



# Innovations in Financial Services for Micro, Small and Medium-Sized Enterprises

## G20 Global Partnership for Financial Inclusion



# Contents

The material in this work is copyrighted. Copying and/or transmitting portions or all of this work without permission may be a violation of applicable law. IFC encourages dissemination of its work and will normally grant permission to reproduce portions of the work promptly, and when the reproduction is for educational and non-commercial purposes, without a fee, subject to such attributions and notices as we may reasonably require.

IFC does not guarantee the accuracy, reliability, or completeness of the content included in this work, or for the conclusions or judgments described herein, and accepts no responsibility or liability for any omissions or errors (including, without limitation, typographical errors and technical errors) in the content whatsoever or for reliance thereon. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of the World Bank Group concerning the legal status of any territory or the endorsement or acceptance of such boundaries. The findings, interpretations, and conclusions expressed in this volume do not necessarily reflect the views of the Executive Directors of the World Bank Group or the governments they represent.

The contents of this work are intended for general informational purposes only and are not intended to constitute legal, securities, or investment advice, an opinion regarding the appropriateness of any investment, or a solicitation of any type. IFC or its affiliates may have an investment in, provide other advice or services to, or otherwise have a financial interest in, certain of the companies and parties (including named herein).

All other queries on rights and licenses, including subsidiary rights, should be addressed to IFC Communications, 2121 Pennsylvania Avenue, N.W., Washington, D.C. 20433.

## About IFC

IFC — a member of the World Bank Group — is the largest global development institution focused on the private sector in emerging markets. We work in more than 100 countries, using our capital, expertise, and influence to create markets and opportunities in developing countries. In fiscal year 2023, IFC committed a record \$43.7 billion to private companies and financial institutions in developing countries, leveraging the power of the private sector to end extreme poverty and boost shared prosperity as economies grapple with the impacts of global compounding crises. For more information, visit [www.ifc.org](http://www.ifc.org).

© International Finance Corporation 2023.

All rights reserved.

2121 Pennsylvania Avenue, N.W.  
Washington, D.C. 20433  
Internet: [www.ifc.org](http://www.ifc.org)

5	ACRONYMS	53	DIGITAL INNOVATION AND ALTERNATIVE FINANCING PRODUCTS AND SERVICES
9	ACKNOWLEDGEMENTS	54	6.1 Factoring
10	EXECUTIVE SUMMARY	55	6.2 Reverse Factoring
13	INTRODUCTION	57	6.3 Secured Revolving Lines of Credit
17	METHODOLOGY & APPROACH	59	6.4 Merchant-Receivables Financing
21	REPORT STRUCTURE	60	6.5 Peer-to-Peer (P2P)/ Marketplace Lending
25	DIGITALIZATION OF THE MSME ECOSYSTEM	63	6.6 Equity Crowdfunding
27	4.1 E-Commerce	66	6.7 Embedded Finance
29	4.2 The Gig Economy and the Role of Cross-Border Payments	68	6.8 Distributed Ledger Technology and Blockchain Finance via Tokenized Assets
31	4.3 Digital MSME Business Services	71	PUBLIC SECTOR/POLICY APPROACHES TO SUPPORT MSME FINANCE
35	THE RISE OF DIGITALLY-ENABLED NEW FINANCIAL AND ACCOUNTING SOLUTIONS FOR MSMEs	72	7.1 Incentives
36	5.1 Digitizing Business Processes	73	7.2 Risk Sharing and Guarantee Schemes
37	5.2 Digital Credit Scoring/ Credit Risk Assessment	74	7.3 Data Sharing Initiatives
39	5.3 Digital Payments	74	7.4 Government Lending Programs for MSMEs
42	5.4 Digital Banks	77	7.5 Securitization of MSME Portfolios
45	5.5 Open Banking/Open Finance		
49	5.6 Insurance Technologies (Insurtech)		



**79** RISKS AND CHALLENGES

**83** POLICY, REGULATORY AND SUPERVISORY CONSIDERATIONS

- 84 **9.1** Improving Policy, Regulatory and Supervisory Frameworks
- 84 **9.1.1** Policy considerations
- 85 **9.1.2** Regulatory considerations
- 86 **9.1.3** Supervisory considerations
- 86 **9.2** Consumer Protection Issues
- 86 **9.2.1** Policy considerations
- 86 **9.2.2** Regulatory considerations
- 87 **9.2.3** Supervisory considerations
- 88 **9.3** Improving Risk Management
- 88 **9.3.1** Policy considerations
- 88 **9.3.2** Regulatory considerations
- 88 **9.3.3** Supervisory considerations
- 89 **9.4** Cross-Border Coordination
- 89 **9.4.1** Policy considerations
- 89 **9.4.2** Regulatory considerations
- 89 **9.4.3** Supervisory considerations

**91** ANNEX LINK TO CASE DATABASE 93

**92** ENDNOTES

# Acronyms

<b>AA</b>	Account Aggregator (India)
<b>ABL</b>	Asset-based lending
<b>ACH</b>	Automated Clearing House (USA)
<b>ADB</b>	Asian Development Bank
<b>AI</b>	Artificial Intelligence
<b>AML</b>	Anti-Money Laundering
<b>AFIN</b>	ASEAN Financial Innovation Network
<b>API</b>	Application Program Interface
<b>APIX</b>	API Exchange
<b>ASIC</b>	Australian Securities and Investments Commission
<b>B2B</b>	Business-to-Business
<b>B2P</b>	Business-to-Person
<b>BaaS</b>	Banking-as-a-Service
<b>BI</b>	Bank Indonesia
<b>BIS</b>	Bank for International Settlements
<b>BOI</b>	Bank of Industry (Nigeria)
<b>BOT</b>	Bank of Thailand
<b>CBE</b>	Central Bank of Egypt
<b>CCAF</b>	Cambridge Centre for Alternative Finance
<b>CDR</b>	Consumer Data Right Act (Australia)
<b>CDRI</b>	Climate and Disaster Risk Insurance
<b>CFT</b>	Countering the Financing of Terrorism
<b>CGAP</b>	Consultative Group for the Advancement of the Poor
<b>CGC</b>	Credit Guarantee Company (Egypt)
<b>CMA</b>	Capital Markets Authority (Saudi Arabia)
<b>CRSPs</b>	Credit Reporting Service Providers

<b>EC</b>	European Commission
<b>DLT</b>	Distributed Ledger Technology
<b>DFS</b>	Digital Financial Services
<b>EBA</b>	European Banking Authority
<b>EmFi</b>	Embedded Finance
<b>EU</b>	European Union
<b>FATF</b>	Financial Action Task Force
<b>FCA</b>	Financial Conduct Authority
<b>FIAP</b>	Financial Inclusion Action Plan
<b>FIP</b>	Financial Information Provider (India)
<b>FIU</b>	Financial Information User (India)
<b>FNG</b>	Fondo Nacional de Garantías (Colombia)
<b>FSB</b>	Financial Stability Board
<b>FTC</b>	Federal Trade Commission
<b>GCC</b>	Gulf Cooperation Council
<b>GDP</b>	Gross Domestic Product
<b>GDPR</b>	General Data Protection Regulation (EU)
<b>GPFI</b>	Global Partnership for Financial Inclusion
<b>HLPs</b>	GPFI High-Level Principles for Digital Financial Inclusion
<b>IDB</b>	Inter-American Development Bank
<b>IFC</b>	International Finance Corporation
<b>ILO</b>	International Labor Organization
<b>IMF</b>	International Monetary Fund
<b>IoT</b>	Internet of Things
<b>KYC</b>	Know Your Customer
<b>LEI</b>	Legal Entity Identifier
<b>LGU</b>	Local Government Unit (Philippines)
<b>MAS</b>	Monetary Authority of Singapore
<b>MCAs</b>	Merchant Cash Advances
<b>MENA</b>	Middle East and North Africa
<b>MFS</b>	Mobile Financial Services
<b>ML</b>	Money Laundering
<b>MNO</b>	Mobile Network Operator
<b>mPOS</b>	Mobile Point of Sale
<b>MSMEs</b>	Micro, Small and Medium Enterprises
<b>NFC</b>	Near Field Communication
<b>NPCI</b>	National Payments Corporation of India

<b>OECD</b>	Organization for Economic Cooperation and Development
<b>OJK</b>	Otoritas Jasa Keuangan (Financial Services Authority in Indonesia)
<b>P2P</b>	Peer-to-Peer
<b>POS</b>	Point of Sale
<b>PPP</b>	Public-Private Partnership
<b>PSD2</b>	Payment Services Directive 2
<b>PSPs</b>	Payment Service Providers
<b>PwC</b>	PricewaterhouseCoopers
<b>QR Code</b>	Quick Response Code
<b>RBI</b>	Reserve Bank of India
<b>ReBIT</b>	Reserve Bank Information Technology Private Limited (India)
<b>SaaS</b>	Software as a Service
<b>SAMA</b>	Saudi Arabian Monetary Authority
<b>SCF</b>	Supply Chain Finance
<b>SDGs</b>	Sustainable Development Goals
<b>SEC</b>	Securities and Exchange Commission
<b>SME</b>	Small and Medium-sized Enterprise
<b>SMEFUND</b>	SME Financing and Risk Sharing Facility (Nigeria)
<b>TReDS</b>	Trade Receivables Discounting System (India)
<b>UAE</b>	United Arab Emirates
<b>UPI</b>	Unified Payments Interface
<b>UK</b>	United Kingdom
<b>US</b>	United States
<b>USSD</b>	Unstructured Supplementary Service Data
<b>WEF</b>	World Economic Forum

# Acknowledgements

This report was produced by International Finance Corporation (IFC), in collaboration with the SME Finance Forum for the G20 Global Partnership for Financial Inclusion (GPFI) under the Indian Presidency of the G20. The team was led by Ghada Teima (IFC) in collaboration with Matthew Gamser (SME Finance Forum), and comprised of John Owens, Ashutosh Tandon, and Fangfang Jiang (all IFC). The team is grateful for the guidance and leadership of the G20 GPFI co-chairs and would like to acknowledge the contributions of all G20 GPFI Implementing and Affiliated Partners<sup>1</sup> as well as Wendy Werner, Matthew

Saal, Qamar Saleem, Mehdi Cherkaoui, Adel Meer and Natalia Kaur (all IFC), and Marie-Sarah Chataing and Hourn Thy (SME Finance Forum) for their oversight of the Case Database.

The report presents a stock take of various cases and examples that highlight policy and regulatory approaches as well as private sector initiatives in G20 and non-G20 countries. The report is not intended to be an analysis or evaluation of any model. Cases are presented for illustrative purposes only and do not constitute an endorsement by IFC or the G20 GPFI.

# Executive Summary

The Global Partnership for Financial Inclusion (GPI) is committed to advancing financial inclusion globally by increasing quality access to, as well as usage of, sustainable formal financial services, thereby expanding opportunities for underserved and excluded households and enterprises, including women-owned Micro, Small, and Medium Enterprises (MSMEs).

India's presidency of the G20 has prioritized the development of an open, inclusive, and responsible digital financial ecosystem based on the presence of a sound and effective digital public infrastructure (DPI) for the advancement of financial inclusion and productivity gains.

While the primary focus of this report is on Small and Medium Enterprise (SME) financing, we have broadened the report to cover micro enterprise financing as well. Our decision to incorporate micro-enterprise financing stems from the rich array of case studies we received, with a particular emphasis on emerging markets. Within these case studies, we found a noteworthy concentration of financing options for both micro enterprise and small enterprises, especially in the categories of peer-to-peer lending, alternative credit scoring methods, and gig entrepreneurs.

By broadening the report's scope to include micro enterprise financing, we aim

to provide a more holistic and insightful examination of the evolving landscape of digital finance in the context of MSMEs. This expansion underscores the importance of exploring the diverse financial ecosystems that empower businesses, both large and small, in today's digital age.

Digitizing the MSME ecosystem through e-commerce, the gig economy, and digital MSME business services has an impact on the digital-transformation of small businesses. These digital advancements have reshaped the landscape for MSMEs and enabled new opportunities for growth and expansion. The rise of digitally enabled new solutions for MSMEs such as the digitization of business processes, digital credit scoring and risk assessment utilizing alternative data, digital payments, insurtech, digital banking, and the concept of open banking/open finance has advanced MSME access to financial services. There are digitally enabled financing products and services which provide various options such as factoring, reverse factoring, supply chain/accounts receivable financing, secured revolving lines of credit, merchant-receivables financing, peer-to-peer (P2P)/ marketplace lending, equity crowdfunding, embedded finance, and blockchain finance via tokenized assets. Governments, regulators, and public institutions have a role in fostering MSME finance including incentives, risk-sharing facilities, guarantee schemes, government lending programs,

securitization of MSME lending portfolios, and other measures taken to support small businesses financially.

While innovations in MSME financial services represent a huge opportunity in increasing access to and the usage of finance, they come with risks and challenges which need to be mitigated and addressed through a supportive regulatory framework that encourages responsible and inclusive digital financial practices. There is a need for a balanced and proportionate regulatory approach that supports fintech innovation while safeguarding against cyber threats, money laundering, and fraud. Ideally, policy reforms would include harmonizing regulations across jurisdictions and promoting international cooperation in sharing knowledge of successful innovations.

The report cites several effective policy, regulatory and supervisory recommendations, such as considerations to improve MSME finance frameworks so that they include policies that:

- proactively expand debt and equity platforms
- broaden coverage of credit registries and bureaus to cover more MSMEs and incorporating the expanding range of lenders and data sources
- develop modern secured transactions frameworks to support the introduction of fintech asset-based lending products for MSMEs
- improve digital identification infrastructure for MSMEs
- facilitate public and private dialogues, industry codes of conduct, and knowledge sharing as well as exploring the use of innovation hubs and regulatory sandboxes.

In addition, key regulatory and supervisory considerations can include flexible and proportionate risk-based regulatory frameworks; reviewing and enhancing

financial literacy, consumer protection, data privacy, and cybersecurity regulations; strengthening supervisory capacity to effectively monitor and assess risks associated with innovative financing models; and improving regional and international sharing and collaboration to facilitate cross-border oversight on fintech activities.

Regarding risk management, policy considerations include developing guidelines and standards for risk management in fintech lending, including credit risk assessment, loan underwriting, and collection practices; and promoting the adoption of sound risk management practices, including stress testing, portfolio monitoring, and risk mitigation strategies. For regulatory considerations, critical practices include:

- Establishing minimum standards for risk management frameworks and approaches for fintech lending platforms, including criteria for borrower assessment, loan pricing, and risk diversification.
- Requiring regular reporting and disclosure of risk metrics, loan performance data, and stress testing results by fintech firms to enhance transparency and risk monitoring.
- Implementing regulatory requirements for adequate capital and liquidity buffers for fintech firms engaged in lending activities to mitigate systemic risks.
- Promoting advanced analytics and artificial intelligence tools for practical risk assessment and credit decision making.

Specific supervisory considerations include conducting regular audits and examinations of fintech firms to evaluate their risk management frameworks, systems, and controls; and collaborating with industry stakeholders to share best practices in risk management and enhance the overall resilience of the SME financing ecosystem.



1

# Introduction

The G20's commitment to expanding financial services has underpinned internationally recognized efforts to advance financial inclusion. This undertaking is embodied in the GPF. Created by the G20 in 2010 at the Seoul G20 Summit, the GPF is an inclusive platform for G20 countries, non-G20 countries, implementing partners, and affiliated partners. The GPF is committed to advancing financial inclusion globally by increasing quality access to, as well as usage of, sustainable formal financial services<sup>2</sup>, thereby expanding opportunities for underserved and excluded households and enterprises including women-owned MSMEs. The GPF deploys its political

leadership and global advocacy to facilitate efficient and effective coordination, using its partners as leverage to encourage responsible financial inclusion efforts worldwide.

The government of India assumed the presidency of the G20 in December 2022. India plans to build on the work and achievements of previous presidencies in enhancing financial inclusion of vulnerable and underserved populations and sectors, which will subsequently contribute to the achievement of the 2030 Sustainable Development Goals (SDGs). The Indian presidency has prioritized the development of an open, inclusive, and responsible digital

financial ecosystem based on the presence of a sound and effective digital public infrastructure (DPI) for the advancement of financial inclusion and productivity gains.

One of the 2023 Presidency outputs will be this report on Innovations in Financial Services for Micro, Small and Medium-Sized Enterprises. This report aims to promote innovative and responsible access to digital financing to unleash its full potential and consequentially enhance contribution to GDP in both advanced and emerging markets. Through a stocktaking exercise, it will summarize countries' effective approaches to tackle existing impediments that prevent the implementation of

approaches, and policies in addition to innovations in MSME financial services, for example, credit and insurance that have successfully facilitated and promoted MSME financing. The examples build on the "Digital and Innovative Financial Products and Services for MSMEs" database launched under the G20 Indonesian Presidency.

It is important to note that COVID-19 has had a profound impact on economies worldwide and in particular on MSMEs over the past three years. Lockdowns, social restrictions, and reduced consumer spending have presented significant challenges for these enterprises, forcing many to shut down or struggle to stay afloat. However, amid the adversity, the pandemic has also acted as a catalyst, accelerating the digitization of businesses, and prompting a surge in the adoption of digital financial services (DFS) by micro, small, and medium enterprises (MSMEs) across the globe. The need to adapt to new norms and maintain operations remotely has compelled many MSMEs to embrace technology, such as online platforms, digital payments, and e-commerce, to continue serving their customers. This paradigm shift has highlighted the importance of financial inclusion and the role of digital infrastructure in supporting the growth and resilience of small businesses.

In addition, the aim of this report is to build on previous G20 presidencies' efforts by referencing the related work that has been produced by the GPF and its current Financial Inclusion Action Plan (FIAP). The report concludes with policy recommendations and guidelines, which could be implemented voluntarily based on national context.



©IFC



2

## Methodology and Approach



The research design used in this report was a combination of quantitative and qualitative methods. This report built on the survey-based approach used under the G20 Indonesian Presidency to collect data from G20 member countries on their MSME finance policies and practices. The survey was administered online through the G20 database from January 2022 to April 2023. The analysis of this survey is complemented by desk research that draws from reports

from international standard setting bodies, research by leading international organizations and G20 implementing partners, as well as previous GPFi work. The desk research also sourced additional examples to fill some of the informational gaps.

This design allowed for an analysis of MSME finance policies and practices across both G20 member countries as well as other non-G20 countries. The survey questions

were developed based on input from G20 member countries and experts in MSME finance. The survey provided quantitative data that could be analyzed to identify trends and patterns, while the desk research and case studies provided qualitative data that allowed for a more in-depth analysis of specific policies and practices. The term MSME is used through out the report, given the segments being covered include micro, small and medium enterprises. However, in some examples and case-studies where

the segment was specifically mentioned, the term SME is used.

Also, while the primary focus of this report centers on Micro, Small, and Medium Enterprise (MSME) lending, it is crucial to acknowledge the occasional intersections between enterprise financing and consumer lending. Individuals who are entrepreneurs or own micro or small enterprises are frequently assessed based on their overall household income. In certain instances, particularly within the domains of alternative credit scoring and peer-to-peer lending, there may exist similarities in the evaluation criteria applied to individuals seeking either consumer or enterprise loans. Additionally, it is worth noting that there could be parallels in consumer protection measures that are applicable to both consumer lending and MSME financing. These measures aim to ensure fair and ethical treatment for borrowers across these domains. However, it is essential to underscore that the primary emphasis of this report remains firmly on enterprise lending.

One limitation of the research design was that the survey was voluntary, which may have resulted in a biased sample of respondents. Additionally, the data collected was self-reported, which may have introduced response bias. These limitations are partially addressed through desk research and sourcing additional case studies to fill in gaps in the database.

Cases highlighted in this report were selected based on certain criteria which included:

- relevance to the various categories in the report
- the impact of the innovation in terms of outreach and scale
- the potential for replicability in other countries

Providing a balanced and diverse representation from countries and regions was also a consideration when selecting examples to highlight.



# 3

## Report Structure

The report provides a stocktaking of the main areas of innovation in digital MSME financing and is divided into several sections. The first section, Digitizing the MSME Ecosystem, explores the impact of digital transformation on MSME businesses. It delves into three key areas: e-commerce, the gig economy, and digital MSME business services and examines how these digital advancements have reshaped the landscape for MSMEs and enabled new opportunities for growth and expansion. The second section, The Rise of Digitally Enabled New Solutions for MSMEs, highlights emerging trends and innovations in the realm of digital financing. It covers topics such as digitization of business processes, digital credit scoring and risk assessment utilizing alternative data, digital payments, insurtech (insurance technologies), digital banking, and the concept of open banking/open finance. This section sheds light on the transformative potential of these solutions

and their impact on MSME financial services. The third section, Digital-Enabled Financing Products and Services, provides an in-depth exploration of the specific digital financing tools available to MSMEs. It examines options such as factoring, reverse factoring, supply chain/accounts receivable financing, secured revolving lines of credit, merchant-receivables financing, peer-to-peer (P2P)/marketplace lending, equity crowdfunding, embedded finance, and blockchain finance via tokenized assets. Each subtopic explains the nature of the financing method and its potential benefits for MSMEs. The fourth section, Public Approaches to Support MSME Finance, focuses on the role of governments and public entities in fostering MSME finance. It discusses different approaches including incentives, risk-sharing facilities, guarantee schemes, government lending programs, securitization of MSME lending portfolios, and other measures taken to support MSME businesses financially.



©World Bank



©World Bank

The report also addresses the risks and challenges associated with digital financial services for MSMEs, identifying potential obstacles and providing insights into how governments are mitigating and managing these risks and challenges. Additionally, it covers policy, regulatory, and supervisory considerations, highlighting the need for a supportive regulatory framework

to encourage responsible and inclusive digital financial practices. By covering these key areas, the report aims to provide a comprehensive understanding of the landscape of digital financing for MSMEs, equip policymakers with valuable insights, and offer recommendations for fostering an enabling environment for MSME growth and development.



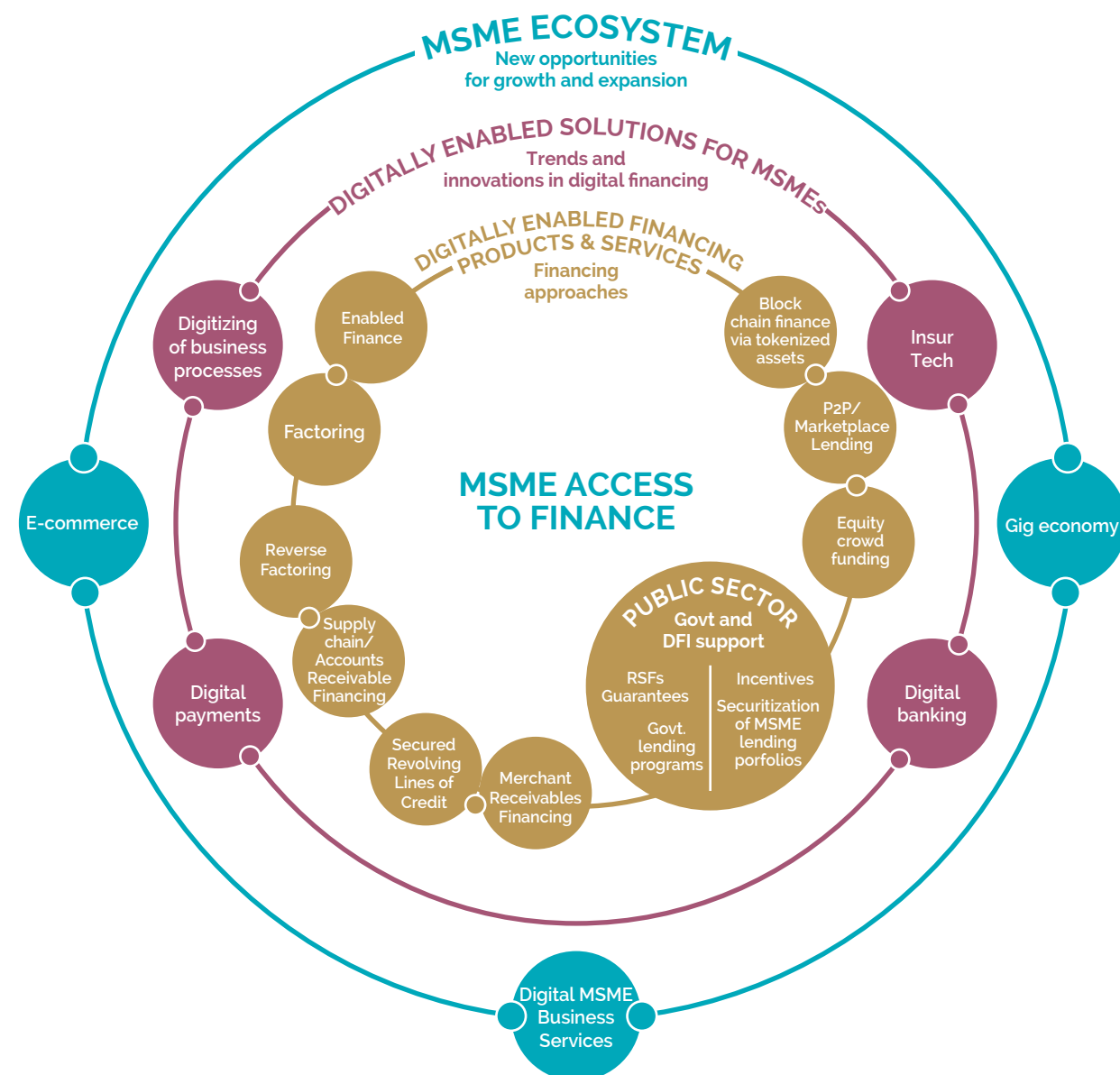
4

## Digitalization of the MSME Ecosystem

The digitalization of the MSME ecosystem has revolutionized the way MSME businesses operate. From e-commerce to the gig economy, new digital MSME business tools and services have emerged, including digital business management tools, digital accounting, and e-invoicing. E-commerce platforms such as Amazon, Alibaba and Mercado Libre have enabled MSMEs to reach a wider audience and compete with larger companies. In several markets, the gig economy has also provided new opportunities for MSMEs

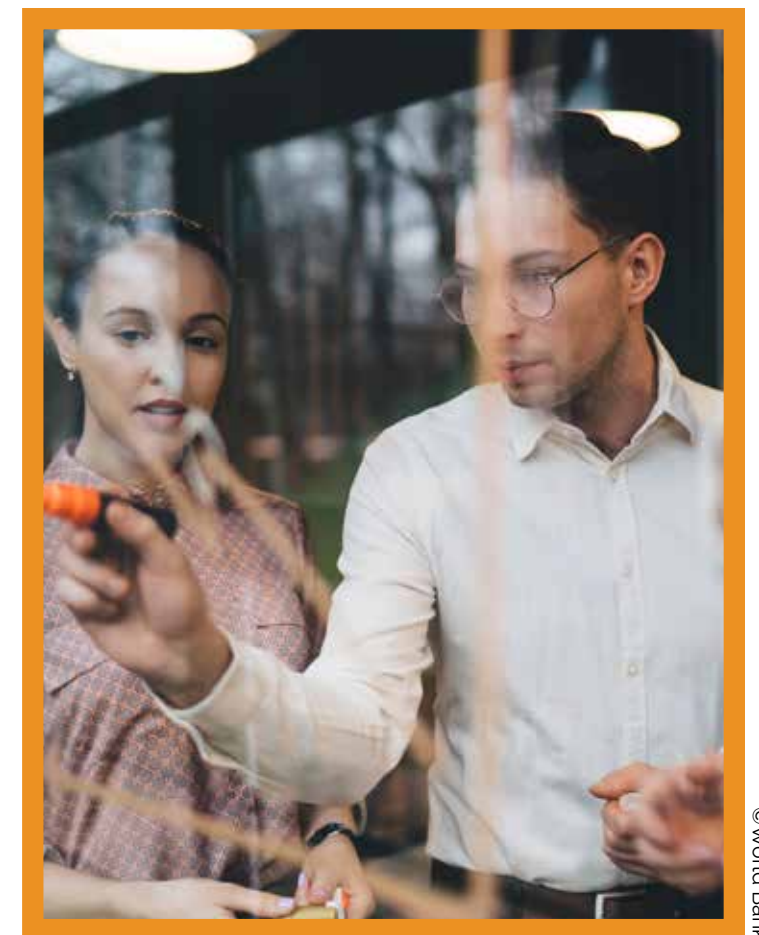
to access affordable labor and resources. Moreover, digital business management tools, accounting software, and e-invoicing have made it easier for MSMEs to manage their day-to-day operations, streamline processes, and reduce costs in these markets. These new digital tools and services can help MSMEs overcome traditional barriers to growth and success and have also helped MSMEs to access financing. Figure 1 demonstrates the range and interactions between various digitally enabled solutions, products and services for MSMEs.

**Figure 1: Digitalization of the MSME Ecosystem**



The rise of digital payments, Insurtech, digital banking, and now Open Banking and Open Finance have led to an increase in digital credit services for MSMEs. With the digitization of payments, MSMEs can now access a variety of digital payment solutions, enabling them to accept payments online or through mobile devices.<sup>3</sup> The use of Insurtech has also enabled MSMEs to access more affordable and customized insurance products, providing greater protection against unforeseen risks.<sup>4</sup> Moreover, digital banking has provided MSMEs with access to a range of banking services, such as online account management, digital payments, and real-time financial data, making it easier for MSMEs to manage their finances and to onboard them for financial services including credit.<sup>5</sup> The latest developments in Open Banking and Open Finance have started to expand access to financial services for MSMEs, allowing them to leverage their financial data to access new credit products and services.<sup>6</sup> As a result, the combination of digital payments, Insurtech, digital banking, and Open Banking has created a more supportive ecosystem for MSMEs, providing them with tools that help them to manage their business and increase their access to financing. It should be noted, however, that all these services are new opportunities for MSMEs and MSME owners need to properly understand them to advance financial inclusion in a concrete way.

These digital financial services (DFS) have paved the way for the creation of new business models and digital financial products, such as digital credit and crowdfunding platforms that provide equity capital. By automating onboarding, underwriting, due diligence tasks, and payment collection, DFS have demonstrated their potential to make the lending and capital-raising processes faster, easier, and more cost-effective.<sup>7</sup> The use of mobile devices and alternative data sources, combined with big-data analytics, artificial intelligence (AI), and machine learning (ML), has re-



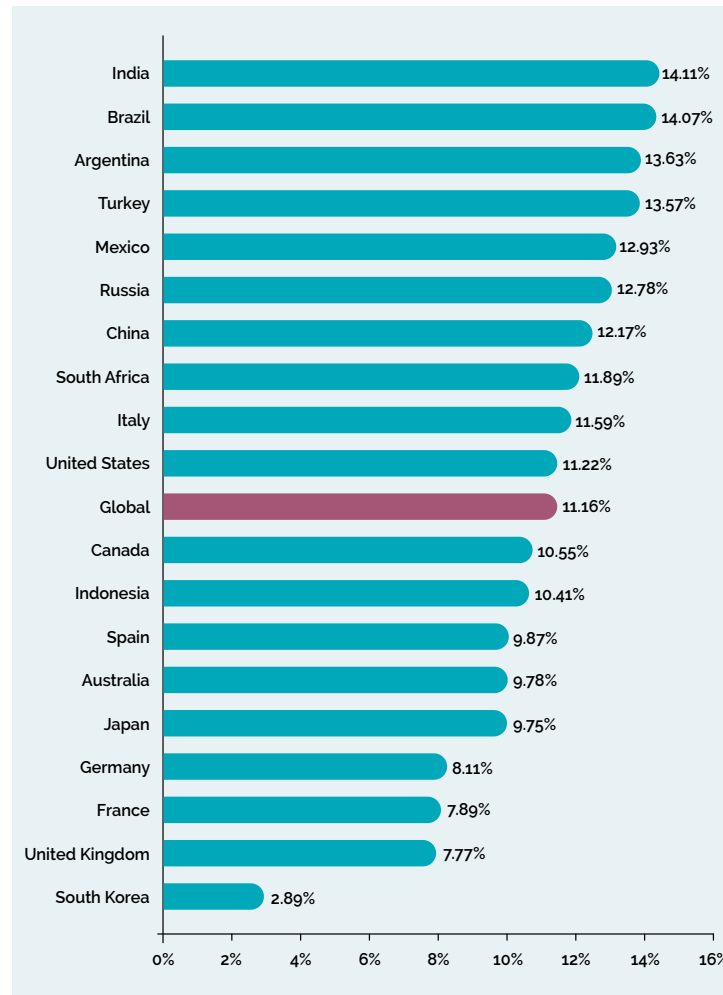
©World Bank

duced transaction costs and demonstrated the potential to decrease information asymmetry, enabling financial institutions to provide financing to MSMEs that were previously unable to obtain credit due to a lack of credit history or collateral.<sup>8</sup> Moreover, digital documentation and the automation of many processes have helped MSMEs to register and verify their identity more easily, while tailored products have addressed barriers such as financial literacy, lack of collateral, lack of insurance coverage for micro and small businesses as well as the high costs to serve MSMEs.<sup>9</sup>

### 4.1 E-commerce

E-commerce has become an important channel for MSMEs to reach new customers and expand their market share. The rise of e-commerce platforms, such as Alibaba, Tencent, Amazon, Tokopedia, Flipkart, and Mercado Libre, have made it possible

**Figure 2: Retail e-commerce sales compound annual growth rate (CAGR) from 2023 to 2027, by country.**



Source: Statista Digital Market Insights © Statista 2023

for MSMEs to access new markets, reduce transaction costs, and streamline their supply chain.<sup>10</sup> In addition, these e-commerce platforms are increasingly offering digital financial services, especially business tools, payments, and credit services often via embedded finance or merchant advances.<sup>11</sup> They allow MSMEs to obtain working capital quickly and more efficiently than via other channels as offers are made directly to businesses with amounts often pre-approved. These digital credit services use alternative data sources, big-data analytics, AI, and ML to assess transactional e-commerce history, better assess credit risks, and provide financing to MSMEs that may lack traditional collateral

or credit histories. The increasing use of digital financial services including business tools, payments and credit services offered by or via e-commerce providers is enabling MSMEs to seize new business opportunities, optimize their business operations, and drive economic growth. Global growth rates of e-commerce are expected to grow at an annual rate of 11 percent over the next five years with faster growth rates in several G20 markets, particularly India, Brazil, Argentina, Türkiye, Mexico, Russia, China, South Africa, Italy, and the United States.<sup>12</sup>

One example of a digital finance provider for SMEs is Indonesia-based OVO's Dana Tara,<sup>13</sup> for SME e-commerce merchants that sell on Indonesian e-commerce platforms. In addition to providing credit services to SMEs, OVO has also facilitated PayLater services for clients of SMEs that sell on the e-commerce platform, Tokopedia. The integrated approach has empowered SMEs by providing them with access to working capital and credit services that were previously difficult to obtain. By leveraging alternative data sources and advanced analytics, OVO assesses the creditworthiness of SMEs based on their transactional e-commerce history, allowing them to extend financing to businesses that may lack traditional collateral or credit histories. This has enabled SMEs to seize new business opportunities, optimize their operations, and contribute to economic growth.

OVO has established partnerships with prominent e-commerce platforms in Indonesia, including Shopee, Bukalapak, and Tokopedia. These platforms are crucial for SMEs to reach wide customer bases and expand their market presence. By collaborating with these e-commerce giants, OVO has been able to reach large numbers of SMEs and provide them with tailored financial services that support their growth and success. In addition, Tokopedia has partnered with the government of Indonesia to



©World Bank

support SMEs to register their businesses with business identification numbers (NIBs), and has especially targeted women-owned SMEs, vastly improving their access to finance.<sup>14</sup>

OVO's model and Tokopedia's SME registration process are replicable in other countries with similar e-commerce platforms. The integration of digital financial services with e-commerce platforms as well as supporting the formalization of business processes is proving to be a successful strategy for improving SMEs' access to financing.

However, risks associated with e-commerce also need to be addressed, especially in financial literacy and consumer protection to ensure that innovative access to finance via e-commerce is conducted responsibly.

## 4.2 The Gig Economy and the Role of Cross-Border Payments

E-commerce development to empower MSMEs has also led to the growth of the gig economy. The gig economy has become increasingly important for MSMEs globally. The gig economy is a labor market characterized by the prevalence of short-term contracts or freelance work, as opposed to permanent jobs. Many MSMEs are now using gig workers to help them meet their business needs, such as IT services, marketing, and deliveries. It should also be noted that many gig workers are also entrepreneurs. This pool of new entrepreneurs and workers enables MSMEs to access specialized expertise on-demand without the overhead costs of hiring full-time staff. Additionally, gig workers can be

more flexible than traditional employees, which allows MSMEs to scale up or down more easily in response to changes in demand.

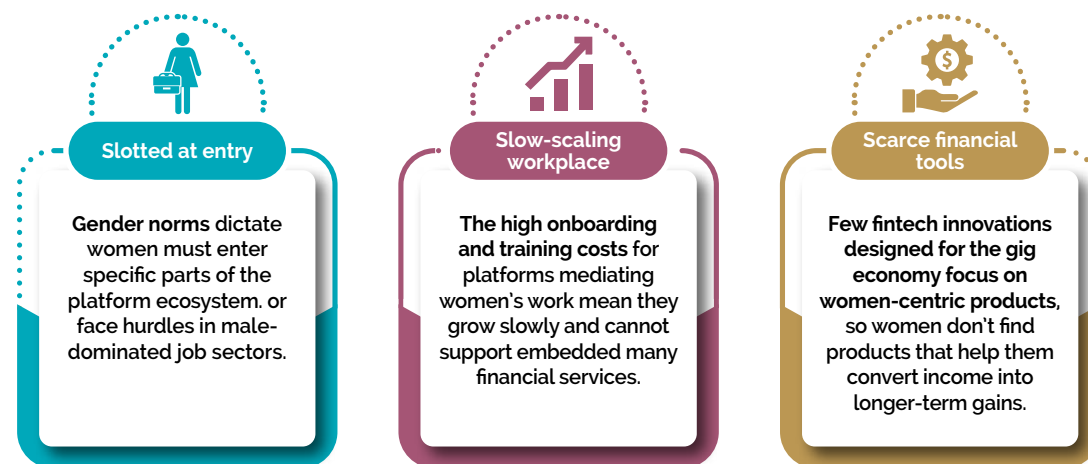
The gig economy can also help MSMEs improve their access to financing. Digital platforms that facilitate gig work, such as Uber, Lyft, and Airbnb in the US, and Singapore-based Grab, are increasingly offering financial products and services to their gig-enabled entrepreneurs and workers, such as digital wallets and loans. These platforms use the data they collect on their gig workers and their business ventures to make credit decisions that traditional financial institutions may not be able to make. By offering these financial products and services, these platforms are helping to bridge the financing gap for MSMEs that use gig workers as well as supporting gig-enabled businesses. Additionally, by providing access to financial products, the platforms are helping gig workers and their business ventures improve their financial stability. While women-owned gig ventures are also expanding, it should be noted however that they face challenges including how they can enter the e-commerce ecosystem,

high onboarding and training costs, and scarce women-centric financial products and services.<sup>15</sup> (See figure 3).

An example of fintech collaboration supporting gig-enabled businesses and MSMEs that employ gig economy workers is the recent partnership between the software as a service (SaaS) global employment platform, Globalization Partners (G-P) and UK-based Wise,<sup>16</sup> which recently teamed up to facilitate cross-border payments to gig economy contractors and freelancers. With the growing need for gig workers, many MSMEs are unable to facilitate timely payments to their freelancers, especially those working overseas. By partnering with G-P, Wise overcomes the difficulty in paying gig workers, particularly those overseas.

By improving the facilitation of cross-border transactions, Wise has improved the efficiency and reliability of payments between MSMEs and their gig workers.<sup>17</sup> This partnership has enhanced the ability of MSMEs to leverage gig workers for specialized expertise, while also empowering MSMEs and their gig workers by providing them with a seamless and convenient payment solution.

**Figure 3: Digitalization of the MSME Ecosystem**



Source: CGAP Blog On Gig Platforms, Women Workers Face Triple Barriers to Inclusion

Wise has a global presence, offering G-P a broad reach, to the benefit of MSMEs and gig workers around the world. The integration of Wise's transfer services into the G-P Contractor platform expands the accessibility of cross-border payments for gig economy contractors and freelancers, enabling them to work with MSMEs globally without concerns about delayed, inefficient, or insecure payment methods.

The gig economy is a global phenomenon, and the need for efficient cross-border payment solutions is essential.<sup>18</sup> There is the potential to replicate similar innovative approaches in other countries, however an appropriate regulatory framework is also important<sup>19</sup> to enable collaboration between money transfer operators and gig economy platforms in different countries and to extend financial services to MSMEs and gig workers. Replicating this model can enhance the growth and development of the gig economy, empower MSMEs, and

foster financial inclusion for gig workers in multiple markets. Unique issues around worker protection for those operating in the gig economy are also important for policy makers and regulators to consider.

### 4.3 Digital MSME Business Services

Digital business management tools have become increasingly popular among MSMEs due to their ability to streamline operations and improve efficiency. These tools can assist with various business processes, including accounting, payroll, inventory management, customer relationship management, and more. By digitizing these processes, MSMEs can reduce costs, save time, and gain greater control over their operations.<sup>20</sup> This improved efficiency can help MSMEs demonstrate to lenders that they have solid business practices in place, increasing their



©World Bank

ability to obtain financing.<sup>21</sup> Some digital business management tools also offer financial reporting and forecasting features, which can help MSMEs prepare for and demonstrate their financial performance to potential lenders. The availability of such tools is democratizing access to financial management and business intelligence which is improving access to financing opportunities for MSMEs.

E-invoicing is also growing in popularity as it can streamline the invoicing process, reduce errors, and provide greater transparency and accountability. E-invoices also allow for faster payment processing, which can help improve a company's cash flow and reduce the need for external financing. The data generated by e-invoicing can also be used by lenders to assess a company's creditworthiness, making it easier for MSMEs to access financing. With the increasing adoption of e-invoicing, it is expected that MSMEs will have better access to financing and improved financial management capabilities.

US-based American Express subsidiary Kabbage,<sup>22</sup> an online lending platform for small businesses, also provides a suite of digital business management tools designed to help SMEs manage their finances. Kabbage offers cash flow forecasting tools that allow SMEs to forecast their future cash flows, helping them to plan and avoid cash flow shortages. Kabbage also provides online invoicing tools, which enable businesses to create, send, and manage their invoices online, improving the efficiency of their invoicing. The platform's payments processing services allow SMEs to accept payments from customers online, via credit card or Automated Clearing House (ACH) and receive their funds within a few business days.

Kabbage initiated lending in 2011 and has achieved outreach and scale, having provided over \$14 billion in funding to more than 200,000 small businesses. Its

digital platform has enabled it to reach SMEs across industries and geographies, making financing more accessible to a wide range of businesses. By leveraging technology and data analytics, Kabbage has streamlined its underwriting process to provide faster loan approvals, ensuring that SMEs can access the funds they need quickly. Kabbage's approach demonstrates a potential model that players in other markets can replicate.

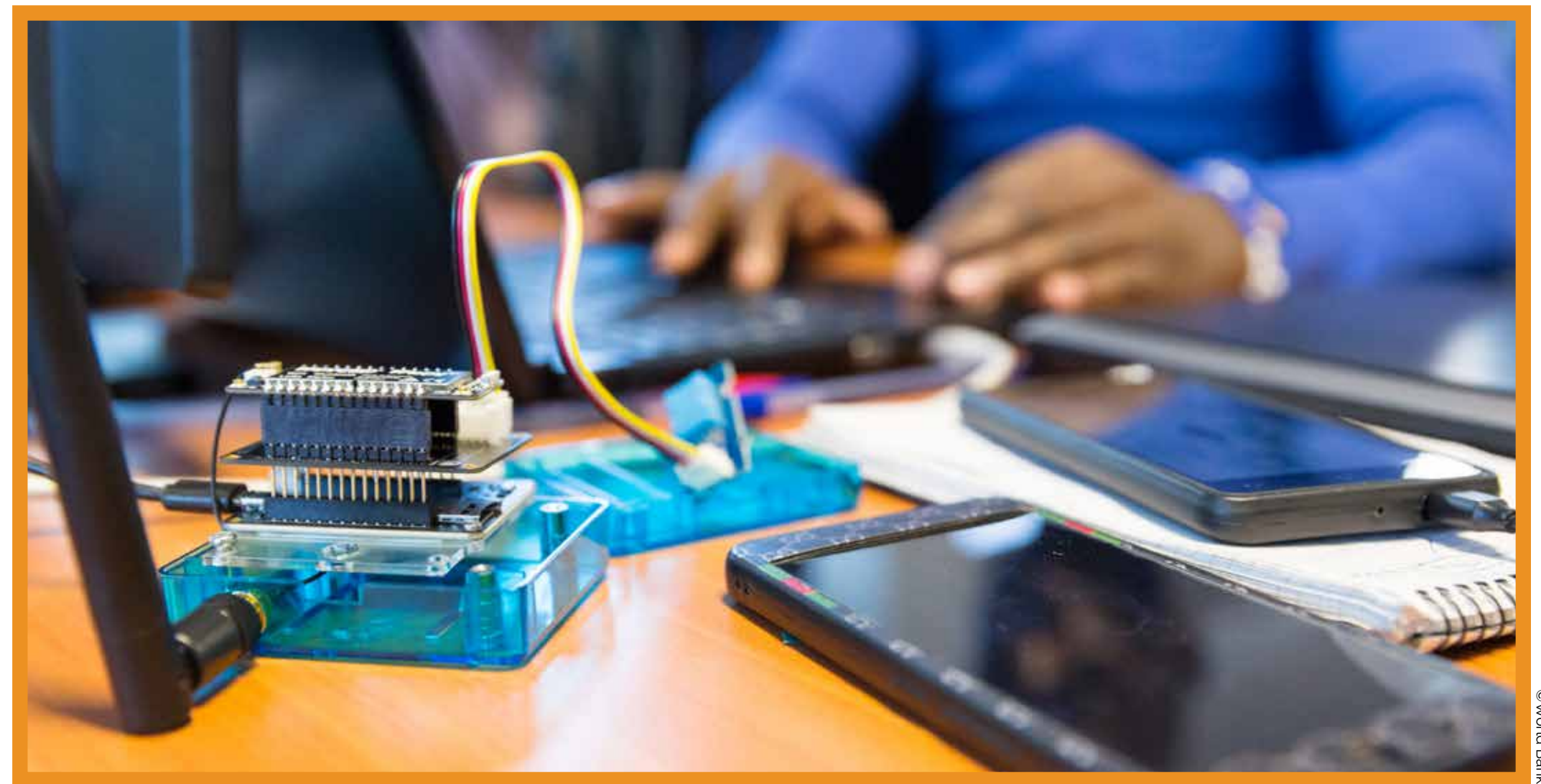
Italy-based Invenium Legaltech is the first European legal tech innovative player focused on export credit, creating an accessible app for MSMEs, to make faster, easier, and accessible international credit management to small exporters. The firm's app provides international risk analysis,

pricing determination and collection timing identification, a credit collection mandate, electronic signatures, and activation of legal services.<sup>23</sup>

MSMEs face difficulties in introducing card payments as they are considered risky by card issuers under traditional card payment screening processes. In addition, MSMEs cannot easily manage their staff making company credit card purchases online, due to concerns about potential unauthorized or fraudulent payments by employees. Cloud-based card services can provide real-time control over card usage, addressing these concerns and offering transparency in spend management. This is where Japanese cloud-based corporate card service paid<sup>24</sup> simplifies the

introduction of card payments for SMEs and streamlines back-office operations. It incorporates prepaid wallets for high-value company card payments that exceed typical personal credit limits. It also offers online card issuance and control, allowing users to distribute cards to employees and departments for transparent spend management.

Since its launch in August 2020, paid has acquired over 3,000 SME users and over 10,000 employee users. Deregulating the payment industry can play a significant role in enabling startups to enter the market. While regulation is important for user protection, finding a balance between risk and societal gain is key for fostering innovative models such as paid.



©World Bank



5

# The Rise of Digitally-Enabled New Financial and Accounting Solutions for MSMEs

Digital technologies, such as digitized business processes, digital credit scoring, digital payments, and digital banking, are transforming financial services and creating new opportunities for MSMEs to access financing. This chapter describes these innovative financial service models, including their impact, benefits and challenges, and how they are improving financial inclusion for MSMEs, empowering them to grow and thrive in today's digital economy.

## 5.1 Digitizing Business Processes

Digitizing business processes involves transforming traditional manual processes into digital ones, such as accounting, inventory management, procurement, invoicing, sales, delivery, tax compliance, payroll, and customer management. It also involves developing customer portals and e-commerce applications to streamline online transactions. Maintaining reliable financial statements can be challenging for MSMEs, making it difficult for potential lenders to assess their creditworthiness. Digitized business information can provide alternate and accurate sources of data for lending purposes. Paper-based records are difficult and time-consuming to sort through, and the relatively low value of loans to MSMEs makes it largely unprofitable for lenders to spend a lot of time verifying financial records.

By digitizing, MSMEs can provide reliable digital records on sales, expenses, cash flow, and inventory – information that can help lenders make informed and timely decisions on loan applications. In addition, payment and collections information from MSMEs' clients can generate important data that can help MSMEs to obtain credit from financial institutions and fintech lenders. Data related to sales volumes, performance, and patterns, and payment

history can provide a full digital overview of an MSME and transparency into its present and expected future cash flow.

Digitized accounting information can also be made available to potential lenders, helping to provide a full overview of an MSME's income and expenses, financial strengths and weaknesses, growth potential, creditworthiness, and business risks, and making credit decisions immediate and more accurate. MSMEs worldwide are not fully harnessing this potential and governments play a critical role in encouraging and facilitating digital accounting by implementing supportive policies, providing incentives, and creating an enabling environment for MSMEs to embrace digital transformation and access the associated financing opportunities.

Siapik,<sup>25</sup> developed by Bank Indonesia and the Indonesian Institute of Accountants (IAI), is a mobile application and web-based tool allows MSMEs to easily record their financial transactions in a standardized report that they can send to financial institutions. Since its launch, Siapik has been adopted by over 200,000 Indonesian MSMEs.<sup>26</sup> By facilitating the direct submission of MSMEs' financial reports to financial institutions, Siapik has also enabled faster and more accurate credit assessments. The success of Siapik's outreach and its ability to streamline financial reporting processes make it a compelling model to replicate in other markets with similar challenges.

E-commerce platforms, accounting system providers, and payment services providers have rich data on business operations and cash flows that can be leveraged to offer finance. For example, US-based Square Capital uses information from its payments processing and connectivity to small merchants to offer working capital loans and collect repayments.<sup>27</sup> Through this innovative approach to MSME financing, Square Capital has extended over \$10 billion in loans to more than 300,000 SMEs. By leveraging

transaction data and connectivity to small businesses, Square Capital offers tailored working capital loans to merchants based on their payment history and business performance. There are other payment providers offering working capital loans either directly or in partnership with other financial institutions, including Fawry in Egypt,<sup>28</sup> which serves over 35 million customers and a growing base of MSMEs; M-Pesa's M-Shwari, which serves over 32.8 million customers including more than 90,000 Kenyans MSMEs; KCB M-Pesa in Kenya; and NCBA M-Pawa which has a client base of more than 7 million in Tanzania.<sup>29</sup> This approach of partnering with financial institutions has provided MSMEs with access to necessary capital and has streamlined the lending process. The scale achieved by Square Capital, Fawry, M-Shwari, KCB M-Pesa and NCBA M-Pawa highlights the potential for replicating this model in other markets where similar payments processing platforms operate.<sup>30</sup>

## 5.2 Digital Credit Scoring/ Credit Risk Assessment

Digital credit scoring or credit risk assessment is the use of data and analytics to evaluate a borrower's creditworthiness. This is typically done by financial institutions such as banks or credit card companies, fintech lenders or by third-party digital credit scoring providers to help financial institutions make informed decisions on whether to grant credit to an individual or business.<sup>31</sup>

Traditionally, credit scoring has relied on standard metrics such as credit history, income, employment status, and debt-to-income ratio. However, with the rise of alternative data sources and digital technologies, financial institutions are now able to consider a wider range of data points, leading to more accurate assessments of creditworthiness.

Alternative data refers to non-traditional data sources that can be used to assess



©World Bank

credit risk, such as utility bill payments, mobile phone usage, online purchasing, sales, social media usage and ranking of MSMEs. By analyzing these data points alongside traditional metrics, financial institutions can gain a more complete picture of a borrower's financial situation and make more informed lending decisions.

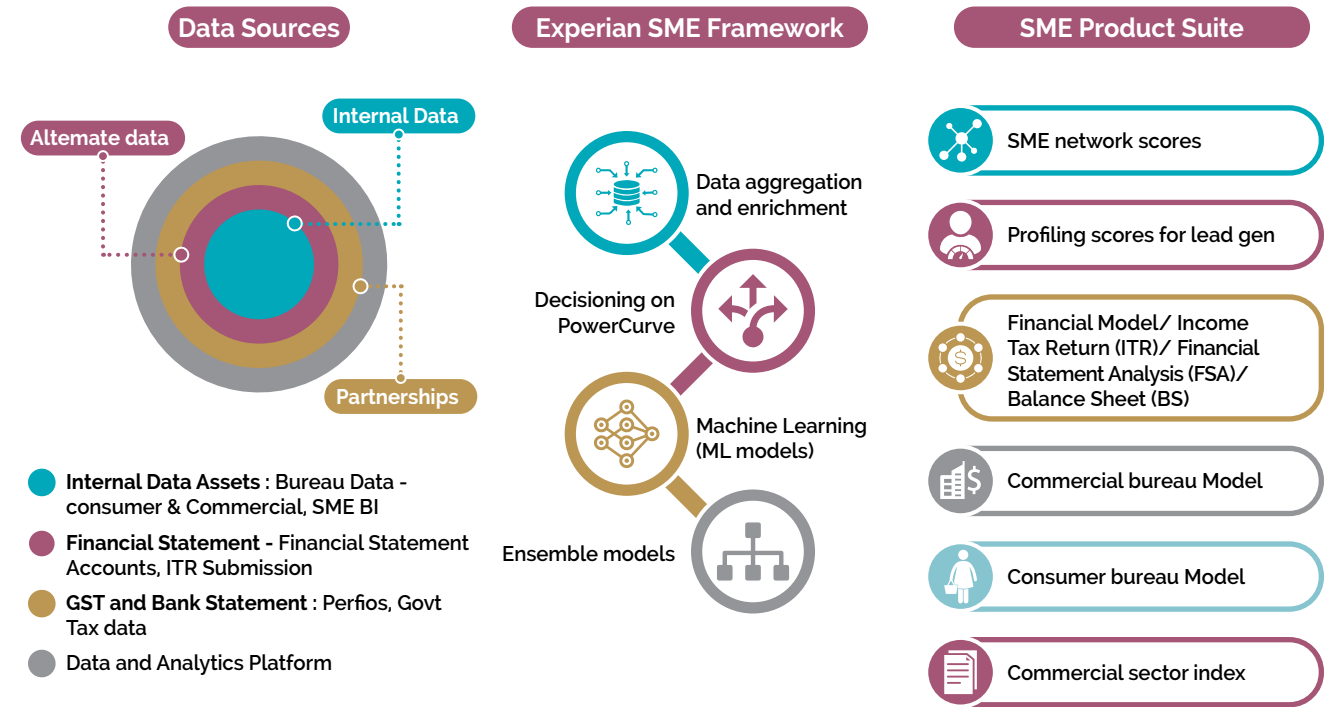
In Europe, Inbonis<sup>32</sup> provides credit scoring services focused on MSMEs. Inbonis has expanded its traditional credit scoring platform to utilize alternative data sources for MSMEs. The agency uses a proprietary algorithm that analyzes a range of non-traditional data sources such as social media activity, online reviews, and other publicly available data to assess the creditworthiness of MSMEs. Inbonis' credit ratings can provide valuable insights and can be used by financial institutions and

other lenders to make more informed lending decisions and offer financing to MSMEs at more favorable terms. Inbonis has assessed the creditworthiness of over 10,000 MSMEs across various industries.

Global traditional credit reporting company, Experian, has also successfully utilized alternative data to improve credit scoring for MSMEs across multiple markets.

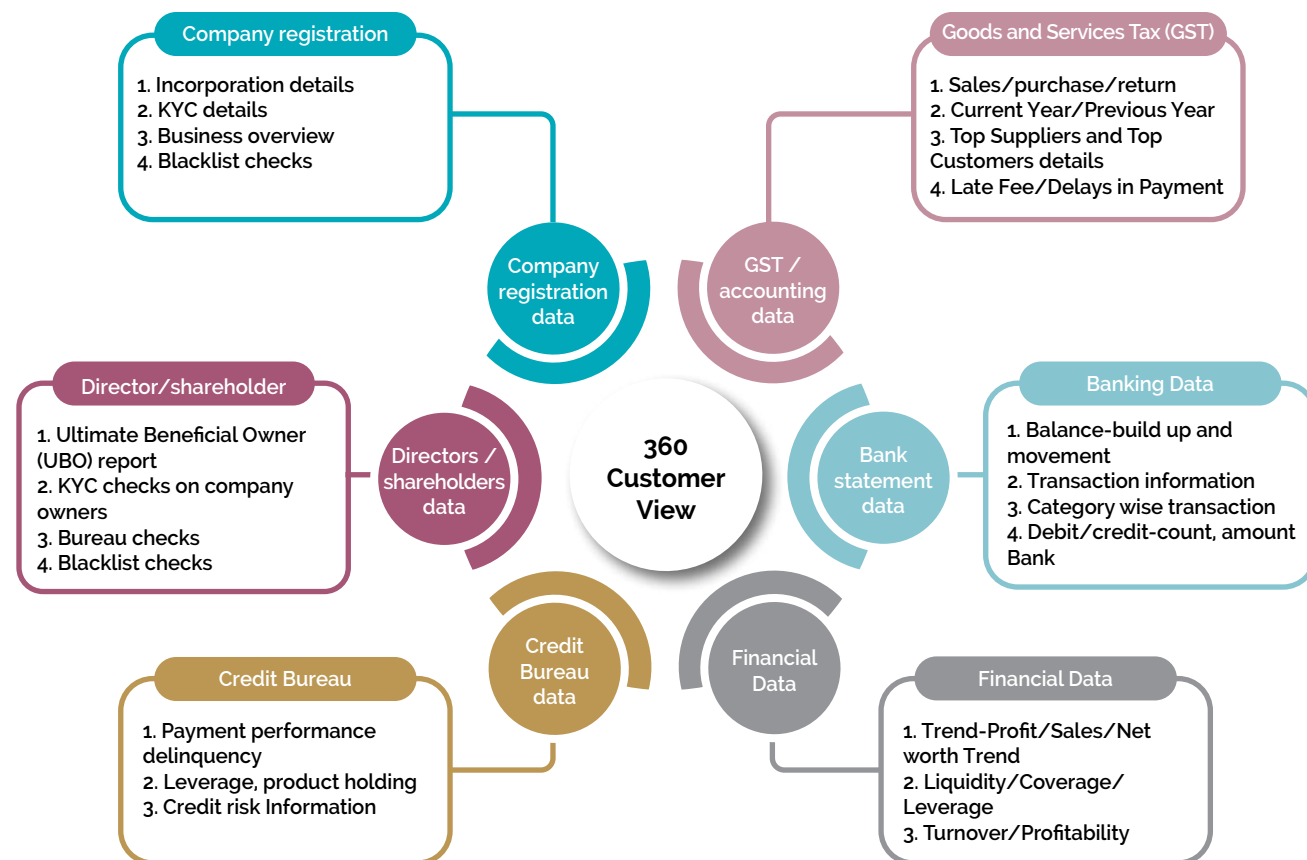
Experian operates in 44 countries and collects and aggregates data on over 1 billion customers including 25 million MSMEs in the US alone.<sup>33</sup> Experian has demonstrated how traditional credit reference providers can effectively utilize alternative data sets to expand information on MSMEs. This alternative data includes transactional data on sales, turnover, deposit balances as well as traditional repayment historical data.

**Figure 5: Experian's method for using alternate data to assess SME creditworthiness**



Source: Experian presentation for SME Finance Forum June 2020

**Figure 4: Experian's alternate data for assessing SME**



Source: Experian presentation for SME Finance Forum, June 2020

Other financial institutions and credit scoring providers can adopt a similar approach to assess the creditworthiness of MSMEs. Expanding both the range of players that can participate in credit reference bureaus, including both lenders and utility bill providers, can also improve credit scoring.<sup>34</sup>

By utilizing alternative data sources and digital credit scoring, Inbonis, and other financial institutions and credit scoring agencies can provide a more comprehensive evaluation of MSMEs' creditworthiness, enabling lenders to make informed decisions and offer financing options tailored to their needs.

### 5.3 Digital Payments

Digital payments are a vital tool for MSMEs, particularly in emerging markets, as they offer a more secure, efficient, and cost-effective way to make and receive payments compared with traditional methods like cash or checks.<sup>35</sup> By adopting digital payments, MSMEs can benefit from

real-time processing, reduced transaction times, lower fraud risk, and lower costs.<sup>36</sup> Digital payments also create a digital trail that enables MSMEs to track financial transactions, manage cash flow effectively, and build a credit history, which is critical to be able to access digital financing.<sup>37</sup>

E-wallets and transactional accounts are key components of digital payments. E-wallets allow individuals and businesses to store funds and make electronic transactions using mobile devices. They provide a convenient and secure way for MSMEs to accept payments from customers and access their funds for business needs. Transactional accounts are bank accounts specifically designed for businesses to manage their day-to-day financial transactions, such as receiving payments, making payments to suppliers, and tracking cash flow.

Digital payments surged during COVID-19 and have continued increasing post-pandemic. Countries in the Asia Pacific

region are expected to experience the most growth, followed by the US and Canada, the UK and the EU. The increasing number of partnerships among payment service providers (PSPs) and the implementation of advanced technologies such as blockchain and AI are also expected to drive market growth in the coming years.<sup>38</sup> Uber, Lyft, Airbnb and Grab are also partnering with digital payment fintechs or, in the case of Grab, developing digital payment services for their gig workers.<sup>39</sup>

Digital payments are often facilitated with Quick Response (QR) codes—scannable codes that contain payment information. MSMEs can generate QR codes for customers to scan, making it easy for them to initiate payments using their smartphones. QR codes simplify the payment process, eliminate the need for physical cash, and provide a seamless experience for both businesses and customers.

Alibaba's Alipay payment platform,<sup>40</sup> is likely the most well-known mobile wallet and payment platform. Outside of China, the United Arab Emirates (UAE), has FABePay<sup>41</sup> which allows users to pay for goods and services using their smartphones and has

a range of features, including the ability to make payments using QR codes, send money to friends and family, and pay bills. Connected to FABePay is Electronic Invoicing and Payments Platform (EOIPP) which is an electronic invoicing and payments platform that allows businesses to create, send, and receive invoices electronically. The platform also enables businesses to track payments and generate real-time financial reports.

FABePay has gained relevance and made an impact in the UAE as a mobile wallet and payment platform for MSME and as a tool for MSME to manage their payment transactions more efficiently. Bakong Cambodia is another mobile payment platform that facilitates payments and mobile financial services for millions of customers.<sup>42</sup> Bakong's peer-to-peer interoperable fund transfer system set up by the National Bank of Cambodia currently offers free transfer services for retail businesses and has helped transform the digital payment market for MSMEs in the country.<sup>43</sup>

Another mobile based system is the Unified Payments Interface (UPI) in India, which has also facilitated financial services for millions

of Indians. While early users of UPI were smartphone users, UPI is now also available for feature phone customers through UPI123PAY.<sup>44</sup>

By enabling MSMEs to accept digital payments through their phones, FABePay, Bakong, and UPI have helped to streamline payment processes, reduce reliance on cash transactions, and improve cash flow management. FABePay's features, such as QR code payments and electronic invoicing, provide MSME with convenient and secure ways to receive payments and track their financial transactions. Additionally, its integration with EOIPP, the electronic invoicing and payments platform, further enhances MSME ability to create, send, and receive invoices electronically, simplifying their billing and payment processes.

Providing MSMEs with user-friendly and accessible digital payment solutions such as AFBepay, Bakong and UPI, can promote financial inclusion, improve operational efficiency, and stimulate economic growth. The key to replicating mobile solutions is to creating an ecosystem that supports digital payments by establishing partnerships with local financial institutions, technology providers, and regulatory bodies to ensure compliance. Adapting the platform to meet the specific needs and preferences of MSMEs in each target market is essential for successful implementation and scalability.

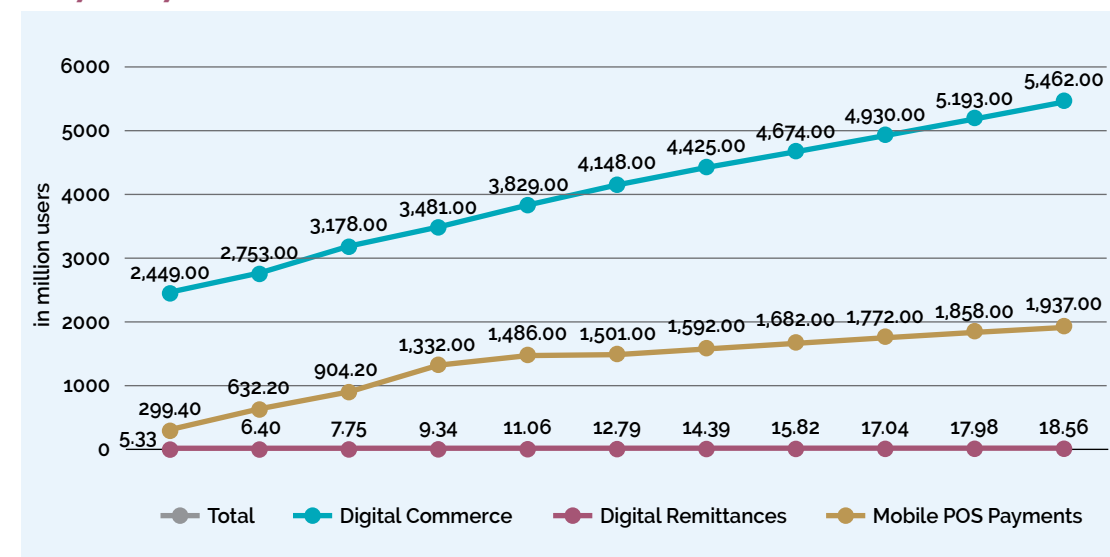
Italy-based PayDo is a B2B Fintech startup that started operating in 2016, and has developed a suite of value-added services to innovate the payments experience. PayDo's Innovations for SMEs are PickUp and Plickopen which allow users to easily request money digitally by sending a link to debtors or payers via WhatsApp, SMS, or email. Using the link, debtors have several payment options, including credit card, bank transfer, or cash at an affiliated store.<sup>45</sup>

As a contactless payment technology, Visa's Tap to Pay solution<sup>46</sup> offers an

alternative way for businesses and customers to complete transactions. The Tap to Pay feature allows customers to make payments by simply tapping their Visa cards or mobile devices at the point of sale, eliminating the need for physical cash or manual card swipes.

In 2021, Visa reported that more than 80 percent of its in-person transactions in Europe were contactless. In the United States, Visa also witnessed a significant increase in the use of contactless payments, with over 400 million Visa contactless cards issued by banks. The impact of contactless payment for SMEs is substantial. By enabling small businesses to accept contactless payments, payment providers can help streamline their payment processes, reduce checkout times, and enhance customer experiences. The ease and speed of contactless payments has helped to improve operational efficiency and customer satisfaction for SMEs, which can further drive business growth.<sup>47</sup>

**Figure 6: Current and projected global growth in digital payment users 2017-2027**



Source: Statista Market Insights, accessed April 2023



## 5.4 Digital Banks

Digital banks<sup>48</sup> are playing an increasingly important role in efficiently onboarding MSMEs and expanding access to credit and financing. They can offer more innovative and customized services, leverage data analytics to assess credit worthiness, and increase the access to a wider range of financing options.<sup>49</sup> Data shows that digital banks have significantly reduced onboarding times for MSMEs, with some achieving a 90 percent reduction in onboarding time compared with traditional banks.<sup>50</sup> Personalized and customized services are better at meeting MSMEs' specific needs, resulting in increased customer satisfaction and loyalty.<sup>51</sup> Data analytics has enabled digital banks to accurately assess creditworthiness and reduce default rates by up to 20 percent.<sup>52</sup> Furthermore, digital banks have facilitated access to alternative financing options for MSMEs, with lending volumes on digital platforms growing by over 40 percent annually.<sup>53</sup>

### Providing faster and more efficient onboarding

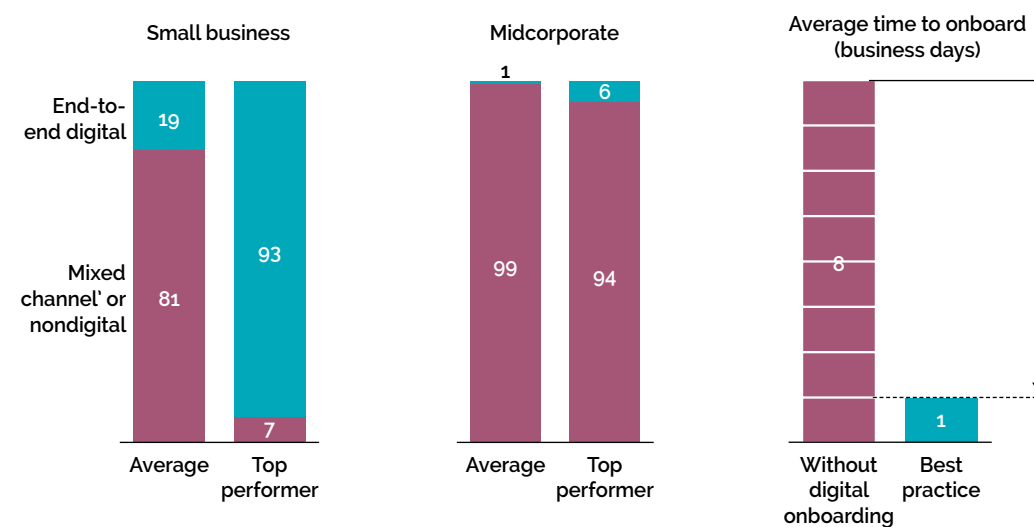
Digital banks use technology to streamline the onboarding process for MSMEs. By using digital platforms, MSMEs can open bank accounts, apply for loans, and access financing more quickly and efficiently. This includes automated digital interfaces to support account opening, helping to educate or offer tools, such as mobile applications, about the banks' products and services, and banking procedures. From a bank's perspective, digital onboarding aids customer satisfaction and retention, cross-selling banking products and services, and as well as compliance with legal and regulatory requirements Figure 7.

Figure 7 illustrates the significant reduction in onboarding time achieved by digital banks compared to traditional banks. It showcases the time saved and improved efficiency for SMEs in the onboarding process.

**Figure 7: Reduction in Onboarding Time by Digital Banks for SME**

**Best-in-class banks onboard a majority of their customers digitally, with faster onboarding journeys.**

Customer onboarding, by segment (in UK), %



Source: McKinsey & Company



© World Bank

### Leveraging data analytics to assess creditworthiness

Like digital credit scoring, digital banks use data analytics to accurately assess the creditworthiness of MSMEs. By analyzing a wide range of data sources, such as transaction history, social media activity, and other third-party data, digital banks can better understand the financial health of MSMEs. This in turn helps digital banks make more informed lending decisions and offer financing options that are tailored to the needs of MSMEs.

### Providing access to a wider range of financing options

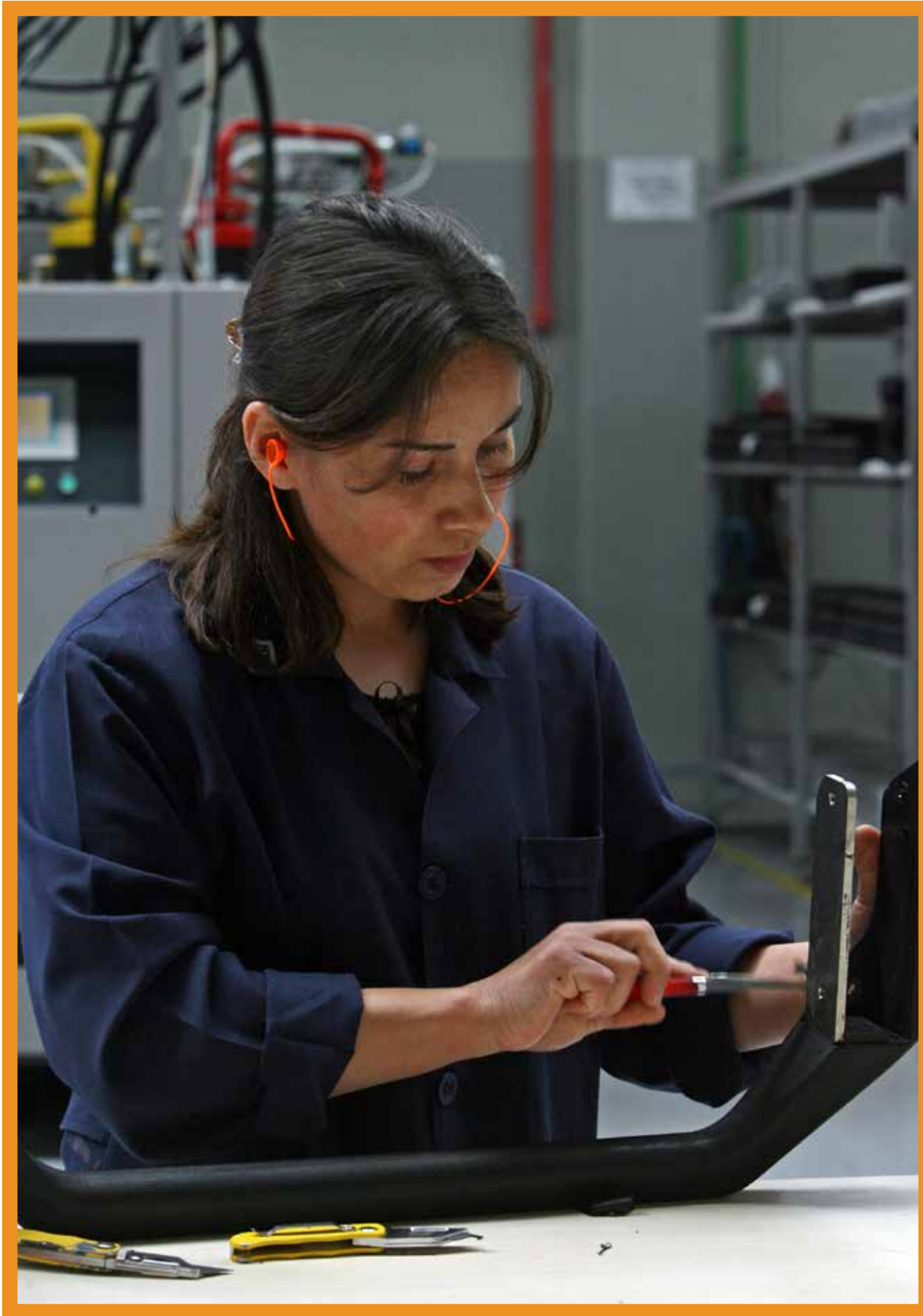
Digital banks are partnering with fintech startups and other financial institutions to offer a wider range of financing options to MSMEs. For example, some digital banks are partnering with peer-to-peer lending platforms to offer MSMEs access to alternative forms of financing, such as crowdfunding or revenue-based financing.

### Offering personalized and customized services

Digital banks can offer personalized and customized banking services to MSMEs based on their specific needs. For example, some digital banks offer tailored financing options, such as invoice financing or supply chain financing, which are designed to meet the unique needs of MSMEs. This helps MSMEs access the financing they need to manage their cash flow and grow their businesses.

Some examples include JUMO in Africa,<sup>54</sup> PagSeguro in Brazil,<sup>55</sup> and Starling Bank in the UK.<sup>56</sup> JUMO is a digital banking platform that provides financial services to underserved communities in Africa. The platform leverages data analytics to assess the creditworthiness of MSMEs and offer them tailored financing options.

JUMO has served millions of MSMEs across Africa, and by leveraging its partnerships with other financial institutions, expands



©World Bank

the range of financing solutions available to MSMEs, including invoice financing and asset financing. JUMO's extensive reach demonstrates the potential of digital banks to address the financial needs of underserved communities, especially in emerging markets.

PagSeguro operates a digital payment platform to MSMEs in Brazil. The platform provides MSMEs with instant account opening, free point-of-sale (POS) terminals, and access to credit facilities. PagSeguro also offers a range of financial management tools to help MSMEs manage their finances effectively, such as invoicing and cash flow management. PagSeguro has onboarded millions of MSMEs, its offerings have contributed to its popularity among MSMEs, as they enable them to accept digital payments and manage their finances more efficiently. PagSeguro understands the needs of its local market and has developed a solution tailored to these needs – an approach other digital banks can adopt when considering similar initiatives.

Starling Bank, a digital-only bank in the UK, has gained recognition for its innovative approach to serving SMEs and individuals. It offers a range of features and services that make it particularly relevant to SMEs. One of Starling Bank's innovations is its focus on providing a more integrated digital banking experience. It offers instant account opening, allowing SMEs to quickly establish a business account without the need for lengthy paperwork or visits to a physical branch. This streamlined onboarding process is especially beneficial for time-constrained SMEs. Starling Bank also offers zero charges on transactions – a significant advantage for SMEs looking to minimize operational costs, and it provides SMEs with access to credit facilities, allowing them to secure financing when needed.

The early developments of digital bank models that provide specific channels and services for MSMEs can serve as a model

for other markets seeking to enhance MSME access to innovative financial services. Developing MSME friendly digital banks in other markets would involve establishing partnerships with local financial institutions, ensuring regulatory compliance, and leveraging technology to provide efficient onboarding, customized services, and access to a wide range of financing options.

## 5.5 Open Banking/Open Finance

Open Banking is a system where banks and other financial institutions allow third-party providers (TPPs) to access customer banking data, with the customer's consent, through the use of application programming interfaces (APIs). This data sharing enables TPPs to develop innovative financial products and services, creating a more competitive and customer-centric financial ecosystem.

Countries treat Open Banking differently across different jurisdictions, with variations in their approaches and regulatory frameworks.

1. The EU and the UK have pioneered Open Banking with the introduction of the Payment Services Directive 2 (PSD2) and the Open Banking Standard in the UK. Under PSD2, banks are required to provide access to customer data to authorized TPPs through APIs, promoting competition and innovation.
2. Some countries, including Japan, Singapore, and South Korea, have adopted a market-driven approach. While they may not have formal or compulsory Open Banking regimes, they have implemented measures to promote data sharing frameworks in banking. For example, Singapore's Monetary Authority (MAS) and The Association of Banks have published an API Playbook<sup>57</sup> to facilitate data exchange between banks and FinTechs.



©World Bank

3. Hong Kong, Türkiye,<sup>58</sup> India and Australia have opted for a regulatory-driven approach. These countries have established frameworks and regulations mandating banks implement Open APIs and provide access to customer data to authorized TPPs. In Hong Kong, the Monetary Authority issued an Open API Framework,<sup>59</sup> while Australia introduced the Consumer Data Right Act (CDR)<sup>60</sup> to enable data sharing across sectors. India has approached Open Banking by enabling Account Aggregators (AA) as intermediaries which are responsible for customers' consent management and provide financial information aggregation services to customers from one or more Financial Information Providers (FIP),<sup>61</sup> based on the explicit consent of the customer to the Financial Information User (FIU). The AA framework was issued by the Reserve Bank of India (RBI) in 2016. The Reserve Bank Information Technology Private Limited (ReBIT), a wholly owned subsidiary of RBI has provided standardized API specification to be used by AA, FIP and FIU.

The concept of reciprocity is another characteristic of Open Banking that varies across countries. Reciprocity refers to the requirement for accredited data recipients (such as TPPs) to provide equivalent data in response to a direction from a consumer. Australia's CDR has introduced reciprocity as a principle, aiming for a more vibrant and dynamic data sharing ecosystem. However, defining equivalent data remains a challenge in other countries.

Data protection regulation plays a crucial role in Open Banking. The EU's General Data Protection Regulation (GDPR) sets a high standard for data protection and privacy. While the GDPR includes the right to data portability, its interpretation, and technical standards for data transfer between organizations still pose challenges. In Australia data protection authorities have been actively involved in the development of Open Banking frameworks.

Open Banking initiatives are gaining traction globally, with countries adopting their own approaches to suit their market dynamics, policy objectives, and regulatory frameworks. The goal in most countries is to create a more competitive and innovative fi-

ancial ecosystem that benefits consumers and encourages the development of new financial products and services.

Open Banking is now going beyond banks to other financial service providers with Open Finance initiatives<sup>62</sup> and these can play an important role in supporting MSMEs and increasing their access to financing. They enable data sharing, promote competition, improve credit assessments, and facilitate cross-border financing. These new services have the potential to significantly advance financial inclusion, however, to achieve that requires MSME owners to meaningfully understand them and how they can be applied to their businesses.

### Enable data sharing

Sharing financial data between banks, financial institutions, and third-party providers has the potential to create a more open and interconnected financial ecosystem, which can help MSMEs access a wider range of financing options.<sup>63</sup> For example, MSMEs can use their financial data to apply for loans from multiple lenders and compare the terms and conditions of different financing options more easily.

### Promote competition

Open Banking and Open Finance promote competition in the financial services industry by enabling new entrants to compete with established players. This can potentially lower the cost to do business and result in more innovative and tailored financing options for MSMEs.

### Improve credit assessments

Open Banking and Open Finance can help to improve credit assessments for MSMEs by providing a more accurate picture of their financial health. By accessing data from multiple sources, lenders can make more informed lending decisions and offer more personalized and tailored financing options to MSMEs.

### Facilitate cross-border financing

Open Banking and Open Finance can potentially help to facilitate cross-border financing for MSMEs by enabling the sharing of financial data across borders. This can help MSMEs access financing from international lenders more easily and efficiently.

Overall, Open Banking and Open Finance play an important role in supporting MSMEs and increasing access to financing. They are also helping to create a more open and interconnected financial ecosystem that can benefit MSMEs and other stakeholders in economies globally.

Open Banking and Open Finance initiatives are being implemented or explored in various countries worldwide. Early countries to explore Open Banking were the UK – Open Banking initiative – and the EU – Payment Services Directive 2 (PSD2) – which enable consumers and businesses to share their banking data with authorized TPPs.

In the UK, the Open Banking initiative has been a pioneering force in promoting data sharing and competition. As a result, fintech startups have emerged, offering innovative financial services to SMEs. The impact of Open Banking is demonstrated by the number of SMEs that have been able to access tailored financing options and benefit from more competitive pricing and improved credit assessments.<sup>64</sup> In the UK alone, more than 75,000 SMEs are already using Open Banking, especially to import transactional histories into their accounting software as well as viewing multiple bank accounts at a time.<sup>65</sup> The adoption of Open Banking APIs has allowed SMEs to connect their financial data with authorized TPPs, leading to better financial outcomes.

Similarly, the EU's Payment Services Directive 2 (PSD2) has played a crucial role in promoting data sharing and fostering competition across EU member states. This directive has facilitated the development

of new financial services and products, that can benefit SMEs through increased access to financing options and improved credit assessments. As in the UK, the PSD2 has resulted in a growing number of fintech companies in the EU, which are providing tailored financial solutions, and driving innovation in SME financing.<sup>66</sup>

Other examples include the Australian government's Consumer Data Rights (CDR) legislation which enables consumers and businesses to share their banking data with authorized third-party providers; the Monetary Authority of Singapore Open Banking API initiative, the Mexican government's Open Banking initiative; the South African Open Banking initiative to enable data sharing and promote innovation;

the Central Bank of the Republic of Türkiye issued API standards and regulations that require payment service providers to connect to the BKM (Interbank Card Center) API Gateway to provide payment initiation services and account information services; the Reserve Bank of India began its approach to Open Banking by introducing a regulatory framework for Account Aggregators (AA) in September 2016;<sup>67</sup> and Canada, New Zealand, Malaysia, Thailand, Brazil, Nigeria and the Philippines are also exploring or implementing Open Banking or Open Finance frameworks to increase competition and provide SMEs with better access to financial services. This global movement towards Open Banking and Open Finance will create a more inclusive and interconnected financial ecosystem

that benefits MSMEs and fosters innovation in the financial services sector.

The impact of Open Banking and Open Finance can be measured by the number of MSMEs and individuals reached with innovative financial services and the adoption of these frameworks by banks and financial institutions. Open Banking Limited (OBL) has reported that 7 million consumers and SMEs in the UK using open banking products.<sup>68</sup> While specific numbers vary across countries, the large-scale adoption of Open Banking and Open Finance have facilitated access to financial services for large numbers of MSMEs globally.<sup>69</sup>

To develop Open Banking and Open Finance frameworks in other markets requires several key factors. Regulatory

support and clear guidelines are crucial to creating an enabling environment for data sharing and competition. Collaboration between regulators, banks, fintech companies, and other stakeholders is vital to drive the adoption of Open Banking frameworks. Additionally, the development of secure and standardized APIs that facilitate data sharing is essential. Building trust among MSMEs and consumers and ensuring data privacy and security are paramount for widespread adoption.

## 5.6 Insurance Technologies (Insurtech)

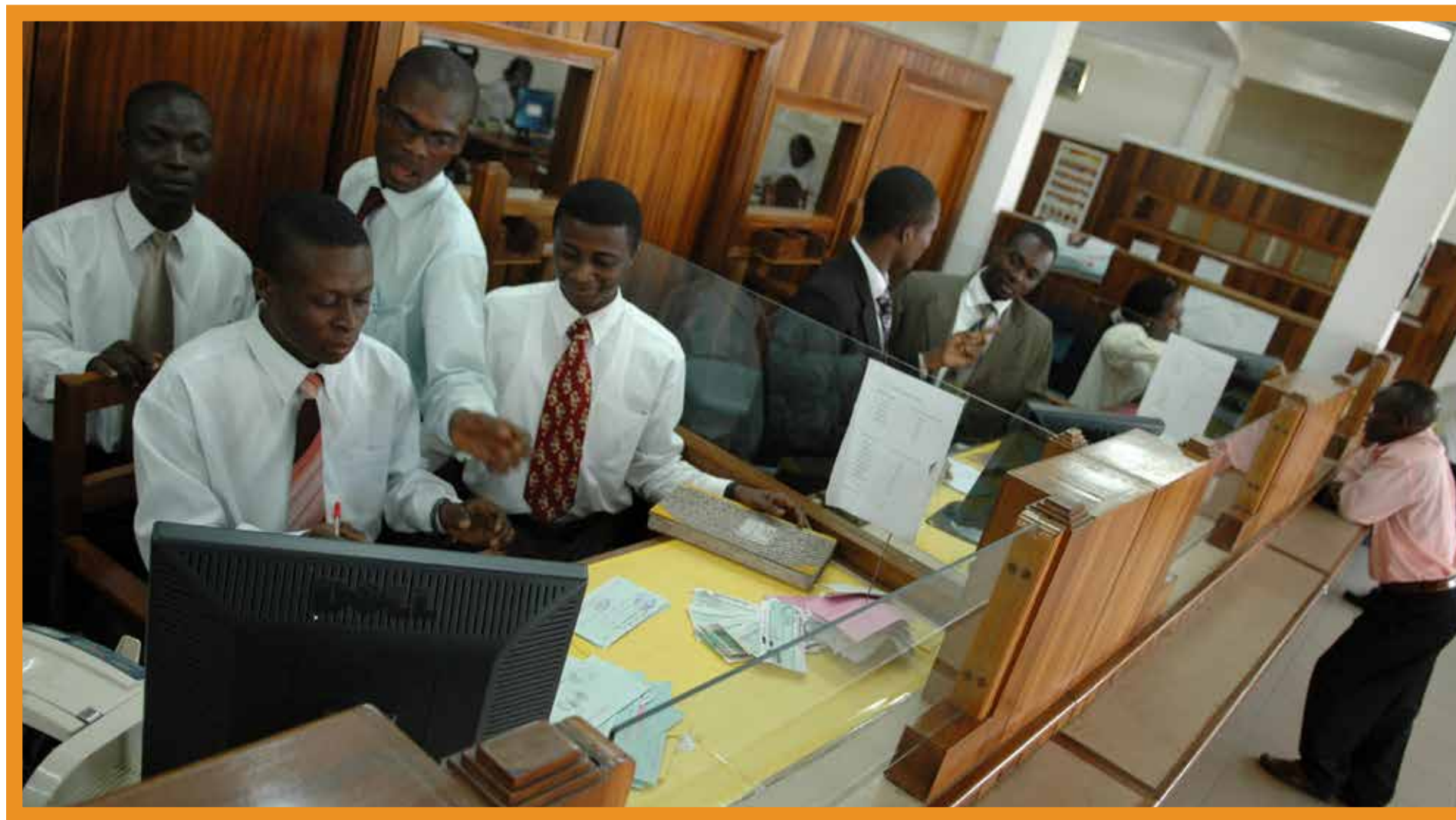
Insurtech, which refers to the use of technology to transform the insurance industry, is playing an increasingly important role in helping MSMEs become more creditworthy. These include providing access to affordable insurance, using data analytics to assess risk, streamlining the processing of insurance, and providing alternative forms of collateral.

### Providing access to affordable insurance

A typical challenge for MSMEs is the cost of insurance and insurtech startups are overcoming this, using technology to create more affordable and customized insurance products for MSMEs.<sup>70</sup> Insurance helps MSMEs protect their assets and manage risk, which can make them more creditworthy.

### Using data analytics to assess risk

Insurtech startups are leveraging data analytics to analyze a wide range of data sources, including mobile data, Internet of Things (IoT) sensors, and other third-party sources, to accurately assess risk.<sup>71</sup> By using this data, insurers can offer personalized and tailored insurance products that better meet the needs of MSMEs, helping to reduce their risk profile.



©World Bank



### Streamlining claims processing

Insurtech startups are using technology to streamline claims process.<sup>72</sup> This means MSMEs can receive payouts more quickly, reducing the financial impact of a loss, and helping them maintain their cash flow and financial stability.

### Providing forms of risk mitigation

Insurtech startups are also targeting business with insurance that protects them against risks. Some financial service providers are taking insurance policies into account when looking at potential risks including climate-related risks, enabling MSMEs to access financing.<sup>73</sup>

MicroBiz Protect Jr in the Philippines and Seguro Para Mujeres in Argentina are two examples of insurtech startups that are helping MSMEs become more creditworthy. MicroBiz Protect Jr offers affordable insurance products to MSMEs covering risks such as fire, theft, and natural

calamities. The company also provides risk management services to help businesses identify potential hazards and minimize their exposure to risk.

MicroBiz Protect Jr provides valuable lessons in the development and distribution of insurance products for MSMEs. They contribute to understanding the relevance and impact of MicroBiz Protect Jr, as well as its potential for replication in other markets.

One key lesson is the importance of partnerships with governments and local stakeholders. By collaborating with Local Government Units (LGUs) that offer training or other financial services, such as start-up capital for low-income entrepreneurs, MicroBiz Protect Jr has been able to reach a wider audience and attract more MSME customers. This partnership approach demonstrates the significance of engaging local stakeholders and leveraging existing support systems to promote the adoption of insurance among MSMEs.

Financial literacy also played a crucial role in MicroBiz Protect Jr's success. MSMEs found insurance against climate and disaster risk more relevant when it was presented alongside other related activities, such as capacity development, disaster mitigation and access to loans. This integrated approach highlights the importance of providing comprehensive knowledge and training to MSMEs to enhance their understanding of insurance and its benefits. By aligning financial literacy efforts with other initiatives, MicroBiz Protect Jr addressed the needs of MSMEs and increased their willingness to participate in the insurance program.

The example of MicroBiz Protect Jr also reveals the need for insurers in the Philippines to receive greater incentives to enter the climate and disaster risk insurance market. Disasters and climate-related risks have a significant impact on insurers' portfolios, making it crucial to incentivize

their provision of insurance coverage to contribute to the resilience of MSMEs.

Market studies and careful consideration of coverage, features, price, and ease of enrollment are essential when designing Climate and Disaster Risk Insurance (CDRI) products for MSMEs. Balancing these factors ensures that CDRI products are attractive to MSMEs and meet their specific needs. MicroBiz Protect Jr's emphasis on market research and product design highlights the importance of customization and affordability in promoting the adoption of insurance among MSMEs.

To replicate the success of MicroBiz Protect Jr, insurtechs in other markets should collaborate with local stakeholders, integrate of financial literacy efforts, incentivize insurers, conduct market studies for product design, establish distribution channels as touchpoints, and foster strong public-private partnerships. By incorporating these lessons, other markets can enhance the relevance, outreach, and impact of insurance products for MSMEs, ultimately contributing to their financial resilience and growth.

Seguro Para Mujeres caters specifically to women entrepreneurs in Argentina. The company offers insurance products that address the unique needs of women-led businesses, including coverage for business interruption, theft, and liability. By leveraging data analytics, Seguro Para Mujeres assesses risk accurately and provides customized insurance solutions. This approach enables women entrepreneurs to protect their businesses effectively, reduce their risk profiles, and enhance their creditworthiness. With affordable insurance coverage and a focus on risk mitigation, Seguro Para Mujeres empowers women entrepreneurs to access financing and grow their businesses.

Both of these insurtech startups provide an example of how technology can transform the insurance industry and make insurance more accessible to MSMEs. By providing affordable insurance, using data analytics to assess risk, streamlining claims processing, and providing forms of risk mitigation, they are helping MSMEs manage risk, protect their assets, and become more creditworthy.





# 6

## Digital Innovation and Alternative Financing Products and Services

Innovative non-traditional financing methods play a crucial role in supporting MSMEs by providing them with access to much-needed financing. These financing methods leverage technology, data analytics, and alternative collateral to overcome traditional barriers and increase creditworthiness. This chapter explores various financing approaches, including factoring, reverse factoring, secured revolving lines of credit, merchant-receivables financing, peer-to-peer lending, equity crowdfunding, embedded finance, blockchain finance via tokenized assets, and public approaches to support MSME finance. By examining these methods and their implications, policy makers and regulators can gain insights into the evolving landscape of MSME financing worldwide.

## 6.1 Factoring

Factoring allows a financial institution to provide funding to an MSME supplier by purchasing its accounts receivable or invoices. The MSME supplier is the client of the financial institution in factoring transactions. In developing countries, factoring is typically limited to high-dollar accounts receivable from creditworthy buyers, creating a low-volume, high-value business model. However, with automated processing, verification, monitoring, and collection of receivables, fintech providers can introduce low-value, high-volume business models for factoring.<sup>74</sup>

New fintech models can increase MSMEs' access to finance by making it efficient to factor low-value invoices, which would otherwise be excluded as collateral in traditional credit. Traditional factoring allows an MSME to directly finance its receivables without a buyer's confirmation of the payment obligation or willingness to participate in a supply-chain financing scheme. Effective collateral and credit-risk measurement and monitoring are essential for the success of factoring and reverse factoring for MSME financing.

New advances in financial technologies can automate the credit process for underwriting, collections, and determining credit-risk, allowing for an automated risk-management model, including fraud detection and prevention. Factoring platforms also monitor collections and deposits in real-time, verifying that invoices or accounts receivable are paid at maturity and that deposits are made pursuant to payment notification and instructions given to the payer.

Japanese FinTech, OLTA provides low-value, high volume online factoring services to SMEs and is favored by many SMEs and freelancers for its short-term, small-lot, online factoring that can be used regardless of company size or balance sheet credit. In addition to factoring services, OLTA also works on the social implementation of factoring through partnerships with local banks. Seventeen regional banks have entered the cloud-based factoring business through a partnership with OLTA and are helping SMEs by providing working capital in Japan. In a financial system that is traditionally loan-oriented, these Japanese regional banks are supporting SMEs by adding factoring to their product offerings and are growing the local alternative financing market.

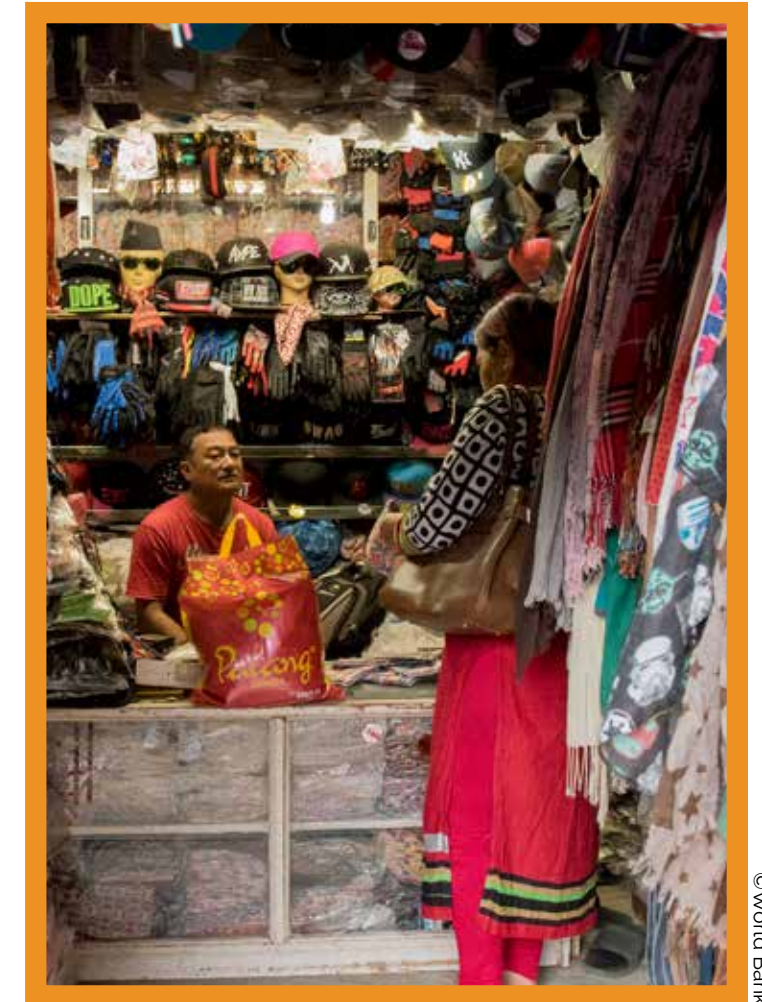
OLTA's online factoring services highlight the importance of legal and economic certainty in the factoring process. A robust secured transactions system and collateral registry are crucial for ensuring that accounts receivable financed by financial institutions have not been previously pledged or discounted elsewhere. OLTA's factoring platform uses a secured transactions system and real-time interoperability with collateral registries to determine the eligibility of invoices and accounts receivable for financing. By automating the registration of factoring transactions in collateral registries, OLTA's fintech system ensures transparency, legal priority, and notice to subsequent parties.

Another innovative example of facilitating factoring is the Receivables Recording Center (RRC) in Türkiye, a system that records assigned receivables being used in MSME factoring and credit transactions to prevent the same receivable from being used in more than one financing transaction. The system was initiated in 2015 and has been utilized by more than 820,000 buyers and 350,000 sellers. The RRC has also had a positive impact on the use of e-documents such as e-invoices and e-archives. The use of e-invoices has increased from 23 percent to 95 percent within seven years.<sup>75</sup>

Other markets with a secured transactions framework can adopt similar approaches to OLTA and RCC. To be successful, they will need to collaborate with banks and leverage existing financial infrastructure, such as collateral registries, which can help facilitate the implementation and scalability of factoring platforms. By adopting similar technological solutions and promoting legal certainty, other markets can offer more efficient and accessible factoring services for MSMEs.

A factoring platform must provide legal and economic certainty that the accounts receivable financed by one financial institution have not been previously taken in pledge or discounted by another. A secured transactions system registers all encumbrances over accounts receivable in a collateral registry. First-in-time registration provides legal priority for a financial institution to register its interest ahead of others and provide notice to subsequent parties that the assets have been encumbered. Factoring platforms establish real-time interoperability with collateral registries to determine the eligibility for financing of invoices and accounts receivables, and fintech systems can facilitate real-time registration of factoring transactions in a collateral.<sup>76</sup>

Factoring presents several risks and challenges to MSMEs, including the



©World Bank

potential for reduced profit margins through discounting, the risk of non-payment by debtors, and dependency on a reliable pool of debtors. Furthermore, MSMEs may have difficulty negotiating favorable factoring terms and addressing the reputational risk associated with involving third parties in their financial transactions.<sup>77</sup>

## 6.2 Reverse Factoring

Reverse factoring is a financing solution where a financial institution can provide immediate liquidity to MSMEs by discounting its accounts payable with a large buyer. In this type of transaction, the buyer is the client of the financial institution, not the MSME. Reverse factoring helps to increase MSMEs' access to finance by providing a way to quickly turn their accounts payable into cash.<sup>78</sup>

To participate the MSME's buyer must actively and willingly take part in a reverse factoring or supply-chain financing program. Buyers can be hesitant to participate in such programs because they must carry the financing on their ledger, even though it is their supplier who receives the financing. However, digitization and fintech solutions have made it easier to incentivize buyer participation in reverse factoring programs. For example, fintech reverse factoring platforms often improve payment conditions and extend payment terms for buyers without causing supply chain disruptions. Globally, the reverse factoring market was \$536.4 billion in 2022 and is expected to grow at a compound annual growth rate (CAGR) of 11.4 percent from 2023 to 2030.<sup>79</sup>

Two successful examples of reverse factoring are the Nacional Financiera (NAFIN)<sup>80</sup> reverse factoring program in Mexico and the Trade Receivables Discounting System (TReDS)<sup>81</sup> in India. These programs have demonstrated significant scale and outreach, benefitting

many MSME suppliers and fostering strong supply chain relationships.

In Mexico NAFIN's development bank system operates an online reverse factoring platform through partnerships with large corporate buyers to support MSMEs. By discounting the accounts payable of corporate buyers, NAFIN provides immediate liquidity to its MSME suppliers. This program has enabled MSMEs to access financing at more favorable rates and terms, leveraging the creditworthiness of the large buyers. The scale and impact of NAFIN's program can be seen in the significant number of MSME suppliers it has supported, strengthening their cash flow, and enabling business growth.

In India, the Trade Receivables Discounting System (TReDS) is a platform that connects MSME suppliers, corporate and other buyers, including Government Departments and public sector enterprises and financiers. MSME suppliers upload their invoices on the platform, and buyers verify and accept those invoices. As of February 2023, there were 3,559 cumulative buyers utilizing

the platform for their numerous MSME suppliers. Once uploaded and verified, financiers, including banks and non-banking financial companies, bid on the invoices and provide immediate financing to the MSME suppliers. TReDS has revolutionized supply chain finance in India by improving transparency, efficiency, and liquidity. The platform has reached a wide network of MSME suppliers, enabling them to access quick and affordable working capital by leveraging their invoices as collateral.

Collaboration between financial institutions, large buyers, and technology platforms are crucial for implementing effective reverse factoring solutions such as those in India and Mexico. By using digital platforms and ensuring buyer participation through improved payment conditions and extended terms, reverse factoring programs can be replicated in other markets. The key lessons learned from these examples include the importance of building strong partnerships, using technology to streamline processes, improving cash flow for MSMEs, and fostering an ecosystem that benefits all stakeholders.

Reverse factoring also serves as the linchpin for other supply chain financing components, such as purchase order and distributor financing. These additional functionalities are staples of fintech reverse factoring platforms, including those provided by Demica, and eFactor Network.<sup>82</sup>

Demica<sup>83</sup> offers a comprehensive supply chain finance platform that integrates reverse factoring as a core component. Through its platform, MSME suppliers can upload their invoices and receive early payment options, while corporate buyers benefit from extended payment terms. eFactor Network<sup>84</sup> is another notable fintech player that focuses on providing reverse factoring services to MSMEs. Its platform connects suppliers with a network of financial institutions and investors, allowing for timely financing of invoices

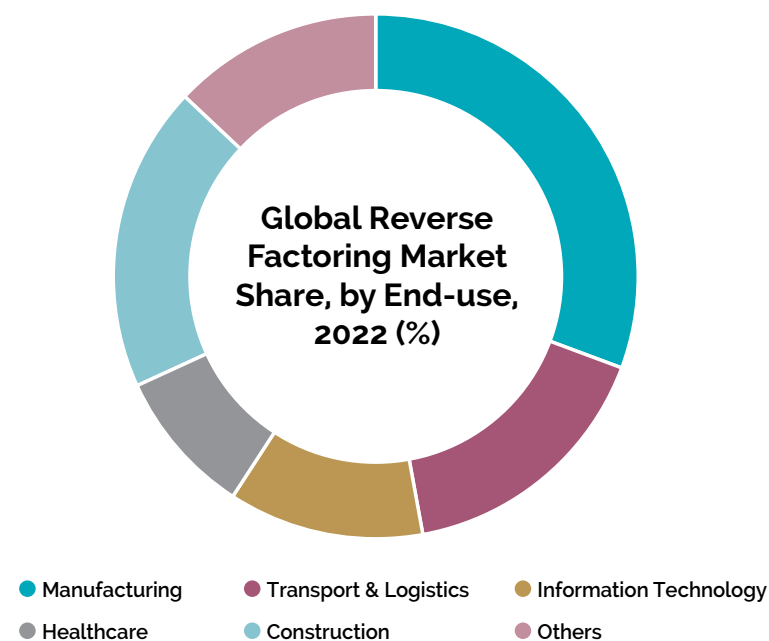
and improved cash flow. These fintechs employ advanced technologies, such as automation, data analytics, and real-time monitoring, to streamline the reverse factoring process, enhance risk assessment, and ensure prompt payment to MSME suppliers. Their innovative solutions provide faster access to working capital, improve cash flow management, and demonstrate a successful model for other markets to replicate.

Reverse factoring comes with challenges. In addition to convincing buyers to participate in reverse factoring programs, the digitization and fintech solutions needed to incentivize buyer participation may require substantial investments in technology infrastructure. MSMEs also face the risk of becoming overly reliant on reverse factoring as a financing solution, potentially limiting their access to other forms of financing.

### 6.3 Secured Revolving Lines of Credit

Asset-based lending (ABL) is a financing product designed to provide working capital to mature or sophisticated MSMEs. This type of lending uses account receivables and inventory as collateral. MSMEs require credit to finance their entire production or business cycle, but without collateral, pre-sale activities including inventory acquisition, manufacturing, harvesting, and delivery of services are more challenging to finance. Post-sale activities, such as sale of inventory and collection of receivables, are easier to finance with traditional or reverse factoring products. Pre-sale financing is rare in developing economies, which leaves MSMEs needing to finance their large buyers during the most capital-intensive phase of their commercial activities. However, the reduced value assigned to pre-sale collateral due to risks associated with conversion, sale, and payment creates an imbalance between pre- and post-sale

**Figure 8: Global reverse factoring by industry - 2022**



Source: Grandview research, Reverse Factoring Global Report 2023

financing. Lenders face additional risks in pre-sale financing, including conversion and sale risks.

Digitized secured lines of credit, enabled by credit infrastructure and fintech solutions, can greatly reduce pre-sale risks and make financing available for the entire MSME business cycle. Lenders take a security interest in the original collateral, which automatically extends to the proceeds of the transformation of that collateral in the MSMEs' course of business. Fintech systems simplify the process for revolving lines of credit by ensuring that borrowing requests made by an MSME are supported by existing collateral at the time of disbursement.<sup>85</sup>

Distributed Ledger Technology (DLT) can be used to verify the existence of receivables and to monitor prompt payment and deposit into a secured account. In economies with electronic invoicing, this process can also take place by direct interoperability with the tax authority via an API connected to the lender's core banking system. For

sophisticated MSMEs, the API can also be used to connect to the borrower's accounting software, providing a complete data profile of the MSME and its collateral to facilitate lending.<sup>86</sup>

Banco do Brasil in Brazil has made strides in providing innovative asset-based lending solutions to SMEs. Its Conta Garantida (Secured Account) product offers a revolving line of credit secured by collateral such as accounts receivable, inventory, or property. This enables SMEs to access working capital and manage their cash flow effectively, supporting their pre-sale activities.<sup>87</sup>

Stanbic Bank in Nigeria has established itself as a leading provider of secured revolving lines of credit through its Business Revolving Credit facility. This offering allows SMEs to access working capital by leveraging their accounts receivable and inventory as collateral. By providing financing for both pre-sale and post-sale activities, Stanbic Bank empowers SMEs to finance their entire business cycle.<sup>88</sup>

CIMB Bank in Malaysia offers the BizFlexi Financing product, which provides MSMEs a secured revolving line of credit. MSMEs can utilize their accounts receivable, inventory, or property as collateral to access financing throughout their business cycle. The flexibility in borrowing and repayment provided by CIMB Bank enhances the financial agility of MSMEs, enabling them to effectively manage their operations.<sup>89</sup>

Similarly, Kasikornbank in Thailand offers Biz Cash which is a secured revolving line of credit to SMEs which can leverage collateral such as accounts receivable, inventory, or property to access working capital. This financing solution caters to both pre-sale and post-sale activities, providing SMEs with the necessary funds to operate and grow their businesses.<sup>90</sup>

These secured line of credit examples showcase the innovative nature of asset-based lending solutions and their relevance for MSMEs. They demonstrate the importance of providing collateral-based financing especially for larger and more established MSMEs, flexibility in borrowing and repayment terms, and how leveraging technology can simplify processes and enhance risk management.

There are challenges to secured, revolving lines of credit particularly in assessing the value and volatility of collateral, as well as monitoring changes in collateral value over time. Financial institutions must establish robust risk management systems to mitigate potential losses due to collateral depreciation or default. MSMEs also face the risk of overleveraging and the need to balance credit usage with repayment capabilities.

## 6.4 Merchant-Receivables Financing

Merchant receivables financing, also known as merchant cash advances (MCAs), is short-term financing that uses small and

medium-sized retailers' acceptance of payment card transactions as collateral. This allows MSMEs to finance their operations and growth with previously unavailable collateral. Payments of credit, debit card or e-money (including mobile money) receivables are deposited into a controlled account which is provided as collateral, and the amortized portion of the loan is paid directly from this account via a daily percentage of credit card deposits. Fintech systems measure the historical performance of an MSME's payment receivables and monitor daily collections. They also provide alert mechanisms in case of discrepancies between expected and actual electronic sales, allowing a lender to adjust advances, fees, and retention of funds based on an MSME's actual cash flow.<sup>91</sup>

Digital technologies are crucial in creating reliable and effective data for merchant receivables financing. For lenders that provide POS devices to MSMEs, information collection can be automated throughout the loan cycle: from measuring the historical performance of the POS device to the daily monitoring of POS collections and deposits in a lockbox account. A similar approach is also used by e-money (including mobile money) operators in countries where e-money payments are common.

Merchant advances have two distinct advantages that reduce the risks and costs of lending to MSMEs. First, lenders have access to continuous and real-time information on the business activities and income of the MSME via the POS or other electronic/mobile payment system, allowing it to adjust advances and collections in real-time, depending on sales performance. Second, lenders take the receivables from credit and debit cards or e-money transactions as collateral, as well as the cash proceeds deposited into the controlled account. The lender also establishes a contractual direct right of collection of the outstanding amount



or amortized portion of the loan from that account. The technological platform developed for the merchant advance product allows for adjustments in advances and collections to be made automatically based on real-time credit-risk assessment, collection amounts, and the performance of payment card receivables.

Payment card receivable financing has traditionally been more prevalent in major financial centers. However its popularity is growing in emerging economies with reformed secured transactions systems, for example, Colombia, Guatemala, and Mexico have taken steps to introduce payment card receivables financing as a financing option for MSMEs.

Banco Davivienda<sup>92</sup> and Banco Caja Social in Colombia<sup>93</sup> have leveraged reforms in secured transactions, to develop innovative approaches to providing technology-enabled secured merchant cash advances to support MSMEs in the retail and service sectors. These advances were initially designed to assist MSMEs during COVID-19 and are still popular post-pandemic.

In Kenya, Tanzania, Ghana, and Cambodia, e-money providers have partnered with financial institutions or have obtained their own bank licenses to offer MCAs to MSMEs accepting e-money payments. This approach leverages the growing popularity and accessibility of mobile money services. For example, Wing in Cambodia has obtained its own bank license to provide MCAs to SMEs. By utilizing e-money platforms, SMEs can receive financing based on their electronic payment transactions, providing them with a valuable source of working capital. The potential outreach of these platforms to SMEs is significant, as they can tap into the large and growing number of businesses accepting e-money payments. These e-money providers have been successful as they have collaborated with financial institutions, and have used existing electronic payment infrastructure

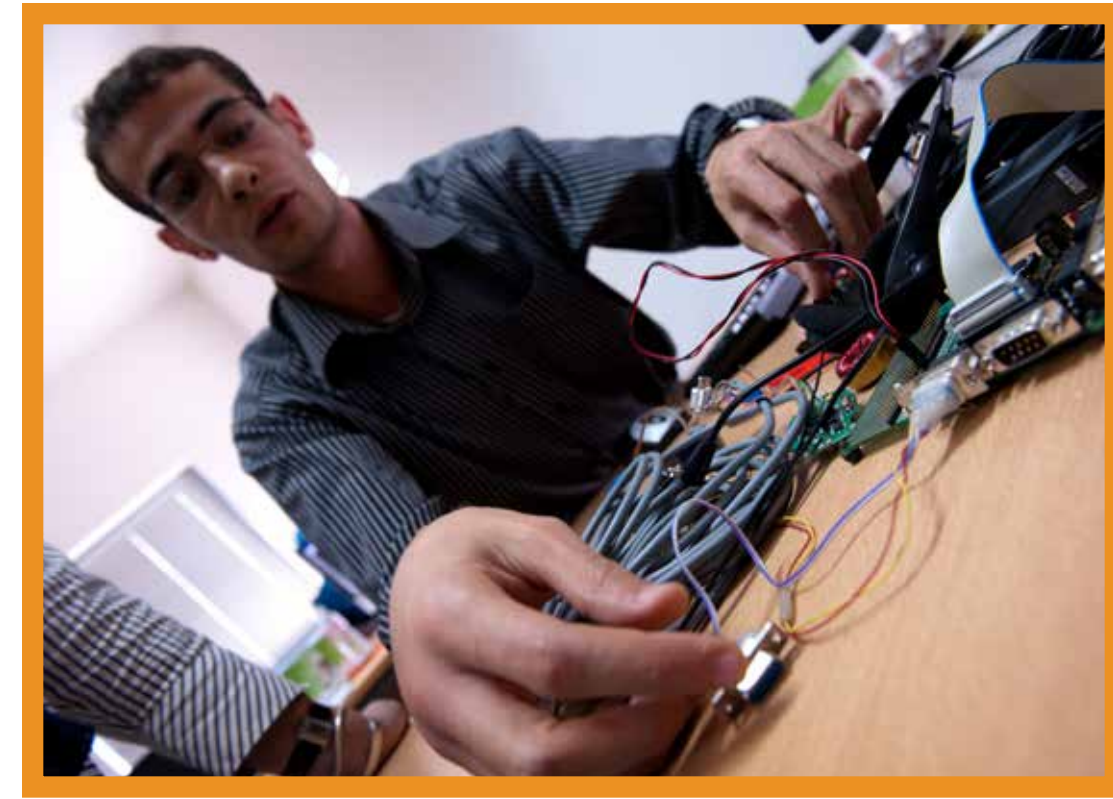
for efficient and accessible financing. This approach can be replicated in other markets wherever e-money services are used.

These examples demonstrate the innovative nature of merchant cash advances and payment card receivables financing, as well as their relevance for MSMEs. The scale and outreach achieved by Banco Davivienda, Banco Caja Social, Wing, and other e-money providers highlight the effectiveness of these financing solutions in reaching MSMEs. The lessons learned from their experiences emphasize the importance of technology-enabled platforms, real-time monitoring, and adjustments based on business performance. Other markets can learn from these companies by implementing secured transaction reforms, fostering partnerships between financial institutions and payment providers, and leveraging digital infrastructure to support merchant cash advances.

Merchant-receivables financing risks include reliance on card, mobile, or e-money transactions, which may fluctuate and impact cash flow, and the potential for high interest rates or fees associated with cash advances. Additionally, MSMEs must carefully consider the impact of daily repayments on their working capital needs.

## 6.5 Peer-to-Peer (P2P) and Marketplace Lending

P2P and marketplace lending are online platforms that match borrowers and lenders. P2P platforms typically target individual investors and marketplace lending platforms target institutional investors. Both types of platform use alternative data sources, including mobile phone data, social media rankings, payments data, and psychometric testing to evaluate the creditworthiness of MSME borrowers. P2P platforms have also started to integrate AI and ML to speed up the decision-making process and enhance the



©World Bank

credit-risk assessment and underwriting process.<sup>94</sup> This provides lenders with access to large, complex datasets about borrowers or the ability to use the platform to assess borrowers by purchasing different asset classes.

Unlike traditional banks which rely solely on credit scores, P2P and marketplace platforms use a range of data points, including education, academic transcripts, labor profiles, bill-payment histories, tax returns, historical bank statements, and employment history, to make underwriting decisions. By linking their accounting software or business bank account directly to the platform, MSMEs can also increase the accessibility of data, and the efficiency of risk assessments and loan application processes.

Automating lending processes leads to more efficient operations for a P2P lending platform by lowering operating costs, and providing a better service for both the investors or lenders and borrowers. This type of finance is particularly appealing

to MSMEs due to its flexibility, speed, convenience of access, and more accurate underwriting, which reduces adverse selection. While P2P lending for MSMEs has been concentrated in China, the UK, and the US, they have been gaining traction in emerging markets especially in Southeast Asia and Eastern Europe. Companies such as Investree, KoinWorks, Amarth, Modalku and Mintos offer digital financial products and expand investment opportunities beyond Europe.<sup>95</sup>

Investree<sup>96</sup> and KoinWorks<sup>97</sup> are two P2P lending platforms operating in Indonesia that have introduced technology-driven solutions to facilitate lending between investors and MSMEs, offering a streamlined loan application process and quick access to funds. Their scale and outreach are significant, and the platforms have contributed to expanding MSME financial inclusion, growth and development in Indonesia. The models employed by Investree and KoinWorks showcase the power of leveraging technology and



alternative data sources for efficient credit assessment and underwriting, and faster and more accurate loan decisions. They also highlight the importance of technological integration, streamlined processes, and investor-MSME matching.

Amartha<sup>98</sup> is another notable P2P lending platform in Indonesia that focuses on providing financing to women-owned MSMEs. This platform uses social and economic data to assess creditworthiness and has made a significant impact on empowering women entrepreneurs. Amartha's unique approach to supporting women-led businesses demonstrates the relevance and effectiveness of targeted lending solutions. The platform's scale and outreach are reflected by the number of women-owned businesses that have accessed financing to expand their operations and it demonstrates the potential of specialized lending platforms that cater to specific segments or demographics to foster inclusivity and economic empowerment.<sup>99</sup>

Modalku,<sup>100</sup> operating in Indonesia, Malaysia, and Singapore, is a P2P lending platform that provides financing options to MSMEs. The platform leverages technology to simplify the lending process and connect borrowers with individual and institutional investors. Modalku's approach highlights the importance of building a robust ecosystem that brings together diverse sources of funding to support MSMEs. Modalku is the largest MSME-focused P2P lending platform in Southeast Asia providing more than \$3 billion in loans to more than 100,000 MSMEs.<sup>101</sup> The success of Modalku's model rests on a policy and regulatory environment that supports P2P lending and that creates an inclusive and collaborative environment to connect MSMEs with a wide range of investors.

Mintos<sup>102</sup> is a marketplace lending platform based in Latvia, offering a marketplace for investors to diversify their portfolios and SMEs to access funding from a wide range of lenders, even those from other countries. Mintos demonstrates the potential of

marketplace lending by connecting SMEs with a global network of investors.

Change Capital in Italy offers solutions to help professionals and businesses maximize their potential by leveraging the digital ecosystem of integrated financial services. Through its platform, the company provides corporate finance services for the credit access, invoice trading, reverse factoring, facilitated finance, and digital services, providing clients with real-time solutions for alternative finance, subsidized finance, and insurance. Change Capital developed a proprietary algorithm that enables SMEs to use only their VAT number to investigate the amount of liquidity they can obtain from over 100 financial solutions offered by partners on the Change Capital platform. In addition, the platform CC Suite uses AI to predict the liquidity SMEs might need to keep up with competitors, and it can use an SME's balance sheet to calculate whether a company is eligible for a financial product, also providing probability that it could receive finance.<sup>103</sup> Another Italian marketplace provider is Step4Business which offers instant lending, facilitates working capital, and facilitates Foreign Exchange (FX) risk management for SMEs.<sup>104</sup>

These innovative P2P lending platforms showcase how technology, alternative data sources, and marketplace models can enhance access to financing for MSMEs and provide valuable examples for other markets. The key takeaways from their experiences include the role of an appropriate regulatory environment that can encourage local providers to adopt, adapt or develop partnerships with international P2P players, the importance of technological integration, alternative credit assessment methods, targeted lending solutions, collaboration between investors and MSMEs, and the creation of inclusive and diverse financing ecosystems.

The risks of P2P and marketplace lending platform include potential defaults by

borrowers and the need for robust risk assessment and underwriting models. The platforms must also address concerns about transparency, borrower verification, and investor protection. Regulatory frameworks need to strike a balance between promoting innovation and ensuring investor and borrower safeguards.<sup>105</sup> Consumer protection issues, especially from unlicensed P2P and marketplace lenders, including mobile lenders which are often facilitated by mobile app marketplaces are increasing.<sup>106</sup>

## 6.6 Equity Crowdfunding

Equity crowdfunding enables individuals and small businesses to raise small amounts of equity capital from numerous retail investors by issuing shares, usually through an online platform. Crowdfunding reduces the cost of issuing shares to the public and increases the promotion potential of offers by leveraging technology and regulatory exemptions. Equity crowdfunding offers MSMEs and startups new opportunities to access the finance they need to grow by enabling them to reach out to many potential investors through online marketplaces.<sup>107</sup> Their reliance on social media and online platforms provides an efficient way to for an MSME to disseminate information about business plans and financial conditions. Moreover, regulatory requirements for due diligence by crowdfunding platforms on MSME issuers reduce information asymmetry between investors and issuers, leading to better-informed investment decisions.

In emerging markets, equity crowdfunding can be a source of finance for MSMEs and startups, where traditional sources of equity investments such as family and friends, angel and VC/PE funds are limited or not readily available. The flexibility of crowdfunding regulations is a critical precondition to its development as an alternative source of equity. Traditional capital markets regimes typically require MSMEs to comply with



© World Bank

numerous regulatory requirements to issue and offer securities to the public, including publishing a prospectus, acquiring necessary authorizations, regulatory reporting, and meeting corporate governance requirements, leading to high compliance costs. However, crowdfunding regulations usually have exemptions that significantly lower compliance costs for MSMEs. This, coupled with the efficiency and low cost of internet platforms, can make raising equity capital through crowdfunding a realistic option for MSMEs.<sup>108</sup>

Examples of equity crowdfunding platforms that are actively operating in emerging markets include Seedrs<sup>109</sup> in the UK, which has facilitated over £1 billion in investments across 1,400 deals, including several in Africa, India, and Southeast Asia. Another example is M-Changa,<sup>110</sup> a Kenyan crowdfunding platform that focuses on social causes and enables individuals and organizations to raise funds through mobile devices. In Indonesia, there is Crowdo,<sup>111</sup> a platform that focuses on crowdfunding for SMEs, providing a range of funding solutions, including equity, debt, and revenue-sharing agreements. Brazil has EqSeed,<sup>112</sup> a crowdfunding platform focused on equity investments in innovative startups, providing investors access to a diversified portfolio of high-potential companies.

Seedrs, global approach to providing equity crowdfunding opportunities expands the platform's outreach and impact. Seedrs' success highlights the potential of equity crowdfunding to bridge the funding gap for SMEs and startups, particularly in emerging markets where traditional sources of equity investments are limited. Policymakers and regulators can replicate Seedrs' model by implementing flexible crowdfunding regulations that lower compliance costs for SMEs, encouraging the growth of equity crowdfunding platforms, and supporting the development of local entrepreneurial ecosystems.

M-Changa's approach combines crowdfunding with the widespread use of mobile technology in Kenya, facilitating easy and accessible fundraising for social projects. It has a substantial reach, with over 73,000 individuals and organizations benefiting from the funds raised through M-Changa. Mobile technology is the key to M-Changa's success, making its model well-suited to markets with high mobile penetration.

Crowdo's approach demonstrates the versatility of crowdfunding to support SMEs' financing needs across different types of funding instruments. Lessons learned from Crowdo's model include fostering an ecosystem that supports multiple forms of crowdfunding, and allowing SMEs to choose the most suitable funding option for their requirements from a diverse range of sources.

EqSeed's approach taps into the entrepreneurial spirit and innovation-driven nature of startups, enabling retail investors to participate in their early stages. Unlike in the EU or the US, where angel investors are more common, the investor pool is shallow in Brazil. EqSeed helps fill an important gap in funding for startup enterprises by connecting them online to thousands of investors. From an investor's point of view, EqSeed's platform helps to facilitate investments in startups in a transparent, efficient and secure manner.

In Türkiye, crowdfunding has been regulated within the securities legislation since 2019. Although the system allows for both equity- and debt-based crowdfunding, crowdfunding financing to date has been equity-based. The Capital Markets Board, as the regulatory authority, licenses and supervises crowdfunding platforms (of which there are 11 as of May 2023), based on requirements and conditions defined in regulation. Venture capital companies engaged in technology and/or production activities with potential for high value

add, competitiveness, and employment are eligible for financing through equity crowdfunding. The procedure involves an eligible company applying to a platform, where the investment committee evaluates projects that will be funded. Once the committee decides, the projects are published, and investors can deposit their funds. Transparency is achieved through information forms and use of proceeds reports prepared by the company seeking financing, which are published on the relevant crowdfunding platform. All transactions are carried out through the central securities depository and when financing reaches a predesignated amount, company shares are allocated to investors on a dematerialized basis over the central securities depository. As of May 2023, the system has facilitated the financing of 73 equity-based crowdfunding initiatives totaling 80 million Turkish lira.

Equity crowdfunding risks include the potential for inexperienced investors to make uninformed investment decisions and the challenges for businesses with managing a large number of shareholders.

Another main challenge for equity in SMEs is the exit mechanism and governance structure around minority shareholder rights protection.

## 6.7 Embedded Finance

Embedded Finance (EmFi) involves integrating financial services within non-financial platforms or applications, to expand access to financial products and services for MSMEs.<sup>113</sup> Embedded finance providers, which include real sector companies, leverage digitization to integrate financial services into their existing offerings. EmFi providers include companies from the mobility, agriculture, manufacturing, services, supply chain, and e-commerce sectors, allowing transaction data-driven business intelligence to offer financial services.

Gozem,<sup>114</sup> a ride-hailing technology platform in West Africa that has more than a million users, is an embedded finance provider that has developed a vehicle financing program for its drivers. By integrating financial services into its ride-hailing platform, Gozem addresses the specific needs of its driver partners, providing them with a pathway to vehicle ownership and economic empowerment. The innovative aspect of Gozem's approach lies in its ability to leverage transaction data and business intelligence to offer tailored financial services that are directly linked to the drivers' income-generating activities. This model demonstrates the potential for embedded finance to extend financial access and support income-generating opportunities in the gig economy. Gozem's approach demonstrates the effectiveness of allowing and supporting the integration of financial services into non-financial platforms, fostering partnerships between technology companies and financial institutions, and tailoring financial products to the specific needs of gig workers and MSMEs.

Other examples of non-financial companies embracing EmFi include Growsari in the Philippines, Singapore-based Moglix, and Egyptian-based MaxAb. These companies operate in sectors such as supply chain, e-commerce, and manufacturing. The innovative aspect of their approach lies in their ability to leverage transaction data and their business relationships to offer financial services tailored to the needs of MSMEs and other stakeholders in their respective industries.

Many EmFi providers initially focus on digital commerce or payments facilitation and later expand into lending. For instance, e-logistics companies offer owner-drivers vehicle finance or insurance, while AgTech and e-commerce platforms provide e-money wallets and working capital loans to farmers and merchants. Point of sale payments service providers offer loans to merchants based on transaction volumes.



Practice management software also serves as an entry point, enabling loan underwriting through the MSME data collected by software companies.

According to Accenture, the global EmFi industry is projected to reach a value of over US\$7 trillion within the next decade, with estimates that MSME banking revenue from EmFi solutions could reach up to US\$92 billion by 2025.<sup>115</sup> EmFi creates efficiency and convenience by unlocking credit based on transaction data, leveraging existing customer onboarding mechanisms, and tailoring offerings using customer data. By embedding financial services, EmFi providers enhance the economics of financial services, increase access to credit, and substitute collateral with the broader business relationship. This includes a broader reliance on the relative strength of the ultimate buyer along a value chain rather than relying on the collateral or lengthy credit histories of individual MSMEs.

EmFi models vary, with some providers internalizing financial services while

others form partnerships with financial institutions. As technology advances, more non-financial companies are expected to adopt EmFi, facilitating expanded access to finance for millions of small businesses. EmFi reduces the cost-to-serve barrier to financial inclusion and overcomes challenges such as lack of information and collateral. By bundling finance with other businesses, EmFi providers can take more risk, offer better pricing, and serve inclusive finance segments.<sup>116</sup> The regulatory environment plays an important role in determining the structure of EmFi offerings, and considerations such as licensing, convenience, data privacy, and market conditions influence the approach taken. The rationale for EmFi often arises from the lack of alternatives in the market, prompting non-financial companies to offer financial services to meet customer needs.

Embedded finance risks include the need for robust data privacy and security measures to protect user information as well as credit information reporting to avoid over-indebtedness.

## 6.8 Distributed Ledger Technology and Blockchain Finance via Tokenized Assets

Distributed Ledger Technology (DLT) and blockchain-supported finance for MSMEs involve the use of blockchain based ledgers or digital tokens that represent tangible or intangible assets on a blockchain network, to enable trading, discounting, or financing. Tokenization is the process of creating a digital representation of an asset on a blockchain. This approach can take advantage of the decentralized and secure nature of DLT to increase asset liquidity and capitalize on value. For instance, by tokenizing warehouse receipts that represent agricultural commodities stored in authorized warehouses, buyers or financial institutions can purchase or take a security interest in the token to finance MSME producers. The token holder then has the right of possession of the physical goods stored in the warehouse. Tokenization can also enable lenders to finance pre-warehousing and pre-tokenization agricultural processes. They can take a security interest in the original crop inputs and their proceeds, including harvested crops, warehouse receipts, tokens, and the proceeds of token sale or financing on a blockchain. This provides a potential innovative and secure way to finance MSME production and business activities. There are a few fintech companies that have been using blockchain technology to create financing solutions for MSMEs by digitizing and tokenizing physical assets including firms such as Swiss-based Jibrel, Neurored, based in Spain and the US,<sup>117</sup> US-based BanQu, and Italy-based Sicilian Wheat Bank (SWB).

Jibrel<sup>118</sup> offers tokenization and trading solutions for traditional assets, such as currencies, commodities, and securities to enable faster settlement of transactions. SMEs can then use these tokens as

collateral for loans, providing them with access to financing that may have been challenging to obtain through traditional channels.

Neurored's platform<sup>119</sup> focuses on supply chain management and trade finance, using blockchain technology to digitize and tokenize physical assets such as commodities and warehouse receipts. By representing these assets as digital tokens, Neurored facilitates their trading and allows them to be used as collateral for financing. The platform also provides real-time tracking and management of physical assets, enhancing transparency and efficiency in supply chain operations.

BanQu and SWB facilitate supply chain traceability with a focus on farmers and SME agri value chain providers.<sup>120</sup> SWB is a decentralized fintech platform for agri-food products created by more than 30 Sicilian farmers. It puts farmers and food processors in direct contact, by tokenizing agri-food products, resulting in more transparent price formation and more even profit distribution. In the future, SWB plans to use tokenized products that will be exchanged on a DLT marketplace and used to pay for goods and services, and to guarantee loans.<sup>121</sup>

These examples demonstrate the potential of blockchain technology in transforming traditional financing processes and enhancing access to finance for MSMEs. However, it should be noted that there are several risks and challenges facing the use of tokenization of assets and DLT that need to be addressed for this to be a more widely accepted and secure means of supporting MSME finance. These challenges include scalability, settlement finality, interoperability, network stability, cybersecurity risks, governance risks, AML/CFT risks, digital identity challenges and data privacy and protection risks.<sup>122</sup>



©World Bank



# 7

## Public Sector/ Policy Approaches to Support MSME Finance

Governments and development agencies around the world are using various public policy approaches to support expanded access to financing for MSMEs including various incentives, guarantee mechanisms, risk sharing approaches, data sharing initiatives, government lending programs, and the securitization of MSME portfolios.

## 7.1 Incentives

Some of the common incentives to support MSME financing include:

- **Tax incentives:** Governments can provide tax incentives to encourage investors to invest in MSMEs, for example, tax credits or deductions for investments made in MSMEs.
- **Blended Finance:** Governments can facilitate equity investments in MSMEs, providing them with the capital they need to grow their businesses.
- **Grant programs:** Governments can offer grant programs to provide funding for MSMEs, which can be used for a variety of purposes, such as research and development, marketing, or hiring new employees.
- **Business incubation programs:** Governments can provide business incubation programs to support the growth of MSMEs. These programs typically provide mentoring, training, and other resources to help MSMEs grow and become more successful.

Some of the examples of public incentives to support MSME financing follow:

- The Singapore government has implemented the Early-Stage Venture Fund (ESVF) scheme, which provides funding to venture capital firms that invest in local startups. Under this scheme, the government matches the capital raised by these firms, encouraging them to invest in early-stage MSMEs and startups.<sup>123</sup>

- The British Business Bank in the UK operates the Enterprise Finance Guarantee (EFG) scheme, which provides loan guarantees to MSMEs that may not have sufficient collateral to secure traditional bank loans. The scheme enables MSMEs to access financing by reducing the risk for lenders, encouraging them to lend to viable but higher-risk businesses.<sup>124</sup>
- The German government has established the Kreditanstalt für Wiederaufbau (KfW), a state-owned development bank that offers a wide range of financing programs for MSMEs and innovative tech startups. These programs include low-interest loans, equity investments, and guarantees to support MSMEs across various sectors. KfW plays a crucial role in providing sustainable and accessible financing options to promote MSME growth and innovation.<sup>125</sup>
- The Kenyan government offers a Youth Enterprise Development Fund, which provides grants and loans to young entrepreneurs to start or expand their businesses. The fund also offers mentorship and training programs to support the development of entrepreneurial skills among the youth. This holistic approach helps to create a supportive ecosystem for MSMEs and encourages youth entrepreneurship.<sup>126</sup>

These examples demonstrate different approaches to incentivize MSME financing. By combining financial support, mentorship, and training, they address some of the unique needs of MSMEs and contribute to their growth. Policymakers and regulators in other countries can also design tailored incentives that suit their local context, foster collaboration between public and private sectors, and create an enabling environment for MSMEs to thrive. Overall, government incentives can play a role in expanding access to financing for MSMEs. Involving

the private sector can help to ensure that programs do not provide the wrong incentives and are cost-effective.

## 7.2 Risk-Sharing and Guarantee Schemes

Risk-sharing facilities are financial instruments used by governments to provide loans to MSMEs by sharing the risk of default with financial institutions. Under these facilities, the government guarantees a portion of the loans provided by financial institutions, thereby reducing the credit risk faced by the lenders. This allows the lenders to provide financing to MSMEs that they would otherwise consider too risky.

Risk-sharing facilities can take various forms, such as partial loan guarantees, loan portfolio guarantees, or equity investments. The government (or other players such as domestic or international DFIs) may provide a guarantee on a certain percentage of the loan amount. The guarantee may be structured to cover only a portion of the default risk or the full amount of the loan.

In Colombia, an innovative MSME finance guarantee scheme is the Fondo Nacional de Garantías (FNG), which operates in partnership with private sector financial institutions. The FNG provides partial loan guarantees to lenders, reducing their risk exposure and encouraging them to extend financing to MSMEs. The guaranteed coverage is between 60 percent and 70 percent of the loan amount, depending on the characteristics of the MSME and the program. By sharing the risk, the FNG promotes access to finance for MSMEs without distorting the financial market or relying heavily on subsidies. The FNG has been successful in facilitating MSME financing and has supported thousands of businesses across various sectors in Colombia.<sup>127</sup>

In Egypt, the digitized Credit Guarantee Company (CGC) operates as a joint-stock company with participation from public and private shareholders, including financial institutions. It provides partial loan guarantees to banks and other lenders to support MSME financing. The guaranteed coverage ranges from 70 percent to 85



©World Bank



percent of the loan amount, depending on the size and sector of the MSME. The CGC aims to promote sustainable access to finance for MSMEs by sharing the risk with lenders. This platform has already served over 200,000 MSMEs in Egypt.<sup>128</sup>

The Credit Guarantee Fund (KGF) is an innovative joint-stock guarantee institution in Türkiye with both public and private shareholders, including banks. It facilitates bank lending to MSMEs based on a risk sharing principle. Treasury-backed KGF programs, are also offered during economic downturns, to facilitate domestic credit, improve debt repayment capacity, and support MSMEs. Türkiye expanded its initial KGF program in 2017 to mitigate the negative effects of increased uncertainty on the financial outreach of MSMEs and to stimulate the economy. In 2020, when COVID-19 led to a partial halt across many economic segments, particularly the services sector, Treasury support for KGF guaranteed loans was increased. The loan packages helped MSMEs to maintain employment, finance business expenses, such as taxes and fixed costs, and pay checks written for billable

commercial transactions. By 2023, more than 545,000 individual MSMEs had received guarantees from KGF.<sup>129</sup>

These examples demonstrate how MSME finance guarantee schemes successfully operated with private sector support, commerciality, and minimal market distortions by mitigating lenders' credit risks, and incentivizing them to provide financing to MSMEs.

### 7.3 Data Sharing Initiatives

Governments worldwide are recognizing the power of data sharing initiatives to support MSME finance and are implementing strategies to facilitate access to critical information. In India, the Goods and Services Tax (GST) system has enabled the government to collect valuable data on MSME transactions, providing financial institutions with insights into their business operations and cash flows. This data sharing has facilitated faster and more informed lending decisions, enhancing access to finance for Indian MSMEs. Data sharing initiatives by governments highlight their commitment to leveraging technology and data to foster MSME growth and promote financial inclusion.<sup>130</sup>

### 7.4 Government Lending Programs for MSMEs

Digitized government lending programs for MSMEs are initiatives implemented by governments to provide direct financing to small and medium-sized enterprises. These programs aim to bridge the financing gap faced by MSMEs by offering affordable loans with favorable terms and conditions. Digitized government lending programs can take various forms, including direct loans, subsidized interest rates, and specialized loan facilities and often prioritize sectors with high growth potential, such as technology, innovation, and export-

oriented industries. However, the risks associated with targeted, directed credit and associated costs, especially those programs initiated during the pandemic need to be carefully considered.<sup>131</sup>

Examples of digitized government lending programs for MSMEs include KfW in Germany, the Small Business Administration (SBA) Loan Programs in the US, and the Small Industries Development Bank of India (SIDBI).

KfW's MSME financing programs have been widely recognized for their success in supporting MSMEs without distorting the market. KfW offers a range of loan programs, including investment loans, online working capital loans, and environmental loans, with favorable interest rates and long repayment periods. The programs have been evaluated for their impact on MSME growth, job creation, and economic development, and have been deemed effective in reaching a large number of MSMEs.<sup>132</sup>

In the US, the SBA's loan programs, particularly the 7(a) program,<sup>133</sup> have undergone rigorous evaluation and by using online platforms, have demonstrated their ability to effectively reach MSMEs while minimizing market distortion. The programs provide loan guarantees to reduce the risk for lenders, enabling them to provide affordable financing to MSMEs. Evaluations have shown positive outcomes in terms of increased access to capital, business growth, and job creation.<sup>134</sup>

SIDBI's lending programs include direct loans, refinancing, venture capital assistance, and specialized digitalized schemes targeting specific sectors and stages of business growth. Evaluations of their impact highlight the effectiveness of SIDBI's programs in reaching a large number of MSMEs, promoting entrepreneurship, and contributing to economic growth.<sup>135</sup>

While these programs have been evaluated positively in terms of their effectiveness,

scalability, and market impact, it is important to note that the suitability and replicability of these programs depends on a country's context. Implementing successful government lending programs requires careful consideration of a country's local market conditions, regulatory frameworks, and the needs of its MSMEs.

To design sustainable and cost-effective government lending programs, several factors should be considered:

- **Market distortion:** It is crucial to ensure that government lending programs do not distort the financial market by crowding out private lenders or creating unfair competition. Balancing the role of the government as a lender with a healthy private sector is essential for market sustainability.
- **Cost effectiveness:** Government lending programs should be cost-effective and efficiently-managed to minimize the burden on public finances. Digitalized platforms can increase outreach and improve efficiency. Proper risk assessment, loan monitoring mechanisms, and sound governance structures are crucial to ensure responsible lending and to minimize default risks.
- **Targeting and reach:** Government lending programs should be designed to target underserved sectors or segments of the MSME market and align with national development priorities. They should also have mechanisms in place to reach a significant number of MSMEs and support their growth and sustainability. Both online and mobile-based platform interfaces should be explored.

While best practices and lessons learned from successful programs can be applied, careful consideration must be given to adapting programs to meet the needs, regulations, and market conditions of a country.



© World Bank

## 7.5 Securitization of MSME portfolios

Digitized securitization of SME and MSME portfolios involves packaging MSME loans into tradable securities that can be sold to investors. This enables financial institutions to transfer the credit risk associated with MSME loans off their balance sheets and raise funds for further lending. Securitization can enhance liquidity in the MSME lending market and attract a broader range of investors.

Examples of digitized securitization of MSME portfolios include Poland's SME Loan Securitization Program, China's Asset-Backed Securities (ABS) Market, India's Securitisation Market, and the European Investment Fund (EIF) Securitization Initiatives.

The Polish government launched an innovative program to securitize SME loans originated by banks. The securitized portfolios are sold to institutional investors, improving liquidity in the SME loan market, diversifying funding sources for banks, and enhancing the availability of financing for SMEs. China has developed a robust market for securitization, including the securitization of MSME loans. Financial institutions package MSME loans into ABS and sell them to investors, facilitating the flow of capital into the MSME sector. The EIF, in collaboration with financial institutions, supports securitization transactions aimed at providing additional funding to SMEs. These initiatives enable financial institutions to transfer the credit risk associated with SME portfolios, promoting SME lending. The success of China's securitization market demonstrates its viability and potential for replication in other markets.

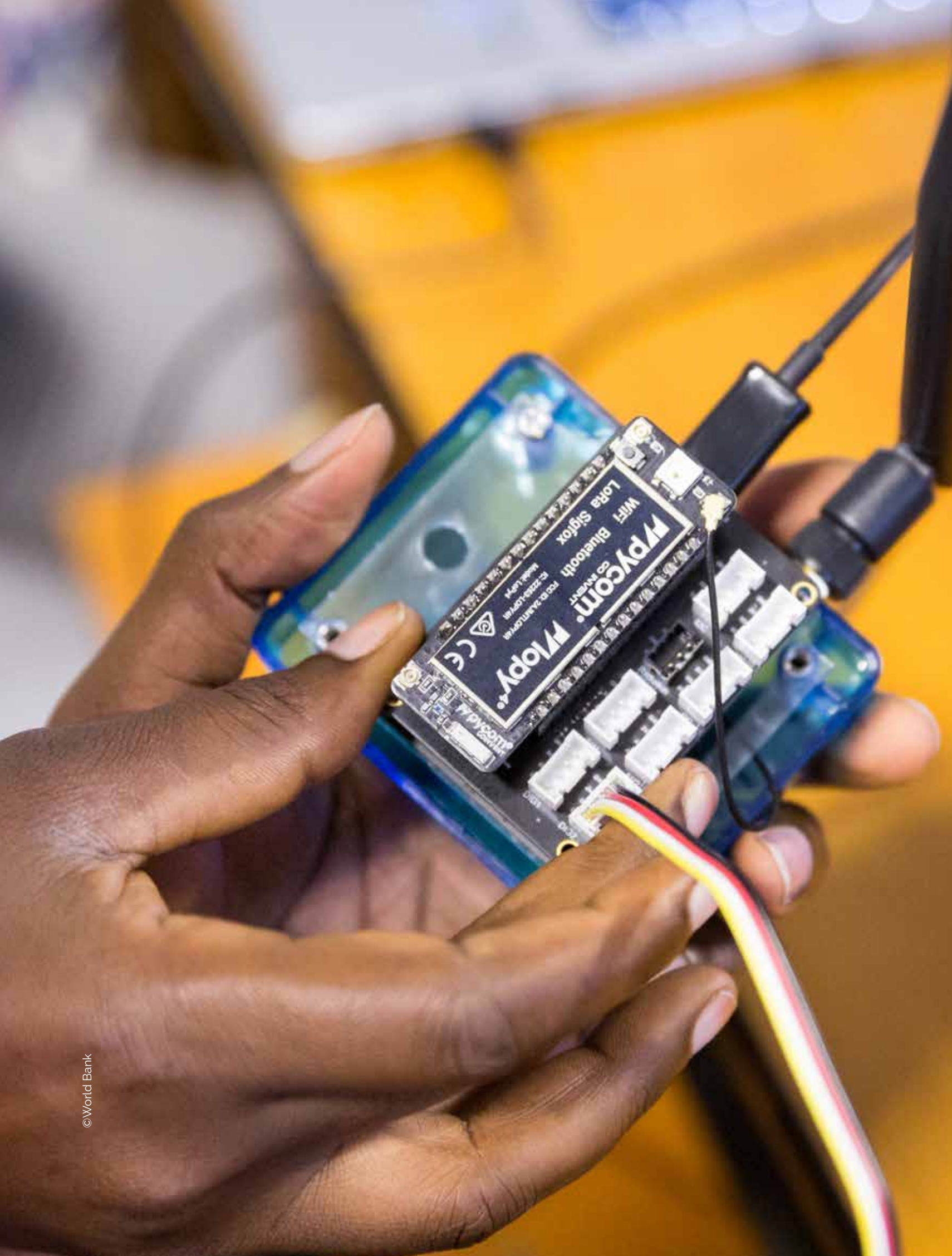
India has also framed an enabling securitization framework, in alignment with global standards, for the securitization of standard assets, including eligible MSME

loans. This framework is designed to assist financial institutions in risk diversification and portfolio churning, potentially building lending capacity to productive sectors like SMEs and MSMEs.

The European Investment Fund (EIF) Securitization Initiative collaborates with financial institutions to support securitization transactions aimed at providing additional funding to SMEs. These initiatives enable financial institutions to transfer credit risk to investors, promoting SME lending. The online EIF's securitization initiatives serve as a viable and replicable model for enhancing SME financing.

While all these examples involve the securitization of SME and MSME portfolios, they differ in terms of their target segments, objectives, and approaches. Poland focuses on diversifying funding sources, China has a well-established ABS market, and the EIF collaborates with financial institutions. These differences make each example unique and highlight the various ways in which securitization can support SME and MSME financing. It is important to note that the success and replicability of such programs depend on various factors, including the regulatory environment, market conditions, blended finance, and the willingness of investors to participate. Governments and financial institutions should carefully consider these factors when designing and implementing securitization programs to ensure their effectiveness, cost-efficiency, and sustainability.<sup>136</sup>

Governments and financial institutions should carefully consider the factors of servicing capacity, average loan tenor, and structures around true sales versus assignments when designing and implementing securitization programs.<sup>137</sup> These factors have implications on cost structure, which can have a significant impact on the effectiveness, cost-efficiency, and sustainability of the program.



# 8

## Risks and Challenges

**W**hile the innovative financing models in this report could bring significant benefits to MSMEs, it is important to recognize their risks and challenges. This chapter highlights the general risks and challenges of non-traditional financing methods and examines the specific risks of each method. By understanding and addressing these risks, policymakers, regulators, and stakeholders can foster a more resilient and sustainable MSME financing ecosystem.

General challenges include:

**Improving regulatory frameworks:** Policymakers and regulators need to keep pace with the rapidly changing landscape of fintech innovations. This involves assessing existing regulations and frameworks to determine their applicability to new business models, such as P2P lending, crowdfunding,

and digital wallets. They need to strike a balance between promoting innovation and protecting consumers and investors.

**Strengthening financial consumer protection:** As MSME financial services become more digitized and accessible, ensuring robust consumer protection measures becomes crucial. Regulations should address issues such as the potential for over indebtedness, data privacy, transparency (especially rates and fees), terms and conditions disclosure requirements, and dispute resolution mechanisms. Additionally, safeguards should be in place to prevent fraudulent activities and protect vulnerable MSMEs from predatory lending practices.

**Enhancing risk management:** Fintech innovations may introduce new risks to the financial system, including cyber threats, money laundering, and fraud. Regulators

need to establish frameworks to identify and mitigate these risks effectively. They should encourage fintech firms to implement robust risk management practices, including cybersecurity measures, identity verification protocols, and anti-money laundering procedures.

**Enforcing cross-border regulations:** With the borderless nature of digital platforms, policymakers face challenges in enforcing regulations across jurisdictions. Harmonizing regulatory frameworks, enhancing international cooperation, and promoting information sharing among regulators are essential to effectively oversee cross-border fintech activities and protect MSMEs operating in multiple markets.

**Focusing on financial inclusion:** While fintech innovations have the potential to improve access to finance for underserved MSMEs, regulatory barriers and exclusionary

practices can hinder financial inclusion. Many MSMEs still rely on feature phones and platforms that promote digital financial services on basic mobile phones, like UPI, should be explored. Policymakers should strive to create an enabling environment that encourages the participation of both traditional financial institutions and fintech firms to meet MSMEs' needs. This may involve promoting Open Banking initiatives, fostering competition, and developing supportive infrastructure, such as reliable digital identity systems.

Some of the specific risks and challenges associated with innovative MSME financing models including factoring, reverse factoring, revolving lines of credit, merchant-receivables financing, P2P and marketplace lending platforms, equity crowdfunding, embedded finance, and the tokenization of assets on the blockchain, have been briefly described in this report.



© World Bank





# 9

## Policy, Regulatory and Supervisory Considerations

In light of the challenges and risks of non-traditional MSME finance, there are several policy, regulatory, and supervisory recommendations to be considered. It should be noted that these recommendations reflect emerging good practices. In line with G20 practices, adopting these policy recommendations is voluntary. They should be read in conjunction with the G20 Higher Level Principles for Digital Financial Inclusion which call for a holistic approach to foster digital financial inclusion, and with the established standards and good practices for the individual Digital Public Infrastructure types as established by standard-setting bodies (SSBs). The policy recommendations in this report are intended to complement and not replace existing standards issued by SSBs and other international bodies.

## 9.1 Improving Policy, Regulatory and Supervisory Frameworks

### 9.1.1 Policy considerations

- Conduct comprehensive reviews of existing regulations and frameworks to assess their applicability to emerging fintech business models.
- Improve the availability of MSME information and expand credit information sharing to reduce information asymmetry and make it easier for lenders to assess the credit risk of MSMEs.
- Work with Credit Reference Service Providers (CRSPs) to better facilitate enhancements to improve credit information infrastructure, expand the range of players that participate in bureau reporting such as alternative lenders and including MSME credit reporting which can all improve systemic risks and the potential for over-indebtedness.<sup>138</sup>
- Women continue to face challenges that policymakers need to carefully consider.

The GPMI report on Advancing Women's Digital Financial Inclusion<sup>139</sup> and the recommendations under the Call to Action for Reaching Financial Equality for Women<sup>140</sup> should be a priority.

- Governments can support the development of efficient and widely accessible digital-payment systems that facilitate digital transactions, making it easier for MSMEs to conduct business and access finance. This includes the need to develop a digital payment ecosystem where MSMEs receiving digital payments can also spend or transfer funds digitally.
- Develop modern secured transactions frameworks to support the introduction of fintech asset-based lending products for MSMEs. Governments can adopt a modern factoring law and collateral registry, move toward the development of electronic invoicing, and update bank regulation to recognize the assignment of receivables. This will help prioritize in favor of the first lender to register a loan or factoring transaction, provide notice of previously recorded liens to interested third parties, and facilitate the adoption of supply chain financing solutions for MSMEs.
- Support the growth and development of debt and equity capital platforms to improve MSME access to finance through regulatory frameworks that balance innovation with investor and consumer protection. Governments can consider establishing regulatory frameworks that enable the use of electronic invoices for trading or collateral, allowing for the effective use of supply chain financing solutions for MSMEs. By doing so, MSMEs can gain access to alternative sources of finance, enabling them to grow and contribute to economic development.<sup>141</sup>
- Foster a fintech industry sandbox environment to encourage experimentation and innovation while ensuring adequate consumer protection and risk management.

- Establish regulatory sandboxes,<sup>142</sup> or innovation hubs, to collaborate with industry stakeholders and adapt regulations to evolving market dynamics. In civil law jurisdictions, this may require a change in the legal framework of financial regulations to allow regulatory and supervisory flexibility.
- Facilitate knowledge sharing and international cooperation to harmonize regulations and facilitate cross-border fintech activities.
- Foster dialogue and collaboration between regulatory bodies, policymakers, and industry stakeholders to understand the potential implications of new technologies and business models.

### 9.1.2 Regulatory considerations

- Develop clear and flexible regulatory frameworks that provide guidance while

accommodating technological advancements and evolving business models.

- Establish licensing requirements, standards, and codes of conduct for fintech firms to ensure consumer protection, data privacy, and cybersecurity.
- Implement periodic assessments of regulations to ensure their relevance and effectiveness in the rapidly changing fintech landscape.
- Review AML/CFT regulations to ensure that appropriate AML/CFT measures are in place, in line with FATF recommendations to mitigate for any potential risks that new innovative MSME financing models may introduce.
- Foster tiered electronic Know Your Customer (e-KYC) especially for smaller businesses with limited access to formal identification documentation.<sup>143</sup>



©World Bank

- Collaborate with international regulatory bodies to develop cross-border regulatory frameworks that support innovation and protect MSMEs.

### 9.1.3 Supervisory considerations

- Strengthen supervisory capacity to effectively monitor and assess risks associated with innovative financing models.
- Develop robust supervisory frameworks that focus on risk management, cybersecurity, and consumer protection.
- Promote regular engagement and communication between supervisors and fintech firms to foster understanding and address regulatory compliance concerns.
- Establish mechanisms for information sharing and collaboration among supervisory authorities to facilitate cross-border oversight of fintech activities.

## 9.2 Consumer Protection Issues

### 9.2.1 Policy considerations

- Establishing reliable and interoperable digital identity systems is crucial for improving consumer protection and mitigating identity-related risks. Governments can develop frameworks and standards for digital identity verification,<sup>144</sup> enabling MSMEs and individuals to access financial services seamlessly while minimizing the risk of identity fraud.
- For MSMEs, an appropriate identification system could also include the adoption of the global legal entity identifier (LEI) system. The LEI is a unique identifier assigned to legal entities participating in financial transactions, providing standardized and globally recognized identification. By integrating the LEI system into the regulatory framework,

policymakers can enhance transparency, reduce fraud, and facilitate accurate identification of MSMEs in cross-border financial activities. This can contribute to a more secure and efficient financial ecosystem, enabling MSMEs to access a broader range of financial services and opportunities.

- Develop clear and transparent rules on data privacy, security, and consent to ensure the protection of MSMEs' and consumers' personal and financial information.
- Promote financial literacy and education programs to enhance the awareness of MSMEs and consumers about the risks and benefits of innovative financing methods.
- Establish dispute resolution mechanisms that are accessible, efficient, and independent to address potential conflicts between MSMEs and fintech providers.
- Encourage the development of industry-wide standards and best practices for transparency, disclosure, and the fair treatment of MSMEs and consumers.
- Collaborate with industry stakeholders to develop self-regulatory frameworks that complement existing regulatory requirements and enhance consumer protection.

### 9.2.2 Regulatory Considerations

- Implement comprehensive data protection regulations and guidelines that safeguard MSMEs' and consumers' personal and financial information.
- Require fintech firms to adopt robust cybersecurity measures, conduct regular security audits, and establish incident response plans to mitigate the risk of data breaches and cyber threats.
- Enforce transparent and fair pricing practices, ensuring that MSMEs have



©World Bank

access to clear information on fees, interest rates, and repayment terms.

- Establish mechanisms to monitor and encourage compliance with consumer protection regulations, including appropriate penalties for non-compliance.
- Encourage fintech firms to implement adequate systems and controls to detect and prevent fraudulent activities, including anti-money laundering and KYC procedures.

### 9.2.3 Supervisory considerations

- Conduct regular inspections and assessments of fintech firms to ensure

compliance with consumer protection regulations.

- Promote the adoption of best practices and standards for data security, privacy, and the fair treatment of MSMEs and consumers.
- Collaborate with industry associations and self-regulatory organizations or industry monitoring committees to develop and enforce codes of conduct for fintech firms.
- Establish mechanisms for MSMEs and consumers to lodge complaints and seek redress for disputes and facilitate the prompt and fair resolution of these complaints.



- Provide guidance and support to fintech firms implementing robust risk management and consumer protection frameworks.

## 9.3 Improving Risk Management

### 9.3.1 Policy considerations

- Develop guidelines and standards for risk management in fintech lending, including credit risk assessment, loan underwriting, and collection practices.
- Promote the adoption of sound risk management practices, including stress testing, portfolio monitoring, and risk mitigation strategies.
- Encourage collaboration between fintech firms and traditional financial institutions to leverage their risk management expertise and ensure best practices are adopted.

### 9.3.2 Regulatory considerations

- Establish minimum standards for risk management frameworks and practices for fintech lending platforms, including criteria for borrower assessment, loan pricing, and risk diversification.
- Require regular reporting and disclosure of risk metrics, loan performance data, and stress testing results by fintech firms to enhance transparency and risk monitoring.
- Implement regulatory requirements for adequate capital and liquidity buffers for fintech firms engaged in lending activities to mitigate systemic risks.
- Promote the use of advanced analytics and AI for effective risk assessment and credit decision-making.

### 9.3.3 Supervisory considerations

- Strengthen supervisory capabilities in assessing and monitoring risks

associated with innovative financing models, including credit risk, operational risk, and cyber risk.

- Conduct regular audits and examinations of fintech firms to evaluate their risk management frameworks, systems, and controls.
- Collaborate with industry stakeholders to share best practices in risk management and enhance the overall resilience of the MSME financing ecosystem.
- Provide guidance and support to fintech firms implementing robust risk management frameworks and practices.

## 9.4 Cross-Border Coordination

### 9.4.1 Policy considerations

- Promote international cooperation and information sharing among regulatory bodies to enhance cross-border oversight of fintech activities.
- Establish bilateral or multilateral agreements to facilitate the recognition of regulatory frameworks across jurisdictions and enable smoother cross-border operations.
- Encourage the development of global standards and principles for fintech regulation to ensure consistent regulatory approaches and to protect MSMEs operating in multiple markets.

### 9.4.2 Regulatory Considerations

- Collaborate with international regulatory bodies to develop harmonized frameworks and standards for cross-border fintech activities, including licensing

requirements, data protection, and cybersecurity.

- Facilitate the exchange of information and regulatory cooperation between jurisdictions to detect and mitigate potential risks associated with cross-border fintech activities.
- Establish mechanisms for coordinated supervisory actions and crisis management in the event of disruptions or failures of cross-border fintech firms.

### 9.4.3 Supervisory Considerations

- Strengthen supervisory coordination and collaboration with foreign counterparts to ensure effective oversight of cross-border fintech activities.
- Share supervisory insights and best practices with international regulatory bodies to enhance the resilience of the global MSME financing ecosystem.
- Conduct regular assessments of the regulatory compliance of cross-border fintech firms and monitor potential risks arising from their activities in multiple jurisdictions.

These considerations provide a comprehensive framework for policy-makers, regulators, and supervisory authorities to use to address the risks and challenges associated with innovative non-traditional financing methods. By implementing appropriate policies, regulations, and supervisory practices, governments can promote a resilient and sustainable MSME financing ecosystem that supports the growth and development of MSMEs and by extension their country's economy.



# Annex Link to Case DataBase

<https://www.g20smecasestudies.org/case-studies>

# Endnotes

- <sup>1</sup> Implementing Partners are: Alliance for Financial Inclusion (AFI), The Better Than Cash Alliance (BTCA), The Consultative Group to Assist the Poor (CGAP), International Finance Corporation (IFC), International Fund for Agricultural Development (IFAD), Organization for Economic Co-operation and Development (OECD), The World Bank.
- <sup>2</sup> GPMI (October 2020). G20 2020 Financial Inclusion Action Plan, <https://www.gpmi.org/sites/gpmi/files/sites/default/files/G20%202020%20Financial%20Inclusion%20Action%20Plan.pdf>
- <sup>3</sup> Klapper, L., (April 2023). How digital payments can benefit entrepreneurs. IZA World of Labor 2023: 396 doi: 10.15185/izawol.396.v2 <https://wol.iza.org/articles/how-digital-payments-can-benefit-entrepreneurs/long>
- <sup>4</sup> IFC, (July 2019). How Insurtech Can Close the Protection Gap in Emerging Markets, <https://www.the-digital-insurer.com/wp-content/uploads/2019/09/1581-EMCompass-Note-70-InsurTech.pdf>
- <sup>5</sup> Mastropietro, Filippo and Bliini, Lara, (July 2022). Why digital lending is the future for banks and SMEs, [https://www.ey.com/en\\_gl/financial-services-emeia/why-digital-lending-is-the-future-for-banks-and-smes](https://www.ey.com/en_gl/financial-services-emeia/why-digital-lending-is-the-future-for-banks-and-smes)
- <sup>6</sup> Chandana, Asif, et al., (July 2021). Financial services unchained: The ongoing rise of open financial data, <https://www.mckinsey.com/industries/financial-services/our-insights/financial-services-unchained-the-ongoing-rise-of-open-financial-data>
- <sup>7</sup> Bank for International Settlements, (July 2021). BIS Papers No 117 Fintech and the digital transformation of financial services: implications for market structure and public policy <https://www.bis.org/publ/bppdf/bispap117.pdf>
- <sup>8</sup> International Monetary Fund, (Oct 2021). IMF Departmental Paper, Powering the Digital Economy: Opportunities and Risks of Artificial Intelligence in Finance, file:///C:/Users/pshadforth/Downloads/PDEORAIIEA.pdf
- <sup>9</sup> OECD, (2015). New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments, <https://www.oecd.org/cfe/smes/New-Approaches-SME-full-report.pdf>
- <sup>10</sup> United Nations Office for South-South Cooperation and the Finance Centre for South-South Cooperation, (2018). South-South Cooperation in a Digital World, 2018 Annual Report in South-South Cooperation, <https://www.unsouthsouth.org/wp-content/uploads/2021/05/Final-Report.pdf>
- <sup>11</sup> "What's in Store for Embedded Finance?" November 2022, in Inclusive Finance Frontiers, produced by the CGAP podcast production committee and CGAP's production partner, Volubility Podcasting, <https://www.cgap.org/research/podcast/whats-in-store-for-embedded-finance>
- <sup>12</sup> Statista "Retail e-commerce sales compound annual growth rate (CAGR) from 2023 to 2027, by country" accessed August 28, 2023 <https://www.statista.com/forecasts/220177/b2c-e-commerce-sales-cagr-forecast-for-selected-countries>
- <sup>13</sup> KrASIA, (December 16, 2019). Ovo introduces SME-focused financing platform DanaTara, <https://kr-asia.com/ovo-introduces-smes-focused-financing-platform-danatarata>
- <sup>14</sup> Suparman, Sheena, "Women-owned MSMEs take center stage online", Jakarta Post, March 8, 2023 <https://www.thejakartapost.com/business/2023/03/08/women-owned-msmes-take-center-stage-online.html>
- <sup>15</sup> Nisha Singh and Gayatri Murthy "On Gig Platforms, Women Workers Face Triple Barriers to Inclusion", *CGAP Blog*, June 21, 2023, <https://cgap.org/blog/on-gig-platforms-women-workers-face-triple-barriers-to-inclusion>
- <sup>16</sup> Globalization Partners, (February 22, 2023). Wise and G-P Launch Integrations to Power Faster, Lower Cost Global Contractor Payments, <https://www.globalization-partners.com/news/wise-and-g-p-launch-integration/#gref>
- <sup>17</sup> Diaz De Teran, Connie, "G-P and Wise Team Up on Faster Payments for Gig Workers", *Payments Journal*, March 29, 2023 <https://www.paymentsjournal.com/g-p-and-wise-team-up-on-faster-payments-for-gig-workers/>
- <sup>18</sup> Note that to better enable cross-border payment solutions, it could be useful to combine them with artificial intelligence systems (essentially digital identification tools) that enable secure payments. See Financial Stability Board, (February 2023). G20 Roadmap for Enhancing Cross-border Payments <https://www.fsb.org/wp-content/uploads/P230223.pdf>
- <sup>19</sup> Replicating initiatives in the gig economy must go hand in hand not only with proper regulation of payment systems but also with regulation at the level of worker protection. Regulatory support and clear guidelines also in this field could be crucial in creating an enabling environment for fair financial inclusion for gig workers.
- <sup>20</sup> McKinsey Digital, (May 2014). Accelerating the digitization of business processes, <https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/accelerating-the-digitization-of-business-processes>
- <sup>21</sup> McKinsey & Company, (October 2022). A digital approach to SME banking, <https://www.mckinsey.com/industries/financial-services/our-insights/a-digital-approach-to-sme-banking>
- <sup>22</sup> See <https://www.americanexpress.com/en-us/business/blueprint/> and <https://en.wikipedia.org/wiki/Kabbage>
- <sup>23</sup> Invenium Legaltech, <https://www.invenium-legaltech.com/>

- <sup>24</sup> G20 Indonesia 2022, (2023) G20 Database: Digital and Innovative Financial Products and Services for MSME Beyond Credit <https://www.g20smecasestudies.org/case-study/87>
- <sup>25</sup> G20 Indonesia 2022, (2023) G20 Database: Digital and Innovative Financial Products and Services for MSME Beyond Credit, <https://www.g20smecasestudies.org/case-study/92>
- <sup>26</sup> G20 Indonesia 2022, (2023) G20 Database: Digital and Innovative Financial Products and Services for MSME Beyond Credit, <https://www.g20smecasestudies.org/case-study/91>
- <sup>27</sup> World Bank; International Finance Corporation. 2022. Fintech and SME Finance: Expanding Responsible Access. <http://hdl.handle.net/10986/37355>
- <sup>28</sup> Fawry <https://www.fawry.com/>
- <sup>29</sup> M-Pesa. <https://www.vodafone.com/about-vodafone/what-we-do/consumer-products-and-services/m-pesa#key-services>
- <sup>30</sup> Ibid.
- <sup>31</sup> Bank for International Settlements, (September 2022). BIS Working Papers No 1041 The impact of fintech lending on credit access for US small businesses, <https://www.bis.org/publ/work1041.pdf>
- <sup>32</sup> Inbonis, <https://inbonis.com>
- <sup>33</sup> Experian, <https://www.experian.com/>
- <sup>34</sup> Global Partnership for Financial Inclusion, (June 2018). Use of Alternative Data to Enhance Credit Reporting to Enable Access to Digital Financial Services by Individuals and SMEs operating in the Informal Economy, [https://www.gpfi.org/sites/gpfi/files/documents/Use\\_of\\_Alternative\\_Data\\_to\\_Enhance\\_Credit\\_Reporting\\_to\\_Enable\\_Access\\_to\\_Digital\\_Financial\\_Services\\_ICCR.pdf](https://www.gpfi.org/sites/gpfi/files/documents/Use_of_Alternative_Data_to_Enhance_Credit_Reporting_to_Enable_Access_to_Digital_Financial_Services_ICCR.pdf)
- <sup>35</sup> Klapper Laura, "Why Digital Payments are Key to Entrepreneurs' Success", World Bank Blogs, November 7, 2017, <https://blogs.worldbank.org/jobs/why-digital-payments-are-key-entrepreneurs-success>
- <sup>36</sup> Bank of International Settlements, (July 2017). BIS Papers No 117 Fintech and the digital transformation of financial services: implications for market structure and public policy, <https://www.bis.org/publ/bppdf/bispap117.pdf>
- <sup>37</sup> Global Partnership for Financial Inclusion (2018). G20 Policy Guide: Digitisation and informality: harnessing digital financial inclusion for individuals and MSMEs in the informal economy, <https://www.oecd.org/g20/G20-Policy-Guide-Digitisation-and-Informality.pdf>
- <sup>38</sup> "Digital Payments – Worldwide – Analyst Opinion", Statista, Accessed August 28, 2023, <https://www.statista.com/outlook/dmo/fintech/digital-payments/worldwide#analyst-opinion>
- <sup>39</sup> Mondato, "Better Payments, Better Apps: The Sharing Economy Wars", Blog Mondato, March 3, 2020, <https://blog.mondato.com/sharing-economy-payment-competition/>
- <sup>40</sup> Alipay <https://global.alipay.com/platform/site/ihome>

- <sup>41</sup> G20 Indonesia 2022, (2023) G20 Database: Digital and Innovative Financial Products and Services for MSME Beyond Credit, <https://www.g20smecasestudies.org/case-study/84>
- <sup>42</sup> Bakong <https://bakong.nbc.gov.kh/en/>
- <sup>43</sup> Ibid.
- <sup>44</sup> Maiti, Meghna, "Make UPI Payments Using Your Feature Phone: A Convenient Solution", Outlook India. May 24, 2023. <https://www.outlookindia.com/business/make-upi-payments-using-your-feature-phone-a-convenient-solution-news-288899>
- <sup>45</sup> Plick <https://plick.eu/>
- <sup>46</sup> G20 Indonesia 2022, (2023) G20 Database: Digital and Innovative Financial Products and Services for MSME Beyond Credit, <https://www.g20smecasestudies.org/case-study/118>
- <sup>47</sup> McKinsey & Company, (October 2022). The 2022 McKinsey Global Payments Report, <https://www.mckinsey.com/~media/mckinsey/industries/financial%20services/our%20insights/the%202022%20mckinsey%20global%20payments%20report/the-2022-mckinsey-global-payments-report.pdf>
- <sup>48</sup> A digital bank is a bank that operates primarily or exclusively online. It does not have any physical branches, and it offers its customers a range of banking services through its website and mobile app." ;  
  
CGAP (February 2020), Digital Bank - How can they deepen financial inclusion?, [https://www.cgap.org/sites/default/files/publications/slidedeck/2020\\_02\\_Slidedeck\\_Digital\\_Banking\\_and\\_FI\\_updated.pdf](https://www.cgap.org/sites/default/files/publications/slidedeck/2020_02_Slidedeck_Digital_Banking_and_FI_updated.pdf)
- <sup>49</sup> McKinsey & Company, (December 2022), McKinsey's Global Banking Annual Review, <https://www.mckinsey.com/industries/financial-services/our-insights/global-banking-annual-review>
- <sup>50</sup> Ibid.
- <sup>51</sup> EY, (July 2022). Why digital lending is the future for banks and SMEs, [https://www.ey.com/en\\_gl/financial-services-emeia/why-digital-lending-is-the-future-for-banks-and-smes](https://www.ey.com/en_gl/financial-services-emeia/why-digital-lending-is-the-future-for-banks-and-smes)
- <sup>52</sup> McKinsey & Company, (December 2022), McKinsey's Global Banking Annual Review, <https://www.mckinsey.com/industries/financial-services/our-insights/global-banking-annual-review>
- <sup>53</sup> EY, (July 2022). Why digital lending is the future for banks and SMEs, [https://www.ey.com/en\\_gl/financial-services-emeia/why-digital-lending-is-the-future-for-banks-and-smes](https://www.ey.com/en_gl/financial-services-emeia/why-digital-lending-is-the-future-for-banks-and-smes)
- <sup>54</sup> Jumo <https://jumo.world>
- <sup>55</sup> PagBank <https://pagseguro.uol.com.br/empresas>
- <sup>56</sup> Starling Bank <https://www.starlingbank.com>
- <sup>57</sup> Association of Banks in Singapore, (Undated), ABS-MAS Financial World Finance-as-a-service: API Playbook, <https://abs.org.sg/docs/library/abs-api-playbook.pdf>

- <sup>58</sup> The Central Bank of the Republic of Türkiye that is responsible for regulating and supervising payment service providers in Türkiye, issued relevant regulations in December 2021 as well as API standards in February 2022 for the data sharing services in the field of payment services of the payment service providers in Türkiye. During the implementation process, several account servicing providers and payment service providers have been connected to the Interbank Card Center (BKM) API Gateway to be able to provide payment initiation services and account information services to both customers and SMEs.
- <sup>59</sup> Hong Kong Monetary Authority, "Open Application Programming Interface (API) for the Banking Sector", Accessed August 28, 2023, <https://www.hkma.gov.hk/eng/key-functions/international-financial-centre/fintech/open-application-programming-interface-api-for-the-banking-sector/>
- <sup>60</sup> Australian Government, "Consumer Data Right Legislation", Accessed August 28, 2023, <https://www.oaic.gov.au/consumer-data-right/consumer-data-right-legislation,-regulation-and-definitions/consumer-data-right-legislation>
- <sup>61</sup> "Financial information provider" means a bank, banking company, non-banking financial company, asset management company, depository, depository participant, insurance company, insurance repository, pension fund, or Goods and Services Tax Network (GSTN)
- <sup>62</sup> "Open finance heralds a new era" MIT Technology Review, (June 28, 2023). <https://www.technologyreview.com/2023/06/28/1075305/open-finance-heralds-a-new-era/>
- <sup>63</sup> OECD, (2015). New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments, <https://www.oecd.org/cfe/smes/New-Approaches-SME-full-report.pdf>
- <sup>64</sup> "About Us", Open Banking, Accessed August 28, 2023, <https://www.openbanking.org.uk/about-us/>
- <sup>65</sup> Flinders Karl. "How millions of consumers and businesses are using open banking." Computer Weekly, March 30, 2023, <https://www.computerweekly.com/news/365534089/How-millions-of-consumers-and-businesses-are-using-open-banking>
- <sup>66</sup> EY, (July 2022). Why digital lending is the future for banks and SMEs, [https://www.ey.com/en\\_gl/financial-services-emeia/why-digital-lending-is-the-future-for-banks-and-smes](https://www.ey.com/en_gl/financial-services-emeia/why-digital-lending-is-the-future-for-banks-and-smes)
- <sup>67</sup> The AA framework enabled an intermediary called NBFC-AA to facilitate collection/retrieval of specified financial information of the customer from the Financial Information Providers (FIP) and present such information to the Financial Information Users (FIU)/ customer. The transfer of such information is based on an explicit consent of the customer and with appropriate agreements/ authorizations between the AA, the customer, and the FIP.
- <sup>68</sup> Flinders, Karl. "Seven million people in the UK used open banking services in 2022." Computer Weekly, February 21, 2023, <https://www.computerweekly.com/news/365531612/Seven-million-people-in-UK-used-open-banking-services-in-2022>
- <sup>69</sup> McKinsey Global Institute, (June 2021). Financial data unbound: The value of open data for individuals and institutions, <https://www.mckinsey.com/~media/mckinsey/industries/financial%20services/our%20insights/financial%20data%20unbound%20the%20value%20of%20open%20data%20for%20individuals%20and%20institutions/financial-data-unbound-discussion-paper-june-2021.pdf>
- <sup>70</sup> An example, is coverwallet. <https://milkeninstitute.org/sites/default/files/2019-08/Insurtech-Market-Overview-Landscape-converted.pdf>
- <sup>71</sup> McKinsey & Company, (March 2021). Insurance 2030 – The impact of AI on the future of insurance, <https://www.mckinsey.com/industries/financial-services/our-insights/insurance-2030-the-impact-of-ai-on-the-future-of-insurance>
- <sup>72</sup> McKinsey & Company, (September 2021). How top tech trends will transform insurance, <https://www.mckinsey.com/industries/financial-services/our-insights/how-top-tech-trends-will-transform-insurance>
- <sup>73</sup> EY, (November 2021). How sustainable finance can help decarbonize the real economy, [https://www.ey.com/en\\_gl/sustainability-financial-services/how-sustainable-finance-can-help-decarbonize-the-real-economy](https://www.ey.com/en_gl/sustainability-financial-services/how-sustainable-finance-can-help-decarbonize-the-real-economy)
- <sup>74</sup> World Bank, (May 2005). The Role of Factoring for Financing Small and Medium Enterprises, <https://documents1.worldbank.org/curated/ar/844291468321884034/pdf/wps3593.pdf>
- <sup>75</sup> G20 Indonesia 2022, (2023) G20 Database: Digital and Innovative Financial Products and Services for MSME Beyond Credit, <https://www.g20smecasestudies.org/case-study/102>
- <sup>76</sup> World Bank; International Finance Corporation. (2022). Fintech and SME Finance: Expanding Responsible Access, <http://hdl.handle.net/10986/37355>
- <sup>77</sup> OECD, (2015). New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments, <https://www.oecd.org/cfe/smes/New-Approaches-SME-full-report.pdf>
- <sup>78</sup> Saleem,Qamar; Hommes,Martin; Sorokina,Aksinya. *Technology-enabled supply chain finance for small and medium enterprises is a major growth opportunity for banks (English)*. EMCompass,no. 39 Washington, D.C. : World Bank Group <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/104991502947116592/technology-enabled-supply-chain-finance-for-small-and-medium-enterprises-is-a-major-growth-opportunity-for-banks>
- <sup>79</sup> Grand View Research, (2023). Reverse Factoring Market Size and Share [2023 Global report], <https://www.grandviewresearch.com/industry-analysis/reverse-factoring-market-report>
- <sup>80</sup> Nafin <https://www.nafin.com/portalnf/content/home/home.html>
- <sup>81</sup> Reserve Bank of India <https://m.rbi.org.in/scripts/FAQView.aspx?Id=132>
- <sup>82</sup> World Bank; International Finance Corporation. 2022. Fintech and SME Finance: Expanding Responsible Access, <http://hdl.handle.net/10986/37355>
- <sup>83</sup> Demica <https://www.demica.com/product/trade-receivables-finance/>
- <sup>84</sup> eFactorNetwork <https://www.efactornetwork.com>

- <sup>85</sup> World Bank Group, (April 2020). Digital Financial Services, <https://pubdocs.worldbank.org/en/230281588169110691/Digital-Financial-Services.pdf>
- <sup>86</sup> World Bank; International Finance Corporation. (2022). Fintech and SME Finance: Expanding Responsible Access. © World Bank, Washington, DC. <http://hdl.handle.net/10986/37355>
- <sup>87</sup> "BB Guaranteed Account." Banco do Brasil. Accessed August 28, 2023, <https://www.bb.com.br/pbb/pagina-inicial/corporate/produtos-e-servicos/credito/equilibrar-fluxo-de-caixa/conta-garantida-bb#/>
- <sup>88</sup> "Revolving Credit Plan." Stanbic IBTC Bank. Accessed August 28, 2023, <https://www.stanbicibtcbank.com/nigeriabank/business/products-and-services/finance-your-business/business-loans/see-all-loans/agribusiness-finance/revolving-credit-plan>
- <sup>89</sup> "BizFlexi." CIMB. Accessed August 28, 2023, <https://www.cimb.com.my/en/personal/day-to-day-banking/financing/property-financing/bizflexi.html>
- <sup>90</sup> OECD, (2015). New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments, <https://www.oecd.org/cfe/smes/New-Approaches-SME-full-report.pdf>
- <sup>91</sup> World Bank Group, (2022). Fintech and SME Finance: Expanding Responsible Access, <https://ncfacanada.org/wp-content/uploads/2022/05/7-SME-Note.pdf>
- <sup>92</sup> "About." Davivienda. Accessed August 28, 2023, <https://ir.davivienda.com/en/about/>
- <sup>93</sup> "Banco Caja Social/Colmena. IFC Project Information & Data Portal." IFC. Accessed August 28, 2023, <https://disclosures.ifc.org/project-detail/SPI/10739/banco-caja-social-colmena>
- <sup>94</sup> Ko PC, Lin PC, Do HT, Huang YF., (June 2022). P2P Lending Default Prediction Based on AI and Statistical Models. Entropy (Basel), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9222552/>
- <sup>95</sup> World Bank; International Finance Corporation. 2022. Fintech and SME Finance: Expanding Responsible Access. © World Bank, Washington, DC. <http://hdl.handle.net/10986/37355>
- <sup>96</sup> Investree <https://investree.id/en/how-it-works>
- <sup>97</sup> KoinWorks <https://koinworks.com/en/online-investment-koinp2p/>
- <sup>98</sup> Lim, Gary. "Meet the fintech firm that's empowering Indonesia's unbanked women." Tech In Asia. June 21, 2023, <https://www.techinasia.com/meet-fintech-firm-empowering-indonesias-unbanked-women>
- <sup>99</sup> Budiman, Bido and Owens, John V. P2P lending: "Setting new trends to reach MSMEs and women." The Jakarta Post. March 4, 2021, <https://www.thejakartapost.com/academia/2021/03/03/p2p-lending-setting-new-trends-to-reach-msmes-and-women.html>
- <sup>100</sup> Modalku <https://modalku.co.id>
- <sup>101</sup> Budiman, Bido and Owens, John V. P2P lending: "Setting new trends to reach MSMEs and women." The Jakarta Post. March 4, 2021, <https://www.thejakartapost.com/academia/2021/03/03/p2p-lending-setting-new-trends-to-reach-msmes-and-women.html>
- <sup>102</sup> Mintos <https://www.mintos.com/en/>
- <sup>103</sup> Change Capital <https://www.changecapital.it/>
- <sup>104</sup> Step4Business <https://www.step4business.com/>
- <sup>105</sup> Center For Financial Inclusion, (July 2018). Responsible Digital Credit. What does responsible digital credit look like? [https://content.centerforfinancialinclusion.org/wp-content/uploads/sites/2/1970/01/Responsible\\_Digital\\_Credit\\_FINAL\\_2018.07.18.pdf](https://content.centerforfinancialinclusion.org/wp-content/uploads/sites/2/1970/01/Responsible_Digital_Credit_FINAL_2018.07.18.pdf)
- <sup>106</sup> Christopher, Nilesh. "Debt and shame via Google Play." Rest of World. January 27, 2021, <https://restofworld.org/2021/debt-and-shame-via-google-play/>
- <sup>107</sup> Bank of International Settlements, (July 2017). BIS Papers No 117 Fintech and the digital transformation of financial services: implications for market structure and public policy, <https://www.bis.org/publ/bppdf/bispap117.pdf>
- <sup>108</sup> World Bank; International Finance Corporation. 2022. Fintech and SME Finance: Expanding Responsible Access. © World Bank, Washington, DC. <http://hdl.handle.net/10986/37355>
- <sup>109</sup> Seedrs <https://www.seedrs.com>
- <sup>110</sup> MChanga <https://www.mchanga.africa>
- <sup>111</sup> Crowdo <https://crowdo.com>
- <sup>112</sup> EqSeed <https://eqseed.com>
- <sup>113</sup> "A Beginner's Guide to EmFi: Part 1 Introduction to Embedded Finance." Credolab. January 26, 2023, <https://www.credolab.com/blog/a-beginners-guide-to-emfi-part-1-introduction-to-embedded-finance>
- <sup>114</sup> Gozem <https://gozem.co/en/>
- <sup>115</sup> Nakano, Masashi, Jaggard, Christopher, Jeavons, Olivia. "Big banks need to embrace embedded finance – and fast." Accenture Banking Blog. Accenture. November 4, 2022. <https://bankingblog.accenture.com/big-banks-need-to-embrace-embedded-finance-and-fast>
- <sup>116</sup> KPMG, (2022). Embedded Finance Partnering platforms for success, <https://assets.kpmg.com/content/dam/kpmg/sg/pdf/2022/11/embedded-finance-partnering-platforms-for-success.pdf>
- <sup>117</sup> World Bank; International Finance Corporation. 2022. Fintech and SME Finance: Expanding Responsible Access. © World Bank, Washington, DC. <http://hdl.handle.net/10986/37355>
- <sup>118</sup> Jibrel <https://jibrel.network>
- <sup>119</sup> Neuro Red <https://www.neurored.com>
- <sup>120</sup> "Sustainable Farming & Agriculture." BanQu Accessed 2 August 29, 2023, <https://www.banqu.co/solutions/agriculture>
- <sup>121</sup> "Fintech for the Italian agrifood sector." Sicilian Wheat Bank. Accessed August 29, 2023, <https://www.bancadelgrano.it/en/home-eng-2/>

- <sup>122</sup> OECD (2020). The Tokenisation of Assets and Potential Implications for Financial Markets. OECD Blockchain Policy Series, <https://www.oecd.org/finance/The-Tokenisation-of-Assets-and-Potential-Implications-for-Financial-Markets.pdf>
- <sup>123</sup> "Early Stage Venture Fund (ESVF)." Innovation Lab Asia. Accessed August 29, 2023, <https://innovationlabasia.dk/project/early-stage-venture-fund/>
- <sup>124</sup> "Enterprise Finance Guarantee – About EFG." British Business Bank. Accessed August 29, 2023, <https://www.british-business-bank.co.uk/ourpartners/supporting-business-loans-enterprise-finance-guarantee/about-efg/>
- <sup>125</sup> "Innovation." KfW. Accessed August 29, 2023, <https://www.kfw.de/inlandsfoerderung/Companies/Innovation/>
- <sup>126</sup> Youth Enterprise Development Fund <http://www.youthfund.go.ke>
- <sup>127</sup> "National Guarantee Fund" Colombian Government, gov.co, Accessed August 29, 2023 <https://www.fng.gov.co>
- <sup>128</sup> CGC <https://cgcegypt.com>
- <sup>129</sup> "Credit Guarantee Fund." <https://www.cbfo.gov.tr/en/licensing-organization/credit-guarantee-fund>
- <sup>130</sup> OECD, (2015). New Approaches to SME and Entrepreneurship Financing: Broadening the Range of Instruments, <https://www.oecd.org/cfe/smes/New-Approaches-SME-full-report.pdf>
- <sup>131</sup> Hong, Gee Hee, and Deborah Lucas. "Evaluating the Costs of Government Credit Support Programs during COVID-19: International Evidence", *IMF Working Papers* 2023, 016 (2023), A001. Accessed August 29, 2023 <https://www.elibrary.imf.org/view/journals/001/2023/016/article-A001-en.xml> and Lanto Gilberto, et al. (undated). Directed Credit Programs: Issues and Framework for Reform, [https://pdf.usaid.gov/pdf\\_docs/pnadi76.pdf](https://pdf.usaid.gov/pdf_docs/pnadi76.pdf)
- <sup>132</sup> "SME Promotion," KfW. Accessed August 29, 2023, <https://www.kfw.de/About-KfW/Foerderung-auftrag-und-Geschichte/Geschichte-der-KfW/KfW-Themen/Mittelstandsforderung/>
- <sup>133</sup> "Types of 7(a) loans." SBA. Accessed August 29, 2023, <https://www.sba.gov/partners/lenders/7a-loan-program/types-7a-loans>
- <sup>134</sup> "Loans." SBA. Accessed August 29, 2023, <https://www.sba.gov/funding-programs/loans>
- <sup>135</sup> "Small and Medium Enterprises (SMEs) Finance." The World Bank. Accessed August 29, 2023, <https://www.worldbank.org/en/topic/sme/finance>
- <sup>136</sup> Guggenheim Investments, (April 2023). The ABCs of Asset-Backed Securities (ABS), <https://www.guggenheiminvestments.com/perspectives/portfolio-strategy/asset-backed-securities-abs>
- <sup>137</sup> Servicing capacity refers to the ability of the servicer to manage the cash flows associated with the underlying loans. This includes tasks such as collecting payments from borrowers, servicing delinquencies, and foreclosing on defaulted loans. The servicing capacity of the servicer will have a direct impact on the cost structure of the securitization program.

Average loan tenor refers to the average length of time that the underlying loans are outstanding. Longer loan tenors typically result in higher servicing costs, as the servicer will need to manage the cash flows associated with the loans for a longer period of time.

True sale vs assignments refers to the ownership structure of the underlying loans. In a true sale, the loans are transferred to the special purpose vehicle (SPV) that issues the securities. In an assignment, the loans remain on the balance sheet of the originator, but the originator assigns the cash flows from the loans to the SPV. True sales typically result in lower servicing costs, as the servicer is no longer responsible for managing the credit risk associated with the loans.

These factors can have a significant impact on the cost structure of a securitization program. For example, a program with a longer average loan tenor and a true sale structure will typically have lower servicing costs than a program with a shorter average loan tenor and an assignment structure. Governments and financial institutions should carefully consider these factors when designing and implementing securitization programs in order to ensure that the program is effective, cost-efficient, and sustainable.

Here are some specific examples of how these factors can impact the cost structure of a securitization program: (i) Servicing capacity: If a servicer does not have the capacity to manage the cash flows associated with the underlying loans, it may need to hire additional staff or outsource some of the servicing tasks. This can increase the cost of the securitization program. (ii) Average loan tenor: Longer loan tenors typically result in higher servicing costs, as the servicer will need to manage the cash flows associated with the loans for a longer period of time. This is because the servicer will need to maintain a system for tracking payments, servicing delinquencies, and foreclosing on defaulted loans for a longer period of time. (iii) True sale vs assignments: True sales typically result in lower servicing costs, as the servicer is no longer responsible for managing the credit risk associated with the loans. This is because the servicer is no longer responsible for foreclosing on defaulted loans or otherwise bearing the losses associated with defaults.

- <sup>138</sup> Global Partnership for Financial Inclusion, (June 2018). Use of Alternative Data to Enhance Credit Reporting to Enable Access to Digital Financial Services by Individuals and SMEs operating in the Informal Economy [https://www.gpfi.org/sites/gpfi/files/documents/Use\\_of\\_Alternative\\_Data\\_to\\_Enhance\\_Credit\\_Reporting\\_to\\_Enable\\_Access\\_to\\_Digital\\_Financial\\_Services\\_ICCR.pdf](https://www.gpfi.org/sites/gpfi/files/documents/Use_of_Alternative_Data_to_Enhance_Credit_Reporting_to_Enable_Access_to_Digital_Financial_Services_ICCR.pdf)
- <sup>139</sup> Global Partnership for Financial Inclusion, (July 2020). Advancing Women's Digital Financial Inclusion, <https://www.gpfi.org/publications/advancing-women-s-digital-financial-inclusion>
- <sup>140</sup> Better Than Cash Alliance, (2021), Reaching Financial Equality for Women, <https://www.betterthancash.org/explore-resources/reaching-financial-equality-for-women>
- <sup>141</sup> World Bank; International Finance Corporation. (2022). Fintech and SME Finance: Expanding Responsible Access. © World Bank, Washington, DC. <http://hdl.handle.net/10986/37355>

<sup>142</sup> The Reserve Bank of India has selected 'MSME Lending' as the theme of the third cohort on regulatory sandbox is aimed at addressing the issue of financing needs of MSMEs. Under the cohort the shortlisted entities have completed their testing of products which, among others, include end-to-end straight through processing for digital lending to MSMEs, use of proprietary business finance variables to underwrite real time cash flow-based credit for MSMEs and straight through process journey for MSME Mudra loan from lead to disbursal. Some of the innovations out of this cohort on MSME lending is expected to spur innovations that can help to fill the credit gap for MSMEs through the use of technology and data analytics.

<sup>143</sup> AFI, (March 2019). KYC Innovations for Financial Inclusion Integrity in Selected AFI Member Countries, <https://www.afi-global.org/sites/default/files/publications/2019-03/KYC-Innovations-Financial-Inclusion-Integrity-Selected-AFI-Member-Countries.pdf>

<sup>144</sup> One example is India which has embraced the use of Video-KYCs (Know Your Customer) as an alternate method for customer onboarding, complementing existing digital modes. Video-KYC allows to complete the KYC process through video call with authorized personnel. It offers convenience and accessibility, enabling individuals (including individual customers, proprietors in case of proprietorship firms, and authorized signatories and beneficial owners in case of legal entities) to establish their identity (by providing equivalent e-documents of identity proofs in case of individuals, and activity proofs in case of proprietorship firms) and access financial services from the comfort of their own homes. Video-KYC, along with digital identification systems, is seen as an important area for governments to invest in and establish public infrastructure. These advancements not only enhance the efficiency of customer onboarding but also contribute to financial inclusion by enabling individuals staying in remote areas who may have limited physical access to Financial Institutions to participate in the formal economy.





**International  
Finance Corporation**  
WORLD BANK GROUP

*Creating Markets, Creating Opportunities*