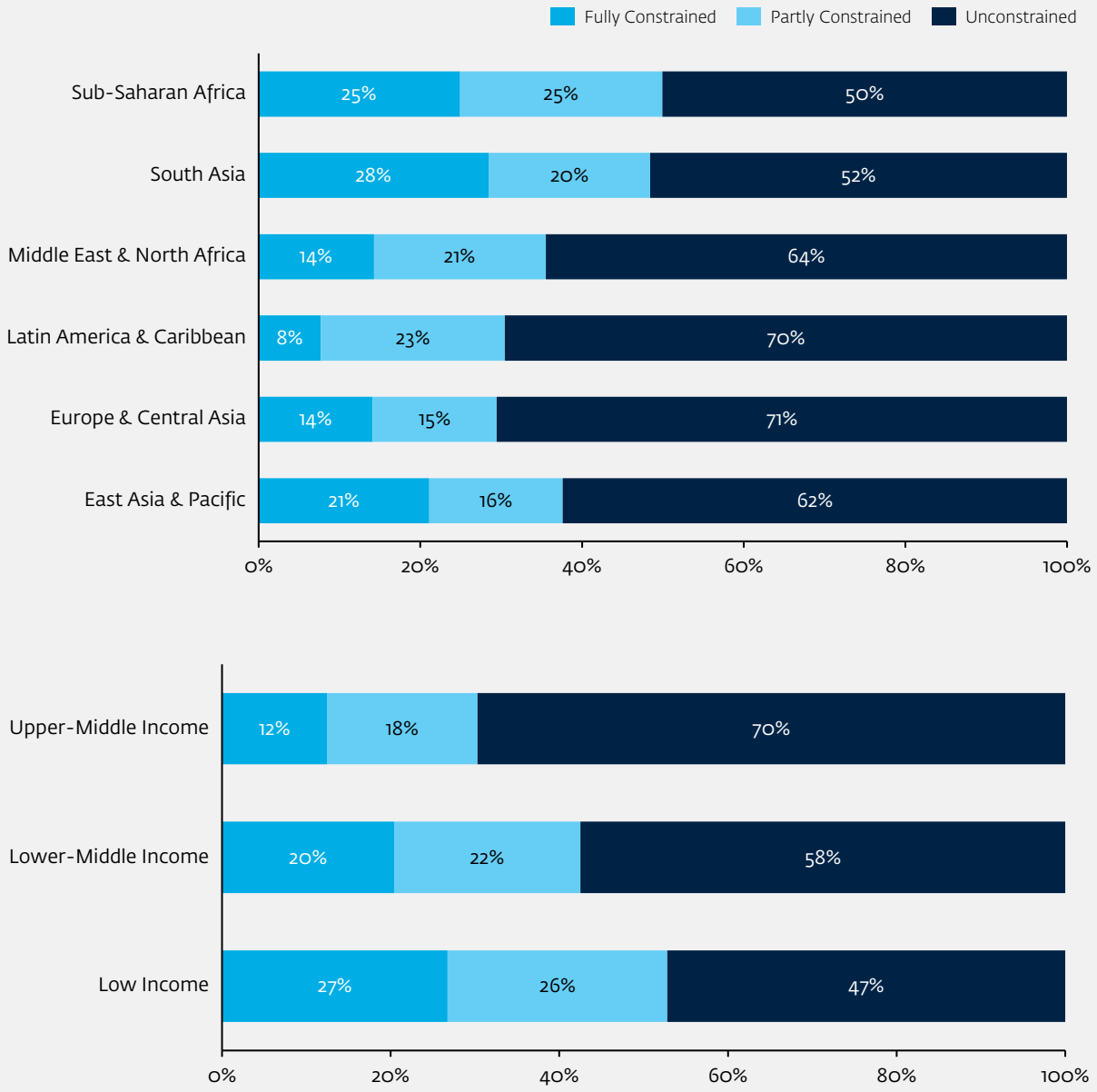

Source: Authors' calculations.

## 4.4 Financially Constrained MSMEs

The MSME finance gap, the focal estimation of this report, is a volume-based metric. Consequently, as alluded to in the discussion of the lack of correlation between the potential demand for financing with income, the composition of micro, small and medium enterprises in each economy and the average size/output of firms can greatly influence the estimations. Simply put, the MSME finance gap estimations implicitly provide a weighted aggregate measure of financing need, where weights are the output of the MSMEs. Alternate indicators of financing constraints commonly cited in the literature do not make this assumption because they focus on the share of enterprise with financing needs. For example, the calculation of the percentage of MSMEs with access to loans gives equal weight to each MSME, regardless of size. As described in the approach in the methodology section of this report (box 1), this report provides an alternate measure of financial constraints faced by MSMEs. As such, it focusses instead on the share (number) of MSMEs, which is derived by equally weighting each MSME, regardless of size.

It is estimated that 18 percent of MSMEs in EMDEs are fully constrained, and 21 percent are partially constrained. However, 60 percent remain financially unconstrained. South Asia has the largest proportion of fully constrained enterprises (28 percent), followed by Sub-Saharan Africa (25 percent). Latin America and the Caribbean has the lowest proportion of fully constrained enterprise firms (8 percent), but it has one of the highest proportion of partially constrained enterprises (23 percent), along with the Middle East and North Africa (23 percent). Europe and Central Asia has the highest credit-unconstrained share of enterprises (71 percent), with only 29 percent of firms fully or partially constrained. This is followed by the Latin America and the Carribean region, which has 69 percent of financially unconstrained enterprises, and only 31 percent of fully or partially constrained enterprises (figure 31). Sub-Saharan Africa has the lowest credit-unconstrained share of enterprises (51 percent), with almost half of the firms fully or partially constrained.

Figure 31: Number of Financially-Constrained MSMEs by Region and Income Group




Source: Authors' calculations based on WBES.

Further analysis demonstrates that countries in the high-income group have the highest proportion of unconstrained MSMEs, that is, 70 percent. By contrast, countries in the low-income group have the largest proportion of fully or partially constrained MSMEs, that is, 47 percent. Twelve percent of MSMEs in the upper-middle-income countries are fully constrained, and 18 percent partially constrained. Finally, countries in the lower-middle-income group have 21 percent of fully constrained MSMEs, 23 percent partially constrained MSMEs, and 57 percent unconstrained MSMEs. These figures demonstrate greater market opportunities for financial institutions in the low and lower-middle-income countries (figure 31).

## Box 2: Credit Constraints for Women-MSMEs

The MSME Finance Gap reports on the number of women-MSMEs that are fully or partially constrained, as well as the percentage of women unconstrained. This is based on the data collected by the Enterprise Surveys. To date, there is no other cross-country data available that provides insight into financing for women-owned enterprises. Due to a lack of enterprise data for MSMEs, especially for women-owned MSMEs, this data is presented to provide a snapshot of what the landscape for the demand for MSME financing could be in a particular economy. However, it is important to note a few important caveats when using the data for W-MSMEs, as follows:

(i) Small sample: Although the Enterprise Survey is nationally representative, since the gender of the owner or manager of the enterprise is not stratified in the survey design, the number of women-owned enterprises included in the sample may be quite small. This is especially a concern where the prevalence of of women-owned businesses is low. It is generally not possible to target women-owned businesses to generate sufficient samples because sampling frames do not contain the kind of information that could be used to stratify by gender.

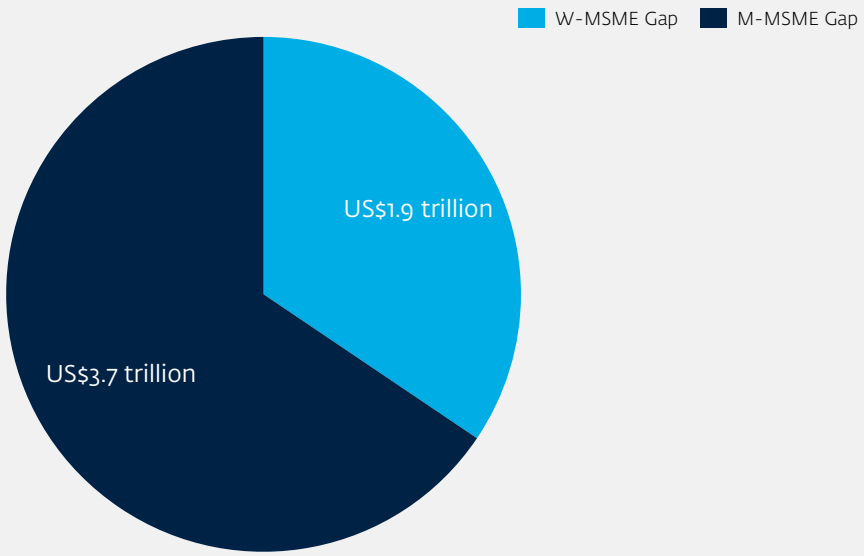
(ii) Survivorship bias might be at play: The women who were part of the survey were the successful ones. Hence, they might not face the same financial constraints as women-owned enterprises that are not as successful.

Therefore, it is important that this number not be taken as the only determining factor when considering gender gaps in accessing finance by MSMEs. In this context, other data points to consider could include the FINDEX, which is nationally representative and provides gender-disaggregated data regarding overall access to finance for individuals. Furthermore, the countries' policy and regulatory environments and social contexts should be taken into account to fully determine the constraints women-owned enterprises might be facing.

## 4.5 Gender Finance Gap

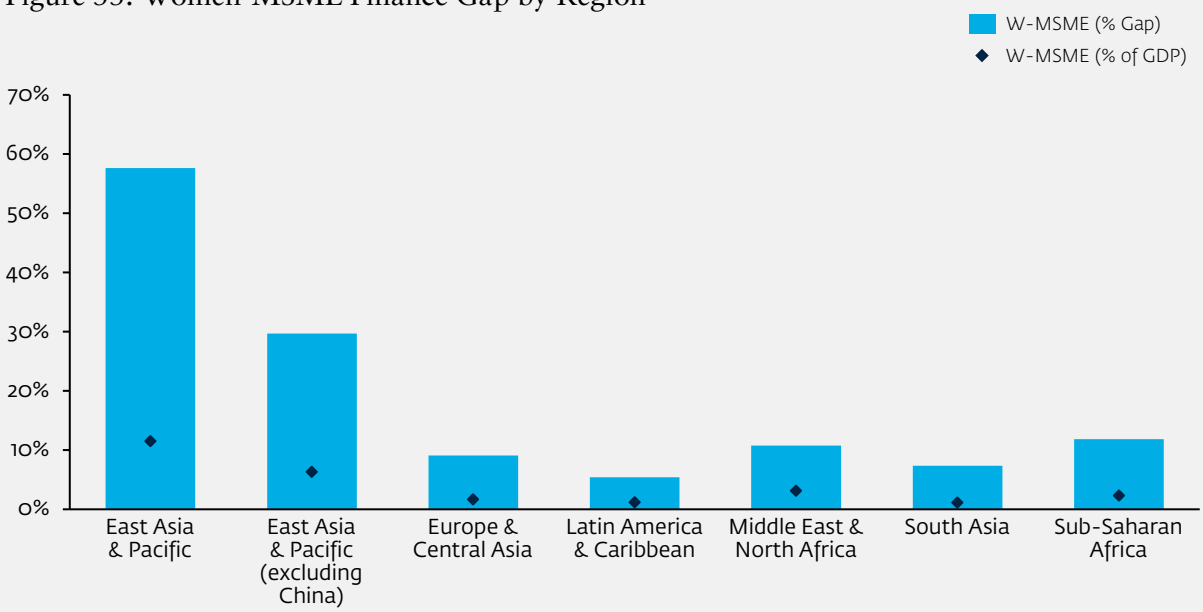
Women-owned businesses account for 34 percent of the MSME finance gap. The total MSME finance gap for women[43] is estimated to be valued at US$1.9 trillion, which is over 7 percent of total GDP (figure 32).

Figure 32: Gender Composition of the Finance Gap




Source: Authors' calculations.

Figure 33: Women-MSME Finance Gap by Region




Source: Authors' calculations.

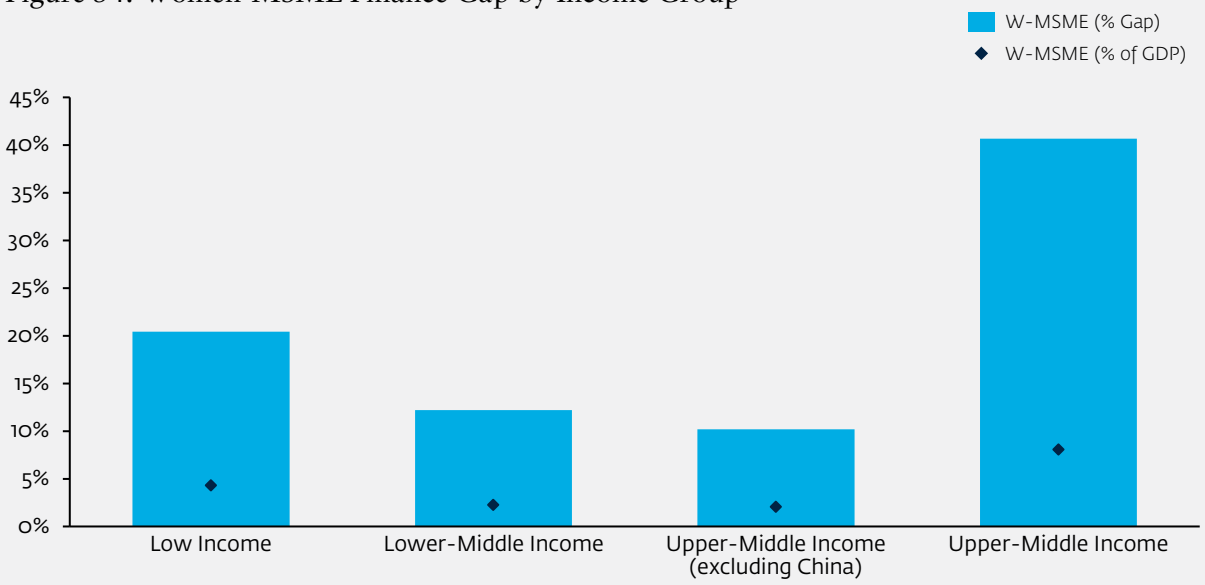
43 For the purposes of this analysis, a women-owned enterprise is defined as an enterprise that meets either of the following criteria: (1) at least 50 percent female ownership; (2) sole proprietorships that are female owned; and/or (3) female participation in ownership and management (top manager). See Option 1 in the Methodology section of the previous report. (World Bank 2017).

The East Asia and Pacific region[44] dominates the absolute MSME finance gap attributed to women-owned businesses by volume, with a gap of US$1.7 trillion, accounting for 89 percent of the total W-MSME gap. In terms of percentage by GDP, the EAP also has the highest women MSME gap at 11 percent. However, the Middle East and North Africa has the second highest gap at 3 percent. In terms of the share of the W-MSME gap as a share of the total MSME gap, EAP dominates yet again at 58 percent, with Sub-Saharan Africa and MENA following at 12 percent and 11 percent, respectively (figure 33).

The reasons for the relatively large W-MSME gap in East Asia and the Pacific could be attributed to a multitude of factors. Although the demand for financing by women-owned MSMEs in the region has grown in ways similar to the overall demand for MSME financing, the supply of formal finance to W-MSMEs has not kept up. Even in regions and countries where government policies and financial systems are relatively more conducive to financing for MSMEs, W-MSMEs face additional constraints in their ability to access finance.

From an income group perspective, the W-MSME gap demonstrates that, while UMICs account for 41 percent of the total MSME gap, LICs account for 20 percent. Interestingly the lower middle-income account for 12 percent; as such, they account for the lowest share of the total MSME gap. In terms of the W-MSME gap as a share of GDP, the same pattern with UMICs emerges. They lead with 8 percent of GDP, followed by the LICs at 4 percent, and lastly the LMICs at 2 percent (figure 34). However, if China is considered, the W-MSME gap as a share of GDP shifts, with UMICs and LMICs at the same, that is, 2 percent of GDP. The LICs have the largest W-MSME gap as a share of GDP at 4 percent. The variation seen in income groups suggests that the W-MSME gap is not linearly correlated with income levels. Thus, the existing data may not be fully capturing the various constraints that W-MSMEs face on both the supply and demand sides of financing.

Figure 34: Women-MSME Finance Gap by Income Group




Source: Authors' calculations.

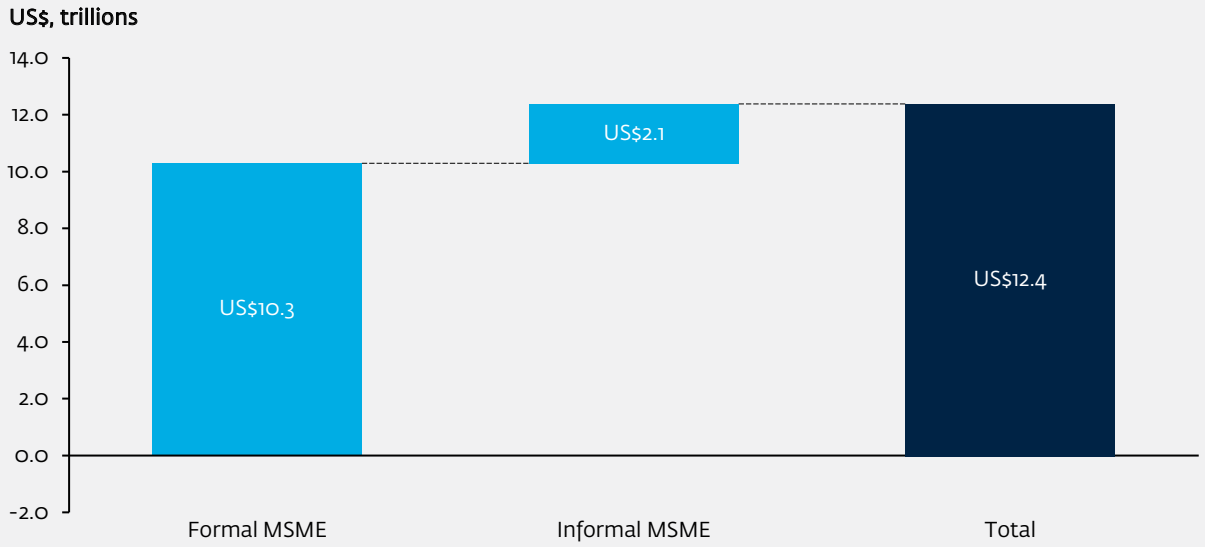
44 It should be noted that even after excluding China from the analysis, EAP still dominates both the absolute MSME finance gap attributed to W-MSMEs at 30 percent, as well as in terms of the percentage of GDP at 6 percent.

Regarding the data, it is important to note that while W-MSMEs constitute a smaller share of the total MSME finance gap, this does not necessarily mean that women-owned enterprises require less financing and/or are less financially constrained than their male counterparts. Indeed, there are various factors at play. Female-owned MSMEs are generally smaller than their male-owned counterparts and thus employ fewer workers. W-MSMEs employ 18-19 workers on average versus 21-22 workers at male-owned MSMEs. Therefore, their demand for financing might be lower. Women also tend to rely more on informal sources of credit due to the financial costs of formal credit (for example, transaction costs, regulatory barriers, a lack of collateral and a lack of credit history, and so on), It could be argued that their situation might not be different than what their male counterparts encounter. However, there are also non-financial barriers to be considered, such as a lack of social mobility, a lack of ownership of assets that limits their ability to provide collateral, which is a key requirement for formal credit, as well as other gender biases that might impact their decision to access formal finance. It may also limit their ability to access finance from formal sources (Ubfal 2023). There is further evidence to suggest that women-owned middle-sized firms face even larger constraints in accessing formal finance, as they are too large to be financed by microfinance institutions, and they are considered too risky by banks (Siegrist 2022).

## 4.6 Potential Demand in the Informal Sector

Using the estimate of the size of the informal economy in 100 countries, this report estimates that there is a US$2.1 trillion potential demand for financing in the informal sector in developing countries. This represents 7 percent of the GDP of these countries. Thus, the combined total formal and informal potential demand for MSME finance is estimated at US$12.4 trillion in developing countries (figure 35).

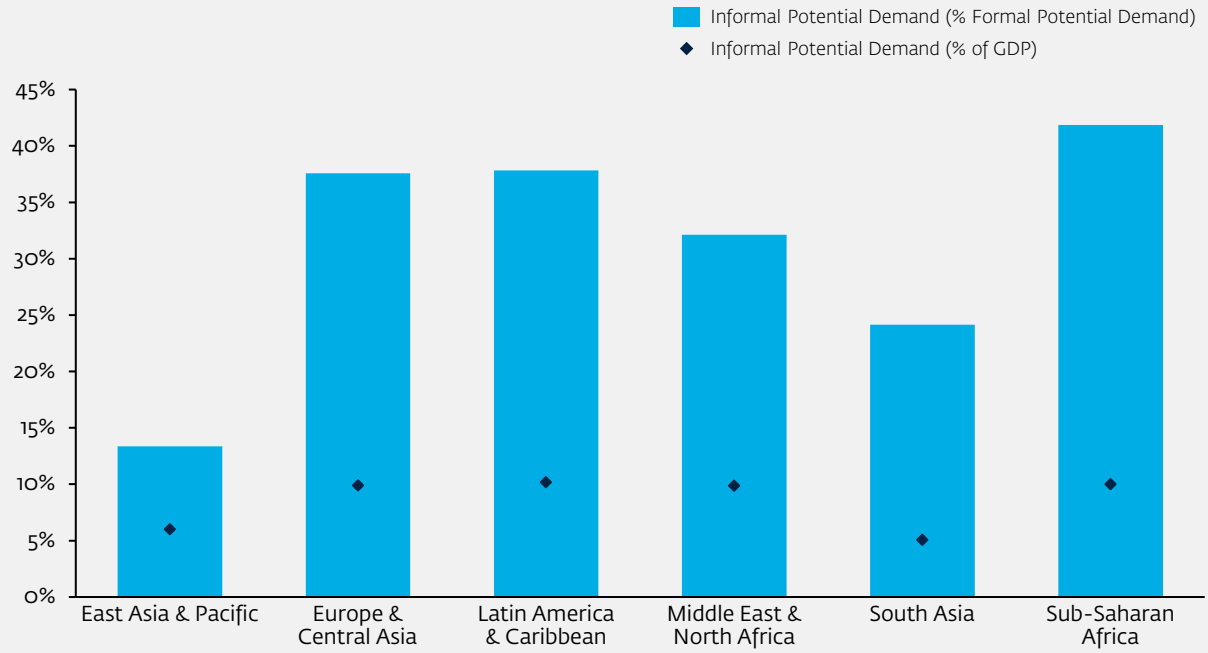
Figure 35: Formal and Informal MSMEs: Potential Demand for Finance




Source: Authors' calculations.

The potential demand for MSME finance in the informal sector is the largest in East Asia and the Pacific region (US$908 billion), followed by the Latin America and the Caribbean region (US$476 billion). It is lowest in the Middle East and North Africa region (US$54 billion). However, in absolute terms, the numbers might not be strictly comparable across regions because the informality data is available for only 100 of the 119 countries under review.[45] When expressed as a percentage of GDP, the informal potential demand is highest in LAC, followed by ECA (figure 36).

Figure 36: Informal Potential Demand by Region

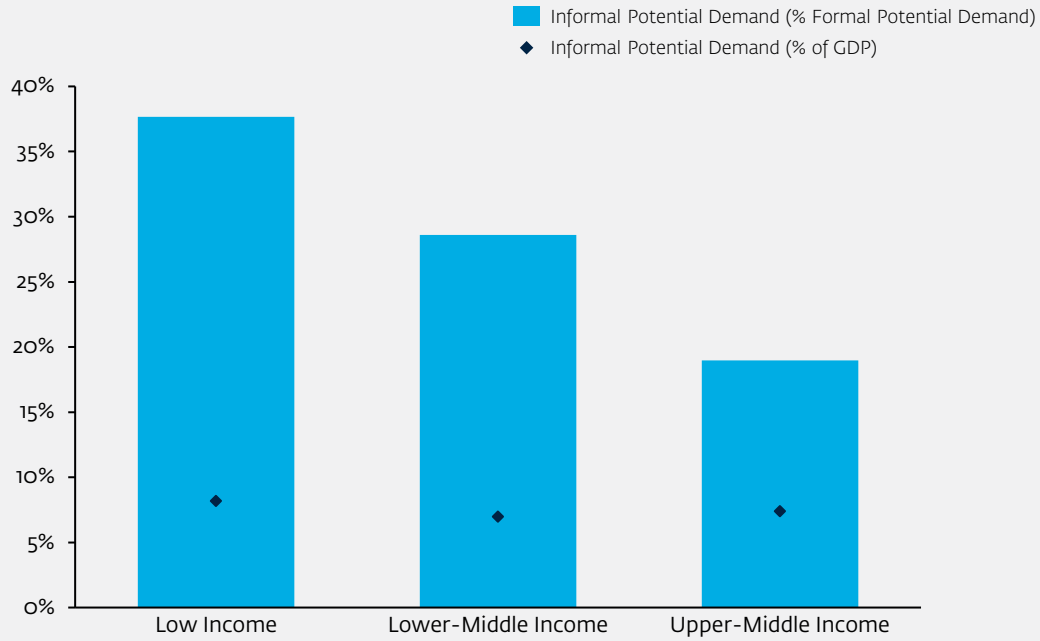



Source: Authors' calculations.

The informal potential demand for MSME finance as a percentage of the formal potential demand for MSME finance in EMDEs countries varies greatly across country groups and regions. It averages 20 percent in the developing countries included in this review (100 countries). It is highest in lower-income and middle-income countries (approximately 29 percent to 28 percent, respectively), highlighting the higher informality of markets in this category. It is lowest in the high-income countries (19 percent). Sub-Saharan Africa has the highest informality rate, followed closely by Latin America and the Caribbean, with informal potential demand representing 38 and 37 percent of formal potential demand in these regions, respectively (figure 37).

45 The number of regions with data about the informal MSME segment are as follows: 12 in EAP; 25 in ECA; 23 in LAC; 6 in MENA; 6 in South Asia; and 35 in SSA.

Figure 37: Informal Potential Demand by Income Group



# 5

# Implications *of the* COVID-19 Pandemic *and* Beyond *on* MSME Finance

As noted, the lack of firm-level data, primarily data about demand, has led to 2019 being the most recent year for which the report provides estimates of the MSME finance gap. Large shocks during the COVID-19 pandemic impacted the financial situations of firms, the business models of financial intermediaries, as well as the equilibrium in the credit markets. Reduced economic activity severely disrupted the cash flow of otherwise healthy businesses during the early stages of the pandemic, leading to large aggregate shocks to both the demand and supply sides of the MSME credit market. Demand for working capital and bridge loans was high as MSMEs struggled to remain afloat amid the uncertain outlook. However, the banks tightened their credit standards in the face of uncertainty (IFC 2020-2022). Although the liquidity of the financial sector was a concern in the early stages of the pandemic, on average, it did not lead to reduced finance supply in 2020. However, the latest FAS data from the IMF shows that in more than 70 percent of the economies, commercial bank lending to SMEs declined in 2021 (IMF 2022b).Furthermore, according to a recent report by the OECD, reverberations of the pandemic compounded by the global macro uncertainty due to Russia's invasion of Ukraine and rising inflation have led to MSME credit volumes subsequently contracting again in 2022 (OECD 2023b).

Questions arise from these disruptions: Are these disruptions in the supply of MSME credit temporary or has the MSME financing model undergone permanent structural changes? How will the potential demand for financing change in emerging markets as MSMEs adapt their businesses to the potential changes in economic structure, sector composition and MSME entry/exit dynamics? Ultimately, to understand how the MSME finance gap has evolved, it is important to understand these aspects and broaden the horizon to consider the medium-to-long-term effects of the pandemic. Substantial literature has emerged from the World Bank Group, the IMF, and others regarding the impact of the pandemic on firms.[46] However, to understand the impact of the pandemic and subsequent macro instability on the MSME finance gap, more recent, representative firm-level surveys of MSMEs would be needed.

As the availability of such data is pending, this chapter aims to highlight the potential impact of the pandemic and the current macroeconomic situation on the MSME sector, including firm operations and finances. An attempt will be made to weave together suggestive evidence based on available data for a select group of countries. In the online Annex to this report, case studies are presented.

46 These include reports by the ADB, the European Bank for Reconstruction and Development (EBRD), OECD, and the United Nations Development Programme (UNDP), and various studies done at the country levels.

They summarize how MSMEs and financial intermediaries have navigated the past few years after the initial pandemic shock in six EMDEs. One country is selected for each region, primarily based on the availability of high frequency data for both the demand and supply sides.

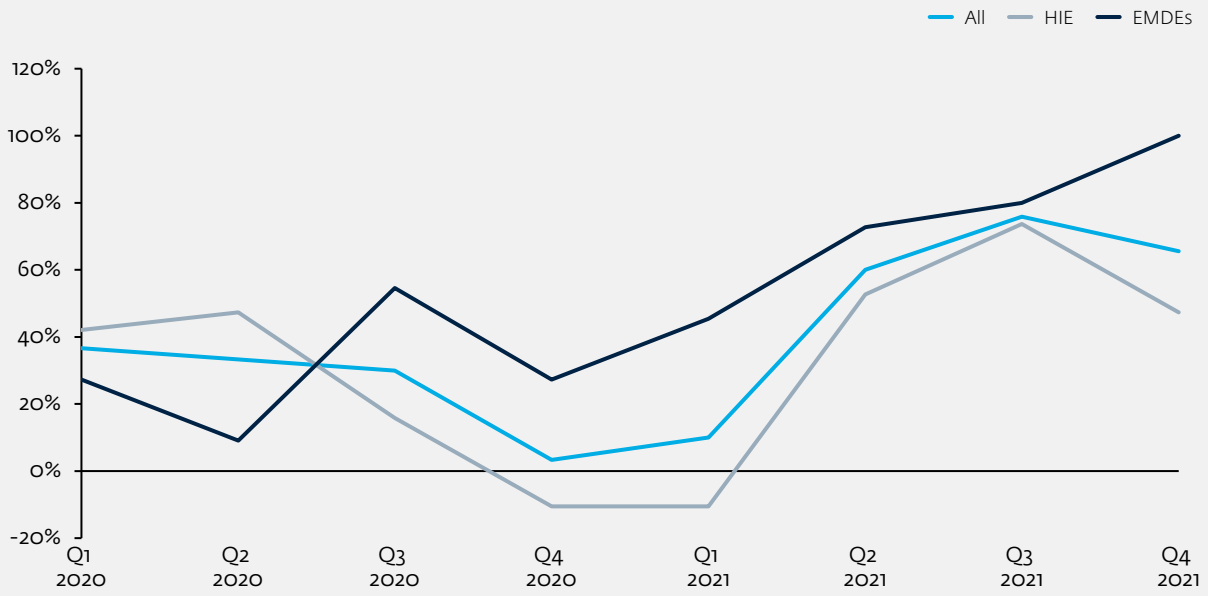
The impact of the COVID-19 pandemic has been experienced across all firms around the world. However, there is evidence of considerable heterogeneity in the severity of firm-level impacts, both across and within countries (Apedo-Amah and others 2020). The impact on MSMEs has been far more pronounced, particularly compared to larger firms. Several reasons account for this difference. MSMEs have smaller credit buffers to draw upon and mitigate the reduced demand that is precipitated by a financial shock. Drawing from WBES data, a study found that MSMEs sales shrink by more than larger firms. Also, their capital drains faster than larger firms both within the same sector and country (Adian and others 2020; African Development Bank 2021b).

Within countries, more vulnerable groups were disproportionately impacted (Adian and others 2022; World Bank 2022g; World Bank 2021a). MSMEs have dealt with the greater brunt of the crisis across all economies. However, income level is also important, with less pronounced differences for smaller firms in high-income countries. One possible explanation for the variation in firm-level impact by size in high-income countries is the level and quality of support packages available to firms from governments. Yet, across all income levels, MSMEs overall benefitted less from policy support as compared to larger firms. Cirera and others (2021) and Bruhn and others (2021) indicate that support was more likely to go to larger and less productive firms, as well as politically connected firms — which tend to be larger than firms that are not politically connected (Cirera and others 2021).

It can be argued that it is still too early to draw conclusions about the cumulative impact on the overall MSME gap of the numerous adverse shocks that started with the onset of the pandemic. However, the current literature, as well as the six country case studies, provide some important insights. Regarding the demand for financing by MSMEs, there is data to suggest that overall demand for credit decreased sharply in the immediate aftermath of the pandemic, then recovering to pre-pandemic levels between 2020-2022.

Surveying a consortium of clients, IFC found that most financial institutions reported a strong recovery in lending, demand, and their overall operations in 2021, as initial mobility restrictions were relaxed and economic activity rebounded. In terms of demand, after a sharp decline at the onset of the pandemic, 2021 was characterized by a rapid recovery. Survey respondents reported an initial drop between 15 and 22 percent in 2020, followed by a seven percent increase above pre-pandemic levels by the end of 2021 (IFC 2022c). Quarterly credit surveys, which capture the sentiments across the lending sector, reported rising demand on behalf of EMDE corporates between the second half of 2020 and throughout 2021, following an initial decline in 2020 quarter (Q)2. The imposition of government support measures to reduce the initial uncertainty in markets facilitated robust demand and loan disbursements in 2020 and 2021 (figure 38).

Figure 38: Evolution of Credit Demand




Note: IFC calculations, based on data from survey reports by the central banks of 31 countries published or accessed as of June 30, 2023, including: Albania, Argentina, Austria, Belgium, Chile, Cyprus, Czechia, Estonia, France, Germany, Ghana, Greece, Hungary, India, Ireland, Italy, Japan, Latvia, Lithuania, Mexico, Netherlands, North Macedonia, Philippines, Poland, Portugal, Romania, Serbia, Spain, Thailand, and Türkiye.
Source: Based on Quarterly Credit Surveys for 19 high-income economies (HIEs) and 11 EMDEs.

However, the case studies point to a downward trend beginning in 2022 amid: (i) the fallout from the Russian invasion of Ukraine and associated sanctions; (ii) surging commodity prices; (iii) the ratcheting up of interest rates by central banks around the globe; (iv) the tightening of credit conditions; and (v) attendant increases in the cost of debt financing for MSMEs. Subsequent Enterprise Surveys will be needed to fully understand how the past three years will more systematically affect long-run demand. However, the evidence that has emerged so far provides some evidence as to how demand may have shifted during the pandemic through four channels: (1) a change in the benchmark; (2) an evolution of MSME sales; (3) MSME entry/exit dynamics; and (4) an evolution of MSME firm characteristics.

In terms of any pandemic-related impact on the benchmark, data from the OECD shows advanced economies have seen a continued shift toward longer-term maturities in the MSME lending portfolio during the period of recovery following the fallout from the Global Financial Crisis (OECD 2023b). The picture is more mixed for MSMEs in emerging markets, but the country-level evidence available indicates that smaller firms in EMDEs typically found themselves still primarily contained to short-term, higher-interest rate working capital loans. As noted, the uncertain environment of the pandemic saw governments across all income and financial development levels shoulder sustained larger debts via support schemes. The expansive role of government in support of the lending environment and the assumption of risk on behalf of lenders in 2020 and 2021 suggest a rising potential demand, as MSMEs were willing to increase their debt burden even as their sales took a downturn. Thus, liquidity support, borrower assistance programs and monetary easing moderated the adverse impact of the crisis, but this impact varied considerably across banks and countries (Demirguc-Kunt and others 2021).

The environment became increasingly risky in 2022, with government support schemes unwinding and central banks raising their benchmark interest rates to tame burgeoning inflation. Thus, the potential demand adjusted to the tighter credit environment. The gains of the past couple of years were reversed as MSMEs were re-introduced to higher borrowing costs and more limited credit availability. Absent a stable equilibrium that would facilitate a more natural lending environment in the past three years, the exogenous shocks stemming from the pandemic and the Russian invasion of Ukraine muddy the conclusion as to both the long-run impact of the pandemic on the benchmark, as well as the current steady state of the benchmark.

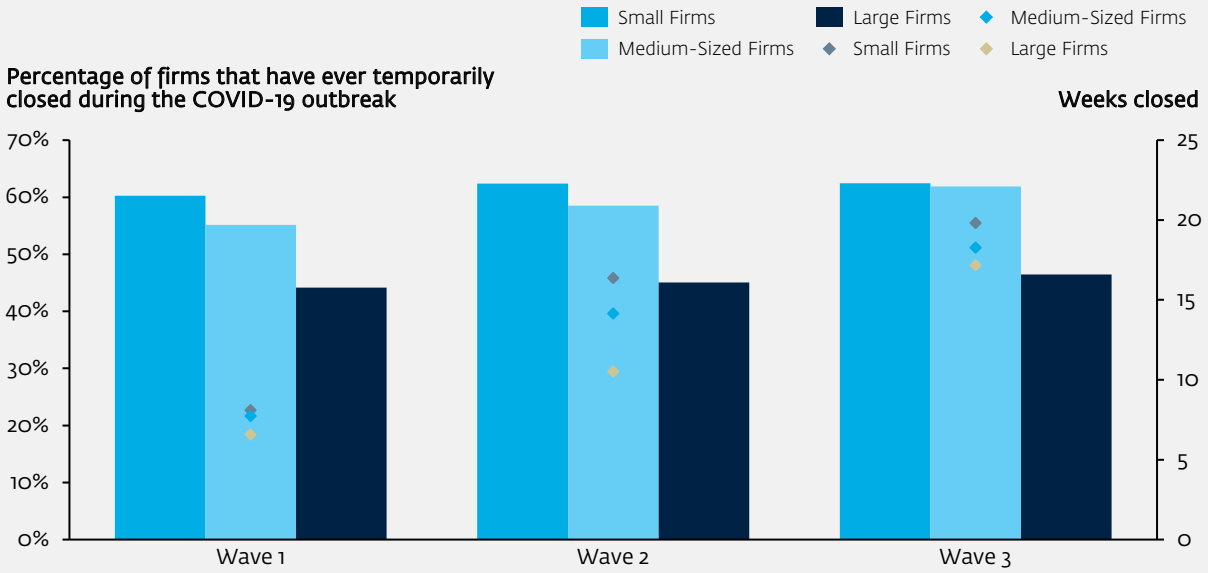
The pandemic seems to have adjusted the benchmark through the role of digitalization, specifically, in impacting firms' borrowing capacity. The expansion of digital channels — through e-commerce, product innovation, banking, and digitalization of internal processes — demonstrate the ways in which firms have adjusted their operations in response to the pandemic. Micro and small firms invested significantly less in digitization, presumably as they faced larger barriers to investing in such processes due to a lack of existing access to finance, a lack of demand, and a lack of complimentary inputs and/or capacity (Apedo-Amah and others. 2020). Smaller firms were much more limited in their operational capacity to adjust to the lockdown environment. Indeed, they increased or started remote work at much lower rates than their larger counterparts, and exhibited a lower proportion of their workers transitioning to remote work. In addition, they were not able to take advantage of adopting digital business models, such as e-commerce, thus posting lower levels of online business activity.

The productivity divide between MSMEs and their larger counterparts may have been exacerbated, as research from the WBES COVID survey data suggests that firms undertaking greater digital upgrading are associated with increased market concentration. Based on the Business Pulse Survey data in Vietnam, Cirera and others (2021) find that the top 5 percent largest firms accounted for a share of online sales that increased from 65 percent in the first wave to 77 percent in the second wave — a significant increase in a about a six-month period Cirera and others 2021).

There appears to be a cyclical effect at work. Digitization tends to increase productivity; more productive firms tend to have a higher proclivity to digitize. Subsequently, several World Bank reports share the same conclusion that the long-run effect may be a reallocation of resources and market share from low productive firms to higher productivity firms via a process similar to creative destruction (Bruhn and others 2021; Cirera and others 2021). Digitization may widen inequality across firms and reallocate market share toward larger firms. Thus, the benchmark may narrow for MSMEs as resources are shifted to more highly productive, larger firms that need to expand their financing as they scale up the digitalization of their operations.

A second hypothesis about the long-run, pandemic-related impact is the dependence of potential demand on sales. The fluctuation in demand experienced in 2020 is viewed as such. Initially demand was suppressed as smaller firms experienced greater decreases in demand for their services and monthly sales. This occurred alongside higher rates and longer term durations for temporary or permanent firm closures, as well as greater declines in their full-time workers as compared to December 2019 (figure 39).

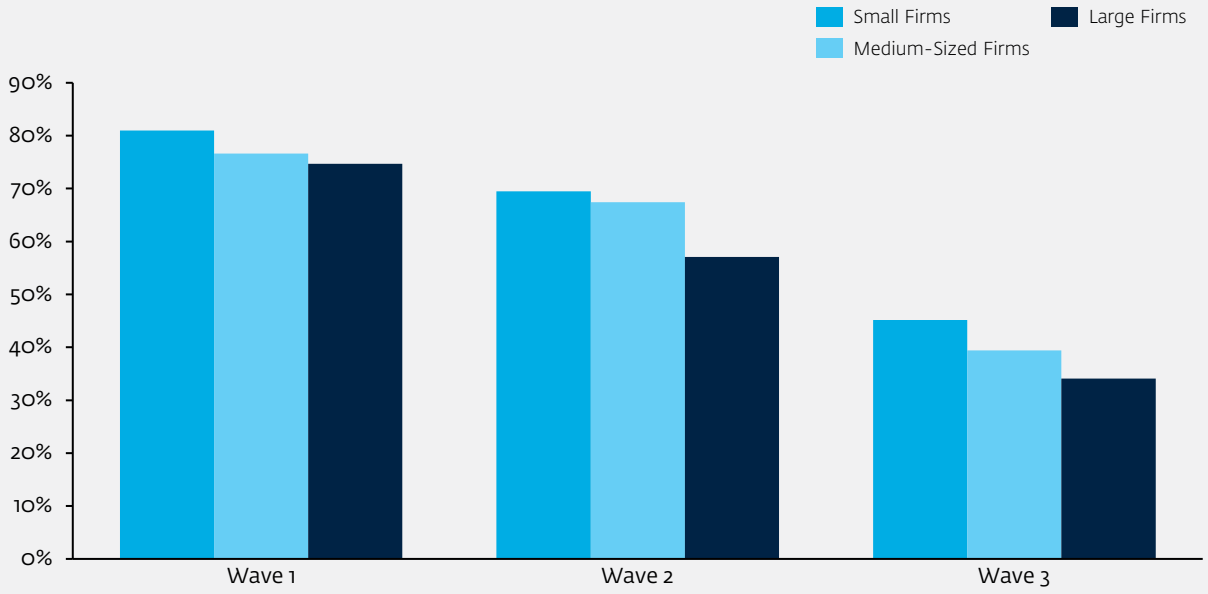
Figure 39: Firm Closure Rate and Lengths




Source: World Bank Business Pulse Surveys.

Apedo-Amah and others show that firms across 51 countries reported an average drop in sales of 49 percent at the onset of the pandemic. However, the effects were heterogenous due to firm characteristics, as smaller firms experienced larger drops in sales than their larger counterparts through subsequent survey waves. Utilizing monthly sales as a proxy for potential demand, and focusing on a subset of ten EMDEs with three rounds of survey data, the WBES COVID survey data shows an overwhelming percentage of surveyed firms of all sizes reporting decreasing monthly sales from the previous year, with a direct relationship between firm size and changes in sales (figure 40).

Figure 40: Percentage of Firms Reporting Decreasing Monthly Sales

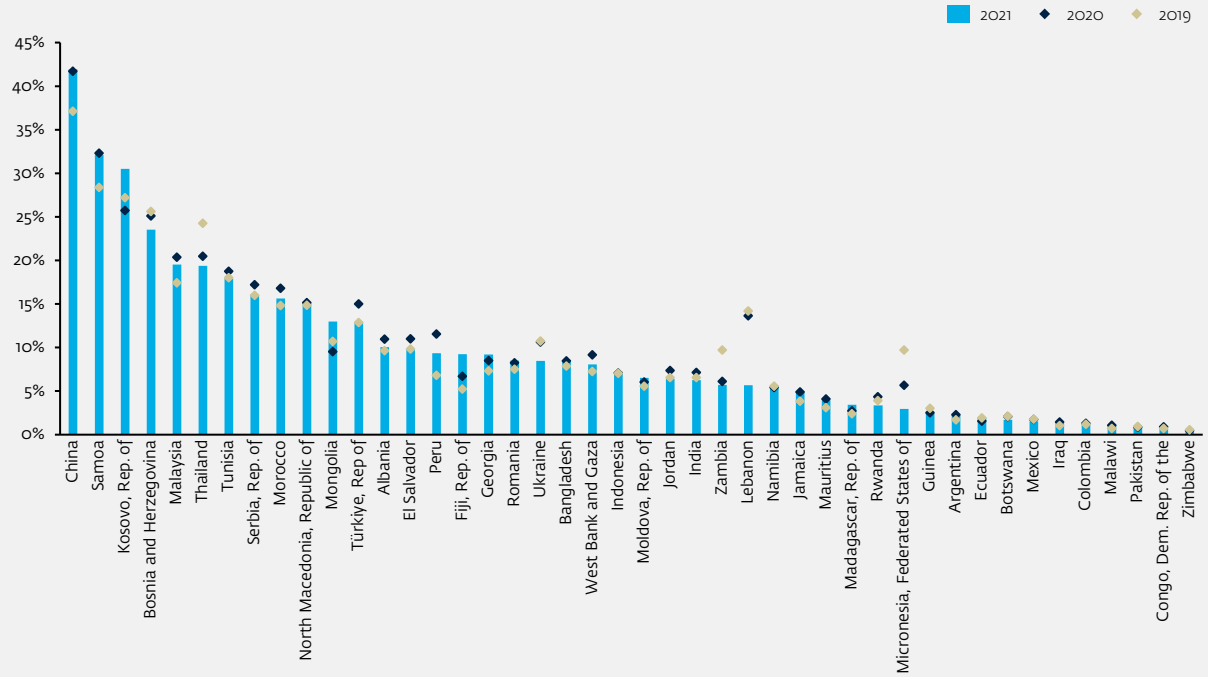



Source: World Bank Business Pulse Surveys.

While remaining elevated through subsequent survey waves, WBES data indicates a recovery in sales as the pandemic moved forward. In treating increasing potential demand as a corollary of sales activity, as COVID-19 related restrictions relaxed and firms gradually re-opened, they needed capital to recover. They also needed to adapt and sustain their operations. Demand for financing once again picked up as figure 38 highlights. Demand was also boosted by low interest rates and forbearance measures taken by the governments in almost all EMDEs. In this regard, it is important to note that, while it seemed likely that the firms' need for financing would shift more toward working capital than longer term financing, the results are mixed. The case studies and an IFC survey of client banks (IFC 2022c) suggest that in the immediate aftermath of the pandemic, there was a shift in demand toward working capital loans and shorter-term capital to meet day-to-day operational needs. However, the OECD SME Scorecard 2023 (OECD 2023c) study found the opposite in that there was a shift toward longer-term loans in 2020-2021, especially as government support programs began. This trend now seems to be slowing.

There could be potential heterogeneity in terms of firm size, with micro and smaller firms preferring short-term loans as compared to larger firms preferring longer term credit. However, more comprehensive demand data by firm size would be needed to show if in fact a correlation exists. In total, data from the IMF FAS (2020) shows that supply of MSME credit stayed constant in 2020, with some countries recording either a minor decrease, or even an uptick, in outstanding commercial bank loans to MSMEs (figure 41). However, data from FAS (2022) shows that MSME credit to EMDEs declined in 2021. Looking across a range of advanced and emerging economies, the OECD (2023) found that lending to MSMEs remained robust in 2021, and only started to decline in 2022.

Figure 41: Commercial Bank Lending to Emerging Market MSMEs (% of GDP)




Source: IMF Financial Access Survey.

Government support measures helped firms to weather the crisis, temper MSME failure rates, and support lending. However, weaker firms with little to no cash reserves were shuttered or were forced to significantly scale down their operations. Although there is scant country-level data concerning closure rates, the evidence stemming from the Business Pulse Survey and the WBES COVID survey data indicate severe operational shocks on smaller firms. This would assume a contraction in potential demand in MSMEs, absent firm re-entry. This highlights the third and fourth channels to which the pandemic may have altered demand more systematically. The expectation of higher exit rates for younger and smaller firms, which typically are more financially constrained, would point to decreasing demand as larger firms' economic activity has shifted to capture greater market shares; the reasoning here is that larger and older firms may have been better able to navigate the crisis, as they are established and possess greater organizational and financial capacity. However, smaller and younger firms may be nimbler, and thus more flexible in re-orienting and adjusting their operations (Bruhn and others 2021).

Regarding firm age, the picture is opaque, as young firms presumably exhibited higher exit rates. However, median firm age probably did not increase due to the substitution factor of new firms entering and re-orienting to other sectors, which was fostered by the pandemic-induced environment. Evidence points to certain sectors being disproportionately affected during the lockdown period, particularly in-person, intensive sectors, such as manufacturing and services. However it is unclear whether these initial impacts will lead to longer-term changes in the industry distribution. In this context, it is possible that the over-arching structural changes were more likely influenced by an individual country's long-run growth and transformational model. Thus, in total, looking across the four channels discussed, the emerging evidence seems to suggest that the reallocation of economic activity from low- to high-productivity firms during COVID-19, spurred on by digitalization, may be the greatest systematic driver in affecting long-run potential demand.

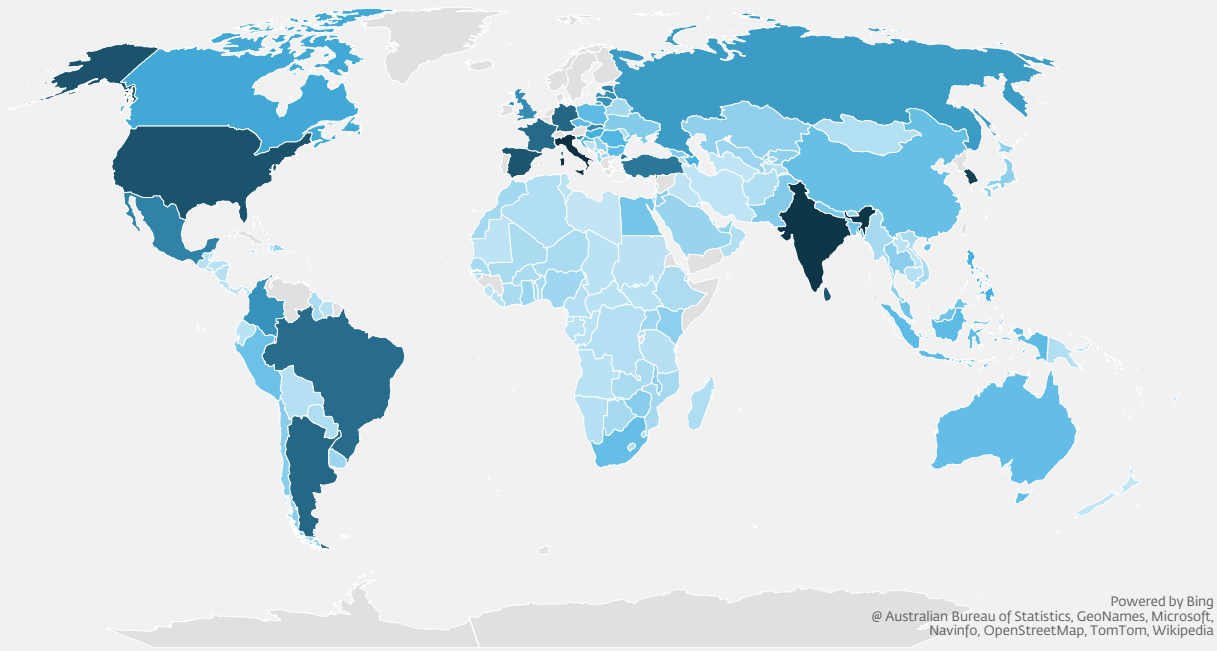
Bruhn and others (2021) find that evidence suggests that reallocations to more productive firms was stronger during COVID-19 compared with pre-crisis times (Bruhn and others 2021). This reallocation to more productive firms, which tend to be larger in size, can lead to greater consolidation of commercial lending to large enterprises rather than MSMEs. However, future volumes of the report that would rely on demand data collected after the pandemic will be able to more concretely capture the long-run implications on the MSME finance gap.

Moving forward and in light of the ongoing global context of high inflation, increasing interest rates, tighter liquidity conditions and risk aversion, it is likely that the full extent of current macroeconomic challenges will continue to influence the MSME finance gap over the medium term.

The somewhat tempered and widespread impact of the pandemic on both the supply and demand sides of MSME financing can be partly explained by the support measures and government responses to help preserve the smooth operations of the MSME sector. This was done as MSME was regarded as central to the economies, especially in EMDEs. However, the magnitude of the response has been different, depending on country characteristics. The IMF Fiscal Policy Monitor, which tracks the fiscal measures that governments have undertaken in response to the COVID-19 pandemic, finds that by mid-2020, fiscal stimulus packages represented about 16 percent of GDP in high-income countries, but only 4 percent in middle- and low-income countries (IMF 2021d).

The level of policy activity in terms of the number of policies implemented is markedly lower in emerging markets, particularly across Africa (Feyen and others 2020). Financial assistance via grants has been the most utilized government policy measure to support MSMEs, with credit guarantees, loan moratoriums, and reductions in interest rates being widely implemented as well (figure 42) (IMF 2021a).

Figure 42: Financial Policy Response Activity Index




Note: The areas that are darker shades of blue represent higher policy response activity.
Source: International Monetary Fund.

Although the degree of support is significantly lower in middle- and low-income countries, the financial sector policy mix is dissimilar. Whereas high-income economies focused more specifically on the banking sector, emerging market economies focused on measures to increase liquidity and facilitate payments, particularly digital payments (Feyen and others 2020). However, middle- and low-income countries may have centered more of their efforts on relaxing prudential regulations beyond international standards. This may be due to the limited policy capacity and looser regulatory and supervisory frameworks in EMDEs (Feyen and others 2020). Pre-existing structural factors, such as already high corporate debt, may have also constrained policy response in some markets. Finally, the year 2020 saw the largest single year debt surge in 80 years, as global debt exceeded US$220 trillion and 250 percent of global GDP (IMF 2022c).

Based on the case studies in this report, as well as the emerging literature, it can be hypothesized that the current slowdown in MSME credit might be more pronounced due to a number of reasons. First, regulators may reduce forbearance measures to focus on protecting the stability of the financial sector. This may be coupled with the reduced ability and appetite on the part of lenders to renew existing loans or extend credit to new MSME clients (OECD 2023b). Second, a sharp slowdown in economic activity, combined with the direct effects of high inflation, currency depreciations, and rapidly increasing financing costs, will limit investments made by MSMEs. This in turn might temper demand for new credit by MSMEs.

Third, the increased credit risk due to intensified uncertainty may lead to lenders being less willing to lend to MSMEs, which they consider to be riskier segments. Thus, they may tend to instead shift toward larger companies.

There may be some exceptions. or example, it is expected that as China opens up and its economy recovers, policies targeting the growth of credit provision to the MSME sector, which is a priority sector for the government, are likely to continue. Similarly, there are expectations of seeing greater heterogeneity on both the supply and demand sides among economies, depending on the size of the MSME sector. In addition, it will depend on more conducive government policies for the sector, as well as the strength of the banking sector. Furthermore, women-owned businesses that were already disproportionately impacted by the COVID-19 pandemic might be expected to face more pronounced contractions in access to finance compared to male-owned firms under tight financial conditions (Torres and others 2021).

It remains an open question as to how the pandemic and the subsequent worsening macroeconomic conditions will impact the MSME finance gap in EMDEs. As discussed, although there is a growing literature on the impacts of the pandemic and the subsequent global slowdown, these are limited to specific countries and/or regions. To date, there is very little data at the EMDE level, particularly data touching on both the supply and demand sides of financing for MSMEs. To understand the impact on the gap, a comprehensive survey of supply- and demand-level data will be needed. To a large extent, data is available regarding the supply of formal financing. However, comprehensive demand-side data, as highlighted in chapter 2 of this report, requires cross-country representative, firm-level data collection.

The WBES is targeting the collection of firm-level data in 180 economies by 2025, with 59 Enterprise Surveys in 2022 alone. As a critical mass of new surveys emerges, it will provide a clearer picture about the demand for financing. In addition, an update to the report will re-estimate the MSME finance gap in order to provide new perspectives about the evolution of the supply and demand for MSME financing, and consequently the financing gap.

# 6

# Conclusion

This report re-estimates the MSME finance gap in EMDEs using a methodology proposed in the previous report (IFC 2017). In estimating the MSME finance gap at two points in time (4 years apart) using the same conceptual framework, methodology and data sources, this report represents a first attempt at tracking the evolution of the MSME finance gap. As the methodology examines the gap from both a demand and supply constraint perspective, this report is also able to differentiate between supply and demand side drivers of changes in the MSME finance gap at the global, regional and country levels.

Many MSMEs may have a higher "potential" demand for financing. However, this demand often goes unacknowledged because the owner of the enterprise knows that is not likely to be met. Similarly, the supply of credit in these markets is a constraint. Financial institutions prefer to lend money to enterprises with better documentation, and an established track record. In other words, financial institutions prefer to supply credit to low-risk enterprises.

This report estimates that there is a potential demand for MSME finance of US$ 10.3 trillion in 119 EMDEs, as compared to the current credit supply of US$4.6 trillion. Consequently, there exists a financing gap attributed to formal MSMEs in EMDEs of US$ 5.7 trillion, which is equivalent to 19 percent of the GDP and 20 percent of the overall private sector credit supplied by banks to these economies. This in turn amounts to 1.2 times the current level of MSME lending to these countries.

This report also estimates that among formal micro, small and medium enterprises, 40 percent of MSMEs in EMDEs are credit constrained, of which 19 percent are fully credit constrained and 21 percent are partially constrained. When disaggregated by the gender of ownership and management, W-MSMEs face a finance gap of US$1.9 trillion, representing 30 percent of the MSME finance gap.

In addition to the finance gap in the formal sector, there is estimated to be an additional US$2.1 trillion in potential demand for finance from informal enterprises in developing countries. This figure is indeed sizeable and is equivalent to 7 percent of the GDP in these countries.

In choosing a new methodology for the MSME Finance Gap report in 2017, an emphasis was placed on a robust methodology that would be transparent and easy to update in the future. Thus, this updated report represents a validation of this assumption made in the previous report. The report concludes that the methodology is robust and data sources stable enough to recompute the gap using the same foundational principles. As discussed in detail in the Methodology section, the quantification of the gap can be very sensitive to assumptions embedded in the methodology used to understand what firms "need", as well as how to interpret the entanglement of potential demand and bankability of firms.

By tracking the dynamic changes to the gap over time, the MSME finance gap can potentially be used to track the effects of policies and interventions more easily.

Over the four-year period from 2015 to 2019, the MSME finance gap increased from US$ 4.4 trillion (17 percent of GDP) to US$ 5.7 trillion (19 percent of GDP), a 6 percent average annual increase. Even though the supply of financing increased meaningfully by 7 percent, that is, from US$3.6 trillion (14 percent of GDP) to US$4.6 trillion (16 percent of GDP) in 2019, it was dwarfed by the increase in potential demand. As new firms entered the market, existing MSMEs grew, and MSMEs re-oriented toward finance-heavy sectors. Thus, the demand for financing continued to increase and outpace supply. The potential demand for financing increased from US$8.1 trillion in 2015 (31 percent of GDP) to US$10.3 trillion in 2019 (36 percent of GDP). The gender finance gap remained somewhat stable relative to GDP. The W-MSME portion of the MSME finance gap increased slightly from 33 percent to 34 percent in 2019.

A limitation posed in particular by the lack of firm-level survey data meant that the report was unable to update the MSME finance gap beyond 2019. Starting in 2020 and up to the middle of 2022, the WBES ceased their regular surveys in EMDEs and focused exclusively on shorter COVID surveys. As these surveys did not contain the information needed to compute potential demand, the report is unable to estimate the finance gap during a particularly relevant period of time. The supply side data, primarily the IMF FAS, continued to be updated. It found meaningful shifts that may indicate that a post-COVID re-estimation of the MSME finance gap would look significantly different. For example, the FAS shows a decline in the balances of outstanding loans to SMEs in 2022 as compared to 2021, a pattern not noticed in any prior year. To provide some insights concerning the extent of changes precipitated by the pandemic, the report supplements the pre-COVID-19 re-estimation of the gap with case studies in six economies using data after the onset of the pandemic.

There are a number of ways in which this study can be improved and expanded as part of a comprehensive research agenda to better understand the financing needs of MSMEs in developing and emerging economies. First, it is important to continue to update the estimations at regular intervals. Most initiatives to reduce the finance gap would require an assessment using an accurate country-level measure that is comparable with other countries, as well as consistent across time. Second, there is value in disaggregating the MSME finance gap estimates by size, industries and sectors. For instance, the financing need for MSMEs in the manufacturing sector may be different from those in the services sector. The methodology is flexible enough to accomplish this goal, provided that more granular data is collected at the sectoral level. Third, the methodology can be adapted for better usability and interpretation by changing the benchmarked country. For example, data permitting, the debt-to-sales ratio for a regional comparator can be utilized as the appropriate benchmark. Fourth, the precision of the methodology can be improved by extending the benchmarking to a more robust, matching algorithm that goes beyond summarizing the results in the three categories, namely industry, size and age.

A persistent issue continues to be the availability of data. The supply-side data of existing levels of MSME financing is more widely available as compared to the previous report. However, 57 countries still have no disaggregated data regarding the impact of size on the supply of credit. Although the Enterprise Survey continues to serve as an important source of firm-level country-representative measures of the formal sector, the frequency of surveys is far too spread out to allow for a more dynamic gap estimation, for example, annually.

From 2015 to 2019, a new Enterprise Survey was administered in only 42 percent of EMDEs. Going forward, both the frequency and coverage of the World Bank Enterprise Surveys is likely to improve dramatically as the project supports the new flagship World Bank Business Ready publication, whereby 180 economies will be covered every 3 years. Furthermore, the Enterprise Surveys are greatly expanding their coverage of high-income economies. This will offer more benchmarking opportunities for both the supply and demand sides of the model.

Regarding gender, the issue of data availability has become considerably worse. Central banks rarely track gender-disaggregated lending patterns in EMDEs. As a result, there is no source for gender-disaggregated, supply-side data. The Enterprise Surveys are able to distinguish female-owned and managed firms. However, because this is not part of the stratification, there may be considerable uncertainty regarding the representativeness of this sub-sample. All these factors severely limit the methodological choices and require very strong assumptions to produce an estimate. This report reports the gender-disaggregated MSME finance gap using the same methodology employed in the previous report.

In addition to the traditional financial institutions, technology and digital financial service providers can play a significant role in providing finance and payment services to the MSME market segment. A variety of FinTech players — such as marketplace lenders, payment and supply chain finance platforms, among others — can significantly contribute to closing the finance gap. This can be achieved either by operating on their own or by partnering with the larger, traditional financial institutions. For the first time, this report introduces relevant data that measures the supply of financing from FinTech companies.

An area of further research could include an update to the regression framework used to estimate the supply of MSME finance when such data is missing. When a sufficiently long panel of these country-level variables emerges, the framework may be used to better understand how these individual regulatory environments distinctly shape the MSME financing sphere.

Finally, more research is needed on topics related to the role of private- and public-sector interventions, specifically how reforms in these areas may affect the MSME finance gap. Such research is necessary to inform policy makers and private sector participants about the costs and benefits of different interventions. It would also allow for the design of interventions to better target the reduction of the MSME finance gap in the future. This report's estimation of the MSME finance gap at two points in time can potentially benefit this line of research.

MSMEs are the backbone of economies in EMDEs, representing approximately 90 percent of businesses. However, they still face a significant gap in terms of access to formal finance. As economies grow and recover in the post-pandemic world, governments and policy makers must re-affirm their commitment to supporting the MSME sector.

Systemic constraints that hurt the ability of MSMEs to access formal finance remain. They include: (i) restrictive collateral and know-your-customer (KYC) requirements; (ii) a lack of credit infrastructure; (iii) the impact of the ever-increasing cost of obtaining credit on the transaction costs (interest rate, fees, and so on); and (iv) the remaining social costs (social mobility, trust, biases, and so on), which are more dominant in certain economies than others. Governments supported by institutions such as the World Bank Group have made strides in facilitating access to formal financing for MSMEs. However much still remains to be done.

As evident from this report, the demand for finance outpaces the growth of the economy. As economies grow and recover, MSMEs will increase in size and number. As such, they will need more access to finance and the supply of finance will need to follow accordingly.

There is some evidence to suggest that the supply of credit has boomed in economies where the policy and regulatory environment has prioritized the MSME sector. For example, in East Asia and the Pacific, this is further substantiated with what was observed in the immediate aftermath of the pandemic. Conducive forbearance measures by governments across EMDEs led to an increase in financing for MSMEs in 2020-21. Government policies can have an outsized impact on the MSMEs ability to access finance. Such policies may include: credit guarantee schemes; incentives to financial institutions to lend to MSMEs; improved credit infrastructure (such as credit reporting systems); collateral registries; and a focus on digitization.

The private sector has also made great strides in establishing programs and products specifically focused on MSMEs, and digital finance has an even larger role to play now. This is also where the role of multilateral institutions, such as the World Bank Group, comes in. Targeted technical support to governments especially focused on credit guarantee schemes targeting MSMEs; the development of credit infrastructure and national credit registries; and capacity building of MSMEs can help to boost and grow the sector. On the private sector side, multilateral development banks, with the help of blended finance instruments, can offer risk-sharing facilities to financial institutions. This will help to incentivize them to on-lend to MSMEs, especially underserved segments, such as women and smaller firms. Such assistance can also be used for capacity building through targeted advisory services to help financial institutions better target MSMEs and develop products that fit their needs.

Ultimately, as this MSME Finance Gap Report develops and produces a more extended panel of data across time, it will be essential to emphasize the identification of the country characteristics and policies associated with larger/smaller gaps and the closing of the gap over time. The closing of the financing gap over time is the ultimate policy goal. However, increases in the estimated gap over shorter time periods may not be a cause for alarm. For example, policies that facilitate firm entry might result in a short-term increase in the gap. Understanding why the gap has changed and distinguishing the effects of supply and demand would add tremendous value to the policy discussions concerning MSME finance.

# 7

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