

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**SUPPORT TO SMEs AND FINANCIAL ACCESS/SUPERVISION SECTOR
FRAMEWORK DOCUMENT**

CONNECTIVITY, MARKETS, AND FINANCE DIVISION

JULY 2017

This document was prepared by the project team consisting of: Juan Antonio Ketterer, Division Chief (IFD/CMF), Agustina Calatayud (Team Leader), César Tamayo, Joan Prats, Gloria Lugo, Daniel Fonseca, Omar Villacorta, Gabriela Andrade, Diego Herrera, Carolina Valencia, Pablo Carrión, María Netto, Annabella Gaggero, and Margarita Cabrera (IFD/CMF); Eduardo Cavallo (RES/RES); Claudia Stevenson (IFD/CTI); Marina Bassi (VPS/VPS); Bertha Briceño and Luz Ángela García (KNL/KNM). Alessandro Maffioli, Rodolfo Stucchi, and Julián Caballero (DSP/DVF) and Marcelo Paz (DSP/SPP) provided comments on behalf of the IIC. Comments on the document were received from Thorsten Beck (Cass Business School) as external reviewer.

Under the Access to Information Policy, this document is subject to public disclosure.

CONTENTS

I.	THE SECTOR FRAMEWORK DOCUMENT IN THE CONTEXT OF CURRENT REGULATIONS AND THE 2010-2020 INSTITUTIONAL STRATEGY	1
A.	The Support to SMEs and Financial Access/Supervision Sector Framework Document as part of existing regulations	1
B.	The Support to SMEs and Financial Access/Supervision Sector Framework Document and the IDB Institutional Strategy.....	1
II.	INTERNATIONAL EVIDENCE ON THE EFFECTIVENESS OF POLICIES AND PROGRAMS IN THE SECTOR AND IMPLICATIONS FOR THE IDB'S WORK	2
A.	Productivity is an essential and determining factor of economic growth.....	2
B.	Access to finance is crucial to raising productivity levels.....	3
C.	Determinants of access to finance	4
D.	Policies to promote access to finance: international evidence and experience.....	5
E.	Times of change: new challenges and new opportunities	17
III.	MAIN CHALLENGES IN THE REGION AND PROBLEMS THE BANK SEEKS TO ADDRESS..	28
A.	The region lags in building deep, diversified, and stable financial systems .	29
B.	Improving the efficiency and scope of bank credit intermediation to the productive sector	36
C.	Developing the capital market and risk management instruments	38
D.	Strengthening macrofinancial regulation and supervision and their institutional framework and instruments.....	40
IV.	LESSONS LEARNED FROM THE BANK'S EXPERIENCE IN THE SECTOR.....	42
A.	Reports from the Office of Evaluation and Oversight (OVE)	42
B.	Results of the Development Effectiveness Matrix (DEM)	43
C.	Lessons learned from project completion reports (PCRs) and disbursement parameters.....	44
D.	The Bank's comparative advantages in the sector.....	48
V.	GOAL, PRINCIPLES, DIMENSIONS OF SUCCESS, AND LINES OF ACTION THAT WILL GUIDE THE BANK'S OPERATIONAL AND RESEARCH ACTIVITIES IN THE SECTOR.....	53
A.	The Bank's goals and principles for its work in the sector	53
B.	Dimensions of success, lines of action, and activities	54

ANNEX

BIBLIOGRAPHIC REFERENCES

ABBREVIATIONS

ALIDE	Asociación Latinoamericana de Instituciones Financieras para el Desarrollo [Latin American Association of Development Finance Institutions]
B2B	Business-to-business
CMF	Connectivity, Markets, and Finance Division
DLT	Distributed ledger technology
FELABAN	Federación Latinoamericana de Bancos [Latin American Federation of Banks]
FSI	Financial services industry
GAFILAT	Financial Action Task Force of Latin America
ICAS	Institutional capacity assessment system
ICT	Information and communication technology
IFC	International Finance Corporation
IAIS	International Association of Insurance Supervisors
IOSCO	International Organization of Securities Commissions
LAC	Latin America and the Caribbean
MPL	Marketplace lender
MSME	Micro, small, and medium-sized enterprise
NBI	Nonbank intermediaries
OECD	Organization for Economic Cooperation and Development
OVE	Office of Evaluation and Oversight
PBL	Policy-based loan
PCR	Project completion report
PDB	Public development bank
PFP	Productive financing policy
PPP	Public-private partnership
SFD	Sector Framework Document
SME	Small and medium-sized enterprise
TFP	Total factor productivity
TREFI	The Receivable Finance Infrastructure
USAID	United States Agency for International Development
WEF	World Economic Forum

I. THE SECTOR FRAMEWORK DOCUMENT IN THE CONTEXT OF CURRENT REGULATIONS AND THE 2010-2020 INSTITUTIONAL STRATEGY

A. The Support to SMEs and Financial Access/Supervision Sector Framework Document as part of existing regulations

- 1.1 This document replaces the Support to SMEs and Financial Access/Supervision Sector Framework Document (SFD) (document GN-2768-3) approved by the Operations Policy Committee on 13 June 2014, in accordance with paragraph 1.20 of document GN-2670-1, "Strategies, Policies, Sector Frameworks, and Guidelines at the IDB," which establishes that SFDs are to be updated every three years.
- 1.2 The Support to SMEs and Financial Access/Supervision SFD is one of 20 SFDs prepared under document GN-2670-1, which together provide a comprehensive vision of the region's development challenges. Given the crosscutting nature of financing, this SFD complements the Innovation, Science, and Technology SFD (document GN-2791-3) by helping to drive investment in technological innovation and adoption; the Integration and Trade SFD (document GN-2715-6) by fostering closer integration of the productive sector of Latin American and Caribbean (LAC) countries into the global economy; the Agriculture and Natural Resources Management SFD (document GN-2709-5) by helping to expand access to finance for agricultural enterprises; the Transportation (document GN-2740-7) and Energy (document GN-2830-3) SFDs by helping to create a favorable institutional context for infrastructure investments and private-sector participation; and the Climate Change SFD (document GN-2835-3) by supporting institutional capacity-building and providing technical and financial support to the countries in the region to address the risks arising from climate change and, where possible, mitigate its causes. This SFD also dovetails with the Bank's five sector strategies, particularly the Sector Strategy on Institutions for Growth and Social Welfare (document GN-2587-2), the scope of which includes enhancing the productivity and growth of small and medium-sized enterprises (SMEs) by taking a holistic approach that encompasses the supply of financing as well as efforts to transform SMEs into creditworthy and competitive businesses.

B. The Support to SMEs and Financial Access/Supervision Sector Framework Document and the IDB Institutional Strategy

- 1.3 This SFD is consistent with the Bank's Update to the Institutional Strategy 2010-2020 (document AB-3008), which recognizes low productivity levels as a structural challenge to the region's development that the Bank must tackle. In particular, this strategy considers limited access to finance to be a key factor constraining productivity and growth in the private sector in the region. This SFD guides the Bank's work in helping countries in the region build properly regulated and supervised financial systems that: (i) increase resilience to internal and external shocks; (ii) reduce information asymmetries; and (iii) expand the financing frontier for innovation, technological adoption, and integration into value chains, with a view to boosting productivity in the region's countries. This SFD is also consistent with the crosscutting issues identified in the Update to the Institutional Strategy: gender equality and diversity (highlighting the obstacles faced by disadvantaged segments of the population, especially women, seeking access to finance); climate change and sustainability (because it promotes institutional capacity-building and support to countries in the region in addressing the risks arising from climate change); and

institutions and the rule of law (because it promotes the strengthening and building of institutional capacities, as well as the strengthening of regulatory frameworks for trade and investment).

- 1.4 This document focuses on the importance of improving access to finance for the productive sector in Latin America and the Caribbean, as a way to boost productivity in the region.¹ “Productive sector” is understood as all companies that produce goods and services and whose decisions tend to reflect private interests. Accordingly, this document adopts a holistic approach to the problem of SME access to finance. This approach is based on the premise that SMEs exist in a wider context of productive relationships and there is a two-way relationship between SMEs’ productive development and the productive environment in which they operate (OECD/ECLAC, 2013). This leads to the conclusion that the best starting point for understanding the dynamics of SMEs is to analyze and review the policy measures affecting access to finance for the productive sector as a whole. It is also important to highlight that while SMEs account for a significant share of employment, the approach in this SFD focuses on their contribution to the economy’s aggregate productivity.

II. INTERNATIONAL EVIDENCE ON THE EFFECTIVENESS OF POLICIES AND PROGRAMS IN THE SECTOR AND IMPLICATIONS FOR THE IDB’S WORK

- 2.1 This section presents the results of a review of the literature and international experience on the improving access to finance for the productive sector, primarily for SMEs, as a means of boosting economic productivity. The analysis focuses on two types of policies: (i) legal and regulatory reforms; and (ii) productive financing policies. In addition, in view of the recent changes in the financial system in the context of the new digital economy, a subsection is added to address the challenges and opportunities for the financial system in general and productive financing in particular. Next, Section III addresses the main challenges for the region in expanding the productive sector’s access to finance and thereby boosting economic productivity. Section IV presents the results of the analysis of lessons learned on the Bank’s experience in the sector. Lastly, based on the results described in the preceding sections, Section V identifies the goals, principles, dimensions of success, and lines of action for the Bank’s operational and research activities regarding access to finance for the productive sector, particularly for SMEs.

A. Productivity is an essential and determining factor of economic growth

- 2.2 According to the existing literature, the disparities in levels of economic growth between various countries and regions are primarily due to differences in productivity. There is also extensive evidence that, in the long run, only through

¹ In keeping with the document, “Strategies, Policies, Sector Frameworks, and Guidelines at the IDB” (document GN-2670-1, Annex II), this SFD is confined to issues related to productivity in SMEs and, in particular, barriers to SME’s access to finance, as well as financial supervision considerations. At the same time, the Bank, through various units, is working on other financial dimensions, including financial inclusion.

increased productivity can countries sustain the growth of their economies and thereby improve standards of living.²

- 2.3 Productivity is a measure of the efficiency with which inputs are used to obtain a given set of outputs. The specialized literature has tried to explain differences in productivity by using two approaches. The first is to study the differences in technology between similar businesses operating in different countries (Klenow and Rodríguez-Clare, 1997), shining a light on how resources are allocated within a (representative) business. Factors such as the speed of technology spread across countries become more important under this approach. The second approach is based on the empirical observation that, in any given economy, there are enormous differences in productivity among businesses, even within well-defined subsectors (Syversson, 2011). In that case, the allocation of resources (capital, labor) among businesses acquires greater importance. Recent evidence shows that inadequate resource allocation is responsible for a considerable portion of the differences in productivity between countries (Restuccia and Rogerson, 2008; Hsieh and Klenow, 2009).
- 2.4 There is a broad set of factors that determine an economy's productivity. These include: (i) the level and quality of human capital education and training; (ii) the functioning of labor markets; (iii) the capacity to generate, transmit, and absorb knowledge;³ (iv) the institutional context and business climate in which economic agents operate; (v) the scope and quality of infrastructure; and (vi) fiscal policy (IDB, 2010; IMF, 2013a). This document focuses on the role and conditions of companies'—particularly SMEs'—access to finance as one of the key determinants of the allocation and efficiency of factors of production in the economy and, therefore, one of the key determinants of increased productivity.

B. Access to finance is crucial to raising productivity levels

- 2.5 The relevance of access to finance and development of financial systems as a key determinant of the productivity dynamics has been widely documented. The literature offers empirical evidence that there is a causal relationship between the level of development of the financial system and economic growth (Rajan and Zingales, 1998; Beck et al., 2000), and that this occurs primarily through the effect of the former on productivity (IDB, 2010; Arizala et al., 2013).
- 2.6 The empirical evidence shows that more developed financial systems help to boost productivity by: (i) allowing better allocation of factors toward projects with higher returns (Galindo et al., 2007; Buera et al., 2011); (ii) creating incentives for innovation

² Caselli (2005) provides an extensive review of the literature, highlighting the role of total factor productivity (TFP) as the principal source of income disparities between countries. In the case of Latin America, Cole et al. (2005), Daude and Fernández-Arias (2010), and the IDB (2014a) show that, in the past three decades, the per-capita gross domestic product (GDP) of Latin American and Caribbean (LAC) countries has failed to converge with that of more advanced countries due to stagnating TFP growth. Ruprah et al. (2014) show that declining TFP largely explains the per-capita GDP gap among Caribbean countries. Stagnating TFP growth in LAC is partially the result of resource allocation to sectors that are more informal and disinclined to innovate, leading to low marginal productivity of informal businesses relative to formal ones (Busso et al., 2012a).

³ Knowledge generation, transmission, and adoption is an essential factor in boosting an economy's productivity, as has been widely recognized in the international literature (IDB, 2010 and 2014a; Syversson, 2011). The relationship between productivity and innovation is addressed in depth in the Innovation, Science, and Technology SFD. The present SFD shows that access to finance is crucial in allowing the productive sector to have the necessary resources to develop innovation processes and at the same time support new firms and technology-based companies.

and for research and development (Aghion et al., 2010), facilitating access to markets and to higher value-added segments (Manova and Yu, 2010);⁴ and (iii) softening the impact of volatility and macroeconomic shocks⁵ (Aghion et al., 2005; Cavallo et al., 2013).

C. Determinants of access to finance

- 2.7 An economy's access to productive finance is determined by a variety of factors. The first is the economy's productive structure: a weak productive structure—skewed toward informality and relatively low value-added sectors—will negatively influence the financial system's capacity to finance more productive activities (Busso et al., 2012b; Levy, 2012; Ruprah et al., 2014). This is due to the fact that small and informal sectors are less conducive to generating accurate, verifiable credit information and at the same time create higher transaction costs for financial intermediaries. This is especially the case for SMEs, which places them at a disadvantage for obtaining credit with respect to larger businesses. A second determinant is the institutional and regulatory environment, particularly adequate specification of property rights, quick and efficient enforcement of financial contracts, and management of microfinancial risks, especially those of a systemic nature (Fernández and Tamayo, 2017). The levels of uncertainty and information asymmetry are also very important. Incomplete information can lead to situations in which the risk premiums involved are so high that they exceed the rates of return of the projects, producing an equilibrium in which these risks are not financed, while information asymmetry results in moral hazard and adverse selection phenomena. Lastly, we have scale and other transaction costs. When the structural and institutional limitations are severe or the information and transaction costs are very high, the result is a series of market failures, such as: (i) incomplete markets, (ii) externalities and public goods; and (iii) coordination failures and strategic behaviors by agents.
- 2.8 When market failures are severe, the result tends to be a poorly developed and inefficient financial system, characterized by: (i) low supply and high costs of financing to the productive sector;⁶ (ii) incomplete capital markets, risk management instruments, and insurance; and (iii) weak institutional and legal frameworks for macrofinancial regulation and oversight.

⁴ In the case of developing countries, financial systems that work properly can also create incentives for labor and business formalization (D'Erasmus et al., 2014; D'Erasmus, 2016). In turn, this helps to raise productivity, since the informal sector is significant in these countries and stands out for its low productivity levels (La Porta and Shleifer, 2014).

⁵ Access to finance during systemic financial crises can be a fundamental factor for a firm's survival (Aghion et al., 2005). In less developed financial systems, a lack of information about project quality can cause an inefficient allocation of credit and lead to more productive companies being eliminated in favor of less productive ones that have better connections to credit markets. In addition, volatility can encourage investors to adopt "more malleable technologies" that allow them to easily adapt to frequent and abrupt changes in relative prices, but at the expense of preventing discovery and use of more efficient production methods. This investment allocation effect is dominant in economies with underdeveloped financial markets (Cavallo et al., 2013).

⁶ The evidence that these market failures result in poorly developed financial systems is abundant. The volume edited by Messori (1999) is a good compendium of such evidence. The existence of externalities has been extensively associated with the poor functioning of a financial system (Lorenzoni, 2008; Bebchuk and Goldstein, 2011), and the impact of coordination failures on the proper flow of savings and credit has long been demonstrated, beginning with the seminal work of Diamond and Dybvig (1983).

2.9 Since the development of financial markets is to a considerable extent determined by the presence and severity of market failures, this creates room for public policy.⁷ Below is an analysis of policies that have been widely used to minimize the effects of market failures and achieve greater development of the financial system and expanded access to finance.

D. Policies to promote access to finance: international evidence and experience

2.10 The policies implemented around the world to overcome market imperfections and promote access to productive finance can be classed into two main sets: (i) institutional and regulatory reforms for access to finance and for raising productivity; and (ii) productive financing policies (PFPs).

2.11 These two sets of policies differ in the degree to which they cut across segments and in how long it takes for them to take effect. While institutional reforms are mainly horizontal and can be characterized as public goods,⁸ PFPs are more vertical and can be geared towards a particular segment of companies defined by size (for example, the SME segment), technology, age and sector, characteristics of the business owner that hinder credit access (gender, ethnicity), or any combination thereof. As amply described in the institutional literature, institutional reforms take longer to mature (Rodrik, 2013b; Williamson, 2000). The international evidence on the impact of both sets of policies and the lessons learned that can be used to improve their design and implementation are discussed below.

1. Institutional and regulatory reforms to enhance access to finance and productivity

2.12 There are a series of institutional and regulatory reforms primarily aimed at improving how financial markets operate. In other words, these reforms seek to reduce the market distortions faced by current and potential participants. Thus, they encourage the financial system to allocate resources toward more attractive projects and thereby help to boost aggregate productivity (which in the literature is known as selection mechanism). Reforms of this type may be grouped according to whether their specific objectives are: (i) improving the management of macrofinancial risks; or (ii) improving the functioning of financial contracts. Regarding the latter, it is worth highlighting the reforms that promote a fuller exchange of information (particularly on potential borrowers), those that promote competition in the financial industry (ensuring a better distribution of negotiating power in financial contracts), and those

⁷ Specifically referring to the banking system and to financing for productive activities, since commercial banks are subject to market operations, information asymmetry and moral hazard strongly determine the evolution of bank credit and its characteristics. In situations where these factors are greater, credit becomes scarce, expensive, and short-term. Thus, financing for productive activities requires additional financial resources, generally mobilized by the public sector. Accordingly, the existence of special credit systems is a characteristic shared by financial systems in both developed and developing countries (Freitas, 2009).

⁸ Nevertheless, it is to be expected that the lifting of financial restrictions achieved through institutional reform will mostly benefit companies suffering the greatest restrictions on access to finance. The groups of companies in which there are constraints to more efficient use of factors of production due to input and output market restrictions may be of different sizes and operate in different sectors, although they are mainly upper segment SMEs (medium-sized firms) and firms in the services sector (Busso et al., 2012b).

that seek to reduce the transaction costs associated with such contracts, such as enforcement costs and supervisory and regulatory costs.⁹

- 2.13 **Reforms to enhance macrofinancial risk management.** Macrofinancial instability has profound consequences for credit flows and the ability of firms to finance long-term projects (Aghion et al., 2005). Indeed, episodes of financial instability produce hysteresis in the financial system, and tend to have a lasting effect on how risk is perceived and managed (Bernanke, 1983). Therefore, macrofinancial stability is crucial if the system is to have reliable sources of funding and if the business sector is to be able to access financing at a reasonable cost and with sufficiently long maturities.¹⁰
- 2.14 The importance of financial reforms for promoting financial stability and productivity growth has been widely reported in the literature.¹¹ In this regard, the specialist literature highlights the importance of developing integrated macrofinancial and fiscal risk management frameworks (IMF, 2012 and 2013b). The essential elements of this management framework include: (i) consolidating microregulation and implementing macroprudential regulation (compliance with Basel regulatory standards, the International Organization of Securities Commissions (IOSCO), the International Association of Insurance Supervisors (IAIS)); (ii) developing monetary policy instruments, e.g., for the management and regulation of systemic liquidity risk (BIS, 2010); (iii) improving the counterparty risk management infrastructure (payment systems, settlement and clearing houses, etc.); (iv) regulating the role of new key financial actors such as pension funds and sovereign wealth funds (IDB, 2013b; BBVA, 2014); and (v) establishing integrated frameworks for the management of public assets and liabilities that address the whole range of macrofinancial risks, including contingent liabilities and those associated with natural disasters (IMF, 2012).
- 2.15 **Policies to enhance information and the functioning of contracts and financial markets.** The problems of information and contract execution hinder the tasks of selection and monitoring and asset recovery, driving up financing costs. The proper functioning of financial markets requires institutions that promote an environment of credible and accessible information facilitating credit and investment decisions by banking institutions or capital market agents (pension funds, investment funds, etc.) that are as fully informed as possible, so as to enhance their capacity to identify projects with the best risk/return profile. At the same time, proper functioning of the financial markets depends on institutions able to guarantee effective and efficient enforcement of financial contracts in order to reduce borrowing costs or make collateralization-based financing feasible (for example, structured financing) and thereby facilitate long-term finance. The problems of information and contract

⁹ It is worth noting that the role of these institutions varies depending on a country's level of development. In less developed countries, where contract enforcement mechanisms are weaker, the evidence shows that protecting creditors' and investors' rights is less relevant to promoting access to finance than mechanisms to promote information exchange (Djankov, et al., 2007). In turn, when contract enforcement mechanisms are more solid, the strengthening of creditors' and investors' rights has a much bigger role in explaining improved access to finance through the capital markets (Acemoglu and Johnson, 2005).

¹⁰ As Tümer and Minoiu (2013) have recently shown, the financial systems in which financing contracted the least during the 2008-2009 financial crisis were those in which institutions were better capitalized and had stable sources of funding.

¹¹ See a review of the effects of financial reforms on productivity in Dabla-Norris et al. (2013). See also studies linking financial reforms to improvements in factor allocation in the economy in Buera and Shin (2012) and Larraín and Stumpner (2013).

enforcement are most severe in environments with an elevated level of informality in the economy, where economic operators lack incentives to disclose a portion of their income, workers, or assets. Under such circumstances, financing costs may be high and, given the importance of access to finance in boosting productivity and reducing informality, a perverse cycle of low finance, low productivity, and high informality may be generated.¹²

- 2.16 In order to trigger a virtuous cycle between finance and productivity, it is necessary to implement a series of reforms, including: (i) improving institutions and regulations aimed at generating and disseminating information, such as credit bureaus, rating agencies, and accounting reporting standards, in order to improve the system's capacity to evaluate firms; (ii) introducing regulation to ensure financial transparency and raise levels of competition and consumer protection, which encourage market entities to improve their techniques for selecting good projects; (iii) availability of insolvency and bankruptcy regulations and institutional structures able to guarantee enforcement of financial contracts; (iv) maintaining and developing an effective system of guarantees and insurance to efficiently allocate risks among actors and minimize the costs of credit access and those associated with breach; and (v) availability of the legal and technological infrastructure for capital markets and the mechanisms necessary to promote long-term relationships between sources and uses of financial resources (e.g. by ensuring proper protection of investors' rights). The work of international organizations has played a key role in helping countries identify and implement reforms in these areas (IDB, 2010 and 2013b; IFC, 2010).
- 2.17 The empirical evidence shows that companies' access to finance is directly related to improvements in the institutions that perform the above-described functions and therefore promote a fuller exchange of information,¹³ better investor and creditor protection, and better contract enforcement guarantees and efficiency (La Porta et al., 2007; Djankov et al., 2008).¹⁴ In addition, there is evidence that encouraging the entry of new players into the financial market has positive effects on intermediation efficiency (Jayaratne and Strahan, 1996 and 1998) and improves the terms of credit access (Love and Martínez-Peria, 2015; León, 2015),¹⁵ provided this

¹² Studies by Caro et al. (2012), Gendelman and Rasteletti (2012), and Morón et al. (2012) found that increased access to finance is related to a higher degree of formality, given that compliance with tax and contracting legislation is generally a requirement for access to credit. Thus, it is more likely that companies will meet costs of formalization once bank credit is more widely available at a lower cost.

¹³ The recent availability of data at the firm level has shown that introducing credit bureaus raises the likelihood that a firm will obtain financing at a lower cost and with longer maturities (Martinez-Peria and Singh, 2014). In addition, it suggests that the positive effects of credit bureaus are particularly pronounced in the case of younger, small, and opaque firms.

¹⁴ There is international evidence indicating that financial institutions, when faced with poor contract enforcement, respond by reducing the amounts to be financed, raising costs, and shortening maturities (Qian and Strahan, 2007; Bae and Goyal, 2009). Bankruptcy laws are an essential determinant of the degree of contract enforcement and therefore affect access to finance. For example, Araujo et al. (2012) estimated that the introduction of new bankruptcy legislation in Brazil in 2005 improved business access to finance by 23% and reduced finance costs by 8%. Similarly, studies show that a judicial system that can guarantee efficient and predictable contract enforcement determines to a significant extent the impact of these reforms on access to finance and on productivity (Ponticelli and Alencar, 2016).

¹⁵ Love and Martinez-Peria (2015) and León (2015) use international data at the firm level and certain recently proposed measures to capture the degree of competition, concluding that having lower market power in the financial industry raises a firm's likelihood that it will obtain credit. Jayaratne and Strahan (1996 and 1998) show that when the United States eliminated restrictions on banks to operate in various states, the bank industry in general became more efficient due to competitive pressure.

increased competition is accompanied by proper regulation and supervision to prevent an inordinate growth of credit risk. Moreover, recent quantitative assessments of the impact of the various reforms in this area provide valuable information for policymakers on how to set their reform priorities. For example, the work of Dabla-Norris et al. (2015) shows that Honduras and Colombia would benefit more from improving financial contract enforcement than Paraguay. On the other hand, Paraguay would find it more beneficial to reduce the information monitoring and acquisition costs in financial contracts. Countries such as the Dominican Republic or El Salvador would obtain better results from policies designed to help reduce the fixed costs of participation in the credit market.

- 2.18 The adoption of new technologies could improve the functioning of the financial markets. These technologies have the potential to: (i) reduce the problems of moral hazard and adverse selection by making it easier to obtain and use information that until recently was unavailable or difficult to use; (ii) reduce the time and cost involved in enforcing contracts by introducing digital transaction history and new instruments such as smart contracts;¹⁶ and (iii) reduce fixed costs (particularly in distribution) that act as a barrier to entry into the financial industry, thus facilitating competition and rewarding efficiency. Subsection D below provides a detailed analysis of the adoption of new technologies and the functioning of the financial system.
- 2.19 In conclusion, the lessons learned and international evidence suggest that financial reform policies aimed at boosting productivity need to consider:
- a. The importance of managing macrofinancial risks to promote the predictability and confidence necessary for long-term investment through solid and integrated financial infrastructure that strengthens the country's balance sheet (companies, households, financial institutions, and the public sector).
 - b. The complementarity between the institutional reforms mentioned above, which advises an integrated approach to financial reforms to boost productivity. Not only are macrofinancial reforms and financial contract efficiency highly complementary, but there are strong complementarities between the two typologies, for example, between reforms to improve protection of creditors' and investors' rights and reforms to make contract enforcement more efficient and effective.
 - c. The importance of taking into account the institutional context and the country's level of development in order to properly sequence reforms and evaluate their effects. On this latter point, ideas and consensus-building between the main political, economic, and social stakeholders play a decisive role in overcoming the existing political/institutional equilibrium (Rodrik, 2013).

2. Productive financing policies (PFP)

- 2.20 As mentioned earlier, in addition to the institutional framework, the intrinsic characteristics of the productive structure (firm size and type, level of capitalization, sector, etc.) affect the possibilities for accessing finance.¹⁷ PFPs aim to expand the financing frontier for the productive sector. Where these policies are successful, they

¹⁶ Smart contracts are essentially computer programs that independently and automatically enforce the terms of a contract.

¹⁷ For example, in productive structures with a significant presence of small or rural businesses, where information and transaction costs are higher, thus raising the risk of adverse selection, there tends to be more rationing of finance.

- create the conditions for improvements in the productive structure. This is because access to finance facilitates the transition towards technologically more efficient firms, with higher levels of capitalization, operating in more productive sectors, and connected to value chains (Alfaro and Hammel, 2007; Catão et al., 2009; Maskus et al., 2012).
- 2.21 PFPs may be divided into two groups: (i) policies and instruments intended to boost the supply of financing to the productive sector; and (ii) policies and instruments intended to strengthen the productive system and help structure demand for finance. In addition, PFPs may be classified as: (i) horizontal policies and instruments, irrespective of the characteristics of the businesses or sectors they target; or (ii) vertical policies and instruments, with a particular focus on specific sectors or value chains.
- 2.22 **Programs aimed at boosting the supply of financing.** These programs are designed for cases in which productive firms exist but are underserved by the market. This problem is typically observed in SME segments that require medium and long-term finance to incorporate or develop technological innovations or start businesses in areas that generate positive externalities, such as technology or renewable energy. The inability of the private sector to finance these segments is normally rooted in a combination of two factors: (i) lack of long-term liabilities; and (ii) high perceived asset risk. Productive financing programs offer potential private sector financiers a set of financing instruments they can combine with their own resources to resolve the problem of financing.
- 2.23 The financing instruments offered by PFPs include: long-term financing, credit insurance, agricultural insurance, guarantee systems,¹⁸ structuring of ad hoc guarantees, support setting up a specialized platform for sector analysis and specific project analysis (generally, technology projects), channeling of resources and factoring support, seed capital, investment funds, venture capital funds, and angel investors. Programs of this type have been implemented in a number of countries and regions with various levels of development (Ketterer and Villacorta, 2017).¹⁹ For example, the countries that comprise the Organization for Economic Co-operation and Development (OECD) have active policies in place to support SME access to finance. These policies are designed to make a broad range of instruments available to SMEs, primarily including guarantee funds, investment funds, angel investments, credit funds, and export guarantees and credit (Seo et al., 2015; OECD, 2016). A combined policy analysis of 37 OECD countries shows that all these countries have one or more such instruments available (see [Table 1](#)). In the case of the United States, up to 17% of the loans provided to SMEs are backed by a government

¹⁸ Partial credit guarantees have proven efficacy in resolving the problem of information asymmetry (Larraín and Quiroz, 2006). This instrument reduces the financial entity's credit risk and makes it possible to lend to SMEs that have good projects but do not have a credit history or the collateral that financial institutions require. These arrangements involve the private financial sector by creating market incentives for it to increase its share of the financing (IDB-CMF, 2013).

¹⁹ More recently, in the wake of the international financial crisis, some countries have stepped up this type of program considerably. This responds to the need to support companies to mitigate the effects of economic volatility, not only in terms of short-term financing needs, but also in relation to medium and long-term investments (such as those in research and development), which tend to follow a procyclical pattern in response to credit constraints (Aghion et al., 2005).

guarantee. The existing empirical evidence confirms the financial additionality of these guarantee programs.²⁰

- 2.24 In general, the impact evaluations of credit supply incentive programs have been positive.²¹ For example, when Larraín and Quiroz (2006) evaluated the Fondo de Garantías para Pequeños Empresarios [Guarantee Fund for Small Business Owners] (FOGAPE) in Chile, they found there to be a 14% increase in the probability of small businesses obtaining a loan from banks taking part in the program when this guarantee existed. In Colombia, Eslava et al. (2012) found that companies that had been beneficiaries of Bancóldex credit resources had achieved growth in output, employment, and productivity of over 34%, 19%, and 22%, respectively. The main lessons learned on this type of policy include: (i) achieving greater coordination between public instruments and a context of dialogue and consensus with private initiatives giving support; (ii) implementing monitoring mechanisms for participating companies using criteria that make it possible, for example, to identify when to “graduate” companies and when to withdraw support, or when to make adjustments to the program, etc.; (iii) ensuring that the supply of finance meets development impact (positive economic return) and financial sustainability (positive financial return) criteria, and for cases in which financial sustainability is not achieved but there is a positive development impact, considering the fiscal costs relative to its impacts; (iv) aiming to ensure that interventions are systemic and leverage resources to provide benefits for institutions and markets; and (v) evaluating programs and disseminating lessons learned. The literature has amply documented these lessons learned, providing a guide for designing policies that seek to maximize their effectiveness and avoid adverse effects, such as crowding out the private sector, or have the private sector capture the benefits (IDB, 2010 and 2014a; OECD/ECLAC, 2013; World Bank, 2014a). In particular, the literature collectively underscores that, since productive financing policies can have a fiscal cost (implicit or explicit) if they are implemented at below-market prices, the interventions associated with these policies must square with the market failure being addressed, so as to maximize the economic development effect of the fiscal resources for these policies (IDB, 2014a).
- 2.25 **Programs aimed at boosting the productive system that strengthen demand for finance.** These programs are normally implemented to create incentives for individuals and firms to adopt or modify behavior patterns (for example, in relation to entrepreneurship, innovation, investment, partnerships, staff training, integration in global value chains, etc.), by supplying them with business services and grants, generally contingent on cofinancing (Rivas et al., 2010). Although the aims of these policies and mechanisms go beyond promoting access to finance (such as encouraging entrepreneurship, innovation, adoption of technology, enhancing

²⁰ See, for example, Riding et al. (2007) regarding the Small Business Financing Program in Canada; Wilcox and Yasuda (2008) regarding the Special Credit Guarantee Program in Japan; Cowling (2010) regarding the Small Firms Loan Guarantee in the United Kingdom; and Hancock et al. (2007) regarding the Small Business Administration in the United States.

²¹ Arraíz et al. (2010) evaluated the Fondo Nacional de Garantías de Colombia [National Guarantee Fund of Colombia] and found the intervention to have had a positive impact on the size of participating companies, both in terms of employment and in the percentage of output exported. Bonilla and Cancino (2011) evaluated the impact of the Programa de Capital Semilla [Seed Capital Program] in Chile and found that participating companies had increased their turnover and headcount. Machado et al., (2010) found that companies taking part in the Tarjeta BNDES [BNDES Card] program in Brazil had increased their number of employees by 10%.

- production processes, improving human capital), in the case of the particular area addressed here, these policies help boost, organize, structure, and induce demand for finance, especially by improving companies' risk profile. In fact, one of the causes of the financing gap is that a large number of companies, especially those in the SME segment, have difficulty formulating suitable business plans. And in cases in which they are able to formulate them, they are often unable to generate a collateralization structure that enables them to access finance (Tulchin, 2007).
- 2.26 In this regard, aside from its other goals, strengthening business services has begun to be perceived as an effective additional way of improving access to finance (OECD/ECLAC, 2013). In particular, business services help by: (i) sending a positive signal to financial institutions about the quality of the potential client's plan; (ii) improving the quality of key information about potential clients' credit risk; and (iii) improving clients' ability to pay insofar as they receive support on sensitive activities for the conduct of their business (Rivas et al., 2010; IDB, 2014b). This system of incentives through business services and nonfinancial instruments helps to improve companies' risk profile, thereby increasing their opportunity to access financing.
- 2.27 **Horizontal productive financing programs.** In general, these programs tend not to select sectors of the economy, instead promoting access to finance for companies in general or for a set of them, irrespective of the sector in which they operate. They include programs aimed at expanding SME access to finance in order to enable these enterprises to improve their productivity. In fact, the SME segment is particularly relevant to boosting a country's or a region's productivity and transforming its productive structure (apart from the implications for job creation that this may have). In productive structures with broad SME participation—SMEs having considerably lower productivity than large companies—aggregate economic productivity tends to be lower (IDB, 2010; OECD/ECLAC, 2013).
- 2.28 Restrictions on access to finance limit SMEs' capacity to invest in projects (technology, processes, market integration) that can boost their productivity. They also represent a serious limitation on innovation, entrepreneurship, and the creation of new start-ups (IDB, 2014a).²² This situation is not conducive to structural change and the efficient allocation of factors toward more productive projects and activities, given that established companies with high levels of capitalization or wealthier entrepreneurs have better access to finance, rather than projects developed by the most able entrepreneurs or those with the best ideas (Albuquerque and Hopenhayn, 2004).
- 2.29 The reasons why restrictions on access to finance particularly affect SMEs include (IDB, 2005): (i) absence of a track record of conduct and internal procedures for generating quality information about their activities and functioning, and greater reluctance to share information; (ii) limited capacity for administrative and financial management; (iii) lower levels of capitalization and ability to post collateral; (iv) greater informality levels; and (v) fixed costs of intermediation and prudential

²² The Innovation, Science, and Technology SFD addresses innovation and entrepreneurship in greater detail. In their study on development and innovation systems, Cassiolato and Martins (2005) note the role that public policy can play in promoting the financing of innovative activities, given the shortfalls in how this segment is served by commercial banks.

regulation, which discourage financial institutions from serving this segment.²³ Restrictions on access to finance are even more severe in the case of SMEs run by women. Various studies have found that such firms face higher interest rates and greater collateral requirements.²⁴ Faced with these difficulties, many SMEs opt out and turn to their own resources—if they have any—or other sources of finance, for example, from their suppliers.

- 2.30 Horizontal programs have also focused on technology-based companies and start-ups in addition to SMEs. For these businesses, access to finance is limited by their higher risk and uncertainty profiles according to the assessment techniques used by commercial banks. Instruments such as seed capital, angel capital, and venture capital funds have been implemented to overcome these constraints. In addition, the emergence of nontraditional sources of financing²⁵ and new credit-scoring techniques have favored these segments.²⁶ In fact, recent evidence in developed countries shows that, when the crowdfunding model is used to finance companies, the smallest and youngest firms are the ones that see the greatest improvement in credit access (Ahmed et al., 2016). Similarly, the evidence shows that companies without access to traditional credit are the ones that benefit the most from these new financing models (NESTA, 2014; FED, 2015).²⁷
- 2.31 With a view to promoting the modernization of productive processes through technology development and/or adoption as well as broadband access,²⁸ many countries have launched programs to improve access to finance for SMEs seeking to advance in this direction, thereby helping to transition to the digital economy. For example, in Spain, more than 50,000 businesses have benefited from loans for information and communication technology (ICT) equipment upgrades and broadband connection through the Avanza 1 and Avanza 2 plans (2006-2012). As a result of these programs, the percentage of the country's connected enterprises rose from 51% in 2003 to 97.4% in 2011, while the percentage of enterprises buying and selling through electronic commerce rose to 23.3% and 12.2%, respectively. In

²³ For example, regulation based on Basel II weights the risk of loans to SMEs above those to large companies, increasing the cost of capital for financial institutions serving this segment. The new regulations proposed under Basel III have tried to solve this problem.

²⁴ See, for example, Bardasi et al. (2007); Ellis et al. (2007); Narain (2007); and Demirguc-Kunt et al. (2008 and 2013).

²⁵ See Section II.D for a detailed analysis.

²⁶ In recent years, new tools and credit technologies have been developed to partially mitigate the information asymmetries that make it difficult for commercial banks to assess credit risk. This new generation of instruments makes it possible to distinguish among different types of companies. Specifically, there are promising techniques based on psychometric tests (similar to those developed by human resource agencies and departments) that assess credit risk through the characteristics of the business owners or their transactional track record or digital footprint. In addition to psychometric tests, there are models based on big data and artificial intelligence, which rate risk by examining the client's reputation on social networks as well as the client's transaction history, such as pattern of use of cellular telephone service. These instruments, combined with other bank activity downscaling techniques, allow credit to better reach underserved sectors where productivity could be limited by a lack of financial resources. Something similar occurs in capital markets and alternative markets when special exchanges are set up to serve small, innovative companies that do not necessarily meet the listing criteria for established markets.

²⁷ A recent study supported by the Connectivity, Markets, and Finance Division (CMF) shows that nearly 40% of those who turn to this type of alternative financing are women applying either personally or as creators and heads of businesses. This participation rate is particularly high in countries such as Brazil and Mexico (Wardrop et al., 2016).

²⁸ According to a study by the International Telecommunications Union, companies with broadband access generate 6% more in sales in the manufacturing sector and 7.5% to 10% more in the service sector.

Colombia, the MiPyME Digital program made resources available to businesses to foster the implementation of electronic commerce solutions and better use of the Internet and computer applications aimed at boosting productivity. As a result of the first phase of the program (2008-2014), micro, small, and medium-sized enterprises (MSMEs) with Internet access went from 7% to 74% of all MSMEs; 60.6% of MSMEs were using the Internet in their business activities; 194,000 microentrepreneurs were certified in ICT skills; and the productive chains of 43 enterprises were improved through ICT solutions, benefiting 32,000 MSMEs by incorporating these solutions into their internal management.

- 2.32 **Vertical productive financing programs.** These programs are aimed at improving access to finance for certain sectors of the economy. They are justified by the presence of market failures that make financing for certain sectors suboptimal. An example of this is the programs designed to expand access to finance for the agricultural sector. Various studies describe the difficulties in access to finance faced by those operating in this sector, as well as the potential impact of better access in terms of productivity and income (Carter, 1989; Feder et al., 1990; Foltz, 2004; Petrick, 2004; Guirkingner and Boucher, 2008). These studies consistently find that the sector's access to finance is affected by: (i) higher associated risks relative to other sectors, particularly climatological, marketing, and price risks, as well as risk concentration by activity and geographic location and a shortage of risk management instruments; (ii) greater limitations in available collateral and collateral enforcement, whether due to a lack of existing capital or, in some cases, the type of property tenure; and (iii) high implicit transaction costs of small-scale lending due to geographic dispersion. Lack of access to finance is one of the most limiting factors for productivity growth in the agricultural sector, restricting investment, linkage to value chains, use of inputs, and technology adoption (World Bank, 2014; Jack et al., 2015; Banerjee et al., 2013).²⁹
- 2.33 Within vertical programs, value-chain financing programs are particularly relevant and are an area of growing interest in terms of public policy. This is because ensuring greater participation, as well as better performance, in value chains is critical for economic development. In recent years, international evidence has shown that: (i) companies that participate in value chains are more productive; and (ii) countries that participate in value chains and in greater value-added segments have a higher level of economic development (Calatayud and Ketterer, 2016). For these reasons, public policymakers are beginning to show interest in promoting the insertion of enterprises into value chains and strengthening these chains. Value-chain financing programs are designed to either enhance companies' capacity to access value chains and/or address the financing needs of a group of interrelated enterprises through their participation in a single chain.³⁰ In this regard, these programs differ from conventional financing in that they go beyond a business segment (such as SMEs), a specific sector (such as agriculture), or a financing instrument (such as credit funds) to encompass a value chain and its multiple actors, and include various types of financing, in a crosscutting way. Access to finance is critically important in enabling companies to: (i) join and remain in a value chain, which normally requires

²⁹ For a more detailed analysis of the agricultural sector, see IDB (2016b).

³⁰ A value chain encompasses a set of activities spanning from the design of a product or service to its delivery or provision to an end user (Simchi-Levi et al., 2003).

an investment of some kind (e.g., certifications, equipment, infrastructure); and (ii) ensure that a value chain performs well.

- 2.34 Satisfactory performance of a value chain is subject to a series of risks, which may be divided into five categories: (i) systemic risks; (ii) market risks; (iii) operational risks; (iv) credit risks; and (v) liquidity risks (Calatayud and Ketterer, 2016). Systemic risks are those that affect the functioning of an economy in general. The source of these risks may be political, macroeconomic, social, or natural uncertainties. Market risks affect the functioning of a specific sector of an economy. These risks include, among others, fluctuations in domestic and international prices of inputs and products, availability of inputs, technology changes, changes in consumer preferences, availability of substitute products, and sector quality standards. Operational risks are those that affect the functioning of a specific value chain, impeding the flow of materials, information, or products along the chain. Sources of these risks include production disruptions due to mechanical, technical, or process failures; forecasting errors in the acquisition of inputs or in estimating demand; failures in energy, communications, or transportation infrastructure; chain disruptions due to delays or flaws in administrative procedures; chain disruptions due to flaws in the quantity and/or quality of products provided by suppliers; and flaws in the quantity and/or quality of products delivered to end users.
- 2.35 Credit and liquidity risks affect the financial stability of a chain or its links. Credit risk refers to collection problems with customers. Factors such as uncertainty regarding collateral, reputation, a specific business segment (such as the SME segment, which tends to have greater information asymmetries and informality), or a specific sector (such as the agricultural sector, where information asymmetries and informality also tend to be greater than in other sectors) increase the credit risk. Lastly, liquidity risk refers to the problems that a business could face in meeting its short-term obligations. Factors such as an extension in payment cycles, the financial health of a company, and poor access to credit influence the likelihood of occurrence of this risk (see [Table 2](#)).
- 2.36 Access to finance is essential for implementing a strategy to manage the risks that hinder value-chain performance (Calatayud and Ketterer, 2016). Risk prevention and mitigation actions generally require financial resources and instruments to invest in physical capital, technology, processes, and human capital formation, fund input procurement, ensure an adequate level of liquidity, and cover damage or losses in the event of a claim, among other things. For example, financing can be crucial in allowing an input or service provider to expand its facilities or modernize its machinery and processes in order to ensure fulfillment of orders or quality standards required by the purchaser or the industry. It can also be crucial in allowing the various actors in the value chain to adopt advanced information technologies, such as those that use big data or the Internet of Things, to better manage their operations and encourage greater collaboration within the chain, among other goals. Lastly, financing can be crucial in addressing liquidity constraints and credit risks or in implementing mitigation actions in the event of infrastructure failures (such as power outages) or adverse climate conditions (such as droughts or floods). In addition, since risks appear at various levels (hubs or links) of a chain, it is important to ensure that the various actors in the chain can have access to finance. Conversely, obstacles in terms of access to finance by any of these actors can jeopardize the implementation of risk prevention and/or mitigation actions, compromising the efficiency and stability of the entire chain. In this context, the first links in the value

chain are of particular importance, primarily when they are composed of small companies that, for the reasons cited earlier, have particular difficulty accessing finance. With the lack of financing for investments and to have the liquidity needed to manage risks that may arise, these companies can become the weakest links in the value chain.

- 2.37 International experience shows that, in the current context of growing complexity and uncertainty affecting the performance of value chains,³¹ there is a need to move away from traditional value-chain financing programs that address the needs of a specific hub in the chain by eliminating its financing restrictions, and instead focus on programs that provide financing for designing and implementing an integrated risk management strategy for all actors in the chain (Calatayud and Ketterer, 2016).
- 2.38 Such strategies require a combination of different financial instruments, adapted to the needs of the particular value chain. To this end, it is first necessary to identify the various risks to which value chains are exposed, estimate their likelihood of occurrence and the severity of their impact, and prioritize the risks to be addressed. This prioritization can be guided by the public-sector's ability to provide an effective solution, as well as by the cost-benefit ratio between the proposed solution and the desired outcomes. Lastly, for each risk prioritized, a suitable financial and/or nonfinancial instrument must be selected to mitigate it. The financial instruments most commonly used by public programs include credit, guarantee, and insurance funds; factoring platforms; and supplier development financing.³² The nonfinancial instruments commonly used by such programs are training and technical assistance. Given that risks can change with the passage of time, it is important to periodically review the strategy in order to update the management actions, priorities, and size.
- 2.39 In addition, value-chain financing programs can be useful in overcoming barriers to access to finance by relatively smaller businesses (SMEs) or by certain sectors of the economy (such as agriculture). For example, the fact that a company belongs to a value chain can be used advantageously to incentivize a greater supply of financing, since bank institutions can use the purchase agreement as a repayment guarantee as well as benefit from the information held by each of the chain's actors on the other actors. Both factors help to reduce the risk of nonpayment.
- 2.40 One significant feature of PFP implementation is the role public development banks (PDBs) have played and continue to play. This has been crucial and is widely

³¹ Growing complexity is evident at various levels: (i) network complexity, due to a greater number of actors in the chain and a greater number of links among them; (ii) process complexity, due to a greater number of processes; (iii) product complexity, due to a greater number of components; (iv) demand complexity, due to greater volatility and fragmentation; and (v) organizational complexity, due to a greater number of levels involved and their tendency to work in silos (Christopher and Holweg, 2011).

³² With regard to the impact of these policies, Arráiz et al. (2013) showed that Chile's supplier development program had had a positive impact both for suppliers (in terms of sales, number of employees, and sustainability) and for the anchor companies (in terms of sales and exports), and that the latter had benefited from the gains of the former. Bueso-Merriam et al. (2016) showed the productivity benefits obtained by the companies in the chains that participated in the program as compared to those in the chains that did not.

documented (BNDES, 2009; IDB-CMF, 2013).³³ Despite the existence of risks associated with PDB operations,³⁴ international experience shows that public development banks are more effective when they: (i) are given a clear mission and mandate; (ii) are geared towards second tier and long-term financing arrangements; (iii) complement the role of commercial banks, and do so cost-effectively; and (iv) operate within a framework of clear, high quality rules, and according to international standards that ensure strong and transparent corporate governance,³⁵ and adequate scrutiny of practices and results.

- 2.41 In particular, it is worth noting the privileged position of PDBs in simultaneously dealing with financing instruments, risk management, and technical assistance resources, all of which are necessary to implement PFPs. In many countries in the region, PDBs are playing a prominent role in structuring and coordinating financing strategies aimed at promoting investments in economic sectors or market segments in which there are multiple risks and/or barriers keeping financing supply and demand apart. Examples of these financing strategies includes those promoting investments in technological changes (such as those related to development and/or adoption of new digital technologies) that lead to higher productivity among companies as well as to environmental and social benefits, such as many of the financing strategies supporting green investment or low carbon projects. In these cases, PDBs mesh various financial and nonfinancial instruments together to overcome the risks and barriers faced by the financing of these investment projects, mobilize national and international sources of finance, and coordinate and drive various public and private actors to promote development of the market for this type of project (Smallridge et al., 2013). Other examples include the strategies that promote risk management in value chains. In these cases, the work of PDBs is crucial in leading the deployment of a value-chain risk prevention and mitigation strategy at the global level, overcoming the failures of coordination between the public and private actors participating in the chains, and coordinating the finance sources and instruments, risk management, and technical assistance resources needed to make such strategies possible, preventing them from being hampered by lack of access to finance (Calatayud and Ketterer, 2016).
- 2.42 Multilateral lenders have been important partners for countries in structuring productive financing programs, providing technical and financial support, generating knowledge, and building channels for dialogue and exchange of experience between countries (IDB-CMF, 2013). In this role, with a view to decisively

³³ Based on a review of the international literature, Araujo et al. (2011) point to three roles for public development banks: (i) promoting economic development, by facilitating access to finance for sectors that are excluded or underserved by commercial banks, due to higher risk and lower returns (for example, in the agriculture sector) or longer maturities (for example, sectors with a high content of technological innovation); (ii) fostering regional development, by facilitating access to finance for key sectors of the regional economy; and (iii) expanding the economy's liquidity, acting countercyclically to episodes of loss of confidence or credit crunches.

³⁴ These risks range from those associated with moral hazard problems and rent-seeking that can lead to high fiscal costs, to those associated with excessively conservative management of the public development banks, leading to failure to achieve their development objectives (IDB, 2014a).

³⁵ In the past, however, the role of PDBs has been a mixed bag (IDB, 2014a). In some cases, deficiencies in management and politicization of institutions led to distortions in the financial system, financial losses, and ultimately fiscal imbalances. In contrast, in recent decades PDBs built their institutional capacity, improved their operational and financial performance, and above all demonstrated their development impact. The IDB-CMF publication (2013) examines the evolution of PDBs in detail and presents lessons learned, good practices, and policy recommendations for efficient PDB financing action.

contributing to achieving the objectives of the 2030 Agenda for Sustainable Development, they have agreed to follow a series of guiding principles to ensure the additionality of interventions focused on the private sector and ensure maximum leverage of the sector's resources (EBRD, 2012; G-20, 2017). These guiding principles are: (i) additionality (interventions must respond to a market failure); (ii) crowding-in (where possible, interventions should catalyze market development and mobilization of private sector resources); (iii) contribute to creating an enabling environment for investment; (iv) sustainability (interventions are expected to contribute to their customers' commercial viability); (v) promoting standards of conduct among customers (for example, standards of corporate governance, transparency, and integrity, and social and environmental standards); and (vi) strengthen the catalytic effect these institutions can have in incentivizing private investment and crowding-in (EBRD, 2012; G-20, 2017).

2.43 Lastly, a review of the literature and international experience on PFPs yields the following common aspects that can be useful in guiding the design of this type of policy:

- a. Good diagnostic assessments are needed to allow policies and financial instruments to be tailored to the context of the intervention, the problems it aims to solve, and the severity of the existing market failures.
- b. Completeness of the PFP's design and execution is important for this type of public policy to be effective, considering factors influencing financing supply and demand as well as risks that, unless managed, could diminish the effectiveness of the PFPs (e.g., in the case of value chains), based on the crowding-in principle and private sector participation.
- c. Complementarities exist between PFPs and other productive development policies, which makes leveraging different policies to achieve greater impact advisable.
- d. Mechanisms need to be implemented that ensure these policies are effective. Such mechanisms include public-private dialogue to identify the most important obstacles and to design interventions that have the best chance of success, and mechanisms for evaluation, continuous learning, and dissemination of the lessons learned on PFPs.
- e. Maximum leverage of private sector resources needs to be achieved, while maintaining the intervention's level of effectiveness, which is the necessary condition for minimizing its fiscal cost.

E. Times of change: new challenges and new opportunities

2.44 Since the Great Recession of 2008-2009, the financial services industry (FSI) in the developed world has started to change. Technological developments and new business models have begun to challenge the status quo in the industry. This shift has become particularly pronounced in recent years, driven by advances described in the following paragraphs. In view of the significance of these changes and their quickened pace in recent years, this subsection presents a detailed analysis of the impacts that can be expected in terms of productive sector financing. First, below is an overview of the main factors of change that characterize the new context.

2.45 The post-recession period witnessed exponential growth in a number of technologies that are enabling new business models and challenging the FSI's

- traditional organizational structure. Of these technologies, the ones most responsible for progress in this industry are: cloud computing, robotics software, distributed digital ledger (blockchain) technologies, smart contracts, virtual currencies, biometrics, artificial intelligence, Internet of Things, open data, big data analysis, and mobile broadband. One reason why these technologies have so much power to foster change is that they reduce FSI entry costs, thereby enabling certain business models that, in the past, required high initial investments. For example, the opportunity to offer “Anything as a Service” (XaaS) through cloud computing allows entrants to begin operations mostly by renting capacity, thus reducing their initial investment in infrastructure and hardware as well as their fixed operating costs. According to World Economic Forum (WEF) estimates (2016), 80% of banks are expected to have started a project related to these technologies by 2017.
- 2.46 The second driver of change in this industry is a combination of certain demographic trends and an evolution in consumer preferences. Consumers have gotten used to their experience in other digital spaces (e.g., in the Google, Amazon, and Facebook platforms), where everything revolves around the consumer and is easy and free (me-easy-free). This new consumer posture challenges current participants as well as potential entrants to develop personalized business models, i.e., tailored or adapted to the consumer based on the characteristics of the demand.
- 2.47 A third factor of change is the wave of new regulations aimed at the FSI as a direct consequence of the Great Recession. In the United States, these regulations include the Wall Street Reform and Consumer Protection Act, commonly known as the Dodd-Frank Act, which was passed in 2010. At the global level, they include the evolution in capital requirements under Basel III and the know-your-customer (KYC) due diligence rules associated with anti-money laundering regulations. These regulatory changes have reduced the margins (as reflected in returns on investment) for the vast majority of financial products.³⁶
- 2.48 Lastly, the presence of market segments that are underserved by the traditional FSI participants (a phenomenon that was accentuated as a result of the Great Recession) has expanded income opportunities for new industry players. For example, in the wake of the Great Recession, bank credit for small businesses in the United States fell by close to 20%, while credit to large companies grew by roughly 4% (Mills and McCarthy, 2014). In addition, the evidence indicates that the likelihood that an SME will obtain financing from alternative sources is highly correlated with having been refused bank credit (FED, 2015). It further indicates that new players have gained market share in those places where the traditional banks reduced their presence as a result of the crisis (Ahmed et al., 2016).
- 2.49 In short, (i) new business models are emerging that take advantage of new technologies such as those described above; (ii) consumer behavior patterns and consumer demographics are changing; (iii) the financial services industry has become much more regulated; and (iv) some segments of the market are still not being served. In this context, new firms, operating under these alternative business models, are emerging to challenge the traditional FSI players.

³⁶ For example, according to data from the World Bank’s Global Development Database, the return on investment (ROI) of the banking sector in the United States fell from an average of 14.8% in the 1996-2006 period to an average of 8.4% in 2010-2014 (after having recovered from the crisis of 2008-2009, when it dipped to a low of 1.4%). That said, it is difficult for the moment to determine whether that decline in bank industry profitability is being offset by better supervision and lower systemic risk.

- 2.50 While these are relatively recent developments, there is already some measure of consensus among experts and market participants that these changes will have a substantial impact on access to productive finance in general and on SME access in particular. In 2014, global investment in new financial technologies exceeded US\$12 billion, 16% of which went to business financing technologies.³⁷ In countries such as the United States, these new technologies have encouraged the establishment of funds to finance early-stage enterprises (FEM, 2016). Developing countries could play a leading role in this structural shift in how to finance SMEs. Given that most SMEs excluded from the formal financial system originate in developing countries, and bearing in mind that the new finance technologies would radically lower the cost of entry into this system, the changes in the FSI would benefit these economies to a greater extent. For example, available estimates suggest that mass adoption of these new technologies could bring close to US\$2.1 trillion in new SME financing and increase tax revenue by more than US\$110 billion per year, which would result in a 6% total increase in the gross domestic product (GDP) of emerging economies (Manyika et al., 2016b).
- 2.51 The impact of these new technologies will be felt in a variety of ways. The most important among them are described below.
- 1. The entry of new financial intermediaries could help expand SME access to finance**
- 2.52 The new financial intermediaries are primarily open-market credit suppliers or online credit platforms known as marketplace lenders (MPLs). The MPL business model is based on digital platforms essentially aimed at directly matching lenders with borrowers. These platforms started as peer-to-peer operations, matching individual investors and borrowers, but have recently broken into the institutional markets through portfolios that group together credits sharing certain characteristics. Typically, MPLs offer users some value added, such as: (i) including an artificial intelligence-based credit scoring algorithm that optimizes the use of the available information on potential borrowers; (ii) facilitating the user's experience in a variety of ways, with a particular emphasis on speed and transparency (e.g., in terms of rates); and (iii) in some cases offering potential investors the option of partial credit guarantees.
- 2.53 There is one characteristic that categorically distinguishes the MPL business model from the model used by traditional market players: the MPL platforms do not use deposits from the general public in the strict sense of the term. This means that MPLs are not required to have regulatory capital or contribute (or be subject) to deposit insurance plans. Accordingly, the fixed costs associated with intermediation are reduced, allowing MPLs to reduce finance costs and boost investor returns.
- 2.54 Another particularly significant characteristic of MPLs is their use of digital technology as a competitive advantage vis-à-vis the traditional financial sector. In practice, digital technology reduces operating and transaction costs primarily by replacing traditional human labor processes. In this regard, MPLs use this technology to optimize processes that are typically paper-based and require human intervention, such as loan applications, credit scores, financing, offers of life or vehicle microinsurance, and many others. The new tools and technologies provide

³⁷ See: Santander InnoVentures, Oliver Wyman and Anthemins Group (2015). The Fintech 2.0 Paper: Rebooting Financial Services. London.

- the potential for easing some of the constraints associated with information asymmetries and incomplete information through models based on digital data, for example by using the digital footprint left behind by companies and individuals when interacting online.
- 2.55 MPLs have been focusing on market segments (typically the smallest) heretofore excluded or underserved by traditional financial institutions. However, there is evidence that these platforms are moving into the larger market segments, and this has started to put some competitive pressure on well-established intermediaries.
- 2.56 The evidence to date on the potential of MPLs to finance SMEs is encouraging. China, despite its financial market idiosyncrasies, is the leading country in this area. In 2014, MPLs in China disbursed close to US\$40 billion in SME financing, while the comparative figure in the United Kingdom was US\$2.5 billion. In the United States, the total amount disbursed by MPLs in 2014 in small-business financing was estimated at close to US\$9 billion.³⁸ The financial viability (due to low transaction costs) of this type of small-scale financing is one of the main reasons why MPLs are having such success in the SME segment (FEM, 2015a).
- 2.57 In addition to MPLs, online financing is available through collective financing or crowdfunding platforms. Their main difference with MPLs is that these platforms are aimed at equity or nonreimbursable financing rather than debt instruments. Although at the outset the alternative financing industry was dominated by crowdfunding, that segment has been overshadowed, today representing less than 6% of this industry's disbursements in the U.S. (compared to consumer credit at 74%). In LAC, however, these equity and nonreimbursable instruments still represent 33% of alternative financing. There are considerable opportunities in this segment of the industry, particularly because their use is not limited by the availability of collateral, nor does it increase the likelihood of bankruptcy—two features that are particularly attractive to SMEs in developing countries.
- 2.58 PDBs have not been indifferent to the proliferation of lending business models based on new technologies, such as MPLs and crowdfunding. Since these models can improve the origination terms (by reducing the problem of information asymmetry) and facilitate distribution through purely online channels, PDBs have started to foster them with a view to expanding the financing frontier for segments typically underserved by traditional banks. In the United Kingdom, the British Business Bank (the PDB for small businesses) moved to significantly capitalize a giant in online lending—Funding Circle—to leverage nearly US\$700 million in SME loans. In the United States, the Small Business Administration has created its own online platform to connect investors to SMEs seeking credit.³⁹
- 2.59 There are two fundamental issues currently warranting the attention of economic and financial policymakers: (i) regulation of the MPL and crowdfunding industry; and (ii) the evolution and implications of competition between MPLs and crowdfunding on one hand and traditional intermediaries on the other. Below is a discussion of these issues.

³⁸ The estimates for China have been taken from www.Wangdaizhijia.com, while for the United Kingdom they have been taken from www.altfi.com, and for the United States from www.lendacademy.com. In the case of the United States, the US\$9 billion disbursed by MPLs to small businesses in 2014 represents 17% of the total amount disbursed that year by the Small Business Administration.

³⁹ The platform, under the name of Leveraging Information and Networks to Access Capital, is available at <https://www.sba.gov/tools/linc>.

- 2.60 **Industry regulation.** The MPL and crowdfunding market is still characterized by a great deal of regulatory uncertainty and the absence of a set of generally accepted good practices. In fact, regulatory practices regarding MPLs and crowdfunding vary substantially across countries. On one end of the spectrum are some countries that have adopted friendlier, pilot “sandbox” approaches, while at the other extreme are countries that have opted to follow a more draconian prohibition policy. In the pilot approach, market participants are allowed to offer their new products and services within certain geographic or scale constraints while regulators closely track the impact of these new practices on consumers and the rest of the industry.
- 2.61 Recent studies put forth regulatory recommendations in this area (FEM, 2015b; United States Department of Treasury, 2016; CGV, 2016; Herrera, 2016). For example, based on a review of existing business models in the alternative finance sector in Latin America, Herrera (2016) presents the cases of the United Kingdom and Spain as benchmarks for the region and puts forth a set of 10 regulatory recommendations. Below is a summary of these recommendations. First, it is very important to identify the scope of who is potentially subject to oversight and inspection, i.e., determine whether the platforms are financial intermediaries or not. In this regard, it is crucial to define the activity, clearly delineating its limits, the types of MPLs and crowdfunding that are authorized, and other aspects. This point leads to the need to clearly define how the activity is classified, delineating the investment and lending transactions that the platforms will be authorized to perform. In addition, it is crucial to clearly specify aspects such as the platforms’ legal domicile, governance, and business models. The authorization process should be clearly defined. Furthermore, consumer information should be protected before and during the investment and funding process through to dispute resolution mechanisms. In this regard, the disclosure of platform information to financial consumers should be as complete and symmetric as possible, primarily because the platforms’ investors will be the risk takers.⁴⁰ Moreover, there should be due diligence, business conduct, and asset separation standards, among others. Lastly, the powers of the financial supervisor should be clearly defined.⁴¹
- 2.62 **Competition and cooperation between MPLs and traditional intermediaries.** The relationship between these two types of participants has turned out to be richer and more complex than anticipated, ranging from pure competition to various forms of collaboration and acquisition. Different models have prevailed in different geographic contexts. For example, China has followed a path in which MPLs are more adversarial and aggressive, while cooperation and partnership systems of various types have been predominant in Europe and the United States.
- 2.63 Much has been written on this issue of competition-cooperation between MPLs and traditional financial intermediaries. In the United Kingdom, one of the leading countries in this type of collaboration, there are a variety of arrangements, ranging

⁴⁰ It is worth noting that the issue of digital information ownership, access, and use should be seen in the context of a broader discussion on digital identity and the role of the financial system and public policy in this regard (see, for example, World Economic Forum (2016)). Moreover, given the risks potentially arising with respect to the improper use of information, there is a possibility that existing data protection systems may need to be reviewed or modified to accommodate these new practices.

⁴¹ Complementarily, the CGD study (2016) emphasizes three principles for regulating new players in the digital finance market: (i) establish similar regulations for providers delivering similar services; (ii) design regulations based on the risks taken on and introduced by the new FSI participants; and (iii) strike a proper balance between ex post and ex ante regulation.

from large banks combining their client base with the credit allocation technology of an MPL (e.g., JP Morgan and OneDeck) to simple arrangements for bank referrals of riskier clients to MPLS (e.g., Santander and Funding Circle in the SME segment).⁴² In general, the perception is that both MPLs and traditional banks have something that the other cannot easily replicate. Banks have the advantage in areas such as client base, liquidity, service distribution, risk management, and regulatory experience, while MPLs are ahead in innovation, speed, technology, and entrepreneurial culture. When these sets of attributes have been successfully combined, the ultimate beneficiaries have been those seeking small and medium-sized lines of credit (Citigroup, 2016).

- 2.64 However, it should be noted that financial innovation can be used as a pretext for reducing transparency in risk allocation and measurement in the financial intermediation process, potentially resulting in episodes of instability and crisis. It is for this reason that, as indicated above, innovation should go hand in hand with significant efforts by the authorities to become acquainted with and properly regulate these markets. On this subject, see, for example, FEM (2012).

2. New products and new business models based on the use of digital information will lower the costs associated with information asymmetry and expand credit access by SMEs

- 2.65 As explained above, information asymmetry between borrowers and lenders (uncertainty as to borrower quality) increases perceived risk for lenders and in turn drives up financing costs. A reduction in perceived risk resulting in lower transaction costs can be achieved primarily in two ways: either by using collateral or by generating more and better information on borrowers. Both alternatives result in costs that are at times incompatible with the rates of return of some SME projects.
- 2.66 To the extent that new information management technologies are introduced into the credit market, new firms and new projects will have the opportunity to borrow. In particular, SMEs now have the option of building a digital history or footprint by doing business online (through e-commerce) and by using electronic payment channels. Such digital history may be shared with specialized intermediaries who, after examining it, can provide credit instruments tailored to the client's needs and characteristics (for example, consistent with the periodicity or seasonality of business sales). Access to this type of verifiable, tamper-proof information amounts to a significant improvement in credit practices since it reduces the need to use collateral, which tends to keep many SMEs out of the credit market. In addition, the literature shows that these information-related advances have positive and substantial effects on the selection of better projects (de Janvry et al., 2010). Specifically, the use of this technology—in the form of computational capacity dedicated to estimating better risk models—has allowed lenders to better predict repayment probabilities and has consequently lowered the financing cost of viable projects (Einav et al., 2014).
- 2.67 Some examples of these new credit practices originate in China. In that country, the financial arms of electronic commerce and payment companies such as Tencent and Ali Baba are now large providers of SME credit. This is due in part to the significant penetration of e-commerce: in 2015, more than 15% of retail sales in

⁴² For more details, see Deloitte (2016), Marketplace lending, a temporary phenomenon? An Analysis of the UK Market.

China were made through e-commerce, while in the United States the figure was only 7% (eMarketer, 2015).

- 2.68 In contrast to what is happening in China, e-commerce companies such as Amazon or eBay have yet to take advantage of their client information to develop a large-scale financing operation. An interesting case is that of Square Capital (<https://squareup.com/capital>), which has been using the transaction history obtained through its electronic payment service for SMEs as a valuable source of information on its clients' business performance and repayment capacity should they become borrowers.
- 2.69 At present, a greater obstacle to SME credit access is SMEs' inability to produce or control relevant information for the credit allocation process. Many firms already producing a digital business history are having difficulties in transferring this information to potential lenders, or at least in doing so transparently and reliably. These difficulties could vanish to the extent that characteristics beyond business performance start to show their predictive capacity in credit scoring algorithms. In addition, as soon as it becomes possible to store and share payment and performance information in a secure and tamper-proof environment, the commercial payment giants will no longer have the advantage of controlling useful information for assessing potential borrowers. In this respect, there is an invaluable opportunity for potential information aggregators: platforms specifically designed to capture, store, and securely and quickly transfer financial (and nonfinancial) histories.

3. More efficient use and management of collateral based on distributed ledger (blockchain) technologies will help expand credit access for SMEs

- 2.70 For these changes to be effective, what is needed in addition to fostering adoption of the appropriate technologies is to resolve a series of regulatory questions. The ownership of information and the right of access to its various sources must be clearly established from a legal standpoint. In this respect, the European Commission has taken a leading role, approving regulations that govern the access to and use of information collected by payment service providers. These regulations will enter into force in 2018.⁴³
- 2.71 As indicated above, the alternative to the production of a (digital) financial history aimed at reducing information asymmetry is to use collateral. Nowadays, the very process of providing collateral for a credit transaction is plagued by costs and inconveniences, rendering it difficult, and on occasion impracticable, for smaller firms. Thus, adopting technologies that make it possible to record collateral in a reliable and tamper-proof way and help the contracting parties to enforce the collateral-related clauses in accordance with the terms of their loan contract will no doubt reduce the cost of access to formal credit.
- 2.72 There is broad consensus in the financial industry that the use of distributed ledger technology (DLT) can be of enormous help in solving the current problems associated with the recording of an asset as collateral and the repossession mechanisms under financial contracts. DLT is, in short, a data record-keeping system with particularly attractive properties for collateral management. More

⁴³ It is worth noting that the issue of digital information ownership, access, and use should be seen in the context of a broader discussion on digital identity and the role of the financial system and public policy in this regard (see, for example, World Economic Forum (2016)). Moreover, given the risks potentially arising with respect to the improper use of information, there is a possibility that existing data protection systems may need to be reviewed or modified to accommodate these new practices.

specifically, DLT is a network of hubs and its decentralized nature makes it a much more robust and secure technology, unlikely to be affected by an individual failure or attack. Under DLT, each of the network's many hubs has a copy of the ledger containing all the relevant history and information, such as ownership of the assets. This makes the system traceable, auditable, and much more transparent. In addition, any change in the ledger must be validated by the entire network by means of a consensus mechanism and, once approved, is immediately reflected in all copies of the distributed ledger.⁴⁴ Moreover, DLT uses cryptographic mechanisms to ensure the integrity of the information contained in the ledger, making it virtually impossible for the information to be altered without the consensus-based authorization of most of the network's hubs.⁴⁵

- 2.73 Lastly, once an asset is recorded in a DLT system, given the system's tamper-proof nature, this digital representation of the asset itself becomes proof of the asset's existence and ownership. This is a huge opportunity to make information management more efficient, since new networks using digital representations of the assets can now operate without the need of third parties to validate transactional information, ultimately resulting in lower transaction costs and greater transparency. The efficiencies of recording an asset as collateral in a DLT system are clear, since the possibility of duplication and fraud is eliminated, providing confidence that no other lender has a right over the same asset. Furthermore, this system reduces the counterpart risk, the need for capital, and therefore the cost. In addition, recording an asset in a DLT system can facilitate collateral recovery mechanisms, since incorporating contractual rules and/or clauses that are automatically enforced in all the network's hubs through smart contracts can reduce both the cost of and the time involved in potential recovery.
- 2.74 Distributed ledger technology has a wide range of applications. For example, successful uses of this technology in recording and managing collateral have recently emerged. Pilots and tests aimed at recording and managing titles to land are being carried out in Sweden and Georgia. Similar applications are being developed to manage health records. In the private sector, firms are turning to DLT as a way of achieving time savings and cost reductions in innumerable processes related to compliance with bylaws or external regulations while enhancing the reliability of the entire process.
- 2.75 In addition to being applied strictly to the management of collateral, DLT may be used in combination with smart contracts aimed at helping to enhance the efficiency of financial contracts. Since smart contracts independently and automatically enforce the clauses of a contract, coupling this technology with the use of distributed ledgers would make the process of providing and recovering the collateral substantially easier. Moreover, there is broad consensus among experts that distributed ledger technology would be ideal for addressing the storage, use, and disposal of digital history and identity (on this point, see footnote 43).

⁴⁴ DLT systems follow the principle of only adding DLT information (for example, when an authorized change needs to be made) and never erasing the history, so as to make it impossible to eliminate or reverse transactions.

⁴⁵ In essence, each data file can be programmed to produce a short alphanumeric identifier—equivalent to a digital footprint. This footprint or countermark is validated and then included in the ledger, providing a date and timestamp and proving the existence of the data file. Thus, any attempt to change the data file will be easily detected and corrected by the other hubs in the network.

4. The new financial technologies will help make capital markets more efficient, ensuring less costly and more comprehensive access

- 2.76 Recording and checking databases on financial obligations is the basis of capital market operations. The currently used mechanisms are complex, employ fragmented technological systems, and lack common standards. This creates a constant need to reconcile data, thus increasing the duplication of processes and systems, raising operating costs, and leading to work execution delays.
- 2.77 Recent studies indicate that DLT can help to simplify and create greater efficiency in these markets through a new infrastructure of financial services and processes based on common standards. For example, a study jointly conducted by Santander Innoventures, Oliver Wyman, and Anthemis Group (2015) estimates that using DLT could reduce banks' infrastructure costs—including the cost of international payments, securities trades, and regulatory compliance—by US\$15 billion to US\$20 billion a year over the next five years. In general, the potential benefits of implementing DLT would be the following:
- a. **Operational simplification:** DLTs would reduce or even eliminate the need to perform reconciliations and resolve disputes.
 - b. **Improved regulatory efficiency:** DLTs would allow regulators to monitor financial activities in real time.
 - c. **Reduced counterpart risk:** Through DLTs, agreements would be codified and would be enforced in a shared and immutable environment.
 - d. **Shorter compliance and payment times:** DLTs would reduce or even eliminate the need for third parties that now verify and/or validate transactions, which would speed up payments.
 - e. **Improved liquidity and cost of capital:** DLTs reduce locked-up capital and provide transparency and liquidity for assets.
- 2.78 As the above-described technological changes take shape, SMEs could progressively benefit from greater access to capital markets through: (i) simplification and lower costs of access to these markets; (ii) being matched with a larger set of savers (including institutional investors) for SME financing; and (iii) freed up space in the credit market, since other large-scale projects, such as infrastructure-related projects, and large firms could be financed directly through the capital markets. In fact, capital markets with a low level of development can be a major constraint on access to finance for the productive sector as a whole and SMEs in particular. This is due to the following: (i) the lack of disintermediated financing mechanisms exerts undue pressure on banks' capital, creating an equilibrium in which commercial banks finance in excess large companies and infrastructure projects that could also benefit from financing through the capital markets; (ii) institutional investors' cumulative savings cannot flow to financing productive activities, particularly in medium-sized enterprise sectors, because of a lack of instruments for securitizing bank assets; (iii) there is no toolkit for managing and underwriting risk (e.g., interest rate risk, exchange risk), which contributes to the overall increase in risk premiums; and (iv) SMEs do not have one of the greatest incentives for entrepreneurship: the possibility of realizing the value of the company through a public offering (Ketterer, 2017).

5. Other FSI segments will also benefit from the technological changes

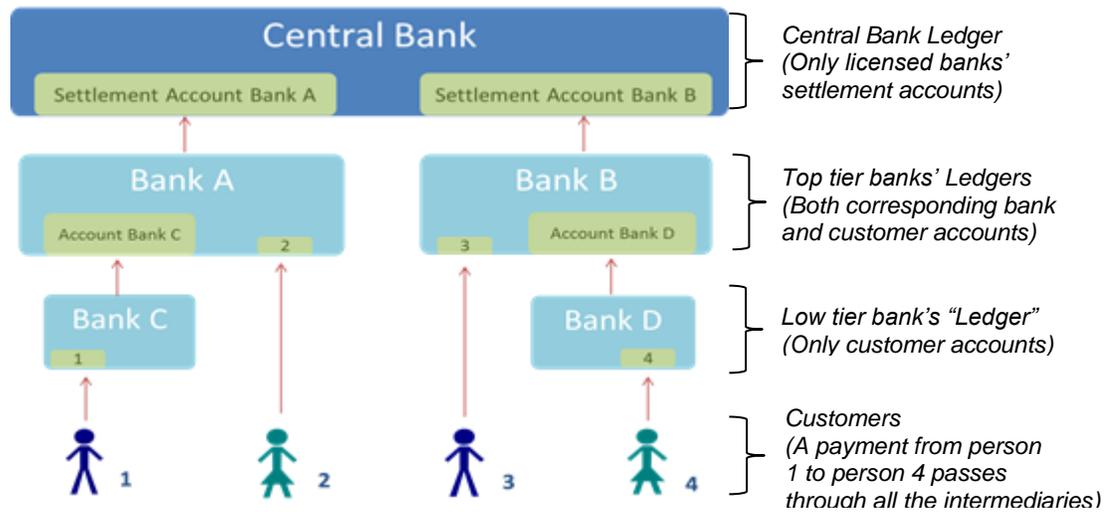
- 2.79 As should be expected, the benefits of the new technologies go beyond what has been described above. For example, the insurance industry, the transaction banking subindustry, and payment systems will experience substantial changes and efficiency gains. The payment systems segment deserves special attention since it is well-known that SMEs bear the brunt of high payment-related costs, particularly in the case of international transactions. With support from an appropriate public policy, these efficiency gains are expected to extend from the financial segments to real-sector companies, which would help to boost aggregate productivity.
- 2.80 Despite not being part of the FSI in a strict sense, the e-commerce segment will benefit enormously from the new technologies and business models. For example, Amazon Business, a business-to-business (B2B) platform, was launched in April 2015 and in its first year reported US\$1 billion in sales and a monthly growth rate of more than 20%. B2B buyers show a clear preference for online transactions, and 94% of them do some type of research (on the seller) prior to the transaction (Lingqvist, 2015). Another example is that of the on-demand market. The appearance on the scene of online platforms that allow clients to interact with their potential suppliers in real time is allowing professionals in various areas to provide their services either independently or in the form of SMEs (Manyika et al., 2016a).

6. The possibility of revolutionary changes in the financial services industry is real and would result in a process of segregation and subsequent reintegration of financial service offerings⁴⁶

- 2.81 Historically, central banks have designed multitier systems to manage their payment systems as a way of solving the problem of having to deal with large numbers of individual accounts. Examples of these multitier systems include the Bank of England's Real-Time Gross Settlement System, the United States Federal Reserve Bank's Fedwire, and the European Central Bank's TARGET2.
- 2.82 Generally, only certain (usually large) financial institutions that are direct participants in these systems can hold accounts at the central banks and settle in the central bank currency. Smaller institutions can access the system through a large institution with direct access. Individuals and companies can only access the system through accounts at these institutions, whether large or small (see Figure 1). The alternative to cash for these individual actors is deposits at financial institutions, which are by nature quite different from money as such. It is worth noting that depositing a unit of cash at a commercial bank is equivalent to exchanging it for a virtual unit of currency issued by that bank. Deposit insurance schemes, now very popular in large parts of the world, are a clearly imperfect way of closing—partially, at least—the gap between the central bank's money and the virtual money issued by the banks.

⁴⁶ This section is based on the discussion paper Digital Central Bank Money and the Unbundling of the Banking Function, by Juan Antonio Ketterer and Gabriela Andrade (2016).

Figure 1. Tiered payment system



Source: Ketterer and Andrade (2016).

- 2.83 At the present time, some central banks and economics scholars have enriched the discussion on the advisability of replacing the above-described multitier system by extending direct access to central bank money to a broader set of participants (open payments system). The reason for this discussion is primarily four-fold. First, it is essential to pave the way to a digital currency-based economy. This move would have several positive consequences: (i) it would provide the possibility of eliminating the use of paper currency to any necessary extent; (ii) it would help reduce the costs of maintaining and distributing paper currency; and (iii) it would entail a series of indirect effects, such as making tax collection easier, encouraging business and labor formalization, enhancing the convenience and value propositions to consumers, and creating new markets. Second, it is desirable to allow new entrants to participate in the central bank activity of providing money, as this would enhance competition and encourage financial innovation. Third, there is a need to examine and discuss how the dynamics of systemic risk and bank runs would change if individual participants (whether companies or individuals) have the option of maintaining zero-risk deposits at the central bank. Lastly, it is imperative to promote the introduction and use of low-cost instruments such as virtual currency to move forward on the financial inclusion agenda, which has been broadly encouraged in recent years (see, for example, AFI, 2016).
- 2.84 What, then, would be the consequences of moving toward an open payment system? To begin to answer this question, one must first recognize the bundled nature of the current banking business model. Traditional financial intermediaries fulfill two main functions, providing: (i) intermediation between savings and investments; and (ii) access to the multitier payment system. The crucial point is that these two functions are currently bundled, so that: (i) the two services are offered together; (ii) the intermediation activity is funded, at least in part, with the deposits and the float generated by the payment system; and (iii) the intermediaries can use their client information quite freely, except share it with competitors. In exchange for a license to offer these two services, banks are subject to regulations requiring them to maintain high levels of capital (approximately 8% of their risk-weighted assets).

- 2.85 In this context, a new class of nonbank intermediaries (NBIs) could operate in the payment system along with the traditional intermediaries. NBIs could be licensed to take deposits, provided that 100% of the deposits received are maintained in central bank money; in other words, NBIs would not be allowed to use the depositors' money to engage in credit transactions. In fact, this is the definition of a system often referred to as "narrow banking," "safe banking," or "full reserve banking." In this scenario, the savings, payment, and investment services would become unbundled.
- 2.86 A question that naturally comes to mind in this scenario is whether an unbundled or segregated services system could offer NBIs financially viable business models. It is clear that selecting this business model would have to take at least three considerations into account. First, NBIs might not necessarily have an advantage over current intermediaries in providing a high-quality payment system. Second, while the possibility of offering safe deposits would be an advantage for NBIs, the value that end users attribute to a system free of counterparty risk (such as the current bank system) is difficult to quantify ex ante. Lastly, it is crucial to think of what NBIs could do with the information provided by their clients with a view to making their business model viable.
- 2.87 In the traditional bundled banking model, intermediaries make very limited use of this information and typically do not share it with their competitors. This information is of course used within each bank as an input for credit allocation decisions or for cross-selling other financial services. In other words, traditional intermediaries keep their client information compartmentalized, because their bundled business model so requires. However, in an NBI model, information could be shared and even sold to third parties such as MPLs or providers of other financial services (investments, mortgages, or insurance products). As indicated above, this could result in the emergence of specialized information aggregators that would purchase data fragments and sell data packages to various financial service providers. In any event, the regulatory capital required of each operator would be considerably less than is currently required of banks under the bundled model, since NBIs would not be subject to the risk of bank runs. In short, better use of information and the cost reductions associated with lower regulatory capital could bring about a true revolution in the FSI.
- 2.88 In conclusion, transitioning from a multitier payment system to a fully open model would allow the entry of NBIs. In turn, these new players would contribute to a more efficient management of financial client information and this information would feed the rest of the unbundled financial ecosystem, which would now begin to compete with the traditional intermediaries.

III. MAIN CHALLENGES IN THE REGION AND PROBLEMS THE BANK SEEKS TO ADDRESS

- 3.1 As discussed above, the capacity of financial markets to channel savings into productive activities efficiently is an essential element for the functioning of the economy. Unfortunately, the region lags significantly in the development of these markets, as evidenced by shallow financial systems concentrated on few instruments and characterized by a history of systemic crises. In fact, despite some persistent gaps in this regard (there is great unevenness across the region), countries in Latin America and the Caribbean (LAC) have made relatively more progress on financial stability than on depth, liquidity, and diversification.

3.2 Considering the factors outlined in Sections II.C and II.D that determine the level of financial development, it is clear that LAC is still lagging behind in a variety of dimensions. Although there are significant differences within the region, it trails significantly in: (i) protection for lenders; (ii) coverage of credit bureaus and registries; (iii) protection for minority shareholders; and (iv) adequate integration of the SME segment into countries' productive financing strategies.

A. The region lags in building deep, diversified, and stable financial systems

3.3 There is extensive evidence that the region exhibits significant lags in various aspects of financial development. For example, credit depth in LAC is a fraction of what it is in countries with a similar level of development. In addition, capital markets are, with certain exceptions, relatively incipient and limited to a few issuers. Despite recent progress, some weaknesses also persist in terms of macroprudential oversight and regulation.

3.4 For a start, World Bank (2016) data for the period 2003-2013 show that, while average bank assets in LAC countries grew on average only 4% (from 39% of GDP in 2003 to 43% of GDP in 2013), they rose by 17 percentage points in Southeast Asian countries (from 37% to 54%) and by 31% in Eastern Europe and Central Asia (from 20% to 51%). As a result, the financial depth level in LAC countries is not only lower than in advanced countries but also lower than in emerging economies. Thus, in this component of the Financial Development Index, LAC scored 0.08/1 as compared to 0.3/1 for advanced countries and 0.12/1 for emerging economies (IMF, 2016). Levels of access to finance in the region are below even what would be expected in view of its countries' per capita GDP (Didier and Schmuckler, 2014).

Figure 1: Indicators of financial market development

	LAC	South America	Central America	Caribbean	OECD – High income	Emerging Asia	Eastern Europe	Upper middle-income
Credit to the private sector (% GDP)	44.2	46.2	45.88	38.6	121.15	96.1	57.6	52.1
Market capitalization (% GDP)	37.2	32.2	25.1	59.1	67.3	91.8	19.1	44.8
Market capitalization excluding 10 largest companies (% GDP)	-	12.9	-	-	34.7	60.2	7.9	21.8
Trading volume (% GDP)	5.03	6.77	2.7	1.8	56.8	44.8	7.53	4.8
Companies identifying financing as greatest constraint (%)	25.1	22.2	24.3	29.8	-	9	17.7	19.3
Bank capital to assets ratio (%)	10.3	10.5	10.2	-	6.3	9.2	10.5	9.7
Ratio of loan loss reserves to nonperforming loans (%)	144.1	167.5	114.4	-	41.2	78.1	59.7	66.2

Note: The data are for 2014 or the latest available data prior to that date. LAC includes the 26 IDB borrowing member countries. The group of emerging Asian countries includes China, India, Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam. The group of Eastern European countries includes Bulgaria, Croatia, Czech Republic, Poland, Romania, Slovakia, Slovenia, Turkey, and Ukraine. The upper-middle income group is as defined by the World Bank. The composition of country groups varies from one indicator to another due to data availability.

- 3.5 In the region, bank credit to the private sector has barely increased since the 1980s and is now around 44% of GDP. This value is significantly below the average in advanced economies (121%), emerging Asia (96%), and other emerging economies such as Eastern Europe (57.6%).⁴⁷ In turn, the relative weight of credit to businesses as a share of total bank lending is 60%, six percentage points lower than in 2000. Thus, although credit to the business sector has been growing since 1990, it has done so more slowly than in other regions, and has mainly focused on consumer credit—involving simpler and shorter-term lending—rather than productive credit (de la Torre et al., 2012). However, in some countries in the region, bank credit to the productive sector has been growing at considerable rates. Such is the case of Brazil, where credit to businesses (particularly industry) grew at an average annual rate of 11% from 2012 to 2014 (BNDES, 2014).
- 3.6 With a few exceptions, credit to the productive sector in the region is well below that corresponding to the structural characteristics of the countries' economies (level of per capita GDP, population size and profile, etc.). Beck (2016) shows that this is the case, for example, in Argentina, Mexico, and Peru, where current credit levels (19%, 22.5%, and 32%, respectively) fall far short of expectations (71%, 42%, and 56%, respectively). Moreover, compared with other regions, credit intermediation to the productive sector is at higher lending rates and with high net spreads (close to 5.5%, compared with spreads of 2% in OECD countries and 4% in Asia).
- 3.7 This situation has negative consequences for companies' operation and growth. Just 36% of companies in the region use credit to finance their working capital (in the Caribbean this figure is barely 20% of registered companies), compared with 38% in Asia and 48% in Europe. What is more, just 20% of the region's companies use credit to finance investments, compared with 40% in Asia and Europe, while 30% of companies state that lack of access to credit is a significant hindrance to their operations. In response to these difficulties, some companies in the region opt out and turn to their own resources—if they have any—or other sources of finance. Fifty-seven percent of companies are financed from internal resources (Presbitero and Rabbellotti, 2014). In the case of new companies, 60% of seed capital comes from

⁴⁷ However, there are marked asymmetries between the countries of the region: for example, Panama, The Bahamas, and Barbados have values above the regional average: 70%, 58%, and 52%, respectively (World Bank, 2016).

personal or family savings (WBES, 2014). Faced with an inefficient intermediation system, self-financing is the best response for companies, even for highly productive ones. This excessively limits and delays their ability to take advantage of new business opportunities, particularly those requiring long-term projects or investments in intangible assets.

- 3.8 SMEs⁴⁸ and young enterprises are particularly affected, as are companies in relatively riskier sectors and those with less collateral (such as new-technology intensive firms). Less than 15% of total credit in the region is destined for SMEs, and the differential in the conditions of access to credit for SMEs and large companies is bigger than in other regions⁴⁹ (OECD/ECLAC, 2013). According to IFC data (2013), the financing gap for SMEs in the LAC region is US\$250 billion. Although there has been progress in recent years in terms of the expansion and adaptation of banking instruments for these business segments, the high degree of informality in the economic structure, and the higher cost of project selection and monitoring methods in this segment compared to others (such as consumer credit or leasing) create disincentives for bank credit, limiting the benefits in terms of aggregate productivity that can be derived from the growth of the most productive SMEs.
- 3.9 Credit constraints, in turn, are significantly greater in the case of companies run by women (Piras et al., 2013; IDB, 2015).⁵⁰ Recent surveys in LAC show that companies in the region owned by one or more women: (i) have less access to finance in all categories of company (70% of women-owned SMEs that need a loan have been unable to obtain it through bank institutions); and (ii) face collateral requirements that exceed the value of the loan (for example, in Paraguay and Costa Rica, this may be as much as 369% and 267% of the loan, respectively). The surveys also show that, for women, access to finance is the most important barrier to starting a business (EIU, 2013); and that regulatory barriers (for example, in relation to land holding and ownership rules) and cultural barriers (women are less likely to finance their businesses from loans than men) exist, limiting access to finance (Piras et al., 2013; Pailhé, 2014).
- 3.10 It is worth noting that there is great unevenness in this respect among the countries in the region. For example, China's levels of credit to the private sector are roughly consistent with per-capita GDP, while in the Central American countries⁵¹ and the Dominican Republic they are equivalent to 40% of per-capita GDP (Didier and Schmuckler, 2014). These disparities are also present in the Caribbean. For example, in 2015, credit to the private sector in The Bahamas amounted to 72% of GDP, but in Trinidad and Tobago it was only 31.4% of GDP. Despite the improved relative performance of financial system indicators in certain countries in the region, private-sector access to finance, particularly for SMEs, is far from the expected levels for these countries' degree of development.
- 3.11 Access to long-term finance is especially limited in the LAC region, creating an obstacle for innovation and investments in technology and infrastructure, which

⁴⁸ It should be noted that the Latin American and Caribbean countries tend to use different definitions for "SME."

⁴⁹ Around 17% of SMEs in the region use bank credit to finance working capital, compared with 29% of large companies.

⁵⁰ Only half of the companies set up by women in Latin America and the Caribbean survive after three years (MIF, 2013).

⁵¹ Belize, Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua.

require financial instruments with a longer maturity horizon. As will be seen below, LAC countries are far from developed countries on indicators such as credit to the private sector as a percentage of GDP or securities market liquidity, both being important components of long-term finance. According to recent studies, the region's financial systems are not sufficiently efficient in: (i) channeling savings toward longer-maturity financial instruments that can help satisfy the need to invest in the real economy; (ii) ensuring that long-term financing is provided by entities with long-term horizons; and (iii) providing a broad spectrum of financial instruments to support long-term investment (Beck, 2016). These constraints are particularly worrisome due to the LAC countries' need to evolve toward more productive economies and given the key importance of financing and investment in achieving this evolution.

- 3.12 In addition to the lag in bank credit, the incipient development of most capital markets in the countries in the region represents a major constraint on the productive sector's access to finance in general and that of SMEs in particular.⁵² This is due to several factors: (i) the lack of disintermediated lending mechanisms puts undue pressure on bank capital, leading to an equilibrium in which commercial banks overfinance large companies and infrastructure projects that could also be financed through capital markets; (ii) the savings accumulated in institutional investors cannot flow towards the financing of productive activities, particularly in medium-sized business sectors, due to a lack of securitization instruments for banking assets; (iii) the lack of a set of insurance and risk (such as interest-rate and foreign-exchange risk) management instruments, which contributes to the overall increase in risk premiums; and (iv) SMEs' lack of one of the main incentives to entrepreneurship: the possibility of realizing the value of the company through a public offering (Ketterer, 2017). In turn, the capital markets' low level of development limits the possibility of mitigating macroeconomic shocks from the banking sector, stemming from the nonperformance of loans to the productive sector. More developed capital markets could help mitigate this risk, although additional research is needed on this point.
- 3.13 Although the region's fixed income markets have grown substantially over the last two decades, this growth has been slower than in OECD countries or Asia, and these markets remain relatively small (33% of GDP in LAC-7 countries, compared with 56% in Asia and 112% in the OECD)⁵³ (Didier and Schmuckler, 2014). Moreover, growth in these markets has been driven mainly by two factors: public bonds and U.S.-dollar issues by a handful of large companies. With respect to the first factor, private bonds have had only very limited scope: they account for less than 10% of bonds by value in countries in the region and only a few companies have issued bonds, compared to the norm in more advanced countries.⁵⁴ With respect to the second factor, Caballero et al. (2016) and Shin (2014) describe the increase in corporate issues in foreign currency by large companies in the region, occasionally through foreign subsidiaries. The most positive element regarding fixed-income markets has been that, in some countries, the growth of longer-term

⁵² Brazil's Securities and Futures Exchange was ranked as having the 20th highest trading volume in the world (Forbes, 2015). Even so, the low level of development of the domestic private bond market limits the productive sector's prospects for accessing long-term finance (Macedo and da Silva, 2013; Pinto et al., 2013).

⁵³ The heterogeneity of the LAC-7 countries should be noted: whereas bond markets in Peru and Colombia are very small (15% and 23% of GDP, respectively), Brazil's is 40% of GDP and Chile's is larger than that of the Asian countries (59% of GDP) (World Bank, 2016).

⁵⁴ Between 1991 and 2013, an annual average of 270 companies issued bonds in LAC, compared to 799 in Europe and 1,220 in the United States.

issues of domestic public debt in local currency has helped construct a reference curve for corporate debt.⁵⁵ For their part, variable income securities markets (shares, etc.) are still small and relatively illiquid (the value of shares in the region's exchanges is less than 40% of GDP, compared with levels of over 100% of GDP in the OECD countries and Asia), well below what would be expected given the structural characteristics of the countries' economies (level of per-capita GDP, population size and profile, etc.).⁵⁶ Lastly, except in the largest countries, derivative markets are almost nonexistent, or at best incipient (World Bank, 2016).⁵⁷

- 3.14 Following international trends, other sources of financing have emerged in the region, including private equity and venture capital funds and credit unions. However, their share of total credit volume continues to be very small (for example, loans provided by credit unions in OECD countries are equivalent to 5% of GDP, while in LAC-7 countries⁵⁸ they are less than 1% of GDP). Also worth noting is the emergence of nontraditional funding sources such as crowdfunding. While the scale of crowdfunding is still small, in Chile⁵⁹ and Mexico it respectively accounts for close to 2.5% and 1% of the growth in credit to microenterprises and small businesses. Unlike the case in developed countries, where crowdfunding is focused on the consumer finance segment, close to 70% of financing via crowdfunding in LAC has focused on credit to companies, notably small businesses (close to 5,800 SMEs in 2015) (Wardrop et al., 2016). In fact, the financing of companies through crowdfunding in LAC grew by more than 500% in 2015 over 2014, while the consumer segment grew by only 40%. Despite this growth, the share of crowdfunding in the total volume of credit to SMEs is also very small. As a result, faced with constraints on credit through bank intermediation and other sources, companies frequently turn to suppliers and the informal sector.
- 3.15 The region has made significant strides in recent years in terms of introducing a framework of prudential regulation and financial regulation and oversight (BBVA, 2014). The limited progress achieved in increasing the depth and diversification of financial markets has been largely due to the implementation of these reforms.⁶⁰ The reforms notably include improvements in macromanagement and prudential regulation which made the system more stable, and pension system reforms that provided a transition to a capitalization system in most countries (IMF, 2012). A

⁵⁵ Between 1990 and 2010, maturities increased one year for private bonds and 35 months for public bonds, while the share of national corporate bonds in foreign currency dropped from 33% to 25% (LAC-7).

⁵⁶ Beck (2016) shows that, for example, this level should be around 15% in Argentina (rather than 2.5%), around 32% in Mexico (rather than 24%), and around 10% in Peru (rather than 5%).

⁵⁷ It is worth bearing in mind the uneven levels of development across the region: in Brazil and Chile, levels of capitalization in the securities markets exceeded 100% of GDP, while in Paraguay, Uruguay, and Venezuela these were below 10%.

⁵⁸ Argentina, Brazil, Chile, Colombia, Peru, Mexico, and Venezuela.

⁵⁹ The Cumplo platform in Chile is the first of its kind in Latin America. Operating under a collective funding model, several persons offer part or all of the financing amount on the requested terms through a reverse auction system. Loans are guaranteed by Sociedades de Garantía Recíproca [mutual guarantee associations], which are financial institutions that receive State contributions through the Corporación de Fomento de la Producción [Chilean Economic Development Agency] (CORFO) to allow SMEs to obtain better financing terms.

⁶⁰ Consistent with this process: (i) local currency bond issues show increased volume and longer yield curves; (ii) the number of instruments traded on securities exchanges has increased, and derivatives have emerged in some currencies; (iii) pension funds have become significant actors; and (iv) financial infrastructure, particularly as it relates to securities clearing and settlement systems, has been modernized (de la Torre et al., 2012).

combination of regulatory changes and lessons learned from past crises led LAC banks as a whole to achieve a capital adequacy ratio of 10.3% in 2014, above the average for upper-middle income countries and also above the average for emerging Asian countries (World Bank, 2016).⁶¹ In addition, banks in the region have a loan loss coverage ratio of 144%, well above the average for upper-middle income countries (66%) and emerging Asian countries (59%), making them better able to absorb loan portfolio losses. In this regard, the fact that LAC was relatively shielded from the recent global financial crisis has been attributed by some authors to the region's advances in bank regulation and oversight, as well as to its more flexible and consistent monetary systems (Bleger, 2011).

- 3.16 Another area in which notable advances have been identified is the opening up of the financial sector, encouraging the entry of foreign institutions and capital. As a result of this process, which was conducted in different countries at different moments in time, the presence of foreign banks grew significantly in most countries in the region. LAC (except Brazil), Sub-Saharan Africa, and Eastern Europe are the regions in which foreign banks have achieved the greatest market penetration, even when compared to Asia, China, and advanced economies (Claessens and Van Horen, 2014). However, in recent years, as a consequence of the 2008-2009 global financial crisis which weakened some global banks and led to stricter capital requirements, the share of foreign banks in LAC registered a moderate decline (IMF, 2016). These cycles in foreign bank penetration have had repercussions in the levels of bank concentration: while in the late 1990s the asset share of the five largest banks in LAC-7 had fallen to 60%, in 2015 it had risen again, reaching 75% of total bank assets (World Bank, 2016). Although the evidence of this concentration's effect on bank industry competition is not yet conclusive (Gelos, 2009; Kasman and Carvalho, 2014), the recent consolidation in the industry has the potential to create setbacks in encouragement of competition and consumer protection.
- 3.17 Building deep and stable financial systems in LAC is crucial for boosting the region's productivity and, consequently, its economic growth. For example, Beck et al. (2000) have shown that if average financial depth in the region (31%) were raised to the levels of East Asia (70%), annual productivity growth in the region would increase by one percentage point, narrowing the difference in productivity growth between the two regions by 60%. Greenwood et al. (2013) have estimated that if Latin American countries were to reach the financial development level of Luxembourg, TFP in these countries would rise by 17% and GDP by 85%. Arizala et al. (2013) showed that, depending on the finance requirements of the industries, the pace of annual TFP growth could rise by 0.6% if development of the financial system were to increase by one standard deviation.
- 3.18 One of the major channels through which financing can help boost the region's productivity is by providing incentives for labor and business formalization, since it is well-known that informal businesses operate at lower levels of productivity

⁶¹ This appropriate level of capital is precisely what leads Galindo et al. (2012) to conclude that implementing Basel III in countries such as Bolivia, Colombia, Ecuador, and Peru would not require additional capitalization efforts on the part of banks.

(La Porta and Shleifer, 2014).^{62,63} The studies conducted for the region show that the high degree of informality of SMEs is a key obstacle impeding access to finance through the banking system. Informality means that an enterprise is unable to demonstrate its existence; it also means that an enterprise's financial statements do not properly reflect its real situation, making it difficult to correctly evaluate financing projects and the associated risks (Kulfas, 2009; ECLAC, 2011). As a result, few SMEs in the informal sector obtain access to or even apply for financing. For example, in Chile, only 12% of informal SMEs report having applied for credit at commercial banks, compared to 32% of formal SMEs (Chilean Ministry of Economy, 2014). In Argentina, Bebczuk (2010) found that 9.4% of informal enterprises had applied for financing, compared to 23% of formal enterprises. In addition, in cases in which the bank institution had provided credit, it had done so on a personal basis rather than to a company (since the existence of an informal company cannot be evidenced). The informal economy, which accounts for 60% of all employment in LAC, poses a clear challenge to the countries in the region, especially in terms of efforts to increase the productive sector's access to finance. In fact, according to International Finance Corporation (IFC) data (2013), roughly 14 million informal MSMEs in LAC have no access whatsoever to finance. The empirical evidence shows that access to finance can contribute to reducing informality. Catao et al. (2009) propose that informal enterprises are more likely to incur in formalization expenses if they perceive future benefits in the form of greater credit access. Galdenman and Rasteletti (2012) estimate that, in Uruguay, a 10 percentage point increase in financial depth could help reduce informality in some sectors by 8 to 12 percentage points. D'Erasmus (2015) argues that, in the case of Brazil, the systematic decline in informality (from 55% in 2002 to 45% in 2010) is largely due to an improvement in credit access conditions.

- 3.19 Importantly, LAC countries need a solid and stable financial system that can make the necessary resources available to the region's enterprises to allow them to seize the advantages and overcome the challenges of the imminent Fourth Industrial Revolution. We are indeed on the cusp of a technological revolution that will radically change the production system and overall economy. The First Industrial Revolution introduced steam to mechanize production; the Second Industrial Revolution marked the use of electric power to create mass production; and the Third Industrial Revolution harnessed electronics and computers to automate production. The Fourth Industrial Revolution is characterized by unprecedented advances in the so-called new digital technologies (such as artificial intelligence, robotics, the Internet of Things, and 3D printing) and their implementation in processes throughout the value chain and in the various sectors of the economy, from agroindustry to logistics, for example. In this context, overcoming the gap in access

⁶² Specifically, studies on seven LAC countries by Perry et al. (2008) show that the productivity differential between formal and informal companies could be close to 30%.

⁶³ The nature of this productivity differential between formal and informal companies has given rise to a number of theories and studies. For example, the existence of a selection mechanism where the most talented entrepreneurs decide to operate in the formal sector, hoping to operate next to bigger and more productive firms, is plausible. Furthermore, operating in the informal sector has its own disadvantages: one example is the inability to attract skilled labor (Galani and Weinschelbaum, 2011), since employment conditions in the informal sector are generally unfavorable. In addition, informality typically excludes companies from the training programs and technical assistance offered by development agencies, thereby limiting their productivity growth. Lastly, the high transaction costs faced by informal companies (because they operate mainly in cash, because they lack access to the judicial system, etc.) reduce their efficiency and lower their observed productivity (although not necessarily their business talent).

to finance is crucial in enabling enterprises in LAC to make the investments and innovations required to develop and/or adopt new digital (and other) technologies and successfully enter the new global industrial and economic stage.

- 3.20 Despite the advances described herein and the heterogeneity across countries in the region in this area, it is nevertheless possible to identify a series of challenges common to all. The most important from this SFD's standpoint are: (i) improving the efficiency and scope of banking credit intermediation to the productive sector, to foster technological change, market access for more productive companies, and enhanced efficiency for value chains; (ii) developing the capital market and risk management instruments, to promote financing of long-term investments and projects, and increasing companies' risk diversification capacities; and (iii) strengthening macrofinancial regulation and supervision, its institutional framework, and its instruments, to allow integrated and comprehensive macrorisk management, yielding lower risk premiums on investments without compromising the stability of the system (IDB, 2005, 2010, and 2014a; Didier and Schmuckler, 2014). These challenges and the policies to tackle them are mutually interconnected in many ways, as they are highly complementary. However, to simplify the analysis, they are presented here separately.

B. Improving the efficiency and scope of bank credit intermediation to the productive sector

- 3.21 The factors that help explain this gap in access to finance in the region compared with other regions include: (i) numerous financial crises that have affected the region since the 1970s, which have undermined agents' confidence in the financial sector, limiting the expansion of the deposit base, the growth potential of intermediation, and the availability of medium and long-term finance; and (ii) lower comparative levels of growth and transformation of the region's productive structure, which is still characterized by the high presence of informality, microenterprises, and the size of an agricultural sector that is technically lagging or inefficient.^{64,65}
- 3.22 To confront the challenge of improving the scope and efficiency of banking intermediation, the countries in the region have adopted different policies to reduce intermediation costs and the information problems that cause them. In keeping with the international evidence (Section II), these policies can be subdivided into two groups:
- a. Institutional reform policies aimed at reducing the transaction costs associated with financial contracts. In this regard, the region's main relative shortcoming is in terms of institutions dedicated to strengthening contract enforcement, protecting creditors' rights, and promoting the efficient recovery of assets after

⁶⁴ Other lines of research emphasize elements of economic policy, such as institutional capacity and the degree of opposition from interest groups, to explain the gaps in the level of financial development between countries (see, for example, Becerra et al., 2012).

⁶⁵ Although these factors are not entirely exogenous to the financial system, the specific reference here is to the exogenous component of the relationship between these factors and the financial system.

default (BBVA, 2014; Didier and Schmuckler, 2014).⁶⁶ Estimates suggest, for example, that if the level of performance of the region's institutional environment were to reach that of the OECD countries, the region's (average) ratio of credit to GDP would rise by 13 percentage points (BBVA, 2014). It is also important to continue advancing the mechanisms to promote the exchange of high quality credit information,⁶⁷ improvement in loan selection processes (new IT or psychometric tools),⁶⁸ credit market competition, and the development of adequate regulations for alternative financing sources (Herrera, 2016).

- b. Productive financing policies (PFPs) addressing the problems discussed in Section II that limit the growth of certain sectors and types of company. Public development banks (PDBs) play a vital role in policies of this kind. After a lengthy period of restructuring, in which the region's public banks lost their excessive weight in the financial market (dropping from around 70% in 1970 to close to 15% in 2010),⁶⁹ they have regained importance over the last decade, as they have strengthened their balance sheets, governance structure, and mode of operation⁷⁰ (IDB-CMF, 2013). The new programs and instruments promoted include: (i) partial credit guarantee and mutual guarantee funds;⁷¹ (ii) credit funds; (iii) programs to finance value chains⁷² and expand credit to suppliers⁷³ and factoring platforms; (iv) renewable energy, energy efficiency,

⁶⁶ A financial reform with this as its backbone was approved in Mexico in 2014 and introduced measures to make recording and recovery of credit contract guarantees and insolvency proceedings more efficient. In addition, Peru, Guatemala, and Colombia introduced and reformed their registries of security interests (in 2006, 2009, and 2013, respectively) with a view to expanding the universe of assets that companies can use as collateral. Chile and Colombia, in 2012 and 2010 respectively, reformed their bankruptcy legislation in order to make the renegotiation and reorganization processes more expeditious. This led to lower liquidation rates and better resource allocation among companies (Neira et al., 2016).

⁶⁷ Public credit registries exist in Argentina, Bolivia, Brazil, Chile, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Nicaragua, Paraguay, Peru, and Venezuela. On the private side, there are over 30 companies operating credit registries in the region.

⁶⁸ See Klinger et al. (2013a and 2013b) for a review of efforts on new credit selection and evaluation techniques. See Arráiz et al. (2015) for evidence on the effectiveness of psychometric techniques in reducing credit risk.

⁶⁹ This process has been particularly strong in the region, although it is common to other countries worldwide (from 50% to 15%, approximately) (IDB, 2014a).

⁷⁰ PDBs currently operate through a combination of "second tier" models, using commercial banks' distribution networks and risk management capability, and "first tier" models, like those of traditional commercial public banks, in which the credit risk is assumed directly by the public bank. There are also PDBs that combine the two models.

⁷¹ For example, the FOGAPE program in Chile was evaluated with positive results for its achievements in terms of additionality or new credit generated, greater income for beneficiary companies, and increased financial and fiscal sustainability (Larraín and Quiroz, 2006).

⁷² For example, the Lending Program for Productive and Job Development in the Province of San Juan (loan 1798/OC-AR) shows that the credit component had a statistically significant impact on targeted enterprises vs. nontargeted enterprises. In particular, the operation shows that the targeted enterprises reported 9.7% higher sales growth, 4.3% higher job growth, 6.4% higher productivity growth, and 6.9% higher likelihood of investing than nontargeted enterprises. No impact was found to exist for the technical assistance component (Bueso-Merriam et al., 2016).

⁷³ For example, the NAFINSA program in Mexico promotes access to, and strengthening of, supply chains through a factoring service to alleviate the liquidity constraints of small producers (who have less collateral or a shorter credit history). The program has technology infrastructure to facilitate coordination, training for participating companies, and refinancing of participating financial institutions as second tier lenders. To date the program has served over 10,000 SMEs.

and energy services (ESCO) financing programs;⁷⁴ (v) programs combining business development services with access to finance;⁷⁵ and (vi) programs serving low-income groups underserved by markets (for example, women entrepreneurs and technology-based enterprises).⁷⁶

C. Developing the capital market and risk management instruments

3.23 Some of the factors that stand out among the main constraints on capital market growth in the region include: (i) the small size of the markets in comparison with large international markets, which makes it difficult to benefit from economies of scale and competition in the necessary technology and market infrastructure (trading, clearing, and settlement systems for listed instruments, an attractive pool of companies, etc.);⁷⁷ (ii) high operating and regulatory costs, limiting companies' access to capital markets; (iii) the strategies of the main institutional investors (pension funds and mutual funds), concentrated in public bonds and buy and hold strategies, which limit both the depth and liquidity of the system; (iv) scant presence of other key institutional investors, particularly insurance companies;⁷⁸ and (v) the persistence of largely obsolete securities market ownership and organizational structures.

3.24 The development of capital markets and risk management instruments in the region needs to be framed by a comprehensive strategy aimed at improving companies' growth opportunities, particularly among medium-sized companies, and enabling the securitization of structured projects that can lead to greater long-term investment, along with its bandwagon effects on the productive apparatus. Policies in this area can be grouped along three complementary dimensions:

- a. Strengthening the institutional, regulatory, and capital market infrastructure framework to develop intermediaries and instruments to finance long-term projects. The main actions highlighted by international organizations (G-30, 2013; Didier and Schmuckler, 2015) include: (i) developing institutional investors, particularly pension funds and sovereign wealth funds,⁷⁹ through regulations that create incentives for investment policies consistent with long-

⁷⁴ For example, in Colombia, Bancóldex has developed an energy efficiency program in the tourism sector and hospitals combining credit facilities to encourage investors to enter the energy efficiency field, with guarantees covering the risk of not meeting the estimated energy efficiency returns, thus reducing project and credit risk.

⁷⁵ For example, the San Juan Development Agency in Argentina and Banco Produzcamos in Nicaragua have implemented mechanisms to combine the financing of business plans and training with access to credit as mechanisms to act simultaneously on the supply of and demand for credit.

⁷⁶ For a review of impact evaluations in this area, see Maffioli and Rodriguez (2013). It is worth noting that impact evaluations for this type of program are still limited in the region, especially since it has taken time to persuade those involved in these programs of the importance of and need for such evaluations, and because it has been laborious to use the existing information (especially PDB information) to reduce the cost of such evaluations. However, the evaluations that do exist, particularly those related to PDBs, show clearly positive outcomes in terms of productivity gains.

⁷⁷ This restriction is less severe in Brazil and Mexico, which are precisely the economies in which the capital markets have developed the fastest.

⁷⁸ The volume of insurance premium transactions is lower than in other regions (1% of GDP for LAC-7 in 2014 compared to 3.4% of GDP for OECD countries in the same period) and has barely grown since the mid-1990s (World Bank, 2016).

⁷⁹ For a vision of the potential of sovereign wealth funds for productive investment, see Bernstein et al. (2013).

term profitability;⁸⁰ (ii) setting up a solid and transparent regulatory and institutional framework for public-private partnerships (PPPs) to clearly regulate the PPP project cycle, the responsibilities of the various organizations involved, and the conflict resolution mechanisms based on international best practices, favoring the financing of long-term investments; (iii) developing infrastructure bond regulations and asset securitization structures that can make infrastructure a more standardized asset class and therefore more attractive for institutional investors; (iv) regulating mutual funds, exchange-traded funds, mortgage bonds, and other investment instruments to expand supply and, thus, market depth as well as the portfolio diversification opportunities available to investors; (v) improve the accounting and auditing standards of companies to allow better monitoring and oversight by investors and regulators; and (vi) strengthen the market infrastructure, particularly in the secondary market (through market-maker programs and improvements in trading, deposit, clearing, and settlement platforms).

- b. Policies to raise the private sector's participation in capital markets, particularly among medium-sized companies. To create incentives for this, the public sector can help overcome the sunk costs and risks of the initial stages of growth in private participation in capital markets. The actions that have proven most effective in this regard include:⁸¹ (i) use of risk mitigation measures during initial project phases, such as different types of guarantee (partial, first loss, or counter-guarantees) to cover the various types of risk (credit, project-specific, macroeconomic, or political);⁸² and (ii) incentives to foster SMEs' access to stock markets or to corporate debt markets (through training, creating second-tier markets, reducing listing costs,⁸³ prudently designed tax incentives, etc.).
- c. Stimulate the integration of the region's capital markets to generate economies of scale in infrastructure and the pool of companies, and raise markets' attractiveness and ability to compete with the major international players. This needs to be understood as the first step towards broader financial integration. Progress therefore needs to be made on regulatory, exchange, and fiscal harmonization in key areas.⁸⁴ Private impetus is crucial to this process, particularly in the case of stock exchanges, clearing and settlement entities, and securities depositories. In this regard, the development of the Latin American Integrated Market (MILA) project is highly significant. This initially brought together stock exchanges in Chile, Colombia, Peru, and Mexico, and the initial progress in the early stages of the project has been towards regulatory and supervisory harmonization.⁸⁵ Experiences such as the

⁸⁰ This calls for investment policies that avoid procyclical behavior, establish performance measures and long-term remuneration policies, and follow corporate governance policies based on transparency and professionalization (McKinsey, 2010; IMF, 2012).

⁸¹ For a review of Korea's experience financing SMEs through capital markets, see Seo et al. (2015).

⁸² For an analysis of the various alternative courses of action from the viewpoint of multilateral agencies, see the IDB Policy on Guarantees approved in 2013.

⁸³ Legal costs and the cost of rating risks are often the most difficult to overcome.

⁸⁴ These include: standards for issues, the existence of liquid currency pair markets; fiscal treatment, market infrastructure (for the whole cycle: orders, transactions, clearing, settlement, securities deposit), and regulatory and supervision coordination.

⁸⁵ In this regard, a second phase of the project aims to culminate in a harmonized supervision standard and the inclusion of private actors such as stock exchanges and securities deposits, to give the initiative greater impetus, so as to achieve more solid integration.

Asian Bond Markets Initiative, in which the ASEAN countries joined forces with China, Japan, and Korea to develop local currency bond markets, can yield important lessons for LAC (Mizena and Tsoukas, 2015; Chan et al., 2012).⁸⁶

D. Strengthening macrofinancial regulation and supervision and their institutional framework and instruments

- 3.25 Although the financial market difficulties in LAC have largely been the result of political decisions or macroeconomic shocks, the financial crisis of 2008-2009 has revived the concern that the financial system could itself generate systemic crises with macroeconomic consequences. Even if the difficulties arise from aggregate shocks, a fragile financial system can exacerbate the effects of the shocks. Consequently, this merits the attention of the economic authorities, especially in a region such as LAC, where there are great disparities in terms of robustness of the banking sector and policy alternatives available to address aggregate shocks.⁸⁷ What's more, in recent years there have been changes in the very regulation of the banking industry in developed countries—particularly associated with capital requirements and anti-money laundering laws—that could have a significant impact in LAC by reducing crossborder capital flows (IMF, 2016). In fact, in some countries in Central America and particularly in the Caribbean, the de-risking strategy adopted by international correspondent banks (a segment dominated by banks from Canada, the United Kingdom, and the United States) in response to this regulation has led to a severe shock for the crossborder payment market in those countries (Wright et al., 2016).
- 3.26 Macrofinancial regulation has traditionally focused on providing a prudential framework guaranteeing financial stability. This role continues to be vital in view of the serious and lasting effects of banking crises on access to finance and productivity. In parallel with this task, macrofinancial regulation also has a strategic role to play in protecting a model of sustained development, based on appropriate management of macro risks and economic growth. In particular, in the new international scenario, it is even more necessary to make headway on a regulatory framework and tools for action to address idiosyncratic or systemic shocks.⁸⁸ Moreover, moving towards greater efficiency in how bankruptcy and reorganization proceedings are handled would help to deal with situations of financial stress, since in LAC debt recovery in the event of default is the second lowest of any region in the world (26 cents on the dollar) ahead only of Sub-Saharan Africa (20 cents on the dollar). Reforms like those mentioned in paragraph 3.21(a) are therefore particularly recommended. Obviously, there will be greater progress on financial regulation in some countries and regions than in others, depending on the level of sophistication of those measures. For example, in Central America and in the Caribbean, improvement of banking supervision and regulation mechanisms constitutes the most significant core structural reform for promoting sustained growth (Swiston and Barrot, 2011; IMF, 2013c). LAC must also be prepared to meet the increasingly stricter standards on anti-money laundering and terrorism financing. The region can

⁸⁶ In particular, there is much to learn from the instrumental role performed by the Asian Development Bank in this initiative (Chan et al., 2012).

⁸⁷ Financial crises show the importance of monetary authorities' actions as the first line of crisis response (for example, through liquidity lines), and the restrictions deriving from the absence of exchange rate policy (IMF, 2012). In the region, three countries (Ecuador, El Salvador, and Panama) have dollarized economies.

⁸⁸ See IMF, 2013b.

highlight important advances on this front. For example, in 2000 only four of the nine countries originally in the Financial Action Task Force of Latin America (GAFILAT) had a financial intelligence unit operating, while in 2011 all nine original members did (Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, and Uruguay), together with Mexico, Costa Rica, and Panama. There has also been a similar improvement in reporting suspicious transactions—in 2011 all GAFILAT members had legally required that a broad spectrum of actors (banks, but also other financial institutions) produce such reports. However, LAC still faces considerable challenges in the area of money laundering. One example of this is that, according to the Basel Institute on Governance and its anti-money laundering index, the region on average had a higher risk in 2016 than found in other developed countries, such as those in Eastern Europe.

- 3.27 The main lines of action can therefore be divided into two groups:
- a. Institutional and regulatory strengthening to improve macrofinancial risk management and control. The main measures recommended by the various international bodies (BIS, 2015; IMF, 2016) and the specialist academic literature include: (i) the development of comprehensive macrofinancial and fiscal risk management strategies centering on comprehensive management of public assets and liabilities (explicit and contingent, including natural disasters) as essential mechanisms for preventing systemic risks and improving sovereign ratings; (ii) stimulating micro- and macroprudential regulation aimed at protecting against risks deriving from systemic crises (regulation of systemic entities, countercyclical management of financial risks, etc.); and (iii) reinforcing financial transparency (including improvements in internal and external audit systems and the system for enforcement of international bodies' anti-money laundering, transparency, and fiscal information exchange recommendations).⁸⁹ On the latter point, it is clear that authorities, particularly in jurisdictions perceived as high risk, need to maximize efforts to facilitate monitoring and sharing of transactional information, to prevent further consequences of the de-risking phenomenon. In recent years, countries like Mexico have demonstrated the effectiveness of using centralized databases for crossborder transactions that correspondent banks can access.
 - b. Policies and instruments to improve the capacity of the region's economies to weather external macrofinancial shocks that may endanger companies' ability to grow. These mechanisms include: (i) developing instruments to tackle systemic liquidity crises, particularly in dollarized countries with no lender of last resort (IDB, 2012a); (ii) establishing clear and efficient procedures for the reorganization of the banking system under systemic crisis conditions; and (iii) risk-based supervision.

⁸⁹ Regarding anti-money laundering (AML), international indicators (Basel Institute on Governance, 2016) highlight the progress in this area made by Colombia, Jamaica, and Chile.

IV. LESSONS LEARNED FROM THE BANK'S EXPERIENCE IN THE SECTOR

A. Reports from the Office of Evaluation and Oversight (OVE)

- 4.1 In order to identify the lessons learned from the Bank's interventions in the sector, various documents were analyzed, including the evaluations of institutional and sector strategies, country programs, and sector programs.⁹⁰ The main conclusions and recommendations of these studies are:
- a. Access to credit promotes economic growth. For example, a 20% increase in credit penetration in the LAC region in the 1980s corresponded, on average, with a 1% increase in per capita GDP between 1990 and 2005. Despite the region's progress in the financial arena, OVE's 2016 evaluation of financial intermediaries highlights several barriers impeding access to finance in general. These barriers include limited institutional liquidity, information asymmetry, lack of knowledge for serving certain market segments, and lack of competition. More specifically, a survey of financial intermediaries revealed that SME financing is limited by the enterprises' informality (lack of quality in accounting and financial information), lack of assets to provide as collateral for a loan, and low bankability.⁹¹ For SMEs receiving financing, terms are less favorable than for larger companies, with higher interest rates (for example, 10% higher in Colombia and Peru, and 4% to 5% higher in Mexico, Bolivia, and Guatemala), loans that are more geared toward providing short-term working capital than toward long-term productive financing, and greater collateral requirements (49% loan-to-collateral ratio for SMEs as compared to a 62% ratio for larger companies).
 - b. In particular, studies focusing on the private sector and SMEs highlighted that, in order to modify the sector's structural conditions and facilitate access to finance, interventions need to take place at the systemic level as well as at the company or sector level, and that they need to be tailored to the specific features of the problems affecting these companies. Thus, in order to identify effective public policy solutions to remove the existing obstacles, it is necessary to: (i) identify the market failure that the public policy is attempting to cure; (ii) strengthen collaboration between agencies and ministries with competencies in the areas requiring intervention; (iii) strengthen collaboration between the public and private sectors, as the latter can help identify the causes of development problems and find solutions to them; (iv) focus interventions on overcoming the obstacles found; (v) identify the tool or set of tools that can be implemented in each situation; and (vi) use the most cost-effective combination of tools in each case.
 - c. With regard to the financial sector reform programs supported by the Bank, OVE found that these programs have been highly significant for private sector development (IDB, 2002a). These projects have been used to support the strengthening of institutions such as central banks, PDBs, supervisory agencies, commercial banks, securities and commodities exchanges, investment companies and brokers and agents, pension funds, and insurance

⁹⁰ The recommendations have been taken from the following documents: IDB (2002a; 2002b; 2007; 2013a; 2015(a) and (b); 2016a); Pires (2013); Puerta (2013); Soares (2013); Soares and González Diez (2013).

⁹¹ According to the World Bank and IDB study Mapping Enterprises in LAC (2013), 26% of SMEs in LAC closed between 2006 and 2010.

companies. In addition, they have strengthened the legal and regulatory environment in relation to property rights, commercial codes, and bankruptcy laws, banking and securities laws, and pension and insurance legislation.

- d. With regard to other policy-based loans (PBLs), OVE showed that financial sector programs tend to have a deeper effect than programs in other sectors (IDB, 2015b). In general, OVE argues that PBLs play an important role in supporting policy and institutional reforms. Bank financing through PBLs is typically designed to accompany reform processes in areas in which the Bank has accumulated experience and knowledge, supporting long-term policy dialogues. In this context, OVE indicates the importance of having parallel support in the form of technical cooperation resources. In fact, there is a strong link between technical cooperation support and the likelihood of completing a series of PBL operations, since this support facilitates diagnostic assessments, policy advice, and capacity building, and can help governments create consensus and legitimacy for their reform programs. For this reason, it is important to reinforce the complementarity between PBLs and technical cooperation operations.
- e. With regard to investment programs to improve access to finance for the productive sector, the OVE evaluations showed that the evaluated programs had a positive impact on investments, sales, and employment in the enterprises that obtained access to finance. For example, in Brazil, the evaluation of the effectiveness of programs to support SMEs in the manufacturing sector through credit, business services, and export promotion concluded that credit is the only type of support that significantly affects all outcome variables and is also the one that has the most positive impact on jobs and wages. The evaluation further concluded that the impact of business service promotion programs increases when these programs are combined with credit support (IDB, 2015a).
- f. Interventions must be evaluable. This includes those focused on reforms and institutional strengthening, given that their development effectiveness can and should be demonstrated. In its evaluation of projects related to development promotion through the private sector, OVE highlighted that over the period 2008-2012 the percentage of projects identifying market failures had risen from 24% to 52%. In the sample, 23% of projects proposed clear solutions to overcome these failures, and two thirds of projects offered outcome indicators and gave a baseline (Pires, 2013).
- g. Lastly, OVE indicates in various studies that there is a need to bolster the Bank's dissemination work to support productive development in the countries of the region and their business sector. It is therefore important to continue with the creation, systematization, and strategic dissemination of knowledge, including impact evaluations and the Bank's lessons learned in the sector.

B. Results of the Development Effectiveness Matrix (DEM)

- 4.2 In the period 2014-2016, Bank operations in the sector have maintained high evaluability levels, primarily due to the robustness of the analyses and diagnostic assessments of problems and their intervention proposals, as well as to the analytical framework and empirical support in the economic analysis of potential benefits. Despite this, there are still perceived challenges in terms of impact evaluation. While there is ample evidence of the positive effect of access to finance

on productivity, the nature of Bank operations—and of CMF operations in particular—makes it difficult to define a counterfactual for impact measurement purposes.

- 4.3 Consequently, there is a need to move forward in defining methodologies for collecting and systematizing information on beneficiaries that can be efficiently introduced into the financing distribution processes without violating confidentiality standards or introducing significant constraints to the distribution of financing while maintaining efficiency in terms of counterpart operating costs. One potential line of action is to take advantage of the generally staggered way in which financing is distributed, the degree to which the client search process is independent from the origin of the financing sources, the existence of contractual requirements to access information on end beneficiaries for auditing purposes, and the practices of financial institutions regarding the digitalization of information on end beneficiaries. These elements can help produce a systematic data collection model, which can in turn make some impact evaluations viable and less costly, thereby helping to advance the Bank's knowledge regarding the outcomes of its interventions. In addition, the type of reforms suggested in Section II.D.1 of this document, aimed at introducing and strengthening registries and credit bureaus, can not only help to improve the functioning of financial markets but also become a rich source of data when collecting information for impact evaluation purposes.

C. Lessons learned from project completion reports (PCRs) and disbursement parameters

- 4.4 The analysis of sovereign-guaranteed operations⁹² yields the following lessons learned:
- 4.5 **Use of the countries' strategic and institutional framework regarding access to productive finance.** Many governments have created and put in place national policies and strategies, legislation and regulations, and specific institutions to support access to productive finance. The Bank's operations in this regard have sought to complement these initiatives, particularly those in execution and backed by committed resources. This intervention approach ensures that the operations' objectives are consistent with a country's strategic objectives, while also ensuring greater likelihood of their continuity and stability in the medium and long term.
- 4.6 **Barriers and obstacles have been better identified by promoting public-private dialogue.** The Bank has played a vital role in the region's countries by facilitating dialogue between interest groups in the public and private sectors, aimed at identifying and accurately assessing the barriers constraining access to productive finance and designing operations with instruments best suited to local circumstances and with high potential impact on end beneficiaries. The analyzed operations fostered various participatory mechanisms for public-private collaboration between heterogeneous actors based on the objective of aligning interests and creating effective solutions for all parties involved.
- 4.7 **Synergies between financial and nonfinancial instruments to address the challenge of access to finance.** A mix of financing operations and technical

⁹² The lessons learned are based on a detailed analysis of five projects (EC-L1073, EC-L1110, CO-L1082, CO-L1132, and ME-L1163). The analysis included a documentary review (loan proposals, loan contracts, results matrices, risk matrices, midterm and final evaluation reports and/or PCRs, and progress monitoring reports (PMRs)) and structured interviews with the relevant project team leaders.

cooperation projects has been effective in solving market failures in a timely fashion. For example, programs based on guarantees and structuring of trusts and investment funds have proven to be mechanisms with a solid capacity for leverage and adaptation to the financial context in the country supported. Moreover, technical assistance has been an important complement and support for access to finance. Among other things, technical assistance has made it possible to strengthen companies' ability to prepare projects for financing and improve the financial and management techniques, thus contributing to reducing information asymmetries and transaction costs in the financing operation. It has also been important in building the institutional capacity of the executing units and related institutions, and strengthening the corporate governance of PDBs. Lastly, technical assistance has been and will continue to be important in: (i) illustrating and conveying to PDBs and executing units the importance, from both a strategic and a development effectiveness perspective, of having complete and up-to-date information on their beneficiaries and clients; and (ii) building capacity within PDBs to collect, maintain, and (for various purposes) process this information.

- 4.8 **Adaptation of interventions to the context.** Changes in public policy priorities have sometimes led to changes in the critical path of program activity planning and implementation. Through an active dialogue with the authorities, during both the program preparation and execution phases, the Bank has successfully redefined its activities to match them to the changing realities of the intervention context, through operating regulations or other analogous regulatory instruments available for this purpose.
- 4.9 **Institutional analysis of the executing agency.** The Bank's Institutional Capacity Assessment System (ICAS) is a tool enabling very precise fiduciary analysis. However, in financial access programs for the productive sector, this analysis has had to be complemented by specific studies of the sector such as: eligibility processes, risk evaluation, and business management, analysis of technical profiles necessary for supervision and execution, and development of complementary institutional strengthening programs to bolster impact evaluation methodology application capacity. To this end, it is necessary to have a broad institutional analysis tool that can identify more precisely the areas for improvement and Bank support necessary for effective execution of this type of program.⁹³
- 4.10 **Generation of knowledge in the sector.** The Bank has supported the performance of studies to generate new knowledge in response to local needs and demands, particularly to cover information gaps in the area of access to productive finance. The outputs developed by international and local experts have been diverse (market studies, international experience, lessons learned, etc.) but always functional, in line with the objectives of the loan operations. These outputs have been disseminated among the relevant audiences, seeking, among other things, to strengthen private-sector investment and adjust public-sector policies and strategies (see paragraph 4.23(e)). This knowledge work has produced some initial answers to some of the questions that have traditionally surrounded SME support through credit. For example, some recent studies by the Bank seem to suggest that the impact of credit-based treatment of enterprises appears to be more consistent and robust in various target variables (employment, wages, exports, etc.) than other

⁹³ The ICAS is being replaced by a new tool for assessing institutional capacity, which will be integrated into the Update of the Risk Management Framework. This tool is being designed so it can be used for the type of clients in operations to support SMEs and financial access/supervision.

treatments such as advice or agglomeration (IDB, 2014c; Bueso-Merriam et al., 2016). Other Bank studies show that the impacts of credit-based treatment on an enterprise's productivity appear to be associated with long-term rather than short-term credit instruments (Eslava et al., 2012b). Going forward, the Bank should focus its knowledge efforts on questions on which there is little evidence, such as: (i) the potential difference (in terms of impact) between fostering credit to SMEs through first- or through second-tier development banks; (ii) the existence of externalities in (credit-based) treatment of a value chain; and (iii) the potential difference between treating through risk-mitigating instruments such as partial guarantees or through instruments that directly reduce the financing cost (subsidies via interest rate).

- 4.11 **Evaluability of interventions.** As operations become more sophisticated and innovative, the limited information available and the restrictions on access to databases on the end beneficiaries' financial operations represent a major obstacle for conducting impact evaluations. Nonetheless, the Bank has been actively identifying solutions to these barriers. For example, in the design phase, there has been a redoubling of efforts to select outcome indicators that are consistent with the nature of the economic activities being supported and can be measured and verified by crossing different sources of information. The *a posteriori* reconstruction of socioeconomic data (such as employment and salary levels and volume of exports) of companies with similar characteristics to those targeted by the intervention offers a solution in cases where the necessary information is unavailable. One of the lessons learned from the programs analyzed is the importance of the project executing units having mechanisms to generate and store their own information, in order to make measurements and thus facilitate evaluations. As part of its institutional strengthening efforts, the Bank has made a major effort to build these capacities right from the program design phase. Another lesson learned in this regard is that in the future, when designing operations, the Bank will have to try to systematize the practice of considering legal and logistic aspects that can facilitate access to the information needed for evaluations (as was done, for example, in the case of program ME-X1024).
- 4.12 **Strengthening of long-term dialogue and active cooperation.** Ongoing dialogue with governments and close support to clients, as well as support for institutionalization processes through technical cooperation, have served to foster new operations or operations needing time to mature. On many occasions, specific support interventions through technical cooperation projects have served to inject clarity into solving a local problem of access to productive finance and have resulted in subsequent loan operations. Creating trust through dialogue and active cooperation has also been crucial for addressing situations that require an immediate decision and determination in order to prevent or resolve problems.
- 4.13 For its part, the analysis of non-sovereign guaranteed operations yields the following lessons learned:
- 4.14 **In contexts of high uncertainty, it is crucial to take advantage of the knowledge and proximity of the Bank's Country Offices.** In difficult contexts that can affect financial sector clients, the sector specialists' proximity to the client, as well as the advice of the Country Economist and the leadership of the Representative, are crucial for monitoring risk situations and conducting effective portfolio supervision. In a context of political and/or economic uncertainty, it is important to identify and maintain a fluid relationship with financial clients that have the soundness and

capacity to respond to and address the agreed-upon conditions, even under adverse circumstances.

- 4.15 **The country's regulatory and supervisory conditions operate as additional safeguards and facilitate supervision of an operation during execution.** One option to consider in countries with sound financial systems is to use the information reported to the local financial regulator for the Bank's supervision indicators; this requires being familiar with and closely following local regulations.
- 4.16 **Demand for operations in local currency.** In contexts of devaluation and inflation, there is greater client demand for the availability of operations in local currency.
- 4.17 **Responsiveness to the client's needs requires identifying and knowing the issues of growing interest in the country's context on which the Bank can add value based on its experience.** Examples of this include integrating gender, energy efficiency, and value chain approaches into the Bank's operations. Using credit methodologies or specific channels to serve special subsegments has proven successful in portfolio projects aimed at serving women-led SMEs, which have exceeded the average growth of the overall portfolio.
- 4.18 **The Bank's capacity to identify partnerships with strong local institutions boosts the sustainability and impact of an operation.** For example, in the case of markets that serve small segments or venture into new segments, the backing available from a client that has a solid head office facilitates sustainability once an operation has been completed. Also important is to treat subsegments differently, for example by systematically separating the microfinance portfolio from other commercial loans. In addition, it is important to support the development of local capacities that can facilitate efficient execution of a project, as shown by the support provided to some operations in the form of subsidized resources.
- 4.19 **The agreed-upon financial indicators should reflect the client's and sector's context, be conservative but realistic, and appropriately adapt to changes.** During supervision, there has frequently been a need to make adjustments and exercise a certain flexibility. Examples include modifications to reflect the evolution of a client that has become established and is focused on its business, extensions when favorable developments had previously been anticipated in the short term, or adjustments when the initial conditions are perceived to be too rigid or unnecessarily complex. As a general rule, there should be flexibility to adjust to changes and the client's growth, but not laxity. In all circumstances, close communications with the client are necessary for effective supervision.
- 4.20 **Efforts to streamline information and requests for client reports.** In some specific cases, there has been an excess of reports during supervision, requiring subsequent efforts to consolidate and optimize them while at the same time maintaining appropriate risk management. This is a practice worth examining as operations evolve.
- 4.21 **For effective supervision in the development banking context, it is quite important to emphasize the commitments required of the client on socioenvironmental and development impact issues, in addition to financial issues.** In this regard, it is important that, in the origination phase, the Bank make certain that the client has detailed knowledge of the information it will be required to report in accordance with the contract provisions that will be applicable during the lifetime of the operation.

4.22 **Flexible contractual provisions.** Since local regulations may be amended over the lifetime of the operation, it is important that the contract provisions not be tied to these regulations but instead be framed in general terms, thereby avoiding potential contract amendments, which absorb both time and management efforts.

D. The Bank's comparative advantages in the sector

4.23 The Bank has been strongly committed to promoting both structural and specific improvements to eliminate barriers constraining access to finance for the productive sector in the region. These actions have been accompanied by a series of programs to improve conditions in the private sector; to provide credit, investments, and risk mitigation instruments; develop and deepen capital markets; provide technical assistance and knowledge services; and promote productive development in the region. In the course of this work the Bank has developed and consolidated a number of comparative advantages. These include the following:

- a. **The Bank has been a strategic partner in the region.** The Bank has a long track record of partnership with governments and the private sector in the region. Given its role as a strategic partner, its capacity to provide financial and nonfinancial resources, and its extensive knowledge of the challenges constraining economic growth, the Bank acts as an honest broker and/or catalyst, helping the public sector formulate policies to facilitate access to finance, programs to bolster business capacities, and programs to promote private sector development in key sectors of the LAC economies. The Bank's knowledge of the region and offices in all borrowing member countries make daily contact on operational and public policy issues possible—including the identification, design, and execution of its sovereign guaranteed operations.
- b. **Synergies between financial and nonfinancial instruments to address the challenge of access to finance.** The Bank has a range of complementary instruments promoting the provision of public goods and stimulating the supply of credit, capital, and financing instruments (such as guarantees and insurance) for the productive sector. Given that access to finance also depends on firms' ability to attract capital, the Bank has nonfinancial instruments to build the capacity of firms and value chains in terms of their ability to formulate good projects and, in general, their technical, management and innovation capacity. In addition, the Bank provides risk mitigation tools such as guarantees to make infrastructure development projects to improve value chain performance economically and financially viable. For their part, finance and technical assistance instruments are used to support the region's countries in managing macroprudential risks, foster a business environment conducive to private activity, and help establish suitable regulatory frameworks for financial, capital, and insurance markets to operate. Support is also given to public financial institutions intermediating credit resources to the private sector, to ensure that their institutional capacity and practices are in line with international standards.
- c. **Leveraging financial and nonfinancial resources.** The Bank has financing instruments allowing it to secure additional financial resources from donors,

other multilateral banks, bilateral agencies, and the private sector.⁹⁴ Equally important is its capacity to promote social and environmental best practices that help reduce risks, increase the economic and social impact of its interventions, and attract partners who value the Bank's additionality in ensuring compliance with safeguards. This means that its innovations not only lead to better productive outcomes, but also good practices in terms of their environmental and social results. Moreover, it has instruments with which to mitigate credit and policy risks, and enable other sources of funding to be attracted and thus widen the range of sources and increase the amounts of funding for productive projects and companies.

- d. **Innovation capacity.** The Bank's track record shows it has considerable capacity to design and implement innovative solutions to the region's financing problems. The Bank has extensive experience providing small productive firms with financial and nonfinancial support, innovations on inputs to value chains and foreign trade, development of new credit techniques and instruments allowing credit to expand to productive sectors (especially techniques based on big data and new credit scoring techniques), implementation of new financial sector technologies (e.g., blockchain), development of new instruments for diagnosing the status of access to finance (dashboard of key indicators and long-term financing toolkit, for their implementation at the national and subnational level), the use of seed capital and alternative sources of finance (such as crowdfunding platforms), and establishment of capital markets. The Bank has the capacity to combine the range of tools to offer a more comprehensive, higher impact product.

⁹⁴ The Compete Caribbean program, established by the IDB together with the United Kingdom's Department for International Development, the Government of Canada, and the Caribbean Development Bank, is one such example. This program is aimed at developing the private sector in 15 Caribbean countries through technical assistance and investment funds. Its objectives are to: increase consensus and sharpen the focus on conducting strategic interventions for promoting private sector development; improve the business climate for private sector development, trade, and integration; and build the capacity of clusters and companies to boost their productivity.

Box 1. Promoting new financial technologies and credit techniques

With a view to improving access to finance for the productive sector, especially underserved enterprises such as SMEs and technology-based companies, the Bank is supporting the countries in the region in promoting new financial technologies and credit techniques. For example, the MIF is promoting the implementation of The Receivable Finance Infrastructure (TREFI) platform, which aims to improve the availability of credit to SMEs from their suppliers, by means of a risk-management system based on supplier information to predict firms' credit risk. In this model, a trustee buys the SMEs' accounts payable at a discount from the suppliers, while the TREFI manages the risk assumed between the supplier and the trustee. In addition, in recent years, the Bank has supported initiatives to survey and define the crowdfunding market in LAC (ATN/OC-15368-RG). The Bank is also working on identifying and mapping the fintech industry throughout the region (ATN/AA-14960-RG and ATN/OC-14689-RG). Moreover, the Bank has made efforts to analyze the international and regional regulatory framework, identify international good practices, and apply them to the region by means of technical cooperation operations focused on developing laws and other regulations aimed at allowing fintech companies in LAC to grow (ATN/OC-15368-RG). The work being done in this field combines setting policies and issuing regulations for these activities. In addition, the Bank is supporting a public-private dialogue at the regional and national levels through events and working groups on both tracks, with a view to fostering and encouraging new technologies in the financial business.

Box 2. Access to finance for companies in the context of the Fourth Industrial Revolution

The transition to the Fourth Industrial Revolution will require companies in the region to have the capacity to invest in innovation and in the adoption of new digital technologies such as artificial intelligence, robotics, Internet of Things, low-cost technology manufacturing, and 3D printing. To facilitate this transition, the Bank is supporting the region's countries in expanding access to finance for companies and value chains, so as to allow them to make investments in innovation and technology adoption (ATN/OC-15556-RG). The Bank's support includes technical assistance to PDBs and specialized agencies to conduct studies on the supply and demand characteristics of financing for these technologies and the structuring of support programs; funding for lines of credit and guarantee lines for innovative companies and for technology adoption; and fostering of national and regional public-private coordination through local and international dialogues and events (ATN/OC-15604-RG). In addition, the Bank is supporting LAC countries in expediting broadband access and promoting broadband use through suitable regulations, more and better infrastructure, public policies that foster the implementation of broadband plans and digitalization strategies, and human capital improvement in the public and private sectors.

Box 3. Climate change mitigation and adaptation

To address the challenges posed by climate change, it is essential to undertake radical transformations in global development patterns and evolve toward practices that are less carbon-intensive and more resistant to the adverse impacts of climate change. The LAC region alone will require investments in mitigation ranging from US\$40 billion to US\$80 billion per year and investments in adaptation ranging from US\$18 billion to US\$21 billion per year. Yet in the period 2003-2010, investments in mitigation and adaptation totaled a mere US\$7.5 billion and US\$60 million, respectively (IDB-CMF, 2013).

In this context, the region's PDBs are performing a vital role in designing programs that encourage the adoption of more energy-efficient technologies and clean technologies, especially on the part of SMEs. In fact, financial sector financing is scarce in LAC for projects of this type, given the high perceived risks, the lack of available data on SMEs, and the lack of information on how well these projects perform. The Bank is working with PDBs in the region to overcome these market failures and encourage financing for projects of this type through programs designed to provide: (i) funding for long-term loans for investment in and adoption of technologies designed to boost energy efficiency; and (ii) insurance products for companies and their financiers to mitigate the risk of nonpayment in the event that energy savings are lower than projected. In particular, the Bank provides long-term lines of credit to PDBs for second-tier funding of loans to companies. In addition, the Bank contributes its own resources and leverages international donor resources to provide technical assistance for the design of the programs

and the insurance instruments and to ensure that companies and financial institutions become trained in energy efficient investments (ATN/OC-14741-RG, ATN/FI-14376-RG, and ATN/OC-13944-RG).

For example, in Colombia, the Bank is supporting Bancóldex in promoting and expanding investment in energy efficient technologies by companies in the tourism and health industries, while in Mexico, through FIRA, the focus is on the agroindustrial sector. In both cases, the innovative key to the solution is to provide an insurance product that covers the projected energy savings based on specifically defined and verifiable energy efficiency measures, agreed upon through a model contract between SMEs and the providers of energy efficiency technologies/services. In the event that the financial flow associated with savings due to energy efficiency fails to materialize, the company is compensated.

Through these programs, the region's PDBs are generating a very powerful demonstration effect in their respective local credit markets. As the currently high perceived risk of mitigation projects declines among financial intermediaries, and as the benefits of these investments become evident, the interest of investors in implementing projects of this type is expected to rise. Furthermore, as local financial intermediaries become better acquainted with the actual risks and private returns of these projects, their appetite for financing them is likely to increase, leading to additional investments with decreasing financial support from PDBs.

Box 4. Agricultural insurance

Climate change has a significant effect on the agricultural sector, exacerbating the sector's exposure to natural hazards through greater variability of climate patterns and greater frequency and severity of extreme climate events. In the case of South American plantations, average simulated losses in 2100 resulting from climate change are estimated as ranging from 12% in a moderate climate change scenario to 50% in a more severe scenario.

Potential climate change adaptation measures essentially include investments in risk reduction and greater resilience and transfer of residual risks. Agricultural insurance is an effective and efficient long-term adaptation instrument for non-controllable risks, such as yield volatility arising from climate change.

The agricultural insurance markets in LAC are mostly underdeveloped and have very low penetration levels. The main barriers to the development of these markets include: low productivity and profitability of agricultural activities; poor knowledge of insurance instruments; lack and/or poor quality of production information; absence of technical capacity to analyze and appraise sector risks; high transaction and operating costs, such as surveys; insufficient and/or inadequate distribution channels; and high cost of reinsurance due to the small scale of the businesses.

The Bank's innovative solution for overcoming these problems is a public-private partnership to develop agricultural insurance against climate risks, to be implemented through a risk transfer fund that facilitates access to the reinsurance markets, reduces the cost of insurance premiums, and contributes to sustainable development of the agricultural insurance markets. At present, the design and implementation of this solution is being deployed in two countries: Colombia and Bolivia (ATN/OC-14541-BO).

- e. **Qualified teams and technical know-how:** The Bank has a team of professionals with expertise and experience in fields relating to this SFD, and a balanced distribution between Headquarters and the Country Offices to promote country dialogue. The Bank's human capital resources facilitate the design of integrated multidisciplinary programs helping raise productivity and boost economic growth through better access to finance. The ability to create multisectoral teams enables efforts of various Bank sectors to be leveraged together with those of other national and international institutions, to provide an effective solution to the region's productivity issues, in keeping with the characteristics of the situation concerned. A key factor in the effective utilization of this capacity is the provision of technical assistance to strengthen the regulatory capacity of public entities, improve entrepreneurs' business and technical capacities, and incorporate new knowledge in businesses' activities

through instruments that raise their productivity, and at the same time, broaden the social and environmental benefits.⁹⁵ Lastly, the Bank has generated a critical mass of knowledge on the financing of productive sectors that it shares with its clients in the design of their operations and through its publications, websites, and events.⁹⁶

- f. **Collaboration networks:** Since its creation the Bank has been building a huge collaborative network with a variety of public and private entities, civil society associations, and universities.⁹⁷ These networks include those set up under the Regional Public Goods Program (for example, the Latin America and Caribbean Public Debt Management Specialists Group and the public-private financing risk management network) and thematic networks such as the Latin American Financial Network, the Network of Central Banks and Finance Ministries, and participation in multilateral forums such as the network of multilateral agencies working on corporate governance topics, evaluation of impact of operations with the private sector, etc. These collaborative networks have served as a channel for dialogue with the region, other multilateral organizations and donor countries, and help bring the Bank's analytic and operational work to a wider audience. Through these networks the Bank has helped step up the dialogue and strengthen intraregional and multilateral cooperation. In particular, the Bank has actively supported South-South cooperation for the creation of regional public goods in those cases where the development challenges or opportunities can be addressed more effectively and efficiently at the regional level.
- g. **Comprehensive support to the private sector in the region.** The consolidation of private sector operations in the Inter-American Investment Corporation (IIC) presents an opportunity for reinforcing the synergies between public policies aimed at the financial markets and financing for the private

⁹⁵ Technical cooperation operations have supported: (i) sector studies; (ii) demand structuring studies; (iii) regional public goods; (iv) methodologies and information collection systems; (v) strengthening of management, monitoring, and evaluation instruments; (vi) exchange and dissemination of project design and management good practice; (vii) strengthening of national, subnational, and other institutions responsible for sector policies; and (viii) business development services, including support to firms on the design of investment projects.

⁹⁶ The most relevant include: "Unlocking Credit" (IDB, 2005); "The Age of Productivity" (IDB, 2010) and Rethinking Productive Development (IDB, 2014a) in the series "Development in the Americas"; "Public Development Banks: Toward a New Paradigm?" (IDB-CMF, 2013); "The Role of National Development Banks in Catalyzing International Climate Finance" (Smallridge et al., 2013); Integrated Value Chain Risk Management (Calatayud and Ketterer, 2016); and impact evaluations on programs in the sector in Argentina (Bueso-Merriam et al., 2016), Chile (Bonilla and Cancino, 2001), Colombia (Eslava et al., 2012), Costa Rica (Torres et al., 2003) and Mexico (Calderón et al., 2013). The Bank has also been very active in promoting exchange of knowledge between countries and generating learning opportunities for program executing agencies, through: (i) regional workshops; (ii) field visits taking in several countries; and (iii) organization of and participation in international seminars in the sector, including the annual Regional Dialogue meetings on key topics for the sector, which bring together major public, private, and academic stakeholders; FOROMIC (a space for the region's business and financial innovations, with particular attention to MSMEs); and regional events organized together with the Asociación Latinoamericana de Instituciones Financieras para el Desarrollo [Latin American Association of Development Finance Institutions] (ALIDE).

⁹⁷ This network includes the main stakeholders in the sector with which the Bank has been working closely, such as national development banks, regulatory and supervisory bodies, the Caribbean Development Bank, the Federación Latinoamericana de Bancos [Latin American Federation of Banks] (FELABAN), ALIDE, and the Asociación de Supervisores Bancarios de las Américas [Association of Banking Supervisors of the Americas] (ASBA).

sector. Through its renewed vision, the IIC will focus on the needs of the private sector in LAC, maximizing the development impact in each of its interventions so as to boost competitiveness and economic growth. In addition, the mobilization of third-party resources through cofinancing and syndication will be an essential tool allowing the IIC to catalyze private investment. The IIC has all the necessary attributes to expand its importance in the region, considering the IDB Group's long track record of working with the private sector, its highly qualified team with extensive experience in the region, greater client proximity due to an increased presence of specialists in the countries, the streamlining of operating procedures to adapt to the private sector's needs, and the capacity to finance large-scale projects for longer terms than providers of resources in the private financial market. The Bank offers a value proposition that can effectively complement the role of the IIC. In the framework of its public policy interventions aimed at strengthening financial market regulation and supervision, create confidence in the investment climate, and foster programs that channel financing resources toward productive development, the Bank plays a key role in using its resources to trigger private investment and, over a longer time horizon, create a demonstration effect that can motivate the private sector to scale these initiatives on its own. Hand in hand with these public initiatives, the IIC can leverage the outcomes of the Bank's interventions to expand and scale the value propositions of private companies, thereby maximizing the development impact of private projects for the region's economies. Given the IIC's multisectoral approach, these opportunities can become manifest in different areas, ranging from the financing provided through financial intermediaries to MSMEs and corporations with high development impact or the financing of infrastructure projects (including public-private partnerships) to crosscutting areas with great additionality that address climate change mitigation and adaptation and the inclusion of disadvantaged (whether due to gender, age, ethnicity, or otherwise) population groups.

- h. Bearing in mind the comparative advantages described, there are areas of intervention in the sector where the Bank's contribution has less value added. These will therefore not be addressed by the Bank in this SFD. This is either because commercial banks are more efficient, or the market failures are of limited relative importance for the Bank's objectives in the sector. Such areas include: (i) consumer finance and credit cards, and (ii) reform to financial arrangements for pension funds. In the case of the latter, the Bank is working on the pensions area from its Labor Markets Division (LMK). However, the reforms to pension funds' financial arrangements have less priority in this particular sector framework, given that it is aimed at supporting SMEs, and financial access and supervision.

V. GOAL, PRINCIPLES, DIMENSIONS OF SUCCESS, AND LINES OF ACTION THAT WILL GUIDE THE BANK'S OPERATIONAL AND RESEARCH ACTIVITIES IN THE SECTOR

A. The Bank's goals and principles for its work in the sector

- 5.1 The Bank's main goal in the sector is to raise the productivity of the economies in the region by facilitating the productive sectors' access to finance. To achieve this, the lines of action and operational activities proposed herein respond to the diagnostic assessment given in Section III and the Bank's comparative advantages identified in Section IV. This SFD also presents knowledge and dissemination

activities, which are the basis for the generation of future innovations in the sector. Interventions will be designed to include measurable objectives relative to a baseline, specifying the appropriate methodology to evaluate their expected impact, in accordance with the Development Effectiveness Matrix in effect for sovereign guaranteed operations, promoting access to information on interventions in the sector. Lastly, the Bank will seek to design interventions according to the specific conditions in each country and the working principles in the sector. These principles, deriving from the analysis of the international evidence (Section II) and the lessons learned (Section IV), include:

- a. **Additionality of interventions.** Interventions will seek to respond to a market failure or weaknesses in market institutions and help mitigate them.
- b. **Development outcomes.** Interventions will seek to raise beneficiary companies' productivity while complying with high environmental, social, and governance standards; and they should promote social welfare and development objectives.
- c. **Tailoring of financing policies and instruments.** Efforts will be made to tailor the policies and financing instruments to the characteristics of the country context, the problems it addresses, and the severity of the market or institutional failures that exist. Interventions will aim to adopt the definition of SME used in the country being targeted.
- d. **Completeness of design and execution of policies.** Interventions will seek to take into account the complementarities between policies, and the existence of complementarities and subsidiarity between the public and private sectors. Public sector support to the private sector will, as far as possible, seek to catalyze market development and the mobilization of private sector resources (crowding in).
- e. **Institutional strengthening.** Interventions will seek to promote the adoption of standards of governance, transparency and integrity, and technical, environmental and social standards in institutions in the countries of the region to avoid institutional failures.
- f. **Evaluability.** The interventions will seek to include evaluation methodologies enabling the effectiveness of the actions to be determined.⁹⁸
- g. **Effectiveness of operations.** In keeping with the Development Effectiveness Framework (document GN-2489), interest rates on subloans applicable to all loan operations to be carried out by the Bank to back SMEs and access to financing should be such that operations are economically profitable based on the application of cost-benefit methodologies used by the Bank to analyze projects.

B. Dimensions of success, lines of action, and activities

5.2 The dimensions of success, lines of action, and proposed operational and knowledge activities for achieving the Bank's goals in the sector are set forth below. They have been prepared based on lessons learned from international experience

⁹⁸ See Sector Guidelines for Small and Medium Enterprise Finance and Development Programs (operational policy OP-3002).

(Section II), the diagnostic assessment of the sector in the region (Section III), and the Bank's experience and comparative advantages in the sector (Section IV).

5.3 **Dimension 1. Regulations, instruments, and institutions for the effective management of macrofinancial risks implemented and strengthened.**

5.4 The actions will improve and strengthen regulations and instruments to ensure the effective management of macrofinancial risks. They will also promote competent institutions with strengthened and transparent technical capacities. To achieve these objectives, the following lines of action are proposed:

5.5 **Lines of action:** improve and strengthen (i) regulation and supervision; (ii) instruments for effective macrofinancial risk management; and (iii) institutions for proper macrofinancial risk management. To fulfill these lines of action, financing is proposed for the following operational and knowledge activities:

a. **Operational activities:** (i) macro- and microprudential reform (compliance with Basel, IOSCO, and IAIS regulatory standards); (ii) strengthening the regulatory framework to expand the regulatory perimeter, and enhance the financial and fiscal transparency and corporate governance of banks, companies, and market institutions (exchanges, etc.) and others; (iii) integrated public asset and liability management frameworks; (iv) monetary policy instruments, particularly those intended to prevent systemic liquidity crises; (v) institutional strengthening of the competent authorities; and (vi) support for and strengthening of fintech regulation in the region.

b. **Knowledge activities:** (i) macroprudential regulation (including Basel III) methodology and studies of impact on financial stability and credit access; (ii) studies to help quantify the costs and benefits of new instruments to mitigate macroeconomic risks, such as contingent lines of credit, especially by means of quantitative general equilibrium models; (iii) analysis of company insolvency and bankruptcy laws in countries in the region; (iv) analysis of fintech regulation in the region; and (v) studies on the relationship between credit access for women and financial system stability, increased economic activity, and productivity.

5.6 **Dimension 2. Capital markets and risk management instruments developed.**

5.7 The regulatory reforms will address the need to facilitate long-term financing through the development of capital markets and risk-management instruments. To achieve this objective, the following lines of action are proposed:

5.8 **Lines of action:** (i) improve financial contract information and functioning; (ii) promote market interconnection; (iii) develop risk management instruments; and (iv) facilitate financing of long-term projects. To fulfill these lines of action, financing is proposed for the following operational and knowledge activities:

a. **Operational activities:** (i) improved financial contract enforcement (primarily credit registers, greater transparency, increased competition, guarantee law, bankruptcy law, regulations on the use of collateral, and real estate and movable property registers); (ii) strengthening the regulatory framework to facilitate the financing of long-term projects: regulation of institutional investors (pension and sovereign wealth funds), PPPs, regulation of securities and insurance markets, corporate debt, facilitation of access to capital markets for SMEs (negotiable bonds); (iii) development of new credit risk assessment and/or mitigation tools in

the financial sector; and (iv) support for financial integration to foster interconnection of markets.

- b. **Knowledge activities:** (i) methodology and studies of the impact of institutional reforms (contract enforcement and creditors' rights) on productivity; (ii) technical studies to support strengthening of the Latin American Integrated Market (MILA); and (iii) risk assessment methodologies and design of integrated natural disaster risk management plans.

5.9 **Dimension 3. Financing frontier for the productive sector in the region expanded.**

5.10 The interventions will allow the financing frontier for the productive sector to be expanded, facilitating financing for technology adoption (particularly new digital technologies, broadband-driven technologies, and green technologies), improving the management of businesses and of value chain risks, innovation, and market access. In addition, the interventions will seek to improve bank intermediation by promoting innovation and the adoption of new digital technologies in the sector, including new credit scoring technologies and financing platforms for segments with poor access to finance (particularly SMEs and technology-based companies).⁹⁹ The Bank will seek to ensure implementation of appropriate mechanisms for boosting the impact of its interventions. As part of this, it will seek to channel some of its investments to value chain strengthening programs, such as a mechanism to support SMEs with higher production potential. To achieve the objective of this dimension, the following lines of action are proposed:

5.11 **Lines of action:** (i) financing for value chains as a way to support SMEs with higher production potential; (ii) actions which aim to guide the supply of finance towards, or improve the terms on which credit is provided to, the productive sector in general (and SMEs, startups, and young companies in particular), including productivity gains through innovation and the adoption of new digital technologies (such as crowdfunding and MPL technologies),¹⁰⁰ broadband-driven technologies, and green technologies; (iii) actions to strengthen the productive system and conditions of demand for finance, especially conditions that improve companies' risk profile and boost the demand for new financing technologies such as digitalization of registers and entry into e-commerce, in addition to productive development services for companies in order to improve their productive capacity and access to finance;¹⁰¹ and (iv) financing for other groups and segments with productive potential not fully served by the market, such as companies run or owned by women, indigenous

⁹⁹ Interventions in infrastructure or in provision of infrastructure services will be consistent with the Strategy on Sustainable Infrastructure for Competitiveness and Inclusive Growth (operational policy OP-1012), while interventions related to climate change adaptation or mitigation will be consistent with the Integrated Strategy for Climate Change Adaptation and Mitigation, and Sustainable and Renewable Energy (operational policy OP-1011). In addition, these interventions will be carried out in keeping with the sector guidelines and objectives established in the Agriculture and Natural Resources Management, Transportation, Energy, Water and Sanitation, and Tourism SFDs, as stated in paragraph 1.2, and in coordination with the relevant Division. The operations' monitoring and evaluation plans will track interest rates throughout the life of each operation.

¹⁰⁰ This support for new financing business models should be accompanied by suitable regulation to ensure a proper balance between financial innovation and credit risk containment.

¹⁰¹ Interventions involving services to strengthen business, technology, and innovation capabilities will be carried out in keeping with the Sector Strategy for Institutions for Growth and Social Welfare (operational policy OP-1009) and the Innovation, Science, and Technology Sector Framework Document.

peoples, or Afrodescendants. To fulfill these lines of action, financing is proposed for the following operational and knowledge activities:

- a. **Operational activities:** (i) programs for integrated value-chain risk management: financing, business services, and market access (including infrastructure to support value chains such as logistic, transportation, irrigation, and energy infrastructure); (ii) global credit programs with a particular focus on SMEs, startups, and young companies, and companies run or owned by women, indigenous peoples, or Afrodescendants, including, for example, refinancing credit insurance, agricultural insurance,¹⁰² guarantee funds, factoring, support for seed capital and angel investors, and capital finance in general; (iii) support to productive development through public banks; (iv) support to public banks to improve their risk management processes, credit scoring techniques, and adoption of new digital technologies to expand the financing frontier; (v) provision of technical assistance to the private sector (including companies run or owned by women, indigenous peoples, or Afrodescendants) to improve access to credit and productivity-enhancing technologies, techniques, and good practices, such as new digital technologies and green technologies; (vi) improving financial contract enforcement (credit register, improved transparency, increased competition, guarantee law, bankruptcy law); and (vii) improving credit evaluation processes for women, indigenous peoples, and Afrodescendants.
- b. **Knowledge activities:** (i) methodology and studies for the design of strategies and programs on value chain risk management; (ii) studies and strategies on improving access to finance through the adoption of new digital technologies in the banking sector; (iii) studies and strategies on expanding the financing frontier, especially on innovation, adoption of new digital technologies, and transition to the Fourth Industrial Revolution; (iv) studies and strategies on adopting and financing green technologies in the productive sector; (v) design of methodologies and impact evaluation studies on interventions aimed at financing for productive development, including those focusing on value chains and the generation and use of big data¹⁰³ to evaluate such programs; (vi) strategies and systems for monitoring and evaluating environmental and social benefits for projects financed by PDBs; (vii) support studies for operational activities (e.g., on financial sector regulation, institutional capacity, and demand for financing), on the productive sector in the region, and on the characteristics, conditions, and limitations of SMEs; (viii) studies that help to properly measure the degree of competition in the banking industry in LAC and the policies that help enhance a competitive environment; (ix) company-level surveys that can help to expand knowledge of the difficulties in obtaining access to finance (for example, in the case of companies run or owned by women, indigenous peoples, or Afrodescendants) and serve as a basis for studies on the impact of policies and programs on conditions for access to finance; (x) design of methodologies and of gender- and ethnicity-specific

¹⁰² These interventions will be carried out in keeping with the sector guidelines and objectives established in the Agriculture and Natural Resources Management Sector Framework Document.

¹⁰³ The availability of more and better information on the beneficiaries of Bank-supported interventions will make it possible to conduct more detailed impact assessments in less time and at a lower cost. The Bank will examine the possibility of using, for example, data from the use of new digital technologies in productive processes and lending operations.

impact evaluation studies for productive development financing interventions; and (xi) study to identify specific characteristics and barriers to access to finance for companies operating in the services sector. With respect to impact evaluations, those focusing on programs carried out with first-tier development banks will be of particular interest, not only because such studies are virtually nonexistent but also because this work would help to overcome some of the difficulties typically associated with data collection by second-tier banks. In addition, impact evaluation efforts should be directed at working with programs in which the treatment criteria are narrowly defined (ideally, where a credit score has considerable weight), since there is greater likelihood in these cases to produce an answer to the knowledge question. Lastly, the knowledge agenda should try to introduce methodology improvements in the evaluation of reform programs (for example, through the use of a synthetic control), where defining a counterfactual has traditionally been a major challenge.

TABLES

Table 1. Policies and instruments to improve SME access to finance (OECD-2015)

Country	Government loan guarantees	Special guarantees and loans for start ups	Government export guarantees, trade credit	Direct lending to SMEs	Subsidised interest rates	Venture capital, equity funding, business angel support	SME banks	Business advice, consultancy	Tax exemptions, deferrals	Credit mediation/revi ew/code of conduct	Bank targets for SME lending, negative interest rates for deposits at central bank	Central Bank funding to banks dependent on net lending rate
Australia			X					X				
Austria	X	X	X	X	X	X		X				
Belgium	X		X	X		X			X	X		
Canada	X	X	X	X		X						
Chile	X			X		X						
Colombia	X		X					X				
Czech Republic	X	X	X	X		X	X	X				
Denmark	X	X	X			X		X			X	
Estonia	X	X	X	X		X						
Finland	X		X	X		X		X	X			
France	X			X		X	X			X		
Georgia	X				X			X				
Greece	X		X	X		X						
Hungary	X		X	X	X	X						
Korea			X									
Ireland	X			X		X				X	X	
Israel	X			X		X						
Italy	X								X			
Japan	X			X								
Korea	X			X								
Malaysia	X											
Mexico	X	X				X						
Netherlands	X	X	X			X						
New Zealand		X	X			X		X	X	X		
Norway	X			X		X			X			
Portugal	X			X		X	X					
Russian Federation	X				X		X					
Serbia	X	X		X								
Slovak Republic	X			X		X						
Slovenia	X			X								
Spain	X		X	X	X	X			X	X		
Sweden			X	X		X		X	X			
Switzerland	X											
Thailand	X		X		X		X	X				
Turkey	X			X	X	X			X			
United Kingdom	X	X		X	X	X	X					X
United States	X											

Note: Data from all countries from OECD SME Scorecard

Table 2. Value chain risks

Risk type	Impact	Sources	Example
Systemic	On the general economy	Political uncertainties	Political instability, changes in government policies, wars, terrorism, coup d'états, piracy.
		Macroeconomic uncertainties	Fluctuations in economic activity levels or in relative prices.
		Social uncertainties	Changes in beliefs, values, or attitudes in the population.
		Natural uncertainties	Floods, droughts, earthquakes, hurricanes.
Market	On a specific sector of the economy	Market uncertainties	Fluctuations in input and product price levels, input availability, technological changes, changes in consumer preferences, substitute product availability.
		Regulatory/institutional uncertainties	Quality standards and regulations, changes in sector-specific regulations.
		Supply uncertainties	Supply delays, flaws in input quality or quantity.
Operational	On a specific value chain	Production uncertainties	Mechanical, technical, or processing failures, forecasting errors, infrastructure failures, flaws in product quality or quantity.
		Administrative uncertainties	Failures or delays in administrative procedures, such as import and export procedures, or in compliance with quality standards.
Credit	On a specific value chain or its hubs	Collateral uncertainties	Collateral quality and value.
		Sector-related uncertainty	Sectors with greater information asymmetry, such as the agricultural or the new technology sectors.
		Segment-related uncertainty	Small and medium-sized enterprises, where information asymmetry and informality are greater.
Liquidity	On a specific company	Payment cycle uncertainty	Default or extensions in payment cycles that can lead to delays in a company's short-term obligations.
		Uncertainty as to the financial health of a company	Accounting records that are incomplete or outdated or have low-quality information.

Source: Calatayud and Ketterer (2016).

BIBLIOGRAPHIC REFERENCES

- Acemoglu D.; Akcigit, U.; Bloom, N. & Kerr, W. (2013). 'Innovation, Reallocation and Growth' *PIER Working Paper* 13-018, Penn Institute for Economic Research, Department of Economics, University of Pennsylvania.
- Acemoglu, D. & Johnson, S. (2005). 'Unbundling institutions,' *Journal of Political Economy* **113**, 949 - 995. Washington, D.C.: World Bank.
- Acevedo, G. & Tan, H. (2010). 'Impact evaluation of SMR programs in Latin America and the Caribbean.'
- AFI: Alliance for Financial Inclusion, 2016. "The 2016 Maya Declaration Report: Celebrating Five Years of Advancing Financial Inclusion."
- Aghion, P.; Angeletos, G.-M.; Banerjee, A. & Manova, K. (2010). 'Volatility and growth: Credit constraints and the composition of investment,' *Journal of Monetary Economics* **57**(3), 246 - 265.
- Aghion, P.; Howitt, P. & Mayer-Foulkes, D. (2005). 'The Effect of Financial Development on Convergence: Theory and Evidence,' *The Quarterly Journal of Economics* **120**(1), 173 - 222.
- Ahmed, U., T. Beck, C. McDaniel and S. Schropp, 2016, "Filling the Gap: How Technology Enables Access to Finance for SMEs," *innovations*, vol 10, No. 3/4.
- Aizenman, J. & Powell, A. (2003). 'Volatility and financial intermediation,' *Journal of International Money and Finance* **22**(5), 657 - 679.
- Albuquerque, R. & Hopenhayn, H. (2004). 'Optimal Lending Contracts and Firm Dynamics,' *Review of Economic Studies* **71**(2), 285 - 315.
- Alfaro, L. & Hammel, E. (2007). 'Capital flows and capital goods,' *Journal of International Economics* **72**(1), 128 - 150.
- Almeida, H. & Wolfenzon, D. (2005). 'The effect of external finance on the equilibrium allocation of capital,' *Journal of Financial Economics* **75**(1), 133 - 164.
- Ang, J. B. (2010). 'Research, technological change and financial liberalization in South Korea,' *Journal of Macroeconomics* **32**(1), 457 - 468.
- Ang, J. B. (2011). 'Financial development, liberalization and technological deepening,' *European Economic Review* **55**(5), 688 - 701.
- Antras, P. & Helpman, E. Helpman, E.; Verdier, T. & Marin, D., ed., (2008). *Contractual Frictions and Global Sourcing*, Harvard University Press, Cambridge, MA, 9 - 54.
- Anzoategui, D., Martínez Pería, M. S. & R. R. Rocha, R. (2010). 'Bank Competition in the Middle East and Northern Africa Region,' *Review of Middle East Economics and Finance* **6**(2), 26 - 48.
- Araujo, A.; Ferreira, R. & Funchal, B. (2012). 'The Brazilian bankruptcy law experience,' *Journal of Corporate Finance*, doi:10.1016/j.jcorpfin.2012.03.001.
- Araujo, V.; Souza, M.; da Silva, M. & Castro, Diego (2011). 'O sistema brasileiro de instituições financeiras subnacionais para o desenvolvimento: um panorama,' Brasília: Institute of Applied Economic Research.
- Arcand, J.-L.; Berkes, E. & Panizza, U. (2012). 'Too Much Finance?,' *IMF Working Papers*, Washington, D.C.

- Arizala, F.; Cavallo, E. A. & Galindo, A. J. (2013). 'Financial development and TFP growth: cross-country and industry-level evidence,' *Applied Financial Economics* **23**(6), 443 - 448.
- Arráiz, I. & Marcela Meléndez & Rodolfo Stucchi, 2014. "Partial credit guarantees and firm performance: evidence from Colombia," *Small Business Economics*, Springer, vol. 43(3), pages 711-724, October.
- Arroio, A. & Scerri, M. (2014). 'The promise of Small and Medium Enterprises,' International Development Research Center, New Delhi: Routledge.
- Bae, K.-H. and Goyal, V. K. (2009), "Creditor Rights, Enforcement, and Bank Loans." *The Journal of Finance*, 64: 823–860.
- Baier, S. L.; Dwyer, G. P. & Tamura, R. (2006). 'How important are capital and total factor productivity for economic growth?,' *Economic Inquiry* **44**(1), 23 - 49.
- Baumol, W. J. (1990). 'Entrepreneurship: Productive, unproductive and destructive,' *Journal of Political Economy* **98**(5), 893 – 921.
- BBVA (2014). 'Credit deepening: the healthy path,' *EAGLEs Economic Watch*, January.
- Bebchuk L.A., Goldstein I. (2011), 'Self-fulfilling credit market freezes,' *Review of Financial Studies*, Vol 24, pp 3519–3555.
- Bebczuk, R. (2010). 'Acceso al financiamiento de las PyMEs en la Argentina: estado de situación y propuestas de política,' Development Studies Section, Santiago, Chile: ECLAC.
- Becerra, O.; Cavallo, E. A. & Scartascini, C. (2012). 'The politics of financial development: The role of interest groups and government capabilities,' *Journal of Banking & Finance* **36**(3), 626 - 643.
- Beck, T. & de la Torre, A. (2007). 'The basic analytics of access to financial services,' Policy Research Working Paper Series 4026, Washington, D.C.: The World Bank.
- Beck, T. & Demirgüç-Kunt, A. (2009). 'Finance and Inequality: Theory and Evidence,' *Annual Review of Financial Economics* **1**(1), 287 - 318.
- Beck, T. & Levine, R. (2003). 'Legal institutions and financial development,' *NBER Working paper* 10126, Cambridge, MA.
- Beck, T. (2016). 'Long-term Finance in Latin America: A Scoreboard Model,' *Discussion Paper No. 476*, Washington, D.C.: Inter-American Development Bank.
- Beck, T.; Demirgüç-Kunt, A. & Singer, D. (2013). 'Is Small Beautiful? Financial Structure, Size and Access to Finance,' *World Development* **52**(0), 19 - 33.
- Beck, T.; Levine, R. & Loayza, N. (2000). 'Finance and the sources of growth,' *Journal of Financial Economics* **58**(1B)“2), 261 - 300.
- Berman, N. & Hericourt, J. (2010). 'Financial factors and the margins of trade: Evidence from cross-country firm-level data,' *Journal of Development Economics* **93**(2), 206 - 217.
- Bernanke, B. (1983). 'Non-Monetary Effects of the Financial Crisis in the Propagation of the Great Depression,' *The American Economic Review* **73**(3), 257 - 276.

- Bernstein, S., Lerner, J. & Schoar, A. (2013). 'The Investment Strategies of Sovereign Wealth Funds,' *The Journal of Economic Perspective* **27**(2), 219 – 237.
- BIS (2010). 'An assessment of the long-term economic impact on stronger capital and liquidity requirements,' Basel Committee on Banking Supervision, Basel: Bank for International Settlements.
- BIS (2015). 'Annual Report 2014/2015,' Basel: Bank for International Settlements.
- Bleger, L. (2011). Latin America in Better Conditions to Face the Global Crisis: Financial Regulations in Argentina, Brazil, Chile, Colombia, Mexico, and Peru. Financial Transparency Initiative. Retrieved 4 December 2013, from <http://www.itf.org.ar/pdf/documentos/83-2011.pdf>
- BNDES (2009). 'Projeto de estudos sobre as perspectivas da indústria financeira brasileira e o papel dos bancos públicos,' Campinas: Brazilian Development Bank - BNDES.
- Bonilla, C. & Cancino, C. (2011). The Impact of the Seed Capital Program of SERCOTEC in Chile', Working Paper 279, Capital Markets and Financial Institutions Division, Washington, D.C.: Inter-American Development Bank.
- Borio, C. (2012). 'The financial cycle and macroeconomics: What have we learnt?,' Working Paper 395, December, Basel: Bank for International Settlements.
- Buera, F.; Kaboski, J. & Shin, Y (2011). 'Finance and Development: A Tale of Two Sectors,' *American Economic Review* **101**, 1964 – 2002.
- Buera, F.; Moll, B & Shin, Y. (2013). 'Well-intended policies,' *Review of Economic Dynamics* **16**, 216 – 230.
- Bueso-Merriam, J., Demichelis, F., Fernández Diez, M. C., Giuliadori, David, Rodríguez, Alejandro, and Stucchi, R. (2016). 'El impacto del Programa de Crédito para el Desarrollo de la Producción y el Empleo en la Provincia de San Juan,' *Discussion Paper 485*, Washington, D.C.: Inter-American Development Bank.
- Busso, M.; Fazio, M.V. & Levy, S. (2012a). '(In)Formal and (Un)Productive: the productivity costs of excessive informality in Mexico,' Working Paper 341, Research Department, Washington, D.C.: Inter-American Development Bank.
- Busso, M.; Madrigal, L. & Pagés, C. (2012b). 'Productivity and resource misallocation in Latin America,' Working Paper 306, Research Department, Washington, D.C.: Inter-American Development Bank.
- Butler, A. W. & Cornaggia, J. (2011). 'Does access to external finance improve productivity? Evidence from a natural experiment,' *Journal of Financial Economics* **99**(1), 184 - 203.
- Caballero, J., A. Fernandez and J. Park, (2016). 'On Corporate Borrowing, Credit Spreads and Economic Activity in Emerging Economies: An Empirical Investigation,' Working Paper 719, Research Department, Washington, D.C.: Inter-American Development Bank.
- Caballero, R. J. & Krishnamurthy, A. (2004). 'Smoothing sudden stops,' *Journal of Economic Theory* **119**(1), 104 - 127.

- CAF (2011). 'Servicios Financieros para el Desarrollo,' Bogotá: Andean Development Corporation.
- Calatayud, A. & Ketterer, J.A. (2016). 'Integrated Value Chain Risk Management,' *Technical Note 922*, Washington, D.C.: Inter-American Development Bank.
- Calderón, G.; Cunha, J. & de Giorgi, G. (2013). 'Business literacy and development: evidence from a randomized controlled trial in rural Mexico,' *Working Paper*, Washington, D.C.: Inter-American Development Bank.
- Campello, M.; Graham, J. R. & Harvey, C. R. (2010). 'The real effects of financial constraints: Evidence from a financial crisis,' *Journal of Financial Economics* **97**(3), 470 - 487.
- Carter, M. (1989). 'El impacto del crédito en la productividad y diferenciación campesina en Nicaragua,' *Journal of Development Economics* **103**, 13-36.
- Caselli, Francesco, 2005. "Accounting for Cross-Country Income Differences," *Handbook of Economic Growth*, in: Philippe Aghion & Steven Durlauf (ed.), *Handbook of Economic Growth*, edition 1, volume 1, chapter 9, pages 679-741 Elsevier.
- Cassiolo, J.E. & Martins, H. (2005). 'Sistemas de inovação e desenvolvimento. As implicações de política,' *São Paulo em Perspectiva* **19**(1), 34-35.
- Catão, L. A.; Rosales, M. & Pagés, C. (2009). 'Financial Dependence, Formal Credit and Informal Jobs: New Evidence from Brazilian Household Data,' *IDB Working Paper Series* (IDB-WP-118).
- Cavallo, E. A.; Galindo, A.; Izquierdo, A. & León J.J. (2013). 'The Role of Relative Price Volatility in the Efficiency of Investment Allocation,' *Journal of International Money and Finance* **33**, 1 - 18.
- Chan, E., Michael Chui, Frank Packer and Eli Remolona (2012) 'Local currency bond markets and the Asian Bond Fund 2 Initiative' *BIS Papers No. 63*.
- Chinn, M. & Ito, H. (2006). 'What matters for financial development? Capital controls, institutions, and interactions,' *Journal of Development Economics* **81**, 163–192.
- Christopher, M. & Holweg, M. (2011). 'Supply Chain 2.0: Managing Supply Chains in the Era of Turbulence,' *International Journal of Physical Distribution & Logistics Management* **41**(1), 63- 82.
- Christopoulos, D. K. & Tsionas, E. G. (2004). 'Financial development and economic growth: evidence from panel unit root and cointegration tests,' *Journal of Development Economics* **73**(1), 55 - 74.
- Citigroup, 2016. "Digital Disruption: How FinTech is Forcing Banking to a Tipping Point," Citi GPS: Global Perspectives & Solutions.
- Claessens, S. & van Horen, N. (2014). 'Foreign Banks: Trends and Impact,' *IMF Working Papers* 12/10, Washington, D.C.: International Monetary Fund.
- Cole, Harold L. & Ohanian, Lee E. & Riascos, Alvaro & Schmitz, James Jr, 2005. "Latin America in the rearview mirror," *Journal of Monetary Economics*, Elsevier, vol. 52(1), pages 69-107, January.

- Coricelli, F.; Driffield, N.; Pal, S. & Roland, I. (2012) 'When does leverage hurt productivity growth? A firm-level analysis', *Journal of International Money and Finance* **31**(6), 1674 – 1694.
- Cowling, M. (2010). 'Economic Evaluation of the Small Firms Loan Guarantee (SFLG) Scheme,' Institute for Employment Studies, Department for Business Innovation and Skills, UK Government.
- Crespi, G. & Tacsir, E. (2012). 'Effects of innovation on employment in Latin America,' Technical Note 496, Competitiveness and Innovation Division, Washington, D.C: Inter-American Development Bank.
- Crespi, G. & Zuniga, P. (2012). 'Innovation strategies and employment in Latin American firms,' Technical Note 388, Competitiveness and Innovation Division, Washington, D.C: Inter-American Development Bank.
- D'Erasmus, Pablo N. Moscoso Boedo, Hernan J. & Şenkal, A. (2014). 'Misallocation, informality, and human capital: Understanding the role of institution,' *Journal of Economic Dynamics and Control, Elsevier*, **42**(C), 122 - 142.
- D'Erasmus, P. (2016). "Access to Credit and the Size of the Formal Sector," *Economía, Journal of LACEA*.
- D'Erasmus, P. & Moscoso Boedo, H. (2012). 'Financial Structure, Informality and Development,' *Journal of Monetary Economics* **59**(3), 286 - 302.
- Dabla-Norris, E., Ho, G. & Kyobe, A. (2013). 'Reforms and distance to frontier,' Washington, D.C: International Monetary Fund.
- Dabla-Norris, E., Ji, Y., Townsend, R. & Unsal, F. (2015). 'Distinguishing Constraints on Financial Inclusion and Their Impact on GDP, TFP, and Inequality,' NBER Working Paper No. 20821 (Cambridge, MA: National Bureau of Economic Research).
- Daude, C. & Fernández-Arias, E. (2010). 'On the role of productivity and factor accumulation in economic development in Latin America and the Caribbean,' *Working Paper 4653*, Research Department, Washington, D.C.: Inter-American Development Bank.
- Daude, C. (2010). 'Innovation, productivity and economic development in Latin America and the Caribbean,' *Working Paper 288*, OECD Development Centre, Geneva: Organization for Economic Cooperation and Development.
- Dawson, J. (1997). 'Beyond credit - the emergence of high-impact, cost-effective business development services,' [*Small Enterprise Development* **8**\(3\)](#), 15 - 25.
- de Janvry, Alain, Craig McIntosh, and Elisabeth Sadoulet. 2010. "The Supply and Demand Side Impacts of Credit Market Information" *Journal of Development Economics*, **93**: 173-188.
- De la Torre, A.; Ize, A. & Schmukler, S. (2012). *El desarrollo financiero en América Latina y el Caribe: el camino por delante*, Washington, D.C.: World Bank.
- Diamond, Douglas W., and Phillip H. Dybvig. 1983. "Bank Runs, Deposit Insurance, and Liquidity." *Journal of Political Economy*, **91**(3): 401–19.
- Didier, T.; Mauro, P. & Schmukler, S. L. (2008). 'Vanishing financial contagion?,' *Journal of Policy Modeling* **30**(5), 775 - 791.

- Djankov, S., Hart, O., McLiesh, C. & Shleifer, A. (2008). 'Debt enforcement around the world,' *Journal of Political Economy* **116** (6), 1105 - 1149.
- Djankov, S., McLiesh, C. & Shleifer, A. (2007). 'Private credit in 129 countries,' *Journal of Financial Economics* **84**, 299 - 329.
- Draghi, M.; Giavazzi, F. & Merton, R. (2003). 'Transparency, Risk Management and International Financial Fragility.' *NBER Working Paper 9806*, Cambridge, MA.
- Easterly, W. & Levine, R. (2002). 'It's Not Factor Accumulation: Stylized Facts and Growth Models,' Technical Report 164, Central Bank of Chile.
- EBRD (2012). 'Multilateral Development Bank Principles to Support Sustainable Private Sector Operations,' European Bank for Reconstruction and Development [online] Available at <http://www.ebrd.com/downloads/news/mdb.pdf> [visited on 19 February 2014].
- Economic Commission for Latin America and the Caribbean - ECLAC (2011). 'Eliminando barreras: el financiamiento a las PyMEs en América Latina,' Santiago, Chile: ECLAC.
- Einav, L., Jenkins, M., and Levin, J., 2013. The impact of credit scoring on consumer lending. *RAND Journal of Economics*, 44(2): 249–274.
- EIU (2013). 'Women's Entrepreneurial Venture Scope,' The Economist Intelligence Unit and Multilateral Investment Fund.
- eMarket, 2015, "Mobile Accounts for Almost Half of China's Retail Ecommerce Sales," available at: <http://www.emarketer.com/Article/Mobile-Accounts-Almost-Half-of-Chinas-Retail-Ecommerce-Sales/1012793>
- Eslava, M.; Maffioli, A. & Meléndez Arjona, M. (2012a). 'Second-tier Government Banks and Access to Credit: Micro-Evidence from Colombia,' *Working Paper No. 308*, Washington, D.C.; Inter-American Development Bank.
- Eslava, M.; Maffioli, A. & Meléndez Arjona, M. (2012b). 'Second-tier Government Banks and Firm Performance: Micro-Evidence from Colombia,' *Working Paper No. 294*, Washington, D.C.; Inter-American Development Bank.
- Fajnzylber, P.; Maloney, W. & Montes-Rojas, G. (2006). 'Does formality improve micro-firm performance? Quasi-experimental evidence from the Brazilian Simples Program,' Policy Research Working Paper, Washington, D.C.: World Bank.
- Feder, G.; Lan, LJ; Lin, JY & Luo, X. (1990). 'La relación entre el crédito y la productividad en la agricultura china: Un Modelo de Desequilibrio,' *American Journal of Agricultural Economics*, **72**(5), 1151-1157.
- Federal Reserve Banks of New York, Atlanta, Boston, Cleveland, Philadelphia, Richmond and St. Louis, 2015, Small Business Credit Survey: Report on Employer Firms.
- Fernandez, A. & C.E. Tamayo (2017). "From Institutions to Financial Development and Growth: What are the Links?" *Journal of Economic Surveys*, **31**(1), 17 – 57.
- Fernández-Stark, K. & Gereffi, G. (2012). "Inclusion of Small and Medium-Size Producers in High-Value Agro-food Value Chain," MIF, December.

- Foltz, J. (2004). 'Acceso al Crédito Mercado y Rentabilidad en Túnez,' *Economía Agrícola* **30**, 229-240.
- Forbes (2015). "The World Biggest Stock Exchanges.'
- Freitas, M.C. (2009). 'Projeto de estudos sobre as perspectivas da indústria financeira brasileira e o papel dos bancos públicos,' Campinas: Brazilian Development Bank - BNDES.
- Fudenberg, D., Tirole, J., (1987). 'Understanding rent dissipation: on the use of game theory in industrial organization.' *American Economic Review* **77**, 176–183.
- G-20 (2017). 'Principles of MDBs' strategy for crowding-in Private Sector Finance for growth and sustainable development', Working Paper, the International Financial Architecture Working Group.
- G-30 (2013). 'Long-Term Finance and Economic Growth,' Washington, D.C.: the Group of Thirty.
- Galiani, S. and Weinschelbaum, F. (2007), 'Modeling Informality Formally: Households and Firms,' *Economic Inquiry*, 50: 821–838.
- Galindo, A., L. Rojas-Suarez and M. del Valle. (2012), 'Capital Requirements under Basel III in Latin America: The Cases of Bolivia, Colombia, Ecuador and Peru,' *IDB Policy Brief No.137*, Washington, D.C.: Inter-American Development Bank.
- Galindo, A.; Schiantarelli, F. & Weiss, Andrew (2007). 'Does financial liberalization improve the allocation of investment?: Micro-evidence from developing countries,' *Journal of Development Economics* **83**(2), 562 – 587.
- Gatti, R. & Love, I. (2008). 'Does access to credit improve productivity? Evidence from Bulgaria,' *Economics of Transition* **16**, 445 – 465.
- Gelos, G. (2009). "Banking Spreads in Latin America" *Economic Inquiry*, vol. 47(4), pp. 796-814.
- Gordon Mills, K. & McCarthy, B. (2014). 'The State of Small Business Lending: Credit Access during the Recovery and How Technology May Change the Game,' *Working Paper 15-004*, Harvard Business School.
- Greenwood, J.; Sanchez, J. M. & Wang, C. (2013). 'Quantifying the impact of financial development on economic development,' *Review of Economic Dynamics* **16**(1), 194 - 215.
- Guirkinger, C. & Boucher, S. (2008), 'Credit Constraints and Productivity in Peruvian Agriculture,' *Agricultural Economics* **39**(3), 295 - 308.
- Hall, B. H. & Lerner, J. (2009). 'The Financing of R&D and Innovation' (15325), Technical report, National Bureau of Economic Research.
- Hancock, D., Peek, J. & Wilcox, J. (2007). 'The Repercussions on Small Banks and Small Businesses of Bank Capital and Loan Guarantees,' Working Paper #07-22, Wharton Financial Institutions Center.
- Hausmann, R.; Pritchett, L. & Rodrik, D. (2004). 'Growth Accelerations' (10566), Technical report, National Bureau of Economic Research.

- Helbling, T.; Huidrom, R.; Kose, M. A. & Otrok, C. (2011). 'Do credit shocks matter? A global perspective,' *European Economic Review* **55**(3), 340 - 353.
- Herrera, D. (2016). 'Alternative Finance (Crowdfunding). Regulation in Latin America and the Caribbean: A Balancing Act,' *IDB Discussion Paper No. 480*, Washington, D.C.: Inter-American Development Bank.
- Holden, P. & Howell, H. (2009). 'Enhancing access to finance in the Caribbean,' *Discussion Paper 164*, Institutional Capacity and Finance Sector, Washington, D.C.: Inter-American Development Bank.
- Hsieh, C. & Klenow, P. (2009). 'Misallocation and Manufacturing TFP in China and India,' *Quarterly Journal of Economics* **124**(4), 1403 -1448.
- Hulten, C. R. (2000). 'Total Factor Productivity: A Short Biography'(7471), Technical report, National Bureau of Economic Research.
- Hyytinen, A. & Maliranta, M. (2013). 'Firm lifecycles and evolution of industry productivity,' *Research Policy* **42**(5), 1080 - 1098.
- Iachan, F., Plamen T. Nenov, Alp Simsek (2015). The Choice Channel of Financial Innovation, NBER Working Paper No. 21686.
- IDB (2002a). 'Evaluation of MIF Projects: Financial Reform & Capital Markets,' Washington, D.C.: Inter-American Development Bank.
- IDB (2002b). 'Evaluation of Bank Action and Strategy for Small and Medium Enterprise,' Washington, D.C.: Inter-American Development Bank.
- IDB (2005). *Unlocking Credit: The Quest for Deep and Stable Bank Lending*, Washington, D.C.: Inter-American Development Bank.
- IDB (2007). Evaluation of the Bank's Global Multisector Credit Operations: 1990 to 2005,' Office of Evaluation and Oversight, Washington, D.C.: Inter-American Development Bank.
- IDB (2010). *The Age of Productivity: Transforming Economies from the Bottom Up*. Carmen Pagés (Ed.), Washington, D.C.: Inter-American Development Bank.
- IDB (2011a). 'Bancarización de Clusters: la experiencia de la provincia de San Juan, Argentina.' *Working Paper 178*, Washington, D.C.: Inter-American Development Bank.
- IDB (2011b). An Evaluation Approach Paper: Opportunities for the Majority Initiative,' Office of Evaluation and Oversight, Washington, D.C.: Inter-American Development Bank.
- IDB (2012a). The World of Forking Paths: Latin America and the Caribbean Facing Global Economic Risks,' Andrew Powell (Coord.), Latin American and Caribbean Macroeconomic Report, Washington, D.C.: Inter-American Development Bank.
- IDB (2012b). Development Effectiveness Overview (2012),' Washington, D.C.: Inter-American Development Bank.
- IDB (2013a). 'Second Independent Evaluation: Multilateral Investment Fund,' Office of Evaluation and Oversight, Washington, D.C.: Inter-American Development Bank.

- IDB (2013b). 'Rethinking Reforms, How Latin America and the Caribbean Can Escape Suppressed World Growth,' Washington, D.C.: Inter-American Development Bank.
- IDB (2014a). *Rethinking Productive Development: Sound Policies and Institutions for Economic Transformation*, Macmillan for Washington DC: Inter-American Development Bank.
- IDB (2014b). *Development effectiveness outlook – Development Effectiveness Program*, Washington, D.C.: Inter-American Development Bank.
- IDB (2014c). 'A Comparative Analysis of IDB Approaches Supporting SMEs: Assessing Results in the Brazilian Manufacturing Sector,' Office of Evaluation and Oversight, Washington, D.C.: Inter-American Development Bank.
- IDB (2015a). 'Assessing Impacts of Productive Development Programs at the Firm Level in Brazil,' Washington, D.C.: Inter-American Development Bank.
- IDB (2015b). 'Office of Evaluation and Oversight Annual Report,' Washington, D.C.: Inter-American Development Bank.
- IDB (2016a). 'Evaluation of IDB Group's Work through Financial Intermediaries,' Office of Evaluation and Oversight, Washington, D.C.: Inter-American Development Bank.
- IDB (2016b). *Agriculture and Natural Resources Management Sector Framework Document*, document GN-2709-5, Washington, D.C.: Inter-American Development Bank.
- IDB-CMF (2013). *Bancos públicos de desarrollo: ¿Hacia un nuevo paradigma?* Fernando de Olloqui (Ed.), Washington, D.C.: Inter-American Development Bank.
- IFC (2013). 'Scaling-up SME access to financial services in the developing world,' Washington, D.C.: International Finance Corporation.
- IFC-McKinsey (2011). 'Strengthening Access to Finance for Women-Owned SMEs in Developing Countries,' Washington, D.C.: International Finance Corporation.
- Ilyina, A. & Samaniego, R. (2012). 'Structural change and financing constraints,' *Journal of Monetary Economics* **59**(2), 166 - 179.
- IMF (2012). 'Stability Report.' April, Washington, D.C.: International Monetary Fund.
- IMF (2013a). 'Anchoring Growth: the importance of productivity-enhancing reforms in emerging market and developing economies,' Strategy, Policy and Review Department, Washington, D.C.: International Monetary Fund.
- IMF (2013b). 'Stability Report.' October, Washington, D.C.: International Monetary Fund.
- IMF (2013c). 'Caribbean Small States: Challenges of High Debt and Low Growth,' Washington, D.C.: International Monetary Fund.
- IMF (2016). 'Advancing Financial Development in Latin America and the Caribbean,' April, Washington, D.C.: International Monetary Fund.
- James Manyika, Susan Lund, Jacques Bughin, Kelsey Robinson, Jan Mischke, and Deepa Mahaja, 2016. "Independent work: Choice, necessity, and the gig economy," McKinsey Global Institute Report.

- James Manyika, Susan Lund, Marc Singer, Olivia White, and Chris Berry, 2016, "How digital finance could boost growth in emerging economies," McKinsey Global Institute Report.
- Jayarathne, Jith, and Strahan, Philip E. "Entry restrictions, industry evolution and dynamic efficiency: evidence from commercial banking" *J. Law Econ.*, 41 (1998), pp. 239 -273.
- Jayarathne, Jith, and Strahan, Philip E. "The Finance-Growth Nexus: Evidence from Bank Branch Deregulation." *Quarterly Journal of Economics* 111 (1996): 639–70.
- Johnson, S. 2016. "The Financial System of the Future." *Democracy: A Journal of Ideas* 40 (Spring).
- Jones, B. F. & Olken, B. A. (2005), 'The Anatomy of Start-Stop Growth' (11528), Technical report, National Bureau of Economic Research.
- Jones, C. I. & Romer, P. M. (2010), 'The New Kaldor Facts: Ideas, Institutions, Population, and Human Capital,' *American Economic Journal: Macroeconomics* 2(1), 224 - 245.
- Kantis, H. (2004). 'Desarrollo emprendedor: América Latina y la experiencia internacional,' FUNDES, Washington, D.C: Inter-American Development Bank.
- Kasman, A. and O. Carvallo, 2014. Financial stability competition and efficiency in Latin American and Caribbean banking systems. *Journal of Applied Economics*. Vol 18, No. 2, 301-324.
- Ketterer, J.A. (2017). 'Los desafíos de los mercados de capitales en América Latina y el Caribe,' Capital Markets and Financial Institutions Division, Washington, D.C.: Inter-American Development Bank (forthcoming).
- Ketterer, J.A. and Andrade, G. (2016). 'Digital Central Bank Money and the Unbundling of the Banking Function,' *IDB Discussion Paper* No. IDB-DP-449, Washington, D.C.: Inter-American Development Bank.
- Ketterer, J.A. and Villacorta, O. (2017). 'Créditos a la PYME y Políticas de Gobierno: La Evidencia de los Países Desarrollados,' *Technical Note*, Washington, D.C.: Inter-American Development Bank (forthcoming).
- Klenow, P. & Rodríguez-Clare, A. (1997). 'The Neoclassical Revival in Growth Economics: Has It Gone Too Far?,' *NBER Chapters* 12, 73 - 114.
- Klinger, B.; Castro, J; Szenkman, P. & Khwaja, A. (2013b). 'Unlocking SME finance in Argentina with psychometrics,' *Technical Note* 532, Washington, D.C.: Inter-American Development Bank.
- Klinger, B.; Khwaja, A. & LaMonte, J. (2013a). 'Improving credit risk analysis with psychometrics in Peru,' *Technical Note* 587, Washington, D.C.: Inter-American Development Bank.
- Kose, M. A.; Prasad, E. S. & Terrones, M. E. (2009). 'Does openness to international financial flows raise productivity growth?,' *Journal of International Money and Finance* 28(4), 554 - 580.
- Kulfas, M. (2009). 'Las PyMEs argentinas en el escenario post convertibilidad. Políticas públicas, situación y perspectivas,' Buenos Aires: ECLAC.

- La Porta, R. and Shleifer, A. (2014). 'Informality and development,' *Journal of Economic Perspectives* **28**(3), 109 - 126.
- La Porta, R., López de Sinales, F., Shleifer, A. & Vishny, R. (1997). 'Legal Determinants of External Finance,' *Journal of Finance* **52**, 1131 – 1150.
- Larraín, C. & Quiroz, J. (2006). 'Estudio para el fondo de garantía de pequeños empresarios,' *Mimeo*, Banco del Estado, March 2006.
- Larraín, M. & Stumpner, S. (2013). 'Financial Reforms and Aggregate Productivity: The Microeconomic Channels,' New York, New York: Columbia University.
- Leon, F. 2015. "Does bank competition alleviate credit constraints in developing countries?" *Journal of Banking & Finance* **57**, 130–142.
- Lerner, J. (2012). *Boulevard of Broken Dreams. Why public efforts to boost entrepreneurship and venture capital have failed – and what to do about it*. N.J.: Princeton University Press.
- Levy, S. (2008). 'Good Intentions, Bad Outcomes: Social Policy, Informality and Economic Growth in Mexico,' Washington, D.C.: Brookings Institution Press.
- Lingqvist, Candace Lun Plotkin, and Jennifer Stanley, 2015, "Do you really understand how your business customers buy?" *McKinsey Quarterly*.
- Loayza, N. V. (1996). 'The economics of the informal sector: a simple model and some empirical evidence from Latin America,' *Carnegie-Rochester Conference Series on Public Policy* **45**: 129 -162.
- Long, C. & Zhang, X. (2011). 'Cluster-based industrialization in China: Financing and performance,' *Journal of International Economics* **84**(1), 112 - 123.
- Lorenzoni, Guido. (2008). "Inefficient Credit Booms," *Review of Economic Studies*, vol. 75(3), pages 809-833.
- Love, I., Martinez Peria, M., 2015. "How bank competition affects firms' access to finance". *World Bank Economic Review*, 29(3), 413-448.
- Macedo, M. & da Silva, E. (2013). 'Financiamento das corporações. Perspectivas do desenvolvimento brasileiro,' *International Economics Series*, Brasília: Institute of Applied Economic Research.
- Maffioli, A & Rodríguez, C. (2013). 'La eficacia de los Bancos Públicos de Desarrollo: el diseño de buenas evaluaciones de impacto,' en IDB-CMF, *Bancos públicos de desarrollo: ¿Hacia un nuevo paradigma?*, Fernando de Olloqui (Ed.), Washington, D.C.: Inter-American Development Bank, 39 - 70.
- Manova, K. & Yu, Z. (2012). 'Firms and Credit Constraints along the Value-Added Chain: Processing Trade in China,' *Technical report 18561*, National Bureau of Economic Research.
- Martinez-Peria, M.S. and S. Singh. (2014). "The Impact of Credit Information Sharing Reforms on Firm Financing," *World Bank Policy Research Working Paper 7013*.
- Masciandaro, D. (2013). 'Is the Anti-Money Laundering Compliance Convenient? International Capital Flows and Stigma Effect in Latin America.' *Working Paper 311*. Washington, D.C.: Inter-American Development Bank.

- Maskus, K. E.; Neumann, R. & Seidel, T. (2012). 'How national and international financial development affect industrial R&D,' *European Economic Review* **56**(1), 72-83.
- Mayer, C. & Vives, X. (1993). *Capital Markets and Financial Intermediation*, Great Britain: Cambridge University Press.
- McKinsey (2010). 'Two trillion and counting. Assessing the credit gap for micro, small and medium-size enterprises in the developing world.' October 2010.
- McLoughlin, C. & Kinoshita, N. (2012). 'Monetization in Low- and Middle-Income Countries,' *IMF Working Papers* 12/160, Washington, D.C.: International Monetary Fund.
- Messori, M., ed. (1999). 'Financial Constraints and Market Failures: The Microfoundations of New Keynesian Macroeconomics,' Edward Elgar Publishing.
- Minetti, R. & Zhu, S. C. (2011). 'Credit constraints and firm export: Microeconomic evidence from Italy,' *Journal of International Economics* **83**(2), 109 - 125.
- Ministry of the Economy of Chile (2014). 'Acceso a Financiamiento en los emprendimientos,' Research Division, Santiago, Chile: Ministry of the Economy.
- Mizen, P. and Tsoukas, S., 2014. 'What promotes greater use of the corporate bond market?: a study of the issuance behaviour of firms in Asia,' *Oxford Economic Papers*, 66 (1): 227-253.
- Morse, A. 2015, "Peer-to-Peer Crowdfunding: Information and the Potential for Disruption in Consumer Lending," *Annual Review of Financial Economics* Vol. 7: 463-482.
- Neira, J., D. Perez and C.E. Tamayo, 2016, "Reforms, credit and misallocation in Colombia," unpublished manuscript, Inter-American Development Bank.
- NESTA - National Endowment for the Sciences and Arts, 2014. "Understanding Alternative Finance." University of Cambridge. Available online at <https://www.nesta.org.uk/sites/default/files/understanding-alternative-finance-2014.pdf>
- Obstfeld, M. (2012). 'Financial flows, financial crises, and global imbalances,' *Journal of International Money and Finance* **31**(3), 469 - 480.
- OECD (2016), 'Financing SMEs and Entrepreneurs: an OECD Scoreboard,' Paris: OECD.
- OECD/ECLAC (2013). 'Perspectivas económicas de América Latina 2013: políticas de PyMEs para el cambio estructural,' Santiago: OECD/ECLAC.
- Pailhé, C. (2014). 'Regulación Financiera y Género. El enfoque de género en las operaciones de reforma financiera de la División de Mercados de Capitales e Instituciones Financieras,' Discussion Paper No. 347, Washington, D.C.: Inter-American Development Bank.
- Park, J. H.; Lim, B. C. & Koo, J. H. (2008). 'Developing the capital market to widen and diversify SME financing: the Korean experience,' Korean Institute of Finance, February.
- Perry, G., & Maloney, W. (2008). 'Informality: Exit and Exclusion,' Washington, D.C.: World Bank.

- Petrick, M. (2004). 'Un análisis microeconómicas de racionamiento del crédito en el sector agrícola polaco,' *Revista Europea de Economía Agrícola* **31**, 191-203.
- Pietrobelli, C. & Staritz, C. (2013). 'Challenges for Global Value Chain Interventions in Latin America,' Technical Note 548, Competitiveness and Innovation Division, Washington, D.C.: Inter-American Development Bank.
- Pinto, A.; Chein, F; & Campos, C. (2013). 'Restrição de crédito e decisão de investimento: A experiência do setor informal no Brasil,' *Pesquisa e planejamento econômico* **43**(1), 7 – 47.
- Piras C; Prebistero, A & Rabelotti, R. 'Definitions Matter: Measuring Gender Gaps in Firms' Access to Credit,' Discussion Paper 314, Capital Markets and Financial Institutions Division, Washington, D.C.: Inter-American Development Bank.
- Pires, J. (2013). 'Mid-term Evaluation of IDB-9 Commitments. Assessment of IDB-9's Private Sector Development Framework,' Office of Evaluation and Oversight, Washington, D.C.: Inter-American Development Bank.
- Ponticelli, J. (2013). 'Court enforcement and firm productivity: evidence from a bankruptcy reform in Brazil,' Booth School of Business, University of Chicago.
- Ponticelli, J. and L. Alencar (2016), "Court Enforcement, Bank Loans and Firm Investment: Evidence from a Bankruptcy Reform in Brazil," *Quarterly Journal of Economics*.
- Presbitero, A. & Rabelotti, R. (2014). 'Is Access to Credit a Constraint for Latin American Enterprises? An Empirical Analysis with Firm-Level Data,' Working Paper 101, Univ. Politecnica Marche - Dept. Economic and Social Sciences.
- Puerta, J.M. (2013). 'Country Program Evaluation. Paraguay 2009-2013,' Office of Evaluation and Oversight, Washington, D.C.: Inter-American Development Bank.
- Qian, J. and Strahan, P. E. (2007), "How Laws and Institutions Shape Financial Contracts: The Case of Bank Loans." *The Journal of Finance*, 62: 2803–2834.
- Rajan, R. G. & Zingales, L. (1998). 'Financial Dependence and Growth,' *The American Economic Review* **88**(3), 559-586.
- Ramsaran, R. (2013). 'The Financial Evolution of the Caribbean Community (1996-2008),' Caribbean Centre for Money and Finance, Trinidad and Tobago: University of the West Indies.
- Ravallion, M. (2012), 'Troubling tradeoffs in the Human Development Index,' *Journal of Development Economics* **99**(2), 201 - 209.
- Raw, S. (2012). 'Mid-term Evaluation of IDB-9 Commitments: Assessment of Social Sector Strategy for Equity and Productivity,' Office of Evaluation and Oversight, Washington, D.C.: Inter-American Development Bank.
- Restuccia, D. & Rogerson, R. (2008), 'Policy distortions and aggregate productivity with heterogeneous establishments,' *Review of Economic Dynamics* **11**(4), 707 - 720.
- Riding, A., Madill, J. & Haines, G. (2007). 'Incrementality of SME Loan Guarantees,' *Small Business Economics* **29**, 47–61.

- Rivas, G.; de Groote, R.; Maggi, C.; Saldias, R. & Sanhuesa, R. (2010). 'Apoyo integral al desarrollo empresarial: discusión conceptual y análisis de experiencias,' *Working Paper*, Inter-American Development Bank, Washington, D.C.
- Rodrik, D. (2013a). 'The past, present, and future of economic growth,' *Working Paper 1*, Global Citizen Foundation, June.
- Rodrik, D. (2013b). 'Structural change, fundamentals, and growth: an overview.' Institute for Advanced Study, School of Social Science, Princeton University.
- Rogoff, K. 2014. 'Costs and Benefits to Phasing out Paper Currency,' *NBER Macroeconomics Annual 29*.
- Ruprah, I., Melgarejo, K. & Sierra, R. (2014). 'Is there a Caribbean sclerosis? Stagnating Economic Growth in the Caribbean,' IDB Caribbean Country Department, Washington, D.C.: Inter-American Development Bank.
- Russ, K. N. & Valderrama, D. (2012), 'A theory of bank versus bond finance and intra-industry reallocation,' *Journal of Macroeconomics* **34**(3), 652 - 673.
- Santander InnoVentures, Oliver Wyman and Anthemins Group (2015), 'The Fintech 2.0 Paper: Rebooting Financial Services,' London.
- Sapienza, P. (2004). 'The effects of government ownership on bank lending,' *Journal of Financial Economics* **72** (2), 357 - 384.
- Seo, K., Herrera, D. & Calatayud, A. (2015). 'Providing an Umbrella, Rain or Shine,' *Discussion Paper No. 408*, Washington, D.C.: Inter-American Development Bank.
- Shin, Hyun Song, 2013. "The second phase of global liquidity and its impact on emerging economies," Chapter in: *Volatile Capital Flows in Korea* edited by Kyuil Chung, Soyoung Kim, Hail Park, Changho Choi and Hyun Song Shin.
- Simchi-Levi, D., Kaminski, P. & Simchi-Levi. E. (2003). *Designing and Managing the Supply Chain. Concepts, Strategies and Case Studies*, Second edition, New York, NY: McGraw-Hill.
- Smallridge, D.; Buchner, B.; Trabacchi, C.; Netto, M.; Gómez, J.J. & Serra, L. (2013). 'El rol de los Bancos Nacionales de Desarrollo en catalizar el financiamiento climático internacional,' Capital Markets and Financial Institutions Division, Washington, D.C.: Inter-American Development Bank.
- Soares, Y. & González Diez, V. (2013). 'Second Independent Evaluation of the Multilateral Investment Fund,' Office of Evaluation and Oversight, Washington, D.C.: Inter-American Development Bank.
- Soares, Y. (2013). 'Mid-term Evaluation of IDB-9 Commitments. Review of IDB's Institutions for Growth and Social Welfare Strategy,' Office of Evaluation and Oversight, Washington, D.C.: Inter-American Development Bank.
- Solow, R. M. (1957), 'Technical Change and the Aggregate Production Function,' *The Review of Economics and Statistics* **39**(3), 312-320.
- Song, F. & Thakor, A. (2013), 'Notes on Financial System Development and Political Intervention,' *The World Bank Economic Review* **27**(3), 491-513.

- Stallings, B. & Studart, R. (2006). 'Financiamiento para el desarrollo: América Latina desde una perspectiva comparada,' Santiago, Chile: Economic Commission for Latin America and the Caribbean - ECLAC.
- Stiglitz, J & Weiss, A (1981). 'Credit Rationing in Markets with Imperfect Information,' *The American Economic Review* **71**(3), 393 – 410.
- Swiston, A. & Barrot, A. (2011). 'The Role of Structural Reforms in Raising Economic Growth in Central America.' *IMF Working Papers* 248, Washington, D.C: International Monetary Fund.
- Syversson, C. (2011). 'What determines productivity?,' *Journal of Economic Literature* **49**(2), 326–365.
- Torrentes, L.; Rodríguez, J. & Monge, R. (2013). 'El impacto de la capacitación sobre la adopción de mejores prácticas administrativas y el desempeño de las MiPyME en Costa Rica,' *Working Paper* 442, Capital Markets and Financial Institutions Division, Washington, D.C.: Inter-American Development Bank.
- Tovar, C. & Jeanneau, S. (2008). 'Domestic securities markets and monetary policy in Latin America: overview and implications,' in Bank for International Settlements (Ed), *New financing trends in Latin America* 36, 140 – 163, Basel: Bank for International Settlements.
- Tulchin, D. (2009). 'Models of financial business services: Case studies and lessons learned from financial intermediaries,' March, Washington, D.C.: USAID.
- Tümer, O. & Minoiu, C. (2013). 'Balance Sheet Strength and Bank Lending during the Global Financial Crisis,' *IMF Working Paper* 13/102, Washington, D.C.: International Monetary Fund.
- UNIDO (2007). 'Determinants of total factor productivity: a literature review,' *Working Paper* 02/2007, Research and Statistics Brand, Vienna: United Nations Industrial Development Organization.
- United States Department of Treasury, 2016, "Opportunities and Challenges in Online Marketplace Lending".
- USAID (2008). 'Finance in value chain analysis,' Report 132, Washington, D.C.: USAID.
- Wardrop et al. (2016). 'Breaking New Ground The Americas Alternative Finance Benchmarking Report,' Cambridge Center for Alternative Finance.
- WBES – World Business Environmental Survey (2014).
- WEF – World Economic Forum (2012). "Rethinking Financial Innovation Reducing Negative Outcomes While Retaining The Benefits".
- WEF – World Economic Forum (2016). 'The Future of Financial Infrastructure,'
- WEF – World Economic Forum, 2015a. "The Future of FinTech: A Paradigm Shift in Small Business Finance".
- WEF – World Economic Forum, 2015b. "Alternative Investments 2020 Regulatory Reform and Alternative Investments".
- WEF – World Economic Forum, 2016. "A Blueprint for Digital Identity: The Role of Financial Institutions in Building Digital Identity".

- Whited, T. M. (2006). 'External finance constraints and the intertemporal pattern of intermittent investment,' *Journal of Financial Economics* **81**(3), 467 - 502.
- Wilcox, J. & Yasuda, Y. (2008). 'Do Government Loan Guarantees Lower or Raise Banks' Non-Guaranteed Lending? Evidence from Japanese Banks,' Mimeo, World Bank Workshop on Partial Credit Guarantees, March 13–14, Washington, D.C.
- Williamson, O.E. (2000). 'The New Institutional Economics: Taking Stock, Looking Ahead,' *Journal of Economic Literature* **38**, 595 - 613.
- World Bank (2014a). 'The Big Business of Small Enterprises: Evaluation of the World Bank group experiences with targeted support to Small and Medium-size Enterprises, 2006-2012,' Washington, D.C.: World Bank.
- World Bank (2014b). 'Emerging Issues in Financial Development. Lessons from Latin America,' Tatiana Didier & Sergio Schmuckler (Ed.), Washington, D.C.: World Bank.
- World Bank (2016). 'Global Financial Development Database,' Washington, D.C.: World Bank.
- Xiao, S. & Zhao, S. (2012). 'Financial development, government ownership of banks and firm innovation ,' *Journal of International Money and Finance* **31**(4), 880 - 906.