MSME Financing in the Latin America and the Caribbean

Challenges and Recommendations to Bolivia and El Salvador

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April 2021

IDB Inter-American Development Bank

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Acknowledgements

Our Capstone team would like to express our appreciation and gratitude to Professor Fernando Sotelino for his guidance, patience, and invaluable input as our Advisor for this project. As well as his help connecting our team with relevant market experts.

Additionally, we would like to extend our gratitude to our client, the Inter-American Development Bank, and to Diego Herrera and Sonia Vadillo from the IDB for their feedback and for connecting us with the resources needed to complete this project.

We would also like to thank the following individuals who shared their knowledge and perspectives on Latin American MSMEs-financing with us through informational interviews:

- Mr. Carlos Braga (Board and Risk Committee, Banco de Desenvolvimento de Minas Gerais “BDMG”);
- Mr. Nathaniel Lawrence (CEO, Crédito Social);
- Ms. Cynthia Cohen Freue (Senior Director Financial Services – Sector Lead, S&P Global Ratings);
- Mr. Alfredo E Calvo (Senior Director & Sector Lead, Financial Institutions Ratings, S&P Global Ratings);
- Mr. Vinicio Stort (CRO and Executive Director for Strategic Planning and Operations, Banco de Desenvolvimento de Minas Gerais);
- Mr. Jorge Fabián Mendivil Gómez (Chief Risk Officer, Banco de Desarrollo Productivo);
- Ms. María del Carmen Tapia Gemio (Technical Assistance and Productive Innovation Manager, Banco de Desarrollo Productivo);
- Dr. Angel Manuel O’Dogherty Madrazo (Director General Adjunto de Inteligencia Sectorial, FIRA);
- Ms. Laura Daniela Flores Rico (Dirección de Investigación Económica y Sectorial, FIRA-Banco de México);
- Ms. Maria Teresa Cuadra Garcia (Sector Projects Executive, Nacional Financiera);
- Mr. Javier Vazquez Duran (Director Desarrollo de Productos, Nacional Financiera).

Executive Summary

Access to finance has been an ongoing struggle for micro, small and medium-sized enterprises (MSMEs) in Latin America and the current pandemic crisis has exacerbated these challenges. Economies in Latin America hinge on the success of MSMEs as they comprise 95% of all businesses and 60% of the working population.[1]

The objective of this report is to conduct a deep dive into the challenges providing credit to MSMEs in Bolivia, El Salvador, Mexico, and Brazil; examine the macroeconomic and MSME-financing specific measures put in place in each country in response to the COVID crisis; and, lastly, provide concrete recommendations to present to decision-makers in Bolivia and El Salvador to mitigate the negative effect of the pandemic crisis on MSMEs lending. We obtained information from a range of policy papers, academic sources, and informational interviews with banking executives in the region.

This report consisted of four parts. Chapter I is an assessment of the key challenges of providing MSME credit before and after COVID-19. Chapter II provides an overview of the government policies adopted during the pandemic crisis. Chapter III presents the banking sector's response to the crisis. Lastly, Chapter IV details the specific recommendations for Bolivia and El Salvador to address issues described in Chapter I.

Through the research, the team identified five major categories of problems that severely constrain access to credit for MSMEs, 1) suboptimal credit underwriting process, 2) lack of systemic innovation and competition, 3) high informality, 4) COVID-19 credit deterioration, and 5) low financial literacy. Each issue has a complex web of associated causes and effects that drive poor credit conditions.

In response to the five problems, we provided a dozen comprehensive recommendations to address these problems. Firstly, for the credit underwriting issues, we recommend building a digital platform with machine learning credit scoring. Secondly, lack of innovation and competition can be solved by the establishment of a centralized payment system and promoting digital payment. These measures are effective to compensate for the sparse data necessary for MSMEs' credit assessment and reduce informality. The introduction of open banking infrastructure should also address the low competition problem. In addition to promoting a digital payment system, tax reform measures such as exemption of income tax incentive MSMEs to register and formalize. As for the credit deterioration due to the COVID crisis, the government guarantee program mitigates credit contraction. Closely monitored regulatory inducements help improve the resilience of the banking system amid the portfolio deterioration. Lastly, a scalable virtual platform that could demonstrate how to create, interpret, and use a personalized budget is effective to boost financial literacy. In the long term, educational reform to provide financial literacy training across public schools is an essential step to improve financial literacy. These policies can improve the availability and cost of credit for MSMEs individually and collectively.

[1] "MSME Financing Instruments In Latin America And The Caribbean During COVID-19 | Publications" 2021

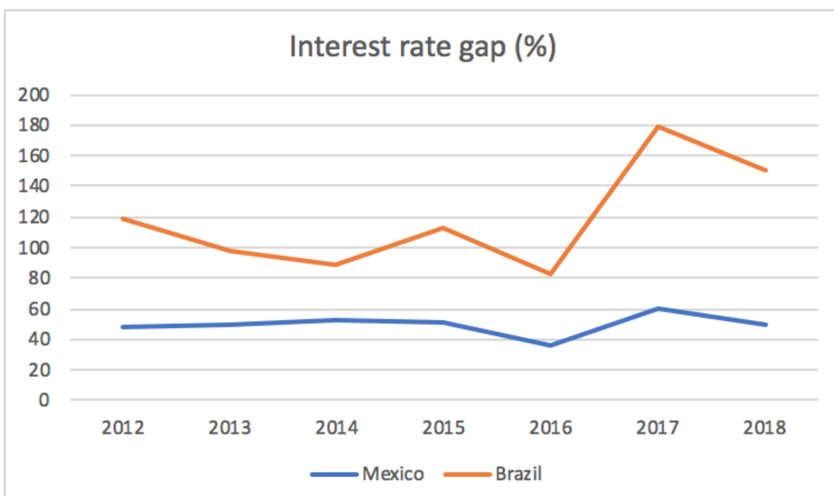
Chapter I MSME Financing in Latin America before COVID

1. MSMEs Lending Background Statistics

Before our discussion regarding the current demand and supply challenges for MSME financing, the following provides context for the critical social and economic importance MSMEs have in the region. MSMEs represent over 95% of all businesses[2] and provide 60-80% of total employment in Latin America (62% in Brazil[3], 78% in Mexico[4], 83% in El Salvador[5] and 82% in Bolivia[6]). They provide a majority of employment opportunities and account for a majority of the businesses; however, their overall contribution to GDP is relatively limited. MSMEs in Brazil accounts for 27% of the GDP[7], while Mexico is 35%[8], El Salvador is 35%[9] and Bolivia is 26%[10]. The low GDP contribution implies their lower productivity which is correlated with difficulties providing credit to MSMEs.

The pre-COVID financing statistics from OECD[11] show that SMEs were required to pay higher interest rates compared to larger firms. The interest rates gap between MSMEs and larger firms is substantial. In Brazil, the interest rate was 150% higher for MSMEs in 2017 and in Mexico, this gap was around 50%. The larger the interest rate spread the smaller the share of loans provided to MSMEs. Figures 1 and 2 below illustrate the interest rate gap in Mexico and in Brazil as well as the share of outstanding loans to SMEs as a percentage of total loans.

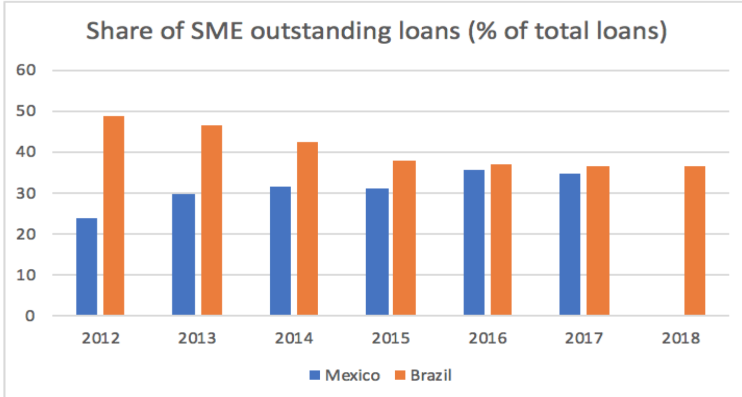
Figure 1. Interest Rate Gap Between MSMEs and Larger Firms in Brazil and Mexico



Source: "Financing SMEs And Entrepreneurs: An OECD Scoreboard" 2021

2 "Small And Medium-Sized Enterprises: Local Strength, Global Reach" 2021
3 "SME And Entrepreneurship Policy In Brazil 2020 | En | OECD" 2021
4 "SMEs In Mexico Before The Covid-19" 2021
5 "MSME Economic Indicators" 2019
6 "MSME Economic Indicators" 2021
7 "Financing SMEs And Entrepreneurs 2019" 2021
8 "SMEs In Mexico Before The Covid-19" 2021
9 "Global Credit Program For Microenterprise And Small Business In El Salvador" 2021
10 "PROJECT ABSTRACT BANCO GANADERO SME FINANCING PARTNERSHIP" 2021
11 "Financing SMEs And Entrepreneurs: An OECD Scoreboard" 2021

Figure 2. Share of SME Outstanding Loans as a Percentage of Total Loans



Source: "Financing SMEs And Entrepreneurs: An OECD Scoreboard" 2021

Access to finance is a major concern in many developing countries. This topic includes several indicators including assessing credit sources, loan requirements, and access to financial services. In Figure 3, extracted from the enterprise surveys of the World Bank[12], the green color means the condition is better than the regional average and the red color means it is worse than the average. Brazil has relatively better access to finance and the situations in Bolivia and El Salvador are similar to that of Mexico. Also, we can infer that Bolivian MSMEs had relatively better access to finance compared to those of El Salvador.

The SME Finance forum estimated the percentage of MSMEs that find it challenging to obtain finance in countries around the world. The statistical data indicated that the finance gap in Mexico is 85.84% while Brazil and Bolivia are 70.67% and 43.36%, respectively. In addition, large financing gaps for MSMEs persist across the region even before the COVID recession.

Figure 3. Access to Finance Indicators Table

	% of firms with a bank account	% of firms with a bank loan/credit	Proportion of loans requiring collateral (%)	Value of collateral needed for a loan (% of the loan amount)	% of firms using banks to finance investments	% of firms using banks to finance working capital	% of firms using supplier/customer credit to finance working capital
LAC average	92.9	47.7	70.7	199	38.6	42.7	56.2
Brazil (2009)	99	59.2	23.3	95.1	43.7	52.3	39.4
Mexico (2010)	61.8	32	67	208.9	16.2	26.9	37.7
Bolivia (2017)	82.2	47.3	95.8	206.7	37	38	32
El Salvador (2016)	83.6	40.2	75.7	205.1	25.2	35.2	50.7

Source: “Explore Topics”. World Bank. 2021

2. Challenges to Financing MSME in Latin America

a. Supply-side challenges

The following are several of the main challenges that financial institutions encounter when providing credit to MSMEs. MSMEs have historically been perceived to have higher credit risks

12 "Explore Topics" 2021

relative to larger firms. Several factors are responsible for a lower-than-desirable supply of finance to MSMEs. Recent research produced by the IFC in 2019[13] surveyed executives of SME banking units at financial institutions on the biggest challenges their businesses face in providing finance to MSMEs. The executives listed high credit risk (52%), the external environment (35%), lacking technological adoption (20%), as the top three operational challenges serving MSMEs.

i. Credit risk

Higher perceived credit risk limits the supply of credit banks can provide due to risk tolerance parameters and capitalization requirements. Higher risk translates to higher estimates of non-performing loans (NPLs) in bank portfolios. Bank credit assessment procedures are often inadequate due to informational asymmetry issues. Lenders lacking complete information regarding MSMEs' financial viability also gives rise to the problem of adverse selection.[14] These dynamics result in a high cost of SME risk assessments and limited lending to the informal SME sector. Banks have traditionally seen SMEs as risky and tend to be conservative in their SME risk assessments.

ii. External environment

Political, social, or economic instability also significantly affects the consumer markets, limits the expansion of business, and leads to reduction in public investment. Losses in consumer demand due to external issues translate to worsening MSME financial conditions.

iii. Technology adoption

Banking executives noted insufficient capacity to execute on digital processes and channels, which limited process efficiency. Respondents said to fully reach the SME market they need to identify "better digitization strategies" through technology adoption. Banks are focusing on digitizing processes such as the risk assessment process, where banks can pull data from other sources to enhance their own information, as well as distribution channels, which allow financial institutions to scale their customer numbers quickly.

b. Demand-side challenges

i. Informality and agency problem[15]

The main issues that affect credit demand for MSMEs include the lack of collateral (i.e, physical real estate or pledge guarantee), the lack of a solidarity firm or guarantor, low company formalization, and poor credit scores. Non-existent or inadequate secured transactions law, the lack of a collateral registry, and the lack of guarantee funds exacerbate these barriers. Additionally, a large number of MSMEs in the Latin American region are informal which decreases demand for credit. Informality affects the borrowing costs for MSMEs which means higher interest rates. Lacking informal disclosed information will raise the cost of financing of the lenders. Also, informality means lack of transparency, and the financial sector charges rates or denies access to financial services to avoid adverse selection.

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[13] "BANKING ON SMEs: TRENDS AND CHALLENGES" 2021

[14] Information Asymmetry, Small Firm Finance and the Role of Government, Jonathan Lean, 2001

[15] "MSME Financing Instruments In Latin America And The Caribbean During COVID-19 | Publications" 2021

3. Key issues with MSME Credit in Bolivia and El Salvador

The following is a summary of the specific challenges in both Bolivia and El Salvador that limit credit to MSMEs in the two countries.

a. Common challenges for both countries

i. Suboptimal credit underwriting process

Credit underwriting procedures are not optimal. The current credit risk assessment model is problematic in two aspects. Firstly, the credit assessment process takes a long time, which is not only inconvenient for MSMEs but also increases the cost of borrowing of MSMEs. Secondly, the current model cannot measure the accurate risk of MSMEs especially when they do not have financial data or credit history, so the credit lines and the costs of loans are not optimized. The main cause of the poor risk assessment model is the lack of key inputs/data. Credit assessments cannot accurately measure the risk of MSMEs when they do not have the past credit history or financial performance metrics. Lenders lack financial and personal information of the borrowers as well as economic indicators such as growth rate in the sector to develop a sophisticated risk assessment model. BDP tries to apply machine learning techniques for the risk assessment, but they described the availability of data or inputs to develop the model as a constraint. Desarrollo de Productos, Nacional Financiera (Nafin) also explained the reliability and availability of data is a major challenge in MSMEs lending.

ii. Lack of systemic innovation and competition

The lack of information described above could be complemented by new technologies such as the record from digital payment systems. However, in the LAC region, the usage of digital payment systems remains low. Insufficient retail payment service providers due to the lack of an ecosystem to foster innovational companies and the high costs of the system arising from lack of competition are significant challenges.

Also, the data of lenders are lacking the financial and personal information of the borrowers, which limits the new entry of lenders into the MSME lending. The lack of competition in MSME lending leads to a higher cost of lending.

iii. High informality

Most MSMEs in both countries are informal. 78% of MSMEs in El Salvador are informal sole proprietors, 56.5% of MSMEs do not keep any income and expenditure records and 7.7% declare value-added tax.[16] In El Salvador, approximately 69% of workers are employed by the informal sector. In Bolivia, approximately 81% of workers are employed by the informal sector, which is the highest in Latin America.[17] Many MSMEs choose not to register for various reasons including avoiding paying tax and the burden of the regulatory processes. The high levels of informality have a broad range of causes and effects that restrict credit to MSMEs and work as a vicious cycle. For instance, if a firm does not have a tax record or registration document, the creditworthiness of the company is diminished, which limits the ability to borrow loans. If a firm cannot borrow, growth and economic development is severely restricted. This issue is expected

[16] "El Salvador. Loan Proposal for the _Global Credit Program for Micro and Small Enterprises in El Salvador".Pdf | IADB." Accessed April 10, 2021.

[17] "Share Of Informal Employment In Bolivia 2018 | Statista" 2021

to expand as a result of the pandemic crisis, as many MSMEs argue that the tax burden is too heavy to pay with reduced revenues[18]. Carlos Braga (Board and Risk Committee Member of BDMG) said that informality was also one of the key issues in MSME lending throughout the LAC region. In Brazil, financial education and tax reform measures have attempted to reduce informality

iv. COVID-19 credit deterioration

The Outbreak of COVID-19 has sparked a serious economic downturn that is placing increasingly severe stress on the banking system. Latin America's banking systems will need to play a major role in supporting firms during the crisis but also face substantial risks from deteriorating loan portfolios. To protect their profits, commercial banks tend to decrease lending to riskier borrowers such as MSMEs and consequently, the cost of borrowing for MSMEs has increased, and incidences of default and late payment.
Credit deterioration and bankruptcy of enterprises could lead to a banking crisis, and further a financial crisis. Under COVID, without a resolution framework for restructuring enterprises, Bolivia and El Salvador could be more prone to financial crises.

v. Low financial literacy

The effects of poor financial education decrease the demand for credit in both countries. Lack of financial education often drives mistrust in financial institutions. This translates to a lack of ability and/or understanding for the majority of MSMEs of how to access credit in the region. In El Salvador, only 30% of people above 15 years old have a bank account, a figure that has fallen from 37% in 2014.[19] Even before the COVID outbreak, Javier Vazquez Duran (Director Desarrollo de Productos, Nacional Financiera) stated that in Mexico, MSMEs often believe being registered at a government Credit Bureau was a bad thing. However, this clearly limits attempts to assess creditworthiness for MSMEs.

Our capstone team met with Nathaniel Lawrence, the CEO of Crédito Social, to better understand this complex issue. Crédito Social assists micro-entrepreneurs in Brazil on business developmental issues including financial education. Lawrence has also produced academic research relating to the technological development of financial education for Micro entrepreneurs in Brazil. According to Lawrence, one issue with the current pedagogical approach is its focus on technical financial education rather than building financial decision-making habits. Most adult educational training is short classroom seminar-type training where future habits don’t change. The adults need stimulation and individualized attention that build financial decision-making habits.[20]

b. Bolivia-specific challenges

In addition to the above common challenges, we uncovered several issues specific to Bolivia with providing credit, one of which is the market distortion and low profitability of financial institutions. Bolivia has gained international recognition for the development of a financial system focused on supporting productive development and social interest projects. The Financial Services Act (Law

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[18] "COVID-19 International Small Business Study" 2020
[19] "The Digital Financial Services Ecosystem In Latin America And The Caribbean" 2021
[20] "Components Of A Financial Education Technology For Micro-Entrepreneurs In Brazil." 2021

393) of 21 August 2013, established controls on maximum interest rates and quotas that required 50% of credit portfolios directed to productive sectors and low-income housing.[21] This Act succeeded in increasing the credit to MSMEs but it distorted competitive dynamics and the changes in competition and pricing dynamics in the system pressured the financial institutions' profitability, according to Cynthia Cohen Freue (Senior Director Financial Services S&P Global Ratings) and Alfredo E Calvo (Senior Director & Sector Lead, Financial Institutions Ratings, S&P Global Ratings). Moreover, the government's decision to allow borrowers to postpone payments to the local banks until December 2020 can put more pressure on the financial institutions' liquidity in the near future.

Jorge Fabián Mendivil Gómez (CRO) and María del Carmen Tapia Gemio (Technical Assistance and Productive Innovation Manager), executives from BDP, mentioned that Bolivian law requires that BDP not provide loans that exceed the firm's equity, which limits the ability to lend to MSMEs when their assets diminish under the pandemic shock. This requirement is specific to public sector banks. Commercial banks do not have this regulatory constraint and the loan amount can vary depending on risk appetite.

In our interview, Mr. Jorge Fabián Mendivil Gómez also confirmed that BDP is legally required to meet with MSMEs in person to obtain information needed for the bank's credit model. This requirement to meet in person is a constraint on their ability to increase credit.

c. El Salvador-specific challenges

Several issues are specific to conditions in El Salvador. Funding that MSMEs receive is obtained from outside the formal financial system. According to research from the IDB, 76.8% of MSMEs in El Salvador finance themselves through family and friends. Most MSMEs belong to sectors with little added value: commerce (52%) and services (32%). This translates to limited capacity to innovate and low investment in new productivity-enhancing technologies (92% do not innovate).[22]

There is also a gap in financing for women entrepreneurs. 76% of women-owned MSMEs rely on finance from family and friends, compared with 46% in the case of men—a significant disparity. Just 16.32% of women engage with the formal financial sector.[23]

MSMEs are also having trouble accessing long-term financing. The tenors offered to MSEs in El Salvador are concentrated in the short term. 43% of individual loans are for terms up to 6 months, and 32% are for terms ranging from 6 to 12 months.[24]

MSMEs located in rural areas have limited access to financial systems. MSMEs in rural areas are more likely to lack access to a banking account. In El Salvador, 85% of the credit is concentrated in the Metropolitan Area of San Salvador and the western region of the country.
The reason for the sparse credit in rural areas is that operation in rural areas is costly for large commercial banks, and the loan programs provided by the commercial banks are not suited to the needs of rural commercial businesses.[25]

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[21] "Banking Industry Country Risk Assessment: Bolivia"| S&P Global 2020
[22] "El Salvador. Loan Proposal For The Global Credit Program For Micro And Small Enterprises In El Salvador". Pdf | IADB" 2021
[23] Ibid.
[24] Ibid.
[25] Ibid.

Lack of collateral is a barrier for MSMEs. In El Salvador, lacking mortgageable assets or pledgeable collateral became the biggest barrier to accessing credit (39%), leading to a 54% denial rate of giving credit to MSMEs.[26] The value of collateral needed for a loan is 205.1% of the loan amount in El Salvador. In Bolivia, the amount is 206.7%. These numbers are higher than the Latin American and the Caribbean (LAC) region's average (201.7%)[27]. An El Salvadorean Law on Secured Transactions passed in 2014 established an electronic system meant to help MSMEs use collateral (including the ability to register the personal property as collateral) to improve credit access.[28] The effectiveness of the law was limited due to ongoing high levels of informality. In an interview with Mr.Jorge Fabián Mendivil Gómez, CRO of Banco de Desarrollo Productivo (BDP), he mentioned that the lack of collateral prevented MSMEs from receiving credit.

4. Impact on MSMEs due to COVID crisis

a. Supply-side

In terms of the macroeconomic environment, Latin American countries experienced larger quarterly GDP contractions in COVID-19 than in any recession on record. According to IMF, economic activity is expected to contract by 8.1 percent in the current year, which will surpass both the global growth contraction of 4.4 percent and that in emerging countries (of 3.3 percent)[29]. The financing gap has accordingly increased with respect to regional GDP.

In addition, governments took steps to prevent the withdrawal of voluntary lending to MSMEs by offering banks loan guarantees.[30] However, commercial lenders maintained hesitancy lending because they faced the potential losses from the loan portion uncovered by guarantees and the time that it could take to collect the guarantees from the government after default.

b. Demand-side

The smaller the size of MSMEs, the more vulnerable they become and have lower resilience to shocks. According to a survey among SMEs in 132 countries by the International Trade Centre, two-thirds of micro and small firms reported that the crisis had strongly affected their business operations, and one-fifth indicated the risk of shutting down permanently within three months[31]. As the COVID crisis caused revenues to decrease causing liquidity issues requiring MSMEs to require credit, increasing the financing gap.

MSMEs often lacked collateral to support loans with a longer maturity. Small enterprises often do not hold receivables that can be used as collaterals. According to our interview with BDMG, the market of receivables in Brazil is mature and credible. Receivables should be electronic for credibility. MSMEs can ask for clients to pay bills through a certain bank and the bank can give MSMEs cash at a discounted rate of the receivables.

MSMEs also had the problem of information inaccessibility. Many do not have access to sources of information with the latest policies targeted to help them. Financial illiteracy also may prevent

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[26] "El Salvador. Loan Proposal for the _Global Credit Program for Micro and Small Enterprises in El Salvador".Pdf | IADB." Accessed April 10, 2021.
[27] "World Bank. "Enterprise Surveys" 2021
[28] "El Salvador: Law On Secured Transactions" 2021
[29] "COVID-19 In Latin America And The Caribbean" 2021
[30] "Banking Sector Risks Are On The Rise Amid Coronavirus Shock" 2021
[31] "SME Competitiveness Outlook 2020 - COVID-19: The Great Lockdown And Its Effects Of Small Business" 2021

understanding of relevant official document regulations such as the ones about loan standards and application processes.

Chapter II. MSMEs related Governments Responses to COVID

1. Fiscal and Monetary Measures

Below is a chart of the fiscal and monetary measures taken in response to the coronavirus pandemic in Mexico, Brazil, El Salvador, and Bolivia.

a. Mexico

Category		Implemented by	Detail
(Quasi) Fiscal Policy	Expenditure measures	Government	- The "Tandas para el Bienestar" program. - The Mexican Social Security Institute is granting loans of MXN 25 000 at a rate between 6.5% and 10% for formal and informal micro and small enterprises.
	Revenue measures	Government	The Mexican Tax Administration extended the deadline to file the personal income tax declaration from 30 April to 30 June 2020.
		Government	The government accelerated VAT refunds and implemented tax policy measures and introduced tax administration measures.
	Quasi-fiscal operation	Government	INFONAVIT announced that firms up to 250 employees could differ from second and third bimonthly 5% housing contributions.
		Development banks	The Federal Government, through the development bank Nacional Financiera, will support SMEs up to MXN 25 billion.
Monetary Policy		Central Bank	Cut policy rate from 7.00% to 4.25%. Monetary policy in Mexico is also conservative.
Macro-Financial Policy	Capital	Central Bank	CB opened financing facilities for commercial and development banks to allow them to channel resources to MSMEs (April 21)
		Banking Regulator	Allowed banks to use regulatory capital buffer except for paying dividends and employees' bonus
	MSME Credit Initiatives	Central Bank	A financing facility for commercial and development banks to channel resources to these enterprises and individuals.
		Central Bank	CB temporarily opened a financing facility for banks which will be guaranteed by credits to corporates that issue public debt.
		Banking Regulator	The debt moratorium program applies to consumer, mortgage, and commercial borrowers affected by the pandemic.
	Liquidity	Central Bank	Eligible banks may deliver illiquid debt securities to Banco de México in exchange for government securities.
		Central Bank	Reduce the mandatory regulatory deposit with Banxico (by MXN50 billion, or about 15% of the current stock).
		Banking Regulator	Assets that were classified as Eligible Liquid Assets, will remain even if after this date they would not be eligible anymore.
		Central Bank	Banco de México extends access to FLAO to development banks to obtain liquidity through collateralized credits or repos.
		Central Bank	A facility to repurchase government securities at longer terms than those of regular open market operations. Also, Banxico extended the securities eligible for the FLAO.

		Central Bank	Banco de México will implement swaps of government securities, in which it will receive long-term securities and will deliver others with maturities of up to 3 years.
		Central Bank	Banco de México has decided to implement corporate securities repurchase facility through credit institutions.
Structural Reform		Government	Progress toward reducing informality has been limited, falling just 3 percentage points over the past decade to about 56 percent at the eve of the Covid-19 shock.
		Private Company	Provide several new platforms including free e-commerce platforms to supporting SMEs
		Private Company	Fintech initiatives are being developed to support SME finance in the context of the crisis.
Private Sector Credit response		Private Company	Logistic companies such as UPS Mexico support SMEs by offering discounts and shipping support to Mexican SMEs.
		IDB	IDB and the Mexican Business Council have announced a loan scheme that will provide up to USD 12 billion a year to SMEs.
		CAF --> Nafin	CAF granted a 5.9-billion-peso credit line to Nafin to help support the MSMEs in human-intensive sectors such as commerce, industry, and services.
		MIGA, Bancomext	National Foreign Trade Bank (Bancomext), obtained a US$600 million credit facility from a syndicate of international banks.
		Nafin--> Commercial Banks, SMEs	1. Credit With the support of Nafin, commercial banks offer various financing products for Mexican SMEs. S 2. Guarantee Nafin supports financial intermediaries to provide small and medium-sized companies with access to financing for investment projects. 3. Nafin Productive Chains Provide suppliers with the liquidity they require for the operation of their business, through the electronic discount of their accounts receivable.

b. Brazil

Category	Implemented by	Detail
(Quasi)Fiscal Policy	Government	Expansion of health spending
		The Emergency Employment and Income Maintenance Program for formal private-sector workers, partial compensation to workers who are temporarily suspended or have a cut in working hours, as well as temporary tax breaks.
		Temporary income support to vulnerable households.
	Government	Temporarily lowered the tax burden for employers, on essential health products, and credit transactions (0.3 percent of GDP)
	Government	Support was provided to subnational governments by direct transfers and the suspension of debt service with the federal government.
	Government	The Treasury backed over 1 percent of GDP in credit lines to SMEs to cover payroll costs, working capital, and investment.

		Public Bank	Public banks stepped up credit lines in 4.4 percent of GDP, with an emphasis on supporting working capital.
		Government	Contributions by small employers to extrabudgetary savings and training funds were either deferred or temporarily reduced.
		Government	Authorized new withdrawals from the FGTS, releasing up to 0.5 percent of GDP in cash to households.
Monetary Policy		Central Bank	The central bank lowered the policy rate (SELIC) by 225bps since mid-February, to the historical low of 2 percent.
Macro-Financial Policy	Capital	Bank Regulator	Banks granted temporary permission to immediately recognize tax credits resulting from losses on FX derivatives positions on earnings.
		Central Bank	Temporary suspension from distributing dividends, paying interest on own capital, and increasing top managerial compensation.
		Regulator	Capital conservation buffer reduction, from 2.5 percent to 1.25 percent
		Central Bank	Working Capital Program for Business Preservation aims to provide credit to SMEs
		Regulator	Reduction in minimum capital requirement on SME credit operations.
	Liquidity	Central Bank	A temporary reduction in banks' reserve requirement ratio (RRR) for time deposits from 25 percent to 17 percent.
		Bank Regulator	Banks have been granted access to a new lending facility using credit operations as collateral.
		Central Bank	Access to a one-year FX repo facility using federal bonds supports banks' FX liquidity needs.
		Central Bank	A new 'Term Deposit with Special Guarantees' allows institutions to take higher deposits guaranteed by the Credit Guarantee Fund (FGC).
		Central Bank	The BCB grants financial institutions loans backed by debentures
		Central Bank	A 30 percent deduction of savings deposit reserve requirements to be used for micro and small company credit

c. El Salvador

Category		Implemented by	Detail
(Quasi)Fiscal Policy	Revenue Measures	Government	A 3-month extension for income tax payments for taxpayers operating in the tourism sector meeting certain standards.
	Quasi-fiscal operations	Ministry of Finance	For a three-month period, affected parties will be exempt from payments for electricity, water, credit cards. etc.
		Government	Credit facilities for companies for productive credit to the agricultural sectors, construction, services, tourism. etc.
Macro-Financial Policy	Capital	Central Bank	Establishing a US$650 million trust fund operated by BANDESAL to provide support to workers and SMEs.
	Credit	Banking Regulator	Impose a temporary moratorium on credit risk ratings. Amend provisioning for NPLs by freezing credit ratings.

		Banking Regulator	Temporarily relaxing lending conditions through a grace period for loan repayments.
	Liquidity	Central Bank	Lowering banks' reserve requirements by 25 percent for newly issued loans.
		Central Bank	Dynamic transactions of electronic money, early payment to SMEs, purchases of the Minimum State of 25% of Goods and Services, chains for direct marketing.
Public banks		IDB	IDB loaned US$20 millions to Banco de Fomento Agropecuario (BFA).
		IDB	IDB entered into an agreement with the Republic of El Salvador to establish a Conditional Credit Line for Investment Projects (CCLIP).

d. Bolivia

Category		Implemented by	Detail
(Quasi)Fiscal Policy	Expenditure Measures	Government	The authorities have provided direct relief payments of about $US 73 per child to households with children in public schools.
		Government	The government instituted a program (Canasta Familiar) to make direct payments for food to 1.5 million families, pay the electric bills for three months for the consumers with lower consumption, and pay 50 percent of the potable water and gas for all households.
			The government provided $US 73 to citizens who did not receive any benefits or a salary from the public or private sector.
			The latest transfer to households provides a one-off transfer of about $146 for those who receive the universal transfer, mothers who are already recipients of targeted cash transfers, people with disabilities, and citizens over the age of 18 who do not receive any type of public or private salary.
	Revenue Measures	Government	The authorities postponed the payment of some taxes with the possibility to pay them in tranches.
		Government	RE-VAT, a measure to refund VAT equivalent to up to 5% of an individual’s purchase for those with an average monthly income equal to or less than about $1,311.
	Quasi-fiscal operations	Government	The government created a $US 219 million fund to support the operations of micro, small and medium businesses.
Monetary and Macro-Financial Policy	Credit	ASFI	The Financial System Authority instructed banks to establish a "grace" period of at least four months, during which time borrowers will pay only interest.
	Liquidity	Central Bank	Liquidity has been increased by reducing reserve requirements in both local and foreign currency.
		Central Bank	The Central Bank of Bolivia injected 3.5 billion bolivianos to the financial system by purchasing bonds from the pension funds.
Other		Government	Imports of $US 200 million worth of respiratory equipment are underway, while ICU capacity is being doubled.

Private Sector Credit response	IDB	The IDB granted a $130 million loan to fund loans to MSMEs hit by the COVID-19 pandemic in Bolivia.

2. MSME Related Response

Below is a list of the measures taken specifically to help MSMEs in each country divided between the responses by the respective treasury, central bank, or regulator in Mexico, Brazil, El Salvador, and Bolivia.

a. Mexico

i. Treasury[32]

Expenditure measures: Mexico's fiscal stimulus included loans with optional repayment to family businesses previously registered in the Welfare Census (0.1% of GDP), called the "Tandas para el Bienestar" program, which invests MXN3.4 billion to grant 450,000 new loans to small businesses and for young people involved in the "Young People Building the Future" program.
The Mexican Social Security Institute (IMSS) is granting loans of MXN 25 000 at a rate between 6.5% and 10% for formal and informal micro and small enterprises. The requirement for formal companies is to have retained payroll during the first quarter of 2020; while the requirement for informal businesses is to be registered in the Census for Wellbeing.

Payment deferral: On 27 April, INFONAVIT announced that firms up to 250 employees could differ from second and third bimonthly 5% housing contributions until September.

Below-the-line measures: The Federal Government, through the development bank Nacional Financiera (Nafin), will support SMEs up to MXN 25 billion (USD 1 billion USD). One million credit products of MXN 25 000 each (USD 1 000); and 500 000 credit products will be provided to the formal economy and 500 000 loans will be extended to the informal economy. The credits will be settled over a period of 3 years, with no payment in the first three months and further monthly payments of MXN 1 000 (USD 42), at an average rate of 6.5% per year.

ii. Central Bank[33]

Provision of resources to banks to channel credit to MSMEs: A financing facility for commercial and development banks to allow them to channel resources to these enterprises and individuals. The central bank provided financing at terms of between 18 and 24 months, with a cost equal to the overnight interbank interest target rate to facilitate lending by commercial and development banks. The program will be for up to MXN $250 billion, but only 3% has been disbursed by September 2020.

Collateralized financing facility for commercial banks with corporate loans to finance MSMEs: The bank decided to temporarily open a financing facility for banks which will be guaranteed by credit to corporates that issue public debt so that this financing can be channeled to MSMEs. Financing is at a term of 18-24 months, with a cost equal to that of the target for the overnight interbank

[32] "Coronavirus (COVID-19): SME Policy Responses". 2021

[33] "Additional Measures To Foster An Orderly Functioning Of Financial Markets, Strengthen The Credit Channels And Provide Liquidity For The Sound Development Of The Financial System". 2021

interest rate, guaranteed by credits to firms with a credit rating equal to or above "A" in the local scale, as ranked by at least two rating agencies. The amount of the program will be up to MXN $100 billion.

Financing facilities: CB opened financing facilities for commercial and development banks (MXN350 billion) to allow them to channel resources to MSMEs.

iii. Regulator[34]

Loans Moratorium: The debt moratorium program applies to consumer, mortgage, and commercial borrowers affected by the pandemic. The Secretariat of Finance announced that commercial banks will be allowed to grant payment extensions up to four months with an optional two-month extension to individuals and SMEs for all types of consumer loans (auto, credit cards, personal loans, mortgage, and commercial credit lines). These restructured loans won't be considered nonperforming loans and would not be required to be provisioned.

b. Brazil[35]

i. Treasury

SME credit support: The Treasury backed over 1 percent of GDP in credit lines to SMEs and micro-businesses to cover payroll costs (requiring employment retention beyond the loan disbursement period), working capital, and investment.

ii. Central Bank

SMEs Credit support and Deposit reserve deduction: The bank regulator implied a reduction in the minimum capital requirement on SME credit operations. The risk-weight on SME credit risk exposures when calculating risk-weighted assets (RWA) was reduced from 100 percent to 85 percent. What's more, the Central Bank implied a 30 percent deduction of savings deposit reserve requirements to be used for micro and small company credit.

iii. Regulator

RWA reduction: The bank regulator conducted a reduction in the minimum capital requirement on SME credit operations. The risk-weight on SME credit risk exposures when calculating risk-weighted assets (RWA) was reduced from 100 percent to 85 percent.

c. El Salvador

i. Central Bank[36]

Financing facilities: The Central Bank established a US$650 million trust fund to be operated by the development bank BANDESALto provide support to workers and SMEs.

d. Bolivia

[34] "Scope Of Policy Responses To Covid-19 Varies Among Latin-Americas Central Banks".. 2021
[35] "Brazil: 2020 Article IV Consultation-Press Release; Staff Report; And Statement By The Executive Director For Brazil". 2021
[36] "Policy Responses To COVID19". 2021

i. Treasury[37]

Repayment facilitation: The government created a $US 219 million fund to support the operations of micro, small and medium businesses. This fund will provide soft loans to companies to pay wage bills without layoffs for two months (companies can withdraw $US 1230 per employee, repayable in 18 months).

[37] Staff, Reuters. 2021

Chapter III. Public/Private Sector Bank Response for MSMEs

Our team held several interviews with executives from public sector banks in Brazil, Mexico, and Bolivia to understand the banks' response to MSME lending as a result of the recession. The theme consistent in interviews was public sector banks faced an increased burden to extend credit to MSMEs as private sector banks immediately reduced voluntary lending due to the risk aversion caused by the pandemic. Public sector banks' appetite for risk-taking is higher than private sector banks. Development banks are more willing to accept lower returns, allowing them to tolerate higher risk. Moreover, development banks also have the mandate of helping create jobs within the economy. On the contrary, private sector banks tend to focus more on the financial bottom line to pay the shareholders.

Below are several public sector financial programs discussed in detail below. The content was sourced from our desk research and informational interviews. Below are several public sector financial programs discussed in detail below. The content was sourced from our desk research and informational interviews.

1. Brazil

a. PRONAMPE (The National Program for the Support of Micro and Small Businesses)

The National Program for the Support of Micro and Small Businesses is a federal government program for the development of micro and small businesses, effective from May 18, 2020. It offered credit lines for MSMEs to access working capital during the pandemic. The government paid R $15.9 billion to the Operations Guarantee Fund (FGO), managed by Banco do Brasil, to serve as collateral for credit transactions with financial institutions that are members of PRONAMPE. The program can be offered by qualified institutions including public and private sector commercial banks, with the operational institutions themselves providing the funding for program operations. In the three phases of PRONAMPE, more than R $37.5 billion were released by the FGO to more than 517 thousand companies, of which 61.3% went to micro-companies and the remaining 61.3% went to small ones[38].

The success of PRONAMPE may be due to the adoption of an interest rate below that practiced in the market: the Selic rate (currently at 3%) +1.25%. Moreover, the linkage to a guarantee fund to cover risks attracted more banks and opened the range of opportunities. A great innovation of PRONAMPE was acting through guarantees, which was a differential to facilitate companies' access to credit[39]. The program helped to reduce layoffs of SME workers and increase productivity.

Limits of PRONAMPE include the personal guarantee requirement, the limited resources, and the reach of a very small portion of the companies. Data from the Ministry of Economy show that less than 10% of the more than 4 million micro and small companies received the notification of authorization to access the credit line.

b. MEI (Individual Micro-Entrepreneur)

The Individual Micro-Entrepreneur ("MEI") program became an appealing choice for many who lost their jobs and started their own micro-enterprises during the crisis. The program was created

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[38] "Empresas & Negócios" 2021

[39] Antônia Tallarida, Undersecretary for Development of Micro and Small Enterprises, Entrepreneurship and Crafts of the Ministry of Economy

to formalize self-made micro entrepreneurs without proper registration to perform business. The Brazilian government created MEI (Law 123/06, amended by Law 128/08), a legal figure with a different tax system and its registration and operation are simplified.[40] The MEI law allows craftsmen, tailors, hairdressers, electricians, photographers, painters, carpenters, plumbers, and several other professionals to formalize as a MEI, obtain a Tax ID number and pension coverage. The MEI can also do business with government entities, issue local tax invoices (Nota Fiscal), and request bank loans.

Notable advantages of MEI are simplified tax requirements, low monthly cost, and lack of bureaucracy to pay taxes. For MEI, filing requirements for taxation are simplified compared to other business formation types. Participants are not required to pay Income Tax. What they do need to pay monthly are Social Security (5% of minimum salary), ISS (BRL 5.00, tax for service businesses), and ICMS (BRL 1.00, tax for goods and manufacturing businesses).[41] The operating license is issued over the internet and there is no registration fee. Social security coverage for the MEI and his/her family is also included in the monthly ticket.

For businesses that have the possibility to be registered as a MEI, there is no other solution that has such benefits as paying less tax, not filing income tax returns, no need for an accountant, no registration fees for setting up the legal entity, and several other advantages, especially during times like the COVID crisis. The MEI law provides a legal guideline for micro-entrepreneurs to refer to and seek help and receive benefits. The record on the National Registry of Legal Entities (CNPJ) also makes it easier to have bank accounts opened, loans requested and invoices issued. Consequently, the MEIs will have more business opportunities once registered.

c. Digitization of bank process and SMEs payment system

The crisis has also pushed for accelerated digitization in banks. Banks have provided several new platforms including free e-commerce platforms to support SMEs, and fintech initiatives are being developed to support SME finance in the context of the crisis. Banco Santander launched its “Gente” bot; Itaú saw the number of customers using its AI service via WhatsApp grow 50% in March compared to February in 2020, and Bradesco had 20% more consultations through its digital channels over the same period.

2. Mexico

We had two interviews with two Mexican Development Banks. The first with Dr. Angel Manuel O’Dogherty Madrazo (FIRA), and the second with Maria Teresa Cuadra Garcia and Javier Vazquez Duran in Nafin (Nacional Financiera).

Nafin is a second-tier development bank with a focus on MSMEs. It lends to intermediaries, including non-bank financial institutions, credit unions, and commercial banks, which further lend to MSMEs. There are two business lines: the grant and credit providing program and the warranty program. Larger banks mainly use the guarantee program of Nafin, because they can finance themselves by large deposits and also have access to the capital market by issuing stocks. On the contrary, smaller or new banks and non-bank financial institutions use the combination of credit program and guarantee program, because they have limited or no amount of deposit, and limited access to the capital market. To avoid competition with larger banks, Nafin has been

[40] "THE INDIVIDUAL MICRO ENTREPRENEUR" 2021

[41] "MEI - Individual Micro-Entrepreneur - ATB - Accounting And Tax In Brazil" 2021

promoting smaller banks to graduate from credit programs and to rely only on guarantee programs recently.

FIRA is also a second-tier bank that gives a line of credit to first-tier banks that do credit evaluation and provides first-tier banks guarantee and funding that can only be used in rural areas. Its main objective is to increase credit to rural agricultural areas and maintain profits to cover inflation. FIRA aims to stimulate the agricultural sector by focusing on smaller producers with no access to credit lines, strengthening projects' structuring by offering training and technical assistance to small producers' projects, broadening funding flow through the participation of rural private financial intermediaries, promoting a gradual private financial intermediaries financial independence to provide funding with their own resources to producers with an existent credit history, and preserving Institutional assets.

Specifically, in Mexico, we identified four programs implemented by public sector banks in response to COVID.

a. Nafin

Nafin provided credit through commercial banks to SMEs and provided a loan guarantee to state governments to SMEs. There are several cases: a) Banca Mifel, in alliance with Nafin, presented its Apoyo Pyme program, granting credits for up to 5 million pesos to support SMEs. b) In conjunction with Nafin, the Edomex government presented the Impulse program for Industrial and Regional Development, providing credit of $825 million to state SMEs. c) Nuevo León launched a guarantee program with Nafin. At the end of Sept 2020, Nuevo León had supported 765 SMEs with more than 2,000 million pesos through the program. Before Covid, the program was for machinery and equipment and became focused on working capital in Covid. For every million granted, 16 million guarantees were replicated.

Assessment: The programs were targeted at the specific needs of SMEs in response to Covid. Also, the Impulso program channeled resources for working capital and fixed assets of SMEs.

b. Tandas para el Bienestar (the Microcredit Program for Wellbeing)

The ‘Tandas para el Bienestar’ programme planned to invest 3.4 billion pesos to grant 450,000 new loans to small businesses. It is in charge of the SE (secretaria de economia /Ministry of Economy) and has an approved budget of 2.5 billion pesos (mdp) in the PEF 2020. As of the second quarter of 2020, the program presented a budget advance of 812.2 million pesos. Support was channeled mainly to the central and southwestern region of the country, with a distribution of 32.65% and 32.33%, respectively (SE, 2020c)[42].

Assessment: The program promoted the strengthening of the productive activities of people who have a micro-business through monetary support, advice and training. In addition, it promoted gender equality in the workplace and the reduction of inequality between regions.

c. CAF (Corporación Andina de Fomento)

Mexico also received credit lines from CAF, the development bank of the LAC region. CAF granted a 5.9-billion-peso credit line to Nafin to help support the Aztec nation’s MSMEs in human-intensive sectors such as commerce, industry and services. More than 135,000 Mexican MSMEs

[42] “Business credit programs. Support in the face of the COVID-19”

benefited from the alliance between CAF and Nafin. Between March and April in 2020, resources of 5,916.6 million pesos were disbursed, which financed 135,368 SMEs. 63% were destined to microenterprises, which constitute the largest number of economic units in the country.[43]

Assessment: The programs allowed SMEs to start, develop and evolve their business models while contributing to employment, growth, and social inclusion.

d. IDB +Mexican Business Council

IDB and the Mexican Business Council announced to provide up to $12 billion a year to SMEs, aiming to provide loans to 30,000 businesses. IDB Invest and the CMN also sought to build a $3 billion program in reverse, factoring lines of credit that would complement existing schemes run by the IDB in Mexico.

Assessment: This is part of the strategy to support the economic stability of the Latin American region through the private sector since maintaining liquidity in value chains and trade multiplies the social and economic benefits.

3. Bolivia and El Salvador

Both Bolivia and El Salvador have obtained financial support from the IDB. The programs are listed below:

IDB Global Credit Program for Safeguarding the Productive Fabric and Employment in Bolivia (BO-L1217): IDB granted a $130 million loan to the Plurinational State of Bolivia to fund loans to MSMEs hit by the COVID-19 pandemic in Bolivia. The objective of this operation was to support the sustainability of the MSMEs faced by the crisis of COVID-19 to maintain employment in Bolivia.[44]

IDB Global Credit Program for Micro and Small Enterprises in El Salvador (ES-L1136): IDB loaned US$20 million to Banco de Fomento Agropecuario (BFA) to cooperate in the execution of a Global Credit Program for Micro and Small Enterprises in El Salvador. The program was disbursed in accordance with the financial management policy for investment loans. The resources were used to finance small agricultural producers and MSEs in El Salvador, through current and future credit lines that the BFA has for this purpose. The program places special emphasis on women entrepreneurs and municipals with high rates of marginalization.[45]

IDB Conditional Credit Line for Investment Projects (CCLIP) to Facilitate Access to Business and Housing Loans (ES-O0009): IDB entered into an agreement with the Republic of El Salvador to establish this CCLIP for an amount of up to US$400,000,000 chargeable to the resources of the Ordinary Capital of the Bank. The objective is to promote productive activity and social welfare in El Salvador through access to credit in the business and housing sectors.[46]

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[43] “News | CAF.” Accessed April 27, 2021.
[44] "LP - Bolivia - Loan Proposal For The Global Credit Program For Safeguarding The Productive Fabric And Employment In Bolivia | IADB" 2021
[45] "El Salvador. Loan Proposal For The Global Credit Program For Micro And Small Enterprises In El Salvador” | IADB" 2021
[46] "Conditional Credit Line For Investment Projects (CCLIP) To Facilitate Access To Business And Housing Loans| IADB" 2021

Chapter IV. Country Specific Policy Recommendations

1. Recommendation for Bolivia and El Salvador

a. Improving the Credit Underwriting Process

i. Develop machine-learning based credit scoring and digital platform

(1) Problem

As described in Chapter 1.B, the current credit risk assessment model is problematic in two aspects. Firstly, the credit assessment process is often time-consuming and manual. The procedures are not optimized which is not only inconvenient for MSMEs but also increases the cost of borrowing of MSMEs.

Secondly, lenders often lack data including the financials or credit history of MSMEs which limits the ability to accurately measure credit risk.

According to our interview with the CRO of the BDP, BDP launched a loan pre-processing smartphone application which used the financial and personal information of the applicants and helps final decision made in the office. Mr. Jorge Fabian Mendivil, the CRO of BDP stated they are investing in a more sophisticated risk assessment model by applying machine learning techniques, but the information necessary to develop the model is quite limited and not granular enough. He also said that lack of information impedes the ability to develop sophisticated models.

Also, officials of Nafin, described the availability and reliability of information as a major challenge in MSME lending. Traditional financial institutions use credit behavior and personal data such as loan information from lenders, deposit data with banks, other current accounts information. However, most MSMEs don't have bank accounts nor financial statements.

(2) Suggestions to Bolivia and El Salvador

To solve these two problems, we suggest development banks lead an initiative to build (1) a machine learning credit scoring model, and (2) a digital platform that makes financial services more efficient and brings together several services in one place.

The information availability and reliability issues to develop machine learning-based credit scoring can be solved by the utilization of diverse, non-conventional data. Nathaniel Lawrence, CEO of Crédito Social overcomes the problem by innovative measures. Crédito Social offers an enterprise resource planning (ERP) smartphone application to MSMEs combined with financial management training.[47] They use (i) actual financial data of the individual businesses obtained by the ERP application, (ii) the learning performance of training, and (iii) alternative credit data to compute credit scores and provide them to financial institutions. Alternative credit data include behavioral indicators such as phone usage, electricity bill payments from external sources such as retailers, telecommunications companies, and utility providers. While proxy indicators can be obtained from microfinance institutions, MDBs such as IDB, and government agencies. This alternative data can enhance lender credit models.

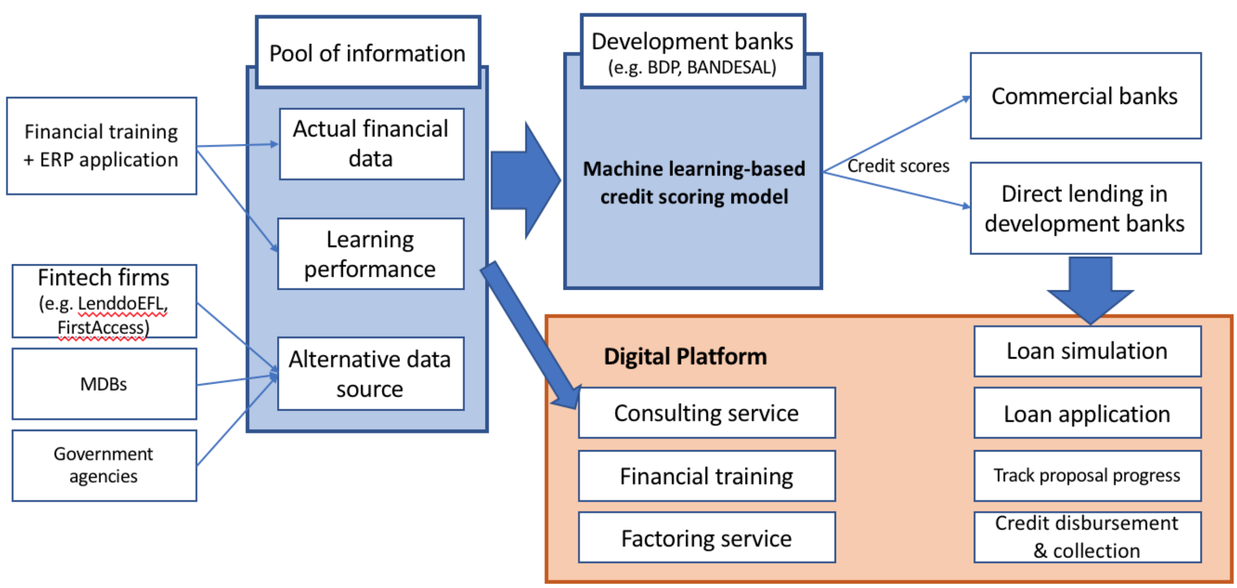
[47] "Crédito Social - Columbia Entrepreneurship" 2021

The investment in technological solutions and/or partnerships with financial technology service companies can make the development of credit scoring models more agile and less time-consuming. There are fintech companies that process alternative data sources and offer credit scoring services to financial institutions. For instance, LenddoEFL calculates credit scores based on data stored in mobile phones, social networks and e-mails. When users allow LenddoEFL to access their information, the big data model will calculate a credit score. LenddoEFL offers LenddoScore to complement traditional underwriting tools. It has 15 bank clients in Latin America including Brazil, Mexico, Peru, Colombia, Costa Rica, Jamaica[48].

Another potential partner to boost the usage of non-conventional data sources is FirstAccess that provides a software platform to commercial bank clients to configure credit underwriting, approval, and management processes. Their service is unique because it enables lenders to incorporate almost any type of data via API even including offline data collected manually. FirstAccess started operation in Africa, but now it operates all over the world including the LATAM region.[49]

At the same time, we recommend development banks establish digital platforms. The digital platform should not only include a consulting program, a loan simulation, an application, and tracking system, and a disbursement system stated in the BDMG case, but also combine financial training program, records of digital payment for better data collection purpose, factoring service, and loan repayment functions.

Figure 4. Innovative Credit Risk Assessment System



Source: SIPA-IDB Capstone Team

[48] "Lenddoefl" 2021
[49] Firstaccess.Co. 2021.

(3) Benefits

McKinsey report notes that machine learning can significantly improve a lender's underwriting processes. The technology can automate credit procedures making decisions more accurate while reducing the cost of lending. This facilitates a bank's ability to monitor debtors through smarter early-warning systems.[50]

Credit scores obtained by the sophisticated model can not only be used in the development bank to make decisions in direct lending but also can be shared with their clients' commercial banks to scale up the positive impact of credit scoring information.

The digital platform is beneficial not only for borrowers because it improves convenience but also critical to accumulate information of potential borrowers and enhance the credibility of MSMEs. For instance, a digital platform can accumulate information of financial training performance or digital payment history. Also, if they incorporate a factoring system, it can be used as collateral for loans, and improve the creditworthiness of MSMEs.

(4) Example of successful cases

Banco de Desenvolvimento de Minas Gerais "BDMG" is an example of a development bank that successfully developed a machine learning-based credit scoring model. They use various information including credit history, behavioral information such as marital status, distance from the capital of the residence state, and credit performance of neighbors to assess potential default risks. They also evaluate assets that can be collaterals to calculate the limit and the price of the loan. This model boosted the speed of credit risk assessment significantly. A few hours after customers fill in the company details, they will receive feedback from the BDMG with the analysis of the proposal.[51]

FIRA in Brazil is an example of a second-tier development bank that provides credit scoring information to their commercial bank clients. Although financial institutions do not fully depend on the model to make financing decisions, credit scoring information helps the credit committee to make loan decisions more efficiently.[52]

A digital platform is an online one-stop financial service center. Carlos Braga, the Board and Risk Committee of the BDMG, stated their digital platform led them to outperform similar banks during the COVID crisis that did not have a similar digital lending platform. Mr. Braga shared details of the BDMG Digital platform for the report. BDMG Digital is an online platform created in 2012 to make lending more agile and to bring together financial services in one place for better convenience for their customers. It is a pioneering initiative among Brazilian development banks. Since its launch, more than 75,000 SMEs have requested credit. Credit was granted to 26,000 companies, enabling a disbursement of approximately BRL 1.6 billion.

The great differential of the platform is the quick response granted to MSMEs without sacrificing risk tolerance. Credit responses required over 60 days in the past, but nowadays the credit results

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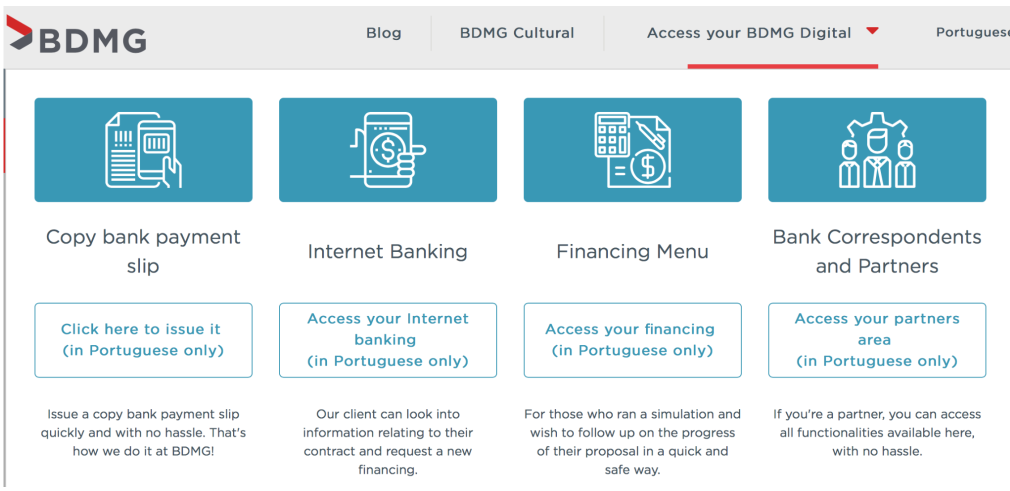
[50] "The Coming Opportunity In Consumer Lending" 2021

[51] Per interview with Mr. Vinicio Stort (CRO and Executive Director for Strategic Planning and Operations, Banco de Desenvolvimento de Minas Gerais)

[52] "The Impact Of Computer-Generated Credit Scoring On Lending In Colombia | The Abdul Latif Jameel Poverty Action Lab" 2021

can be delivered in several hours. Disbursements can be completed no later than 5 days after the credit simulation. Especially under COVID-19 circumstances, the agility provided by the platform is crucial to this set of companies. According to Figure 5[53], on the platform, customers can consult information related to their businesses, simulate and choose the best loan program and installment term for their company, request new loans by filling the company details, track the progress of their proposal, and receive money delivered to their online account.

Figure 5. The Platform of BDMG Digital



Souce: BDMG Official Website

ii. Require risk models to not include gender

(1) Problem

In El Salvador, the credit for the MSMEs in El Salvador has gender gaps. Women's lack of assets is a major access barrier. 76% of women's ventures are financed out of their own resources and loans from family and friends, compared with 46% in the case of men—a significant disparity. Just 16.32% of women engage with the formal financial sector.[54]

(2) Suggestions to Bolivia and El Salvador

Make the banks' risk assessment model not include gender when making decisions on making loans to MSMEs.

(3) Benefits

This can improve gender equality and help women entrepreneurs to some extent.

(4) Example of successful cases

53 "BDMG Digital." Accessed April 28, 2021.
54 "Global Credit Program For Microenterprise And Small Business In El Salvador" 2021

According to an article written by Shang-Jin Wei from Columbia University, China's Ant Financial promoted gender equality in entrepreneurship. While men outnumber women three to one among offline entrepreneurs, there is near gender parity among online entrepreneurs, and women-led firms are helped by Ant's merit-based, gender-blind loan program.[55]

b. Stimulate systemic innovation and competition

i. Create a centralized payment system

(1) Problem

Limited access to retail payment services and their high costs are significant challenges in Latin America and the Caribbean. Central banks in the region have undertaken major initiatives aimed at promoting more efficient and inclusive payment systems. The COVID-19 pandemic reinforced the momentum of these policy initiatives, as it has accelerated the shift to digital payments and underscored the need for more inclusive and lower-cost payments.

(2) Recommendation to Bolivia and El Salvador

The governments of Bolivia and El Salvador can implement steps towards the creation of a centralized payment system. Also, we suggest that they put a cap on fees that banks can charge merchants for digital payments when digital transactions are initiated.

(3) Benefits

Digitizing payments creates transaction data, better security, increased transparency, and faster transaction times. The financial data on MSME spending can be used in lenders' creditor models to assess creditworthiness. Additionally, with an established electronic payment system, businesses will not need to find a bank branch for money deposits frequently.

"Growth in DFS (digital financial services) ultimately lift demand, boost underlying economic growth, raise living standards, and create employment. For governments, greater use of DFS increases the efficiency of payments and channels resources of transfer programs more effectively. The logistical advantages of digital finance over cash payments include better security, increased transparency, and faster transaction times[56]".

Now is good timing to give an extra push to promote digital payments: The pandemic has induced changes in consumer behaviors because of the barriers it imposed for accessing brick-and-mortar facilities and concerns about cash transactions regarding viral transmissions. Both the volume and value of digital payments have been rising faster than before the pandemic. Many individuals had a strong incentive or no alternative other than to use digital payments during lockdowns, and governments relied on them to disburse social benefits more rapidly and efficiently. Having become more familiar with digital payments, new users might continue to make frequent use of them once the pandemic ends.

[55] "Ant Groups Long March" 2021
[56] "Alliance For Financial Inclusion" 2021

Besides, digital payment can reduce informality and increase credibility since all the transaction records are stored for reference at any time. Also, a centralized payment system provides an efficient transmission channel for governments to provide monetary or fiscal stimulus in times of economic crisis.

(4) Examples of Policy Success

Example 1: Brazil's Central Bank new "PIX" system allows transfers of funds using a QR system on a phone. This is cheaper and can be used as an alternative to cash, credit, and debit card payments. [57]

Example 2: China's digital payments have revolutionized and overturned cash payments. As almost all businesses accept Alipay and Wechat for payments, the Chinese government put a cap on fees that Alipay and Wechat can charge merchants.

ii. Introduce open banking infrastructure

(1) Problem

As described in Chapter 1, credit risk assessment procedures are not optimal in Bolivia and El Salvador. For performing a credible and sophisticated credit risk assessment, lenders are lacking the financial and personal information of the borrowers.

(2) Recommendation to Bolivia and El Salvador

The governments of Bolivia and El Salvador can update the financial regulatory system by implementing an open banking infrastructure. The infrastructure will require banks, payment institutions and others licensed to share a consenting customer's transactional data with third parties. The regulatory framework and open bank principles should harmonize the rules between financial technology firms and private sector incumbent banks.

(3) Benefits

Open Banking legislation requires financial service firms to share customer data. Therefore, it increases access to consumer data for financial institutions and allows them to enhance credit assessment for MSMEs. As a result, the MSME lending market will be more competitive, which will lower the costs of providing credit to MSMEs.

(4) Example of Policy Success

Brazil's Central Bank began implementing an integrated open banking system. The central bank developed open banking regulations in May 2020 that required banks and payment firms to share consumer transactional data.[58]

[57] "Brazil Pushes To Slash Bank Bureaucracy With Digital Pay System" 2021
[58] "Brazil's "Gamechanger" Open Banking Directory Begins Implementation" 2021

c. Reduce informality

i. Tax reform measures that incentivize MSMEs to register and formulize

(1) Problem

Low company formalization impedes MSMEs' access to funding. It also affects the price of borrowing for MSMEs. MSMEs pay higher interest rates because of informality. In Bolivia, informality is more serious compared to the average level in the LAC region. The percent of unregistered or informal firms is 78.9% (vs LAC avg. 69.7%) and the percent of firms choosing practices of the informal sector as their biggest obstacle is 22.9% (vs LAC avg. 17.4%) in Bolivia.[59] In El Salvador, the low degree of formalization of the business (10%) accounts for one of the main barriers to accessing credit. Moreover, access to the formal financial system differs according to the size of the business: microenterprises only received 12% of total credit, while small enterprises account for 20%[60]. Increasing formality will make it easier to obtain credit financing through the financial sectors.

(2) Recommendation to Bolivia and El Salvador

The governments in Bolivia and El Salvador can pass tax reform measures that reduce incentives for MSMEs to stay informal. The governments can encourage cashless payments by giving digital payments users tax credits. For example, MSMEs that use forms of credit cards can be allowed to deduct such expenses from their tax return. Moreover, the government can use tax break schemes to incentivize individual entrepreneurs to register as sole proprietors and apply tax deductions to them.

Since Bolivia and El Salvador face the problem of high informality among individual micro-entrepreneurs, we would recommend implementing a similar program of MEI in Brazil to increase the financing ability of individual micro-entrepreneurs. For it to work:

Step 1: Entrepreneurs sign up in a portal of the entrepreneur with no registration fees and follow the instructions to register as MEI. In this way, they create a Tax ID number, become formalized, and could obtain pension coverage.

Step 2: The MEI annually files a simplified annual statement and reports all revenues for the year.

Step 3: The MEI pays tax through the digital platform on a monthly basis via a single tax form. Thus, the costs of registering as an MEI will be the contribution to Social Security and the monthly tax payment. [61]

On the other hand, there may be some detailed differences from the MEI program in Brazil. Firstly, different countries have specific government structures. The classification of the size of enterprises needs to be tailored to each country's circumstances. The types of businesses included also need to prioritize the most vulnerable industries in each country.

[59] "Explore Economies" 2021

[60] "GLOBAL CREDIT PROGRAM FOR MICRO AND SMALL ENTERPRISES IN EL SALVADOR"

[61] "A microentrepreneur's manual" | FGV https://www.justica.gov.br/seus-direitos/refugio/anexos/Manualemingles2.pdf

In Bolivia, the Registry of Commerce is responsible for registration. The limitation of gross annual revenue to be counted as micro-entrepreneurs would be Bs 900,000. The type of business to prioritize would be tourism, transport, machinery and equipment, textile and apparel, agriculture, and retail-based on the vulnerability report from IDB[62].

In El Salvador, The Registry of Commerce Office in the National Registry Center (CNR-Centro Nacional de Registro) is responsible for registration. The limitation of gross annual revenue to be counted as micro-entrepreneurs would be USD 100,000. The type of business to prioritize would be transport, textile and apparel, tourism, and agriculture based on the vulnerability report from IDB[63].

Besides, we could suggest combining the MEI program and PRONAMPE program together in Bolivia and El Salvador. When the micro-entrepreneurs become large enough, they would be able to access credit based on their historical revenue through PRONAMPE.

(3) Benefits

i) Reduce the informality of MSMEs. The formalization will lead to creditworthiness, increasing the micro-entrepreneurs access to credit. Also, legalization brings social security coverage and more business opportunities.

ii) There are low monthly costs and a lack of bureaucracy to open and pay taxes. The MEI is not required to pay income tax and only needs to declare their billing once a year.

iii) Increase tax revenues of governments, and provide a tax credit to micro-entrepreneurs.

iv) Incentivize digital payments.

All in all, we project the program to reduce the informality of MSMEs, increase tax revenues of governments, provide a tax credit to micro-entrepreneurs and incentivize digital payments.

(4) Example of policy success

Example 1: In 1999, Korean tax authorities began allowing consumers to take deductions for business purchases made using electronic forms. The policy caused the value of credit card transactions as a percentage of GDP to increase from 4.9% to 34.3% by 2002. Before implementation, half of owner operated-business income was estimated to have been reported to tax authorities and only 35% of owner operated-businesses were active taxpayers. As of 2014, approximately 84% of business income earners were active taxpayers. The South Korean government encouraged consumers to use credit cards and threatened tax audits of enterprises that refused to accept them[64]. It even gives income tax rebates to people who report their annual expenditures using credit cards. On one hand, it made it easier for credit cards to be used, on the other hand, it incentivized people to embrace the new methods of payment. According to government officials, in 2006, nearly half of $491 billion in private consumption in South Korea was settled with credit cards, one of the highest ratios in the world.

[62] "Perception Of Vulnerability To Covid-19 For Msme | IADB" 2021
[63] "Perception Of Vulnerability To Covid-19 For Msme | IADB" 2021
[64] "To Save, South Koreans Use Credit Cards (Published 2007)" 2021

Example 2: The MEI (Individual Micro-Entrepreneur), a program for MSMEs to provide tax benefits in Brazil. The government provided tax incentives for individual micro-entrepreneurs to formalize operations. The MEI required companies to report all revenues for the year and pay tax on a monthly basis via a single tax form named DAS.[65] They are excluded from paying income tax. Since COVID, more MSEs have registered as MEI and obtained financing help. According to our interview with Mr.Carlos Braga in BDMG, the program lifted 20 million Brazilians into the formal sector. (more details in Chapter 3)

d. Mitigate Covid Credit Deterioration

i. Government Credit Guarantee Program

(1) Problem

The Outbreak of COVID-19 has sparked a serious economic downturn that is placing increasingly severe stress on the banking system. Latin America's banking systems will need to play a major role in supporting firms during the crisis but also face substantial risks from deteriorating loan portfolios[66].

Businesses could still face significant difficulties meeting their financial obligations. Banks must be prepared to withstand the losses associated with the possible bankruptcy while continuing to provide the credit and financial services upon which the real economy depends. So, it is essential to improve the resilience of the banking financial system.

To maintain credit provision without jeopardizing the stability of the financial system, governments should implement (i) credit provision support by mitigating risks and (ii) closely monitored regulatory inducements simultaneously.

(2) Recommendation to Bolivia and El Salvador

Governments should establish a fund that serves as collateral of guarantees to financial institutions' loans to MSMEs. Normally, in other countries' successful guarantee programs, the guarantee covers up to 80-98% of loans' amount. They often define the maximum coverage of guarantee based on the loan size. Governments can consider the form of using historical performance as a reference as a maximum amount of credits guaranteed by the program, for example, the certain percentage of its sales.

To avoid inappropriate lending, the program can require financial institutions to meet certain criteria such as interest rate caps on the loans, the terms of payment, and the grace period.

(3) Benefits

The government financing support programs that provide full or partial credit guarantees can mitigate the credit contraction to MSMEs, thereby reducing the risk taken on banks’ balance sheets when granting loans to MSMEs.

[65] "MEI - Individual Micro-Entrepreneur - ATB - Accounting And Tax In Brazil" 2021
[66] "Banking Sector Risks Are On The Rise Amid Coronavirus Shock". 2021.

The government guarantee program can increase the availability of credit and reduce the cost for both lenders and borrowers. And allow MSMEs to get longer tenure and survive under the crisis.

Besides, for the MSMEs, they can solve the liquidity problem under the crisis and increase the financial flexibility to absorb sharply decreasing cash flows and avoid distress, thereby helping them to grow and invest in the recovery.

As mentioned in Chapter 1, the MSMEs account for over 95% of all businesses[67] and provide 60-80% of total employment in Latin America. Therefore, establishing a government guarantee program can play an essential role in reducing the layoffs of MSMEs workers and increasing productivity.

(4) Examples of Policy Success

Example 1: Peru government guarantee programs

i) FAE-Mype program[68]

Definition: FAE-Mype is a state fund created to guarantee working capital credits for micro and small enterprises of all productive sectors, with terms of 3 years and a grace period of up to 12 months, channeled through entities of the financial system and savings and credit cooperatives (COOPAC).

The program has S / 800 million that allow it to deliver credit lines for up to S / 4000 million, with individual credit coverage of up to 98%, granted by COFIDE, the development bank of Peru, who is the administrator of the Fund commissioned by the Ministry of Economy and Finance.
MSMEs obtain loans for working capital according to the parameters established by the Banking and Insurance Superintendent (SBS). They are classified in the Financial System, as of February 29, 2020, in the SBS Risk Center, in the category of “Normal” or "Normal, With Potential Problems (CPP)"[69].

The maximum guarantee values of the FAE-Mype for working capital credits are 90% to 98% according to the loan size.

ii) Reactiva Peru[70]

Definition: The Guarantee Program of the National Government "Reactiva Perú" is an unprecedented program in Peru, which aims to provide a quick and effective response to liquidity needs that companies face the impact of COVID-19.

The Program seeks to ensure continuity in the payment chain, granting guarantees to MSMEs so that they can access working capital loans, and thus meet their short-term obligations with its workers and suppliers of goods and services.

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[67] "Small And Medium-Sized Enterprises: Local Strength, Global Reach" 2021
[68] Mef.Gob.Pe. 2021.
[69] "Five Classifications Current Loans Proposed By The SBS: Normal, With Potential Problems (CPP), Deficient, Doubtful And Loss." 2021
[70] "Reactiva Perú" 2021

The National Government, through the Ministry of Economy and Finance, guarantees the credits placed by ESF. The program began with S / 30,000 million in guarantees, later, through Legislative Decree 1485, the number of guarantees was increased by an additional S / 30,000 million, reaching S / 60,000 million, equivalent to 8% of GDP.

The term of the loan obtained by the guarantee from "Reactiva Perú" is 36 months, including a grace period of up to 12 months. The maximum amount of the credit per beneficiary company being S / 10 million.

Warranty: The guarantee granted by the "Reactiva Peru" Program covers the outstanding balance of the credit granted, with coverage that, depending on the amount of credit, ranges from 80% to 98%. The amount of the credit in soles and the individual guarantee will depend on the company's sales volume. The maximum amount of guaranteed credits is 3 months of monthly average sales for the year 2019. Also, credit history may be considered to evaluate access to the Program, as an alternative to the level of sales.

Example 2: PRONAMPE in Brazil

Definition: The National Program for the Support of Micro and Small Businesses is a federal government program established in May 2020. It offers credit lines for MSMEs to access working capital during the pandemic[71].

The government has paid R $ 15.9 billion to the Operations Guarantee Fund (FGO), managed by Banco do Brazil, to serve as collateral for credit transactions with financial institutions that are members of PRONAMPE.

Credit operations may be used for investments and working capital. This means that MSMEs will be able to use the resources obtained to make investments (acquire machinery and equipment, carry out renovations) and/or for operational expenses (employees' salaries, payment of bills such as water, electricity, rent, purchase of raw materials, goods. Only the use for distribution of profits and dividends among the partners is prohibited.

PRONAMPE loan limit is equivalent to 30% of a company's revenue in 2019. For companies with less than 1 year of activity, the credit line granted corresponds to the highest amount, since the beginning of their activities, between 50% of its share capital or 30% of the average monthly turnover. The credit line is guaranteed 100% of each transaction up to the limit of 85% of the portfolio.

According to the Internal Revenue Service, about 4.58 million micro and small businesses were eligible for the program[72]. Altogether, in the three phases of PRONAMPE, more than R $ 37.5 billion were released by the FGO, with resources from the National Treasury. More than 517,000 companies benefited from PRONAMPE[73]. Of the total volume, 61.3% went to micro-companies; small ones had 38.7% of the remaining resources[74]. According to the Undersecretary for Development of Micro and Small Enterprises, Entrepreneurship and Crafts of the Ministry of

[71] "Empresas & Negócios" 2021

[72]"Brazil. National Program To Support Micro And Small Businesses - Auxadi". 2021

[73] "Pronampe Dá Fôlego A 28 Mil Micro E Pequenas Empresas No RS, Mas Recursos Terminaram E Ainda Há Demanda Por Crédito | GZH" 2021

[74] "Pronampe Concede Crédito A 517 Mil Empresas" 2021

Economy, Antônia Tallarida, PRONAMPE's great innovation was acting through guarantees, which was a differential to facilitate companies' access to credit[75].

ii. Closely monitored regulatory inducements—Create restructuring and resolution laws

(1) Problem

Credit deterioration and bankruptcy of enterprises could lead to a banking crisis, and further a financial crisis. Under a financial crisis, an emerging economy might deteriorate greater than an advanced economy. Looking at the real per capita GDP from emerging market countries from LAC, by 2009, emerging markets have had larger declines in product output accompanied by longer periods of recession except for the 1929 crisis in the United States. This was caused by the sudden stops of the capital inflow and capital flight from foreign investors.[76] Under COVID, without a resolution framework for restructuring enterprises, Bolivia and El Salvador could be more prone to financial crises.

(2) Recommendation to Bolivia and El Salvador

We would suggest governments in Bolivia and El Salvador create resolution laws, or specific bankruptcy-type legislations, for enterprises. Legislation should require companies to restructure themselves. Basically, the aim is to require agencies/governments to take specific measures to help keep firms, where going concern is more beneficial for the economy, alive and revive the productive apparatus as much as possible in the aftermath of the pandemic. Specific measures could be:

i) Debt-equity swap: make the lenders, mainly banks or government agencies, become the owners of the firms' equity, then the latter can be exempted from paying interest on the obligations, increasing liquidity for the firms.

ii) Capital injection: public agency injects capital in the form of preferential shares or unsecured debt into the firms, which can eliminate the negative externality of asset sales through a reduction in the firms' leverage.

iii) Loan write-downs: the government assumes part of the debt and the borrower repays the other part at a lower interest rate, enabling firms to continue operation without the obligation of having to repay their loans in full. The condition is that the loan is converted into a recourse loan, where the agency can collect assets besides the original collateral in case of nonpayment, to reduce agency problems.[77]

(3) Benefits

i) The resolution law can improve regulatory and legal capabilities to efficiently resolve bankruptcies, reducing the risk of turning into a banking crisis and further a financial crisis.

ii) Provide liquidity, well-being, and more time of recovery for the enterprises, and mitigate the risk of defaults.

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[75] "Pronampe Libera R$ 3,2 Bi A Micro E Pequenas Empresas" 2021

[76] Financing instruments for MSMEs in Latin America and the Caribbean during Covid-19, IDB by Diego Herrera

[77] Ibid.

iii) Provide liquidity for commercial banks and prevent a credit crunch.

(4) Example of Policy Success

Example 1: Miller and Stiglitz proposed to apply a "Super Chapter 11" for firms where the going concern is larger than the alternative user cost by debt-equity swap, capital injection, or loan write-downs. The bankruptcy principles of the "Super Chapter 11" are to be applicable at a macro level to reduce friction and transaction costs.[78]

iii. Closely monitored regulatory inducements—Forbearances and proper sunset

(1) Problem

The poor macroeconomic conditions and subsequently higher interest rates under COVID increased the cost of borrowing for SMEs and contributed to increased incidences of default and late payment.[79] The challenging economic conditions and the rise in unemployment would affect the repayment capacity and worsen asset quality metrics of banks.[80] More importantly, if the government support programs including restructuring and forbearance are stopped all at once, it could cause financial risk.

(2) Recommendation to Bolivia and El Salvador

The governments in Bolivia and El Salvador can grant forbearances for enterprises. This could include:

i) loans moratorium or delay of loan payments.

ii) Tolerance for higher non-performing loans (NPLs), reduce NPL provision requirements, or reduce the risk weight of new or restructured loans so that banks do not need to increase provisions for NPLs.

More importantly, the governments in Bolivia and El Salvador need to create a proper sunset and gradually reduce support programs and forbearances. For example, they could make the forbearances sunset by groups on a monthly basis or partially and gradually sunset the forbearances.

(3) Benefits

i) Forbearance would provide financial relief and credit support for affected SMEs facing repayment difficulties.

ii) Proper sunset of forbearance will prevent bankruptcies caused by the sudden withdrawal of support programs and maintain financial stability.

(4) Example of policy success

[78] Financing instruments for MSMEs in Latin America and the Caribbean during Covid-19, IDB by Diego Herrera
[79] "IFC On Banking SMEs" 2021
[80] "Banking Industry Country Risk Assessment: Mexico" 2021

Example 1: Debt moratorium program in Mexico. The debt moratorium program is applicable to consumer, mortgage, and commercial borrowers affected by the pandemic. On March 25, 2020, the Secretariat of Finance announced that commercial banks will be allowed to grant payment extensions up to four months with an optional two-month extension to individuals and SMEs. These restructured loans won't be considered non-performing loans and would not be required to be provisioned.

Example 2: The reduction of risk-weighted assets (RWA) in Brazil. Brazil conducted a reduction in the minimum capital requirement on SME credit operations. The risk-weight on SME credit risk exposures when calculating RWA was reduced from 100% to 85%.

iv. Closely monitored regulatory inducements—Perform robust crisis stress tests

(1) Problem

Deteriorating loan portfolio problems faced by the banking system.

(2) Recommendation to Bolivia and El Salvador

Stress tests are a useful tool to inform policymakers about the resilience of the financial system to shocks. According to the Seminar on Stress Testing in Covid times which was jointly organized by the Financial Stability Institute (FSI) and the Center for Latin American Monetary Studies (CEMLA), stress test methodologies have developed significantly in the last few years.[81]

In the post-COVID period, governments must either develop novel stress-testing approaches that better approximate a crisis and use more imaginative scenarios, or make the current assumptions and models far more severe to account for those present shortcomings.

(3) Benefits

Among the many macroprudential tools, stress tests might be the only one to shed some light on the pressing question for financial stability.

(4) Example of policy success

During heightened uncertainty about the further path of the pandemic, central banks tested a broader range of scenarios (e.g. the Federal Reserve tested a V-shaped, U-shaped, and W-shaped recession) or used reverse stress testing (e.g. Bank of England, Banco de la República).

e. Financial Literacy

i. Public-private partnership to develop a personal trainer

(1) Problem

The risks associated with financial illiteracy are particularly acute especially for those with lower socioeconomic status in Latin America. This translates to a lack of ability and/or understanding

[81] Latinoamericanos 2021

for the majority of MSMEs of how to access credit in the region. According to Nathaniel Lawrence, the CEO of Crédito Social, one issue with the current pedagogical approach is its focus on technical financial education rather than building financial decision-making habits. Most adult educational training is short classroom seminar-type training where future habits don't change. The adults need stimulation and individualized attention that can build financial decision-making habits.[82]

(2) Recommendation to Bolivia and El Salvador

A solution suggested by Mr. Lawrence is an investment into developing a scalable virtual platform accessible on a web or application that is customized and that learns from the individual interacting with it. For example, the platform could demonstrate how to create, interpret, and use a personalized budget, ask the user for feedback and adjust the material accordingly. The platform would combine the latest professional learning technology into an engaging, customizable platform that improves financial literacy.[83]

Our team believes that this specific technological solution could be completed through a public-private partnership. The public sector in El Salvador and Bolivia could subsidize the costs and organize talent from the private sector with the technological expertise to complete such a project.

(3) Benefits

i) Focus on developing good financial habits that can benefit adults in terms of long-term financial education.

ii) Provide necessary business skills including budgeting, and income, saving, and investment management.

(4) Example of Policy Success

Credito Social assists micro-entrepreneurs in Brazil on business developmental issues including financial education. Mr. Lawrence has also produced academic research related to the technological development of financial education for Micro entrepreneurs in Brazil and he is also the author of "Components of a Financial Education Technology for Micro-Entrepreneurs in Brazil".

ii. Macro investment into an educational system

(1) Problem

Bolivia and El Salvador need an overall federal program targeted to enhance financial education on a macro level throughout the country to reduce financial literacy.

(2) Recommendation to Bolivia and El Salvador

Require all public-school students to take courses on financial literacy. Provide additional educational reform to enhance financial literacy training across public schools. Targeted financial education programs for potential and current MSMEs should be provided at no cost.

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[82] "Components Of A Financial Education Technology For Micro-Entrepreneurs In Brazil." 2021.
[83] ibid.

Below are details of targeted education programs.

i) Financial education at schools

Financial education at schools is important because it can cultivate the ability for future generations to make financial decisions that will benefit them throughout their lives. In school, students can learn not only cognitive knowledge, but also the ability to manage social life, learn to make choices and have dreams, and explore ways to realize these paths. The financial education at schools should include two programs[84] - Financial education in High Schools and Financial education in Elementary Schools, and there should be a pedagogical project and a series of books divided by education level to provide educational activities for students and teachers to help them insert themes into school life. The teaching models and the books should be developed with the cooperation of the Securities and Exchange Commission, the Ministry of Education, and other educational and financial institutions.

ii) Financial education in High Schools

We suggest that the project can be tested as a pilot project in 2-3 states of each country, and then be widely used nationwide after continuous modification according to the specific conditions of each country. Books for high school financial education in high school should be jointly developed with the cooperation of the public sector (such as the Ministry of Education), private institutions, and the financial sector. These books can be arranged into texts, stories, images, and tables, which are associated with 3 themes and are closely linked to people's daily life:

Theme 1	Theme 2	Theme 3
Short term Personal and Family Life Situations: · Everyday Family Life · Social Life · Property	Mid- and long-term Personal and Family Life Situations: · Work · Entrepreneurship · Big projects	Country and World Situations in Articulation with their Personal and Family Life in the short, mid and long term: · Public Properties · Country's economy · World's economy

The dissemination strategy of financial education knowledge is also the key to the success of the project. The project should provide professional training to teachers so that they can accurately transfer financial knowledge to students. In addition, in order to maximize the influence of financial education materials, the project should provide educational institutions interested in financial education with the privilege of printing materials and accessing application manuals.

iii) Financial education in Elementary Schools

This program should also be tested in pilot states and then be applied nationwide. Taking into account the complexity of the public's age, the evaluation and application of the pilot project can be constructed considering the age group and stage of educational development of the children and teens, the template for skills, and the need for two-phase observation, one in the beginning and the other at the end of the second year. In the process of monitoring the pilot project, there will be an instrument identified as a portfolio including many criteria, which will work as an evaluation tool for testing the effectiveness of the program and the educational material.

[84] "Who We Are - Associação De Educação Financeira Do Brasil (AEF-Brasil)" 2021

iv) Financial education for adults
We suggest working with cooperators to construct two social/educational technologies: one for women, and the other for the retired. Financial education for adults is very different from financial education for children and adolescents. Providing financial education for children and young people can help them form an early understanding of financial knowledge. However, adults' understanding of finance has been formed and solidified. Therefore, our project should not only provide them with financial knowledge education but also fundamentally influence their behaviors and choices by helping them to form healthy financial concepts and behavioral concepts. This project should be based on research about the psychological, social, and cultural factors that influence financial decisions and in joint work with these populations to also understand that factors provide new attitudes and behaviors.

v) Financial education targeting women
For the financial education program for women, we suggest establishing a technology that enables the population to manage family budgets and plan their life projects so that they can acquire the skills and vision required for long-term financial planning.

vi) Financial education targeting older generation (Retirees)
This group of people is the main recipient of credit, sometimes leading to over-debt, which further exacerbates their situation because, at this stage, these people have been in need of drugs and special medical care for many years.

Therefore, we recommend providing financial education opportunities for the older generation especially retirees to enhance their credit risk awareness, deepen their understanding of microfinance and enhance their understanding of digital finance.

ii. Financial education for MSMEs

Learning from the experience of Sebrae Brazil and Nafin, our group suggests providing financial education and supporting programs to MSMEs in Bolivia and El Salvador covering different stages of the businesses. The form of financial education can both be on-site education and online courses[85].

i) For those who plan to start their business:
The project can help people who have the dream of setting up their own businesses by providing them with professional knowledge and skills, deepening their understanding of the market, and helping them develop business plans. People can get expert help both on-site and through a virtual platform. Experts and courses would help people understand whether they have the abilities and skills to become entrepreneurs, how to gather information to consistently support their business plan and design their business model, verify the feasibility of their business model, help them learn how to predict production, sales, and profit, and finally explore how to prepare for the registration of their company based on the legal framework of their business field.

ii) For those who already have a business:
By imparting knowledge and technology to entrepreneurs, the project can help people innovate their businesses, improve their administrative and financial management capabilities, expand their market share, enhance their market position, and improve their business competitiveness. The project can help entrepreneurs understand the entrepreneurial spirit, recognize the

[85] "Sebrae Expert In Micro Enterprises And Small Businesses In Brazil - Sebrae" 2021

advantages of cooperating with other companies, set competitive sales prices, improve the quality of the sales team and customer service skills, and continue to grow in innovation.

iii) For the MSMEs that want to expand more possibilities:
The project can provide courses, lectures, training, and consulting services throughout the country to provide solutions for companies that want to go further, to help people better understand market challenges, seize opportunities, do technical innovations and expand their business.

iv) For those who need cooperation:
The project enhances the capabilities of small businesses and makes them more competitive by encouraging and helping to establish cooperation. Ways of cooperation can include cooperatives, associations, purchasing centers, and networks. Cooperation between enterprises is a way to make them more competitive and achieve common goals more effectively and efficiently. MSMEs can increase the employment and income of the community and ensure its sustainability by entering a more supportive and fair market and jointly seeking ways to value and flow off their products.

v) For those who need to register their business:
The project can help and guide self-employed people who meet the income requirements to register their companies and receive benefits allocated to individual micro-entrepreneurs. Therefore, entrepreneurs will be eligible for the Corporate taxpayer's registry, allowing them to open bank accounts, apply for loans, and issue invoices. With the formalization, individual microentrepreneurs will also receive benefits such as maternity leave, sick leave allowance, and retirement pension.

vi) For the MSMEs that need agribusiness support:
The project can provide small farmers and ranchers, business associations, cooperatives, and small agro-industries with guidance, information, training, and consulting services in production and management. For example, the SEBRAE Brazil provides agribusiness education on agricultural energy, coffee, meat, milk and dairy, aquaculture and fishing, sheep and goat rearing, sugar-cane by-products, flower gardening, fruit-growing, beekeeping, horticulture, and crops.

vii) For those who need education in fostering trade:
The program can help the enterprises with their retail trade by providing business consulting and training in E-commerce, marketing, client service, pricing, sales techniques, financial controls, stock and personnel management.[86]

(3) Benefits

Improve the ability and understanding for the MSMEs of how to access credit and expand their business, and indirectly promote the development of the local economy.

(4) Examples of Policy Success

i) Financial education for individuals

After exploring the cases of the efforts made by the governments and organizations in Bolivia and Mexico, our team believes that Latin American countries, especially Bolivia and El Salvador, can

[86] www.sebrae.com.br

learn from the financial education programs initialized by AEF-Brazil, which provides two kinds of programs: Financial education at schools, and Financial education for adults.[87]

ii) Financial education for MSMEs

Example 1: SEBRAE Brazil and Nafin Mexico are successful examples of providing comprehensive financial education programs to MSMEs. SEBRAE - Brazilian Support Service to Micro and Small Enterprises - is a non-profit private organization focused on supporting the development of small-sized business activity and stimulating small Brazilian entrepreneurs.[88] Nafin provides in-person and online training covering business plans, how to request a loan to banks, what is the best loan type for their purpose, etc.

Example 2: Ant Financial in China provides inclusive finance education seminars on digital payments, loans, and agricultural production for MSMEs and farmers.

2. Recommendations for Bolivia

i. Enhance legislative framework for financial service providers

(1) Problem

Inadequate financial regulatory legislation that prevents the operation of financial service and digital payment providers. This prevents the accumulation of relevant data for MSME Risk Assessment and results in sub-optimal credit assessment procedures.

(2) Recommendation to Bolivia

Pass legislation in secure transaction law that is mobile guaranteed. Legislation should level the playing field between fintechs and incumbent banks.

(3) Benefits

Open Banking legislation requires financial service firms to share customer data. Increased access to customer data allows financial service firms to enhance credit assessment for MSMEs.

(4) Example of Policy Success

Mexico’s latest 2018 Financial technology Institutions law can be used as guidance to develop similar regulatory practices in Bolivia.

ii. Develop more centralized and reliable credit bureaus

(1) Problem

In our interview with Mr. Jorge Fabián Mendivil Gómez, the Chief Risk Officer of Banco de Desarrollo Productivo (BDP), he stated that there are three credit bureaus in Bolivia which provide generic credit information such as default rate. However, there is big room for improvement to achieve more detailed information.

[87] "Projects And Programs - Associação De Educação Financeira Do Brasil (AEF-Brasil)" 2021
[88] "Sebrae Expert In Micro Enterprises And Small Businesses In Brazil - Sebrae" 2021

(2) Recommendation to Bolivia

Investment in centralized and reliable credit bureaus to improve credit risk management for MSMEs.

(3) Benefits

In our meeting with BDP, they also pointed out that they are currently trying to develop a database for the entire banking system to improve capacity to manage financial risks, especially operative risks. Also, we are giving suggestions of improving risk assessment models to development banks in Bolivia. Thus, if the credit bureaus can collect more personal and financial information, it will be helpful for better risk assessment in the banking sector.

(4) Example of Policy Success

According to Mr. Carlos Braga from BDMG, Brazil has a reliable credit bureau, and IDB also worked with the government to establish infrastructure.

iii. Improve factoring system and use of other non-conventional collateral

(1) Problem

Lack of collateral is a barrier for MSMEs. The value of collateral needed for a loan is 206.7% of the loan amount in Bolivia, which is higher than LAC region's average (201.7%).[89] (more details in Chapter 1)

(2) Recommendation to Bolivia

The Bolivia government can allow the use of receivables and other non-conventional collaterals, such as warrants and cheques, as collaterals for financing. Specifically, receivables should be electronic for credibility. Moreover, the government can establish a regulatory council to monitor the receivables financing market.

(3) Benefits

Provide an affordable source of financing: help small enterprises obtain credits when they do not hold real estate assets or have used them for other loans.

(4) Example of Policy Success

The system for MSMEs to use receivables as collaterals is very mature in Brazil. Mentioned by Mr. Carlos Braga from BDMG in the interview, small enterprises often do not hold real estate or they have already used it to lend other loans. However, they have receivables which can be used as collaterals. The market of receivables in Brazil is very matured and credible with characteristics of high regulation, high volume, low default, and vital liquidity. Receivables should be electronic for credibility: ask for clients to pay bills through a certain bank and the bank can give MSMEs cash at a discounted rate of the receivables. The market is strictly monitored by the Central Bank

[89] "World Bank. "Enterprise Surveys"" 2021

of Brazil, COAF (Council for Financial Activities Control), ANFAC (National Association of Societies of Receivable Financing) and has provided services to over 65,000 SMEs.

3. Recommendation for El Salvador

i. Promote financing in rural areas

(1) Problem

There is a problem of sparse credit in rural areas in El Salvador. Credit provision is concentrated in the urban area and MSMEs in rural areas have less access to credit. There are several reasons for this. From the supply side, operation in rural areas is costly for commercial banks due to the smaller economic scale and long distance from their branch. From the demand side, services offered by commercial banks are inconvenient and not customized with the agri-business, which is the major economic entity in rural areas. With a long distance from branches or ATMs, repayment of loans is more difficult for the rural population. Moreover, loans offered by commercial banks cannot manage the risks associated with borrowers who specialize in agriculture.

(2) Recommendation to El Salvador

To promote more credit provision via microfinance institutions, we recommend the following policies:

i) Build a regulatory framework for microfinance institutions, which gives them more flexibility to make a profit, lower the minimum capital requirement, while also require a certain disclosure to stimulate the growth of microfinance institutions.

ii) Enhance the digital transformation of microfinance institutions to improve the efficiency of microfinance institutions and make their services more accessible. Mobile wallet operation is more popular among unbanked peri-urban and rural people.[90] This tendency implies that the digital transformation of microfinance institutions enhances financial accessibility from rural MSMEs.

iii) Make a government fund and disperse credit to microfinance institutions via state-owned development banks. This can reduce capital constraint and help microfinance institutions' services scale up.

(3) Benefits
Microfinance institutions have been the most active entity to promote financial inclusion in rural areas. The utilization of microfinance institutions to promote credit access in rural areas has several benefits.

i) They have loan programs tailor-made for marginalized people and they can better manage the seasonal risk associated with agriculture. For instance, in addition to the regular microcredit lending, PRODEM[91], a microfinance institution targeting the rural population offers communal banking and some special microcredit such as seasonal credit. Communal banking is the main credit technology employed by microfinance institutions. It lets borrowers in a community form

[90] "Extending Reach: Mobile Money In Rural Areas" 2021
[91] Prodem.bo

groups and guarantee loans for each other. In the seasonal credit program, borrowers can repay less during the off-season. They also offer less frequent payment schedules to minimize transaction costs for clients.

ii) Microfinance institutions that are active in rural areas have already built a network with the community and they obtained trust from the community. For these reasons, disbursing credits through microfinance institutions is more effective than expanding services of financial institutions that have not had a significant presence in rural areas.

(4) Example of Policy Success

i) Build a regulatory framework for microfinance institutions

Example: The FFP (Private Financial Fund) Framework and unique government agency in Bolivia. The FFP is an intermediate category between unregulated philanthropic microfinance and regulated commercial banks. The FFP framework is based on three main principles: 1) a minimum capital requirement of US$1 million (cf. commercial banks are required US$3 million); 2) institutions must adhere to the same level of transparency as formal banks; 3) the range of financial services is limited compared to formal banks, but more diverse than philanthropic microfinance institutions. For instance, the FFP can mobilize savings but services such as credit cards, checking accounts, and international trade transactions are prohibited. The FFP promoted the growth of a commercial microfinance industry by lowering the cost of commercializing while allowing them to offer various services.

Thanks to the innovative regulatory change, Bolivia has observed rapid growth in the microfinance area. Total credit grew 291.3% between 2010 and 2019, partly attributable to growth in microfinance (355.6%). Microfinance institutions are not only important for the marginalized people but also have a significant presence in the whole financial market in Bolivia. For instance, Banco FIE holds a 7% market share of Bolivia's banking.[92] It prioritizes the most vulnerable sectors of the Bolivian population, excluded from the traditional financial system. Banco FIE is the third-largest institution in the Bolivian financial system in terms of coverage, with a network of 150 agencies and branches, of which 71 are located in rural and peri-urban areas. Its credit portfolio targets primarily the micro and small business segments.

ii) Enhance digital transformation of microfinance institutions
In March 2020, CAF held a workshop to help the digital transformation of microfinance institutions in Bolivia and other countries in LAC. The workshop promotes digital transformation by making a detailed action plan for each of them and by capacity building necessary for digital transformation.[93]

iii) Providing more funding to microfinance institutions through state-owned development banks
Example: NAFIBO in Bolivia. In addition to developing a unique and innovative regulatory framework, the government established NAFIBO (Nacional Financiera Boliviana), an institution to support the development of the microfinance sector. NAFIBO is a second-tier lender that provides credit to regulated microfinance institutions through the use of donor and government funding. NAFIBO offers loans at low-interest rates and long terms-to-maturity.

[92] "Microfinance As A Mainstay Of Financial Inclusion In Bolivia" 2021
[93] "Latin America Needs More Digital Microfinance Entities" 2021

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