

# **Innovative Experiences in Access to Finance: Market Friendly Roles for the Visible Hand?**

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## **Abstract**

Interest in access to finance has increased significantly in recent years, as growing evidence suggests that lack of access to credit prevents lower-income households and small firms from financing high return investment projects, having an adverse effect on growth and poverty alleviation. This study describes some recent innovative experiences to broaden access to credit. These experiences are consistent with an emerging new view which recognizes a limited role for the public sector in financial markets, but contends that there might be room for well-designed, restricted interventions in collaboration with the private sector to foster financial development and broaden access. We illustrate this view with several recent experiences in Latin America. Finally, we discuss some open policy questions about the role of the public and private sectors in driving these financial innovations.

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## **References**

## 1. Introduction

Academic and policy interest in financial development has risen in step with the accumulation of evidence supporting the view that a sound financial system is not just correlated with a healthy economy, but actually causes economic growth.<sup>1</sup> By and large, the empirical work behind this evidence has used financial sector depth, typically expressed as the ratio of financial assets to GDP, as the “independent variable,” thereby implicitly assuming that depth is a good proxy for financial development.<sup>2</sup> This may be a justifiable assumption when it comes to empirical work, given the arguably strong correlation between financial depth and financial development, and considering data constraints. But it is clear that the intricate web of institutional and market interactions that are at the heart of financial development can hardly be reduced to a single dimension. It is financial development in all of its dimensions—and not just financial depth—which lubricates and boosts the process of growth. It is not surprising, therefore, that the discussion of finance and growth has naturally widened to consider other dimensions of finance that appear crucial to economic and social development. These include stability, diversity, and—the focus of this study—access to finance. Of these dimensions, access to finance is, so to speak, the “new kid in the block.”<sup>3</sup>

Although a relatively new field, the study of financial development from the perspective of the breadth of access to financial services has mushroomed.<sup>4</sup> There are a number of factors that have contributed to this. First, there is some empirical evidence, albeit still limited, that the expansion of access may reduce poverty. Burgess and Pande (2005), for instance, find that a one percent increase in the number of rural banked locations in India reduces rural poverty by 0.34 percent (see also Department for International Development, 2004, and references therein).<sup>5</sup>

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<sup>1</sup> The literature on the finance-growth nexus is vast. Reviews of such literature can be found in a variety of forms that can suit all sorts of different tastes. A comprehensive review is found in Levine (2005). Rajan and Zingales (2001; 2003a), by contrast, provide shorter reviews in less technical language. Caprio and Honohan (2001) offer an excellent rendition that emphasizes the World Bank contributions to the empirical literature.

<sup>2</sup> A notable exception is Beck, Demirguc-Kunt, and Martinez Peria (2005), who collect several indicators of banking sector outreach and find that outreach is associated with lower firm-level financial constraints, even after controlling for financial sector depth.

<sup>3</sup> The study of financial stability is arguably a more mature endeavor that includes such well-researched topics as regulation and supervision, early warning systems, crisis prevention, crisis management and resolution, and monetary and financial sector linkages. The study of financial system diversity is arguably also a relatively more mature subject, inasmuch as financial sub-sectors (e.g., banking, capital markets, insurance, and pensions) are the object of specialized disciplines.

<sup>4</sup> A large number of recent studies have focused on quantifying the lack of access of households and firms and trying to determine its causes. In the case of developing countries, these studies include: Kumar (2005) for Brazil; World Bank (2003a) for Colombia; Srivastava and Basu (2004) for India; Atieno (1999) for Kenya; Aliou and Zeller (2001) for Malawi; Caskey et al. (2004) and World Bank (2003b) for Mexico; Beegle, Dehejia, and Gatti (2003) and Satta (2002) for Tanzania. Halac and Schmukler (2004) present data for various Latin American countries. In addition, Beck, Demirguc-Kunt, and Maksimovic (2002), Francisco and Kumar (2004), IADB (2002), Tejerina (2004), and Schulhofer-Wohl (2004) analyze measures of access to finance for small firms.

<sup>5</sup> A broader group of studies has shown a link between financial market depth and poverty reduction, but does not identify whether this is caused by a simultaneous expansion in the breadth of access, or simply by

Second, the interest in access also comes from the fact that arguments about the channels through which financial development may lead to growth often include access-related stories. Most prominent in this regard is the Schumpeterian argument, compellingly restated by Rajan and Zingales (2003a), that financial development causes growth because it fuels the process of “creative destruction,” and it does so by moving resources to efficient uses and, in particular, to the hands of efficient newcomers. What is relevant in this perspective is the access dimension of financial development—it is through broader access to finance that talented newcomers are empowered and freed from the disadvantages that would otherwise arise from their lack of inherited wealth and absence of connections to the network of well-off incumbents. In other words, financial development can stimulate the process of creative destruction—and thus the growth process—by expanding economic opportunities and by leveling the playing field, that is, by giving the outsiders and the poor a chance. It is on the strength of this type of reasoning that Rajan and Zingales (2003a) confidently say that “healthy and competitive financial markets are an extraordinarily effective tool in spreading opportunity and fighting poverty.”

A third reason for the increasing interest on the study of access is the sheer lack of access to financial services in emerging economies, particularly when compared to the extent of access in developed countries. Recent World Bank country-specific reports suggest that more than 70 percent of the Latin American population lacks access to such basic financial services as a checking or savings account.<sup>6</sup> In industrial countries this statistic is typically below 20 percent.<sup>7</sup> By implication, the Latin Americans that have access to the more sophisticated financial services—long-term credit, mutual funds, insurance products, etc.—are truly few and far between.<sup>8</sup> The differences in access across countries are also illustrated by studies showing that firms in developing countries, especially SMEs (small and medium enterprises), use formal sources of finance much less than similar firms in industrial countries (see, for example, Beck, Demirguc-Kunt, and Maksimovic, 2002).

In light of the increasing awareness of the importance of access, not only among policymakers but also academics, this study aims at filling in one of the many gaps in this still emerging literature, by addressing specific issues related to access to finance. In particular, this study has two objectives. The first one is to discuss some conceptual issues in access to finance. The second one is to describe some recent experiences to broaden access to credit. These experiences seem to be driven by an emerging new view on the role of the public sector in financial development, which tends to favor restricted

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an increase in income levels that favors lower income sectors. Beck, Demirguc-Kunt, and Levine (2004), for example, find that in countries with higher financial sector depth the income of the poorest 20 percent of the population grows faster than average GDP per capita and income inequality falls at a higher rate.

<sup>6</sup> See relevant references in footnote 3.

<sup>7</sup> Household surveys that compile data on access to financial services across countries are surveyed in Peachey and Roe (2004) and Claessens (2005). The percentage of households without a checking account is estimated to be about 30 percent in Italy, 12 percent in the U.K., nine percent in the U.S., eight percent in Spain, and less than two percent in Scandinavian countries (Peachey and Roe, 2004).

<sup>8</sup> One exception among credit services, however, appears to be consumer credit (including the micro variety), the access to which is broadening at a fast pace.

government interventions in collaboration with the private sector in non-traditional ways. We illustrate this new view with several recent initiatives in Latin America and discuss some open policy questions about the role of the public and private sectors in light of these experiences.

Among the wide set of products covered under the “financial services” label—including savings, payments, insurance, and credit products—we focus our analysis on credit services. We believe that, regarding issues of access, these services are the most interesting and challenging from an analytical point of view and from policymakers’ perspective, as the provision of credit entails many complexities that lead providers to exclude very diverse groups of borrowers.

We start by noting that the observation that a certain share of the population does not use financial services, which we identify as *lack of access*, does not necessarily mean that there is a *problem of access*. This distinction has often been ignored or understated in the recent literature, even though the failure to recognize it can lead to the wrong policy advice. Lack of access is simply the fact that financial services are not being used. To conclude that this observation entails a problem is not easy, as there is no clear definition of what such a problem is. To conduct our study, we adopt a working definition of a problem of access to credit. In our definition, a problem of access to credit exists when a project that would be internally financed if resources were available, does not get external financing. This happens because there is a wedge between the expected internal rate of return of the project and the rate of return that external investors require to finance it. This wedge is mainly introduced by two well-known constraints that hamper the ability to write and enforce financial contracts, namely, *principal-agent problems* and *transaction costs*.

The institutional framework of the economy affects the ability of agents to deal with these problems and therefore has a significant impact on financial development and access to finance. In environments with weak institutions, agency problems tend to be mitigated through arrangements that rely on personalized relationships, group monitoring, and fixed collateral. These instruments work, by definition, within a circumscribed network of participants, excluding creditworthy borrowers that lack collateral and/or connections. In contrast, a strong institutional environment enables the expansion of arm’s-length financing by using impersonal contracts that rely on rules of general application, effectively freeing borrowers from the tyranny of collateral and personalized connections.

Given the major potential benefits of access-enhancing financial development, a relevant question is whether government intervention to foster financial development and broaden access is necessary and, if so, what form should this intervention take. While most economists would agree that the government can play a significant role in fostering financial development, there is less consensus regarding the specific nature of its intervention. Opinions on this issue tend to be polarized in two highly contrasting but well-established views: the *interventionist* and the *laissez-faire* views. The *interventionist* view argues that an active government involvement in mobilizing and allocating financial resources, including through government ownership of financial institutions, is needed to

broaden access to credit, as private markets fail to expand access. In contrast, the *laissez-faire* view contends that governments can do more harm than good by intervening directly in the financial system and argues that government efforts should instead focus on improving the enabling environment.

A third view is emerging in the middle ground, favoring direct government interventions in non-traditional ways. This view, which we denominate *pro-market activism*, seems to be behind some recent experiences of public sector intervention. In a sense, this third view is closer to the *laissez-faire* view, to the extent that it recognizes a limited role for the government in financial markets and acknowledges that institutional efficiency is the economy's first best. However, it contends that there might be room for well-designed, restricted government interventions to address specific market failures and help smooth the transition towards a developed financial system or even speed it up.

The main message of pro-market activism is that there is a role for the visible hand of the government in promoting access in the short run, while the fruits of ongoing institutional reform are still unripe. However, the government must be highly selective in its interventions, always trying to ensure that they promote the development of deep domestic financial markets, rather than replace them. Careful analyses to identify market failures and their causes should precede any intervention. And even if a market failure is identified, government intervention can only be justified if it can solve the failure in a cost-effective manner. There must also be mechanisms in place to prevent political capture that may undermine the temporary nature of the interventions or their compatibility with the long-run objective of institutional reform and financial market development.

We illustrate the pro-market activism view with a number of recent experiences in Latin America. This exercise shows that there are now a range of institutions in the region that seem to be moving in the direction of pro-market interventions. We do not attempt to undertake a comprehensive assessment of these interventions or to claim that they have been successful. Rather, we use them to illustrate how pro-market activism has worked in practice. Although all the experiences we described were driven by the public sector, in many cases they could have been implemented by the private sector. In fact an open question is whether direct government intervention is necessary or if, given the right incentives, the private sector would take the initiative. The analysis of these experiences shows that the pro-market activism view favors the use of a wide range of instruments. In some countries, the government has provided infrastructure to help private financial intermediaries achieve economies of scale and reduce the costs of providing financial services. This is, for instance, the case the electronic market for factoring services created by the Mexican development bank NAFIN and the electronic platform implemented by BANSEFI, another Mexican financial institution, to help semi-formal and informal financial intermediaries reduce their operating costs by centralizing back-office operations. Alternatively, in Brazil, the government has amplified the phenomenon of corresponding banking by making non-financial public infrastructure with a large geographical coverage, like the post office, available for the distribution of financial services. In other cases, the public sector has acted as an arranger in structured finance schemes, coordinating stakeholders, providing guarantees, and fostering financial

innovation, as illustrated by the structured finance products created by FIRA, a Mexican development financial institution, to provide financing to the agricultural sector. In other cases the instruments used have been similar to those promoted by proponents of the interventionist view (i.e., public credit, subsidies, and guarantees). However, pro-market interventions tend to differ from previous ones in important aspects of their design—especially regarding sustainability, time limits, governance, and transparency—and even in terms of their objectives, as they seek to complement and promote private financial intermediation, rather than replace it. This is the case of BancoEstado’s intervention in the microfinance market in Chile, which was designed to promote financial innovation and foster the participation of formal private financial institutions in this market. Other pro-market interventions using traditional government instruments include the FOGAPE guarantee system in Chile and the SIEBAN subsidy designed by FIRA to cover the initial costs of serving small borrowers.

We conclude with some open questions raised by these experiences that are key to understanding whether the pro-market activism view can constitute a viable alternative to broaden access to finance in developing countries. First, a relevant question is whether idiosyncratic experiences can lead to more general policy guidelines. The experiences we describe may be the result of a specific environment that favors government innovation and reduces the risk of political capture and may also be inherently related to certain characteristics of the development-oriented financial institutions that have implemented them. This raises the question of to what extent these experiences can be replicated in other countries. Second, the analysis of the experiences suggests that it might be necessary to rethink some institutional features of development-oriented financial institutions to ensure that interventions succeed in fostering private financial intermediation and broadening access. Some features that may be helpful in this regard include: separating subsidies from funding and functioning more as development agencies—with an initial endowment from the government but no annual budget allocations—than financial intermediaries; redefining their mandates in dynamic terms, so that institutions move on to new interventions once the market they were promoting becomes self-sustainable; and modifying the way in which their performance is evaluated, away from criteria based on the volume of guarantees or loans provided and towards indicators based in the amount of financial intermediation promoted. Third, the pro-market view poses certain risks. Pro-market interventions may reduce incentives for institutional reform and detract resources away from efforts to achieve institutional efficiency, which is the economy’s first best. Pro-market interventions may also lead to inefficient equilibriums due to the existence of path dependence in financial development. Furthermore, even if interventions are designed to be time-bound and government support is restricted to the provision of seed capital, the creation of vested interest entailed in any government intervention raises significant political economy issues, as the government may face pressure to provide additional financial support in the future. Finding adequate instruments to effectively minimize these risks is one of the most important factors for the success of pro-market interventions. Fourth, an open question is whether pro-market interventions are just short-term solutions to broaden access while institutions are taking time to build, or if there is role for these interventions even in countries with a good enabling environment. Finally, further research is needed to

understand the adequate roles for the public and private sectors in fostering financial innovation and broadening access.

The rest of the study is organized as follows. Section 2 discusses conceptual issues of access to finance, including the definition of a problem of access and the relation between access and the institutional framework. Section 3 describes the different views on the role of the public sector in financial markets. Section 4 illustrates the pro-market activism view with a number of recent experiences in Latin America. Section 5 concludes with some final remarks.

## **2. Conceptual Issues in Access to Finance**

### **2.1 Problem of Access vs. Lack of Access**

Let us start by noting that the phenomenon that a certain proportion of the population does not use financial services, which here we identify as *lack of access*, does not necessarily mean that there is a *problem of access*. A *lack of access* and a *problem of access* are two very different things. This distinction, unfortunately, has often been ignored or understated in most of the recent literature, even though the failure to recognize it can lead to the wrong policy advice. As defined above, a lack of access is simply the fact that financial services are not being used. To conclude that this observation entails a problem is not easy, not least because that would require a clear definition of what such problem is. Additionally, even if we agreed on a definition, it is difficult to identify a problem of access in practice and isolate it from the mere lack of access. In other words, data might reveal an equilibrium outcome of lack of access, but this may reflect either supply or demand factors. For example, households and firms may be observed not to use credit simply because they may not need to borrow (either because they lack viable investment projects or because they find it beneficial to use internal funds to finance their investments). To complicate matters, the problem in some cases may be not the lack of access to credit but rather the imprudent access to it. Many financial crises have in fact originated in exuberant lending that did not internalize appropriately the risks involved. Hence, that some borrowers are observed to be excluded from credit may actually be a good thing, as their projects may not generate, under most states of the world, the returns needed to pay back the debt. Finally, what may appear to be a problem of access to credit for the disenfranchised poor may be mainly a problem of poverty. In such a case, the policy solution would not be to artificially increase the flow of credit to those segments of the population but rather to seek other means of reducing poverty.

One important obstacle in trying to define problems of access to financial services is that “financial services” is a label that applies to a very wide set of extremely heterogeneous products, including savings, payments, insurance, and credit products. These different classes of products have very different costs, risks, and production functions, and it is not feasible to work on a definition of access that groups them all together. In this study, however, we will consciously choose to narrow down our analysis



to problems of access to credit services only. We believe that, in what regards problems of access to financial services, this particular class of products is the most interesting and challenging from an analytical point of view and from policymakers' perspective. Products belonging to other categories, like savings and payment services, are just some of the many services that the poor cannot afford to pay. On the other hand, the provision of credit services entails many more complexities that sometimes lead providers to exclude very diverse groups of borrowers.

To be able to conduct our study, we adopt a working definition of a problem of access to credit. In our definition, a problem of access to credit exists when a project that would be internally financed if resources were available, does not get external financing (from outside financiers). This happens because there is a wedge between the expected internal rate of return of the project (that is generated by the project's fundamentals) and the rate of return that external investors require to finance it. This wedge is mainly introduced by two well-known constraints that hamper the ability to write and enforce financial contracts, namely, *principal-agent problems* and *transaction costs*.<sup>9</sup>

Note that our definition abstracts from any factors that may affect the level of interest rates, and thus the opportunity cost of funds. For example, a lower interest rate stemming from a reduction in macroeconomic volatility will reduce the opportunity cost of funds, increasing the number of viable projects (i.e., those that would be internally financed if resources were available) and the amount of financial contracting. However, this will not necessarily reduce the wedge between the internal rate of return and that required by external investors. Although in this example there would be an increase in the observed use of financial services and arguably major welfare gains, it would not entail a mitigation of the problem of access according to our definition.<sup>10</sup> In effect, our definition does not focus on the number of projects that are viable or on the number of projects that are observed to receive external financing, per se. An increase in those numbers would of course be highly desirable and beneficial to society, but it is outside the scope of our definition. For us, as the share of viable projects that are able to obtain external finance increases, the problem of access is reduced.

The two fundamental elements that introduce the access wedge—principal-agent problems and transaction costs—while conceptually distinct, are tightly intertwined in practice. Let us now turn to a brief discussion of each of them.

Consider *principal-agent problems* first. The classic principal-agent problems are adverse selection and moral hazard.<sup>11</sup> The adverse selection problem arises because high-

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<sup>9</sup> See Lombardo and Pagano (2002) for a simple model showing the impact of principal-agent problems on the equilibrium rate of return.

<sup>10</sup> Note that our working definition also allows us to abstract from the level of competition in the financial sector. The market structure of this sector may affect the cost of financing faced by borrowers, but even in an monopolistic environment, in the absence of transaction costs and principal-agents problems, all projects that would be internally financed (if the resources were available) should get external finance. The level of competition in the financial sector, however, will affect how the profits are divided among borrowers and creditors.

<sup>11</sup> The canonical analysis of principal-agent problems in finance is due to Stiglitz and Weiss (1981).

risk borrowers (not just those that may be unable to repay their debt under a relevant range of states of the world, but also those that might be unwilling to do so) are the ones that are more willing to look for external finance. A financier may be willing to provide financing to some projects/debtors by increasing the risk premium charged, but this approach can backfire at some point due to the adverse selection problem. This is because as the risk premium required by lenders rises, so does the riskiness of the pool of interested borrowers. High-risk borrowers are “adversely selected” by higher risk premiums. In effect, the higher the interest rate, the lower its usefulness and reliability for creditors as a device for sorting out the good projects/borrowers from the bad ones. The situation is one where the debtor may know *ex-ante* whether her project is good or bad, and may have incentives to window-dress the bad ones, but the creditor cannot screen the projects adequately because she cannot extract or verify this information. Faced with the risk of adverse selection, lenders will try to use non-price criteria to screen debtors/projects and ration and apportion credit, rather than further increasing the risk premium.

The moral hazard problem, by contrast, concerns the situation after the agent (e.g., the debtor) has received the resources (e.g., the loan) from the principal (e.g., the lender). The problem here is that an agent may have informational advantages and associated incentives to use the resources in ways that are inconsistent with the principal’s interests. Acting on such incentives, the agent may divert resources to riskier activities, strip and loot assets, or simply run away with the money, and the creditor may not have an effective way to monitor and prevent such behavior. Note, however, that the moral hazard problem can arise even when the agent does not have informational advantages over the principal—i.e., when information is symmetrically shared—if the principal faces high costs of enforcing the contract subscribed with the agent. Faced with the moral hazard risk, a principal (e.g., a financier) would try to find ways to align the incentives of the agent with its own. If unable to do so, principals may just not provide funding—i.e., curtail access.

Consider, next, *transaction costs*. Even assuming that there are no principal-agent problems, a problem of access to finance may still exist where the transaction costs involved in the provision of finance exceed the expected risk-adjusted returns. Such a scenario may arise due to the inability of financial intermediaries to reduce costs by capturing economies of scale and scope. The result would affect disproportionately such outsiders as poor households and small enterprises, as providing finance to them could be rendered unprofitable by high costs per transaction. Cost barriers could also stem from deficiencies in institutions and market infrastructure that make it expensive to gather information on debtors/projects, value assets appropriately, and monitor and enforce contracts.

Problems of asymmetric information and transactions costs, furthermore, can generate first-mover dilemmas and coordination problems that make the expansion of access to certain groups of the population increasingly difficult. As an example, when an investor decides to start lending to a risky group of borrowers, such as small farmers, it will have to bare all the costs in case of default, while facing fierce competition in case of success, because its best borrowers, who now have a good credit history, will try to

obtain better lending terms from new creditors. Similarly, once a new lending technology is introduced and proves to be successful, it can be easily adopted by others, who will not share the research costs. Due to these dilemmas, research and investment in these areas will be below the social optimum, unless a coordinating device is introduced to distribute costs and benefits in an efficient way.

## 2.2 Institutions and Access to Finance

The institutional framework of the economy affects information flows, transaction costs, and contract enforcement. Therefore, institutions can be expected to have a significant impact on financial development and access to external finance. A relatively recent and growing empirical literature has provided significant evidence in this regard, finding that countries with legal systems that enforce property rights, support private contractual arrangements, and protect the rights of creditors and shareholders have more developed financial systems (see Beck and Levine, 2005 for a review of this literature).

In environments with weak public institutions, contract writing and enforcement is difficult and publicly available information scarce. As a result, agency problems tend to be mitigated through arrangements between private parties that rely heavily on personalized relationships, fixed (preferably real estate) collateral, and group monitoring.<sup>12</sup> Relationship finance mitigates agency problems through contractual arrangements between private parties that raise the reputation costs of non-compliance and hence foster loyalty. In these arrangements, to use North's (1990, p. 55) words, "parties ... have a great deal of knowledge of each other and are involved in repeated dealings ... [so that] it simply pays to live up to agreements." This is why, for all of its potential drawbacks, related lending can be seen as way to cope with a deficient informational and contractual environment.<sup>13</sup> Collateral is another way of mitigating agency problems at all stages of financial development—by posting it, the agent puts part

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<sup>12</sup> The threat of violence and the resort to physical intimidation and punishment are also commonly observed devices—especially used by loan sharks—to deal with agency problems in financially underdeveloped markets.

<sup>13</sup> Rajan and Zingales (2003a), for instance, argue (p. 34) that "insider-lending practices [are] a solution to primitive informational and contractual infrastructure," and note that "historical studies indicate that lending to related parties reflects financial underdevelopment (...) rather than some cultural propensity towards being devious." There is in effect a great deal of fascinating literature on how agency problems have been dealt with through relationship-based arrangements in earlier stages of financial development. For example, Greif (1993) provides an illuminating analysis of how the Maghribi traders were able to monitor agents involved in distant trading by forming a community of merchants who were mutually bound by a set of rules (the Merchant's Law). Haber and Maurer (2004) analyze the rapid expansion in bank lending to the textile industry in Mexico during 1876-1911 which was mostly accounted for by lending to insiders. They show that due to certain rules of the game (which, *inter alia*, required lenders to have substantial own resources at risk, enabled minority shareholders to monitor controlling shareholders, and boosted reputation effects), such lending to insiders did not degenerate into looting or the misallocation of credit. La Porta et al. (2003), in contrast, illustrate the perverse incentives of related lending by showing that, in the Mexico of more recent times, related borrowers have been 33 percent more likely to default on their debts than unrelated ones, and that recovery rates have been 30 percent lower for related loans than for unrelated ones.

of its own resources at risk, which aligns its incentives better with those of the principal.<sup>14</sup> In a context where collateral repossession is unduly cumbersome, opacity is high, accounting rules are unreliable, and asset markets are illiquid, financiers will only accept fixed collateral, preferably real estate. Finally, in the case of group monitoring—a device extensively used in the context of microfinance—the agency problems are mitigated because the group is collectively liable for the failure to pay of one member, which encourages group members to police each other and to exclude the risky ones from participating (Morduch, 1999). Relationship finance, fixed collateral, and group monitoring do enable the broadening of access, but only up to a point, as they work, by definition, within a circumscribed network of participants, excluding viable projects/creditworthy borrowers that lack fixed collateral and/or connections.

In countries with a strong institutional framework, in contrast, the ability to solve agency problems and reduce transaction costs is facilitated by the forces of competition working in the context of a high quality contractual environment and efficient market infrastructures, fostering the incorporation of advances in information technology and financial engineering into financial contracts. This enables the expansion of arm's-length financing; contracts that are impersonal in nature and that, therefore, rely more on transparency (e.g., broadly disclosed information and sound accounting) and enforcement rules of general application (i.e., not circumscribed to the participants of a particular contractual arrangement). Arm's-length financing, which frees borrowers from the tyranny of collateral and personalized connections, requires the prompt and unbiased enforcement of private contracts by a third party (generally courts). Furthermore, in a high quality contractual environment financial contracts are designed much less to cope with or bypass bad public institutions (as is often the case in underdeveloped financial systems) and much more to take advantage of the opportunities opened by good institutions. Financial development, thus, engenders a robust process of chipping down of the barriers to access.

Institutional development can also broaden access through the reduction of transaction costs. For instance, sound frameworks for collateral repossession and corporate bankruptcy will reduce the costs of recovering value in the event of default. Similarly, reliable disclosure and accounting standards will reduce the costs of evaluating projects. Technological innovation also plays a crucial role in cost reductions, even where the contractual environment is still deficient. A case in point is the fast expansion of consumer and micro lending in emerging markets over the last years, which has been propelled by major costs reductions resulting from the intensive use of e-technology, scoring methods, and credit information systems.<sup>15</sup>

The view that financial development is closely related to institutional development implies that, as any process of institutional evolution, financial development

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<sup>14</sup> See Rodriguez-Meza (2004) for a discussion of the role of collateral. IADB (2004) discusses the issue of over reliance on collateral in Latin America.

<sup>15</sup> Credit scoring is an automated statistical technique used to assess the credit risk of loan applicants. It involves analyzing a large sample of past borrowers to identify the characteristics that predict the likelihood of default. Scoring systems usually generate a single quantitative measure (the *credit score*) to evaluate the credit application.

is characterized by “path dependence” (North, 1990). Path dependence reflects the fact that institutional arrangements are self-reinforcing (although not always efficient) due to substantial increasing returns—the large set up costs of new institutions, the subsequent lowering of uncertainty and transaction and information costs, and the associated spillovers and externalities for contracting. An important corollary of path dependence is that an isolated legal or regulatory feature that may be functional under a given institutional matrix and at a given stage of financial development may produce unintended effects when transplanted to another institutional milieu.<sup>16</sup>

### **3. The Role of the Public Sector in Broadening Access**

Given the major potential benefits of access-enhancing financial development, a relevant question, especially in countries with underdeveloped financial systems, is whether government intervention to foster financial development and broaden access is necessary and, if so, what form should this intervention take.

Standard arguments for government intervention in the financial sector stress that financial markets are different from other markets because they rely heavily on information and produce externalities that cannot be easily internalized by market participants.<sup>17,18</sup> When information is asymmetric between lenders and borrowers and is costly to obtain, or when the social benefit of a project is higher than the private benefit, the market may fail to provide adequate financing.

Financial markets rely heavily on the production and processing of information, which is fundamentally a public-good, in the sense that it is non-rival in consumption (the consumption of the good by one individual does not detract from that of another individual) and non-excludable (it is very costly to exclude anyone from enjoying the good). As theory demonstrates, such goods are undersupplied in a competitive equilibrium. For example, investors may not find it optimal to screen and finance certain borrowers because, once these borrowers obtain a good credit history, they can get credit

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<sup>16</sup> Empirical studies suggest that legal traditions help explain cross-country differences in investor protection laws, contracting environment, and financial development (see, for example, Beck, Demirguc-Kunt, and Levine, 2003; Levine, 1998, 1999; and La Porta et al., 1997, 1998), with countries of English legal origin presenting better creditor and shareholder rights protection and more developed financial markets. This evidence suggests the existence of a high level of path dependence in financial development. However, other researchers reject the view that legal origin is a central determinant of investor protection and stress the role of politics in determining regulations and contract enforcement (see, for example, Pagano and Volpin, 2001; Rajan and Zingales, 2003b; and Roe, 1994).

<sup>17</sup> Stiglitz (1994) discusses the main arguments for public intervention in the financial sector. Besley (1994) presents a critical review of the arguments for government intervention in financial markets, with a focus on rural credit. Also, see Zingales (2004) for a critique of the traditional rationale for government intervention based on Coase’s (1960) arguments and their application to financial regulation.

<sup>18</sup> Another common argument for government intervention in financial markets is related to the need to maintain the safety and soundness of the financial system, given the large costs and externalities generated by financial crises. This argument, however, has been invoked to justify the need for government regulation and supervision, rather than direct public involvement in financial markets.

from other investors, who will not bare the initial screening costs.<sup>19</sup> The failure to appropriate the returns of information causes financial intermediaries to under invest in information acquisition. The sub-optimal stock of information gathered by the financial sector leads to a sub-optimal level of investment: viable projects will be underfinanced (or not financed at all) due to the lack of adequate information. Similar effects are present when lenders invest in new credit technologies. While they will bare all the costs in case of failure, it is often difficult to prevent other investors from adopting the new technology once it has proven successful, reducing incentives for innovation.

Another reason for competitive markets to produce inefficient equilibrium outcomes is when the social rate of return of an investment differs from the private rate of return. Private financiers focus on the expected returns that they receive and therefore have no incentives to finance socially profitable but financially unattractive investments. Private banks, for instance, may not find it profitable to open branches in rural and isolated areas, because they fail to internalize the social benefits that may be accrued by the positive effects on growth and poverty reduction in these areas. Similarly, private creditors may find it unattractive to finance infant industries or industries that are not particularly profitable but are considered of national interest, such as airlines or oil refineries.

Finally, some financial instruments may need to achieve a certain scale in order to be profitable. This is the argument behind the protection of infant industries. The failure to coordinate efforts may lead to a prisoner's dilemma type of game in which gains only materialize if all investors invest in one project simultaneously, and the one that invests alone incurs a large loss. In this type of game, without a coordination mechanism, no investment will take place in equilibrium.

While most economists would agree that some type of government intervention to foster financial development is warranted, there is less consensus regarding the specific nature of this intervention. Answers to this question tend to be polarized in two highly contrasting but well-established views: the *interventionist* and the *laissez-faire* views. The *interventionist* view argues that an active public sector involvement in mobilizing and allocating financial resources, including government ownership of banks, is needed to broaden access to credit, as private markets fail to expand access. In contrast, the *laissez-faire* view contends that governments can do more harm than good by intervening directly in the financial system and argues that government efforts should instead focus on improving the enabling environment, which will help to reduce agency problems and transaction costs and mitigate problems of access.

A third view is emerging in the middle ground, favoring direct government interventions in non-traditional ways. This third view is in a sense closer to the *laissez-faire* view, to the extent that it recognizes a limited role for the government in financial markets and acknowledges that institutional efficiency is the economy's first best, but, as it will be explained below, it does not exclude the possibility that in the short run, while

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<sup>19</sup> Additionally, since the likelihood of default increases with the amount borrowed, further borrowing by the debtor may have a negative impact on the first creditor (Arnott and Stiglitz, 1991).

institutions are taking time to build and consolidate, some government actions undertaken in collaboration with market participants may be warranted. This is the view of *pro-market activism*. We now turn to a more detailed characterization of each view.

### 3.1 The Interventionist View

The interventionist view is a very old view, which was popularized by the import substitution policies of the 1950s and 1960s. This view regards the problems of access to finance as resulting from widespread market failures that cannot be overcome in underdeveloped economies by leaving market forces alone.<sup>20</sup> For the proponents of this view, it is less important to gain an adequate understanding of why private markets fail than to recognize that they do fail, and badly. The key contention, therefore, is that to expand access to finance beyond the narrow circle of privileged borrowers—mainly large enterprises and well-off households—the active intervention of the government is required. The government is thus called upon to have an intense, hands-on involvement in mobilizing and allocating financial resources.

The interventionist view was closely related to the predominating thinking at the time about the role of the government in the development process. The early development literature drew attention to the constraints imposed by limited capital accumulation and argued that markets tended to work inadequately in developing countries (see, for example, Gerschenkron, 1962; Hirschman, 1958; Rosenstein-Rodan, 1943; and Rostow, 1962).<sup>21</sup> Consistent with these views, the growth strategies of most developing countries in the 1950s and 1960s focused on accelerating the rate of capital accumulation and technological adoption through direct government intervention. The role of the government was to take the “commanding heights” of the economy and guide resource allocation to those areas believed to be most conducive to long-term growth. This led to import substitution policies, state ownership of firms, subsidization of infant industries, central planning, and a wide range of government interventions and price controls. Confidence in government intervention was, at least partially, based on its perceived success in expanding production during World War II and its role in the reconstruction of Europe and Japan. Moreover, memories of the Great Depression made policymakers skeptical about the functioning of markets.

The main instrument to broaden access to finance promoted by proponents of the interventionist view was the direct provision of funds through public, development-oriented banks. As a result, public banks mushroomed throughout the world: by the 1970s, the state owned on average 40 percent of the assets of the largest banks in developed countries and about 65 percent in developing countries. Among developing countries there were large regional differences, with South Asia and Latin America presenting the highest share of public bank ownership, reaching close to 90 percent of the

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<sup>20</sup> Gerschenkron (1962) was one of the first authors to argue that the private sector alone is not able to overcome the problems of access to finance in a weak institutional environment.

<sup>21</sup> The arguments made by these early authors have been formalized in several theoretical papers (see, for example, Hoff and Stiglitz, 2001 and Murphy, Shleifer, and Vishny, 1989).

assets of the ten largest banks in the former and around 65 percent in the latter (banks were fully government owned in transition economies). Public banks became key policy vehicles, used by governments to support the pursuit of their social and developmental agenda through the selective allocation of (often subsidized) credit. Consistently with the market failure rationale, public banks tended to focus on areas where private markets are typically missing, such as long-term finance, lending to SMEs, housing finance, and agricultural credit.

Theoretically, in underdeveloped economies, public banks may have advantages over private banks in dealing with principal-agent problems and transactions costs—as they might, for instance, be better able to access information and exploit economies of scale. The government could increase the number of viable projects that get financed through several means: (i) using privileged information or compelling the disclosure of information to lower the costs of screening and monitoring; (ii) forcing participation in insurance schemes to increase the expected return on the loan; and (iii) internalizing potential externalities and redistributing costs through taxes or government borrowing (Stiglitz, 1994).

Governments can cross-check information with income tax systems and other official records, or compel the disclosure of information that is not available to private investors. This gives publicly owned banks an advantage in selecting and monitoring borrowers, reducing the fixed costs of providing loans, and therefore reducing the break-even rate of return of external finance.

The government can also help to solve the problems generated by externalities. As mentioned above, if the social rate of return of a project is higher than its private rate of return, private creditors may not be willing to finance it, even if it would be beneficial for society as a whole to do so. This happens because it is difficult for the private sector to internalize the social benefits that may be generated by the project. This instead can be achieved by the government, through the tax system (intra-generational risk sharing) or through government debt (inter-generational risk sharing).

In addition, government ownership of banks may increase public trust in the banking system, leading to more savings and deeper financial markets.<sup>22</sup> Also, if government-owned banks are more trusted by depositors than private banks, they will have an advantage in attracting deposits and will face lower funding costs (see Adrianova et al., 2002 for a discussion of the case of Russia).

Apart from the direct provision of credit through public banks, another widespread tool for broadening access in developing countries was the imposition of lending requirements, which obligated private banks to allocate a certain share of their loans (or even absolute amounts) to specific sectors or regions. In Brazil, for example,

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<sup>22</sup> Note that the government could also increase trust in the banking sector through adequate regulation and supervision of private banks, as well as through the creation of deposit insurance systems. Which type of intervention will have a larger impact in terms of increasing public trust in the financial system depends on the public's perception of the government's ability to provide incentives and monitor private banks relative to its ability to monitor its own agents.



commercial banks were required to allocate between 20 and 60 percent (depending on bank size) of their sight deposits to agriculture. In India, 50 percent of bank deposits had to be invested in government bonds at below market rates and most of the remaining funds had to be directed to priority sectors like agriculture and small enterprises, with only about 20 percent of bank resources being freely allocated. In Thailand, bank branches established outside Bangkok after 1975 were subject to “local lending requirements,” mandating them to lend at least 60 percent of their deposit resources locally (Booth et al., 2001). Many countries also established refinance schemes, which allowed commercial banks to discount loans to selected sectors at preferential rates with the Central Bank. The rationale for these interventions is similar to that for the creation of public banks discussed above: private banks cannot internalize the positive externalities generated by some investments, and therefore, without government intervention, may fail to allocate enough funds to those projects with the highest social returns.

Another commonly used tool was the regulation of interest rates. Governments often established preferential rates for commercial lending to priority sectors, which were significantly lower than those on regular loans. In Colombia, for example, interest rates on directed credit were, on average, about 12 percentage points lower than those on non-preferential credit over the period 1983-1987 (World Bank, 1990a). In the case of Turkey, this differential reached 36 percentage points between 1980 and 1982 (World Bank, 1989). A variation of this tool was the establishment of interest rate ceilings on deposits and/or loans, which could apply across the board or vary by sector or type of loan. Interest rate controls were expected to result in lower costs of financing and greater access to credit.<sup>23</sup>

The extensive regulation of the banking sector resulted in a pervasive influence of the government on credit allocation in many developing countries. In Colombia, for example, directed credit accounted on average for 62 percent of total credit provided by commercial banks and financial corporations to industry and mining between 1984 and 1987 (World Bank, 1990b). In the case of Korea, the ratio of directed credit to total credit reached 60 percent at the end of the 1970s (Booth et al., 2001). In Brazil, government credit programs represented more than 70 percent of credit outstanding to the public and private sectors in 1987 (World Bank, 1989).

Despite the theoretical advantages of government-owned banks in broadening access to credit, the general experience with public banking in developing countries has not been successful. Most empirical studies suggest that public banks tend to do more harm than good (see Barth, Caprio, and Levine, 2001; Caprio and Honohan, 2001; IADB, 2004; and La Porta, Lopez-de-Silanes, and Shleifer, 2002). In particular, these studies—typically based on cross-country regressions—find that greater government participation in bank ownership is associated with lower levels of financial development, less credit to the private sector, wider intermediation spreads, greater credit concentration, slower

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<sup>23</sup> Broadening access to credit was not the only reason for the imposition of interest rate controls and directed lending requirements. Strict control and regulation of the banking system was also supposed to give monetary authorities a better control over the money supply and provided the government with easily accessible resources to finance public expenditures (see Roubini and Sala-i-Martin, 1992).

economic growth, and recurrent fiscal drains.<sup>24,25</sup> The perceived failure of public banking in developing countries contrasts with evidence suggesting that development banks played an important role in the rapid industrialization of Continental Europe and Japan (Cameron, 1953, 1961; Gershenkron, 1952).<sup>26</sup>

While cross-country studies tend to find a negative or, at best, neutral impact of government bank ownership, it is necessary to consider that public banks are highly heterogeneous, both across and within countries. Detailed case studies highlight some success stories, such as the Village Bank system of Bank Rakyat in Indonesia (Charitonenko, Benjamin, and Yaron, 1998) or the Bank for Agriculture and Agricultural Cooperatives in Thailand (Townsend and Yaron, 2001).<sup>27</sup>

The prevalence, on average, of a negative impact of public banks in cross-country empirical studies can be explained by a variety of reasons. For starters, public banks in developing countries have frequently failed at reaching their targeted clientele, typically by wide margins, and even where they have done so, it has been at the expense of unduly high subsidy costs. Also, major incentive and governance problems in the operation of public banks have tended to surface, leading to such recurrent problems as poor loan origination and even poorer loan collection (thereby fostering a non-payment culture), wasteful administrative expenditures, overstaffing, plain corruption, political manipulation of lending with “clientelistic” motives, and capture by powerful special interests. All these factors have typically resulted in large losses and the need for recurrent recapitalizations, at very high fiscal costs. For example, in 2001 the Brazilian government absorbed the non-performing loan portfolios of two public banks (Banco do Brasil and Caixa Economica Federal) at a net cost of about six percent of GDP (Micco and Panizza, 2005). In the case of Turkey, the cost of recapitalizing the two largest public banks (Ziraat Bank and Halk Bank) in 2001 amounted to 15.5 percent of GDP (Fouad et

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<sup>24</sup> IADB (2004) revises the empirical evidence on the impact of public banks and finds that, while the results that government-owned banks have a negative impact are not as strong as previously thought, there is no indication that government ownership has a positive effect. It concludes that public banks, at best, do not play much of a role in financial development.

<sup>25</sup> The interpretation of these findings in terms of causality is rather difficult, as the association between government participation in the banking system and poor financial development and macroeconomic performance could stem either from the need for more government intervention in countries with severe market imperfections that prevent financial development, or from a negative impact of public intervention on financial markets. Galindo and Micco (2004) try to address the problem of causality by using the methodology devised by Rajan and Zingales (1998) and find that government-owned banks do not promote the growth of those industries that rely more on external finance, nor do they promote the growth of industries that, due to reduced collateral, face more financial constraints. They conclude that what matters for growth is the development of private financial institutions.

<sup>26</sup> Armendariz de Aghion (1999a) compares the successful development banking experience of Credit Nationale in France with the relatively unsuccessful more recent experience of Nacional Financiera in Mexico. She argues that the requirement to engage in co-financing arrangements with private financial intermediaries in the case of Credite Nationale and the type of government involvement (subsidized credit and loan guarantees in the case of France, direct ownership in Mexico) are among the factors that explain the contrasting results.

<sup>27</sup> Following Yaron (1992), these papers use a comprehensive framework to evaluate the performance of development banks and their lending programs, mainly in terms of the outreach to their targeted clientele and the degree to which their operations are dependent on subsidies.

al., 2005). In Mexico, the government had to recapitalize Banrural, a development bank providing financing to the rural sector, with about 1.1 billion U.S. dollars in 1999, even after having significantly downscaled its operations in previous years (Brizzi, 2001).<sup>28</sup>

Moreover, it has been extremely difficult for public banks to break free from the inherent contradiction between their social policy mandates, on the one hand, and pressures to avoid losses, on the other. Public banks are charged with social policy mandates which, by definition, expose them to high-risk clientele and limit their capacity to diversify risks across economic and geographic sectors or across segments of population with different income levels. With subsidies typically hidden in below market interest rates, these institutions tend to incur low profits or losses—often magnified by weak risk management systems, wasteful administrative expenses, and vulnerability to political interference—and hence require repeated recapitalizations. To minimize operational losses and the associated fiscal costs, these banks are often placed under the same regulatory and supervisory standards as private commercial banks. This leads them to enter into less risky and more lucrative lines of business, in competition with private banks, reducing losses. However, this tends to be unsustainable as their activities become increasingly inconsistent with their social policy mandate, prompting political pressures to re-orient their activities towards meeting their mandate, which leads to a new cycle of losses and recapitalizations.<sup>29</sup>

The experience with directed credit programs has also been unsuccessful in most cases (World Bank, 1989, 2005a). Although some East Asian countries like Japan, Korea, and Taiwan seem to have achieved some success with directed lending to manufacturing, in most developing countries the results have been poor.<sup>30</sup> Directed credit programs often failed to reach their intended beneficiaries. Within priority sectors, larger and more influential borrowers were favored. Lenders misclassified loans to provide credit to other sectors and borrowers diverted credit to other uses. One extreme example is the case of Korea, where an active market developed for borrowers with access to preferential lending to on-lend funds to firms without it. Directed credit programs were often used not to correct market failures, but to provide funds to politically-connected sectors and firms. Once directed credit programs were established, they created a strong constituency of beneficiaries, making it very difficult for governments to reduce their support to these programs, regardless of how inefficient or costly they were. The cost of subsidies on directed credit programs has often been substantial: in Brazil, for example, this cost was

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<sup>28</sup> Banrural is currently being liquidated. The World Bank has provided support of 505 million U.S. dollars to the Mexican government to replace Banrural with a non-bank financial institution, Financiera Rural. The total cost of government intervention in the rural financial system in Mexico, mostly through different development banks, during the 1983-1992 period has been estimated at approximately 28.5 billion U.S. dollars, 80 percent of which is associated with interest rate subsidies. The annual average of these costs represents about 13 percent of agricultural GDP (Brizzi, 2001).

<sup>29</sup> This phenomenon is what de la Torre (2002) calls the “Sisyphus syndrome” of public banks.

<sup>30</sup> See World Bank (1993) for a description of the experience of East Asian countries with credit controls. Also, Vittas and Cho (1996) try to extract the main lessons from the experience of these countries with directed credit programs. They conclude that these programs should be small, narrowly focused, and of limited duration. Several authors (see, for example, Cho, 1997; Santomero, 1997; Vittas, 1997; and World Bank, 1993) point out that the relative success of directed credit programs in East Asian countries was achieved at the expense of a slower development of more complete financial markets.

estimated at between seven and eight percent of GDP in 1987. In Korea, the subsidy provided by directed credit was approximately one percent of GDP during the 1980s (Booth et al., 2001). Directed lending requirements in many cases left little power or responsibility on credit allocation to private banks, resulting in low investments in credit assessment and monitoring. Also, extensive refinance schemes at low interest rates reduced the incentives for financial institutions to mobilize resources on their own, leading to a lower level of financial intermediation.

Furthermore, direct government intervention in the operation of financial markets, through directed lending programs, interest rate controls, entry restrictions, and high reserve requirements, has been found to have significant costs in terms of economic efficiency and growth and to stifle, rather than promote, financial development. These policies were initially challenged by Goldsmith (1969) and later by McKinnon (1973) and Shaw (1973), who coined the term “financial repression” to describe them. Goldsmith (1969) argues that the main impact of financial repression is to reduce the marginal productivity of capital. Since interest rate controls keep rates below their equilibrium level, high quality projects with higher returns do not get financed. McKinnon (1973) and Shaw (1973) focused on two other channels. First, financial repression reduces the efficiency of the banking sector in allocating savings, as bankers do not ration credit according to price criteria. Second, by maintaining interest rates below their market equilibrium, financial repression reduces the savings level. These two channels have a negative impact on growth, as too little will be saved and those savings will not be allocated to the projects with the highest marginal productivity.<sup>31</sup> Financial development is also likely to suffer under these conditions, as the low return on financial assets encourages savers to keep their savings outside the financial system.

### **3.2 The Laissez-Faire View**

Over the last decades, mostly as a reaction to the mentioned problems of public banking and direct government intervention in the financial sector, a second, entirely opposite view has gained ground: the laissez-faire view. This view also stems from an increasing awareness of the role played by institutions and market infrastructures in financial development. The laissez-faire view contends that, due to incentive issues, bureaucrats will never be good bankers and that governments can do more harm than good by intervening directly in credit allocation and pricing. According to this view, although there may be market failures in the financial industry, these are not as extensive

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<sup>31</sup> A number of cross-country studies have attempted to measure the impact of financial repression on growth. Most of these papers use real interest rates (or variables based on threshold values of real interest rates) to measure financial repression, as controls on lending and deposit rates resulted in low or negative real interest rates in many developing countries (Agarwala, 1983; Gelb, 1989). These studies tend to find a negative relation between financial repression and economic growth (see, for example, Easterly, 1993; Lanyi and Saracoglu, 1983; Roubini and Sala-i-Martin, 1992; and World Bank, 1989). Galindo, Micco, and Ordoñez (2002) measure the extent of financial liberalization using indices based on financial system regulations and find that financial liberalization, mainly in the domestic financial sector, increases the relative growth rate of those industries that rely more on external finance.

as assumed by proponents of the interventionist view and private parties by themselves, given well-defined property rights and good contractual institutions, may be able to address most of these problems. Additionally, the costs of government failures are likely to exceed those of market failures, rendering direct interventions, at best, ineffective and in many cases, counterproductive. Therefore, this view recommends that governments exit from bank ownership and lift restrictions on the allocation of credit and the determination of interest rates. Instead, the argument goes, government efforts should be deployed towards improving the enabling environment—e.g., providing a stable macroeconomic framework, enhancing creditor and shareholder rights and their enforceability, upgrading prudential regulation, modernizing accounting practices, and promoting the expansion of reliable debtor information systems (Caprio and Honohan, 2001; Klapper and Zaidi, 2005; Rajan and Zingales, 2001; World Bank, 2005a).

The laissez-faire view is consistent with the general shift on thinking about the role of the government in the development process over the last decades. The experiences of developing countries in the 1970s and 1980s showed that widespread government intervention in the economy, through trade restrictions, state ownership of firms, financial repression, price controls, and foreign exchange rationing, resulted in the waste of large resources and impeded, rather than promoted, growth. Confidence in the ability of the government to foster economic development diminished dramatically, as growing evidence showed that government failure was widespread in developing countries and in many cases outweighed market failure (see, for example, Krueger, 1990; Srinivasan, 1985; and World Bank, 1983).<sup>32</sup> This led economists and policymakers to conclude that constraining the role of the public sector in the economy and eliminating the distortions associated with protectionism, subsidies, and public ownership was essential to fostering growth.<sup>33</sup> Much of this vision was reflected in the so-called “Washington Consensus” and guided most of the reform programs during 1990s.<sup>34</sup> Governments focused on creating a stable macroeconomic environment by reducing fiscal deficits and improving monetary policies. In line with the objective of reducing the role of the state in the economy, countries privatized government-owned enterprises, deregulated domestic industries, eliminated quantitative restrictions and licensing requirements, and dismantled agricultural marketing boards and other state monopolies. Many countries also reduced tariffs and other restrictions on imports and liberalized regulations on foreign investment. In recent years, the focus of the reforms has turned away from macroeconomic stabilization and liberalization and shifted towards improving the institutional environment (World Bank, 1999, 2002), consistent with the growing empirical evidence

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<sup>32</sup> The theoretical literature also started to focus on the causes of government failure, such as rent-seeking and capture by special interests (see, for example, Buchanan, 1962; Krueger, 1974; Stigler, 1971; and Tullock, 1967)

<sup>33</sup> The view that better policies would lead to higher growth was also motivated by endogenous growth theories developed by Lucas and Romer in the mid-1980s which imply that government policies can influence not just the income level, but also countries’ steady-state growth rates. This literature provided the foundation to empirical work based on cross-country regressions to analyze the effects of policies on growth, which was started by Barro (1991). Durlauf, Johnson, and Temple (2005), Easterly (2005), and Temple (1999) provide critical surveys of this literature. See also Rodrik (2005).

<sup>34</sup> The term “Washington Consensus” was coined by Williamson (1990). See World Bank (2005b) for a review of the reforms during the 1990s and a discussion of their policy lessons.

on the impact of institutions of economic development (see, for example, Acemoglu, Johnson, and Robinson, 2001; Easterly and Levine, 2003; Hall and Jones, 1999; and Rodrik, Subramanian, and Trebbi, 2004).

The failure of the financial repression policies led many countries to liberalize their financial systems, reducing direct government intervention in the allocation and pricing of credit. Financial liberalization was carried out both on the domestic and external fronts. Regarding the domestic financial system, liberalization policies included the elimination or downscaling of directed lending programs, the reduction of reserve requirements, and the deregulation of interest rates. On the external front, many countries lifted restrictions on foreign borrowing by financial institutions and corporations and dismantled controls on foreign exchange and capital transactions. Despite stops, gaps, and some reversals, the process of financial liberalization has advanced through much of the world over the last decades.<sup>35</sup> Countries in all income groups have liberalized, although developed countries were among the first to start this process and have remained more liberalized than lower-income economies throughout. In developing countries, the pace and timing of financial liberalization has differed across regions. In Latin America, Argentina, Chile, and Uruguay liberalized their financial systems in the late 1970s, but these reforms were reversed in the aftermath of the 1982 debt crisis, and financial systems remained repressed during most of the 1980s. Latin American countries carried out substantial financial liberalizations in the late 1980s and early 1990s. In the case of East Asia, the liberalization process was more gradual. A number of countries started slowly rationalizing their directed credit programs and liberalizing their interest rates during the 1980s and the process in many cases stretched for over a decade.

The financial liberalization process was accompanied by a significant privatization of government-owned banks, driven by fiscal considerations and the changing view about the role of the state in the economy.<sup>36</sup> From 1985 to 2000 more than 50 countries carried out bank privatizations, totaling 270 transactions and raising over 119 billion U.S. dollars (Boehmer, Nash, and Netter, 2005). Although the process started in higher-income countries, developing countries quickly followed suit. The privatization process intensified in the second half of the 1990s, with more than 60 percent of the transactions taking place after 1994. Although this privatization wave resulted in a significant reduction in government bank ownership, the presence of the public sector in the banking system remains widespread, especially in developing countries. In 2003, the government held controlling stakes in banks representing about seven percent of banking sector assets in developed countries and about 19 percent in developing countries (Clarke et al., 2004). Furthermore, in 21 of the 73 developing countries for which information is available, the public sector controls more than 30 percent of total banking system assets, compared to only three developed countries where this is the case.

The *laissez-faire* view led to a barrage of reforms aimed at creating the proper institutions and infrastructure for financial markets to flourish. Governments tried to

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<sup>35</sup> See Williamson and Mahar (1998) for an overview of the financial liberalization process around the world. Kaminsky and Schmukler (2003) construct indices of financial liberalization for a large number of developing and developed countries.

<sup>36</sup> See Megginson (2005) for a review of the empirical literature on bank privatization.

mitigate principal-agent problems in credit markets by reforming bankruptcy laws and enacting new legislation regarding creditor rights. Many countries also tried to improve information sharing among lenders by fostering the development of credit bureaus. Credit bureaus make borrowers' loan payment history available to different lenders, facilitating information exchanges and reducing screening costs. Credit bureaus also increase incentives for repayment, since borrowers know that their reputations will be shared among different creditors.<sup>37</sup> Governments tried to create a supportive environment for private credit bureaus by enacting credit reporting laws that allow the sharing of information among creditors and in many cases created public credit registries. Miller (2003) reports that 15 countries, including nine Latin American countries, have established public credit registries since 1989 and that several developing countries in other regions are actively considering similar initiatives. Private credit bureaus have also experienced a significant growth over the last decades, with approximately half of the private credit reporting firms around the world covered by Miller (2003) starting their operations after 1989. In some countries, governments also modified collateral laws and created registries for moveable property in order to allow these assets to be used as collateral, which was expected to benefit smaller firms that are less likely to own fixed assets.<sup>38</sup>

Enticed by their potential benefits, governments also implemented several reforms aimed at fostering securities market development.<sup>39</sup> In particular, governments created domestic securities and exchange commissions, developed the regulatory and supervisory framework, and took important strides towards establishing and improving the basic infrastructure for securities market operations. The latter included reforms related to centralized exchanges, securities clearance and settlement systems, custody arrangements, and trading platforms. Moreover, many countries tried to improve corporate governance practices by introducing new standards in a number of different areas, including voting ratings, tender procedures, and the structure of the board of directors.<sup>40</sup> Some countries also improved accounting and disclosure standards and enacted new insider trading regulations.<sup>41</sup>

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<sup>37</sup> McIntosh and Wydick (2004) show that the total effect of credit bureaus can be decomposed in two separate effects (a screening effect and an incentive effect) and that credit bureaus can improve access to financing for the poorest borrowers. Empirically, Japelli and Pagano (2002) find that the presence of credit bureaus, irrespective of whether they are public or private, is associated with deeper credit markets and lower credit risk. Love and Mylenko (2003) find that the existence of private credit bureaus is associated with lower financing constraints, while public credit registries do not seem to have a significant effect.

<sup>38</sup> In most developing countries, legal impediments restrict the use of movable property as collateral, as there is little or no information on whether other creditors have claims on the same asset and the repossession process is usually cumbersome (often exceeding the economic life of the movable good). In contrast, lending secured by movable property is widespread in developed countries, reaching almost 40 percent of total credit in the U.S. (Fleising, 1996).

<sup>39</sup> See World Bank (2004a) for a description of the evolution of securities markets and related reforms over the last decades, with a focus on Latin America.

<sup>40</sup> See Capaul (2003) for an overview of corporate governance reforms in Latin America.

<sup>41</sup> Bhattacharya and Daouk (2002) find that 39 developing countries have established insider trading regulations since 1990.

Despite the intense reform effort, access to finance does not seem to have increased significantly in most developing countries since the early 1990s.<sup>42</sup> While many countries experienced a strong growth in deposits, this growth did not translate into an increase of similar magnitude in credit to the private sector, as most of the additional loanable funds were absorbed by higher holdings of public sector debt (Hanson, 2003).<sup>43</sup> Similarly, the performance of domestic securities markets in many emerging economies has been disappointing (World Bank, 2004a). Although some countries experienced growth of their domestic securities markets, this growth in most cases was not as significant as the one witnessed by industrialized nations. Other countries experienced an actual deterioration of their securities markets.<sup>44</sup>

The general perception of lack of results from the reform process contrasts with empirical evidence suggesting that reforms did in fact have a positive impact on financial development. For instance, Djankov, McLiesh, and Shleifer (2006) find that improvements in creditor rights and the introduction of credit bureaus are associated with increases in credit to the private sector. Similarly, de la Torre, Gozzi, and Schmukler (2005) find that capital market-related reforms tend to be followed by significant increases in stock market capitalization, trading, and capital raising. The contrast between this evidence and the general perception may be explained by excessively high expectations at the beginning of the reform process.<sup>45</sup> The gap between expectations and outcomes may also be ascribed to a combination of insufficient reform implementation with impatience.<sup>46</sup> In effect, despite what many claim, key reforms were in some cases not even initiated, while other reforms were often implemented in an incomplete or inconsistent fashion. In many cases, only laws were approved, but they were not duly implemented, nor were they adequately enforced. Moreover, policymakers have been too impatient, often expecting results to materialize sooner than warranted. While the

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<sup>42</sup> From a more general perspective, Easterly (2001) points out that despite significant policy reforms, developing countries have on average stagnated over the last two decades. He argues that worldwide factors may have contributed to this stagnation and says that this evidence deals a significant blow to the optimism surrounding the “Washington Consensus.”

<sup>43</sup> The increase in public sector debt holdings was driven by several factors, including central banks’ growing use of bonds as monetary policy instruments, post-crisis bank restructurings in several countries, and increasing fiscal deficits. In countries where banking crises were not massive and government deficits were limited, credit to the private sector grew reasonably well (Hanson, 2003).

<sup>44</sup> Stock markets in many developing countries have seen listings and liquidity decrease, as a growing number of firms have cross-listed and raised capital in international financial centers, such as New York and London. Karolyi (2004) and Moel (2001) offer evidence on how the use of American Depositary Receipts (ADRs) can affect stock markets in emerging economies. Levine and Schmukler (2006a,b) analyze the impact of migration to international markets on domestic market trading and liquidity.

<sup>45</sup> Loayza, Fajnzylber, and Calderon (2005) analyze whether the growth outcome of the reforms of the 1990s in Latin America can be interpreted as a disappointment. They estimate the expected impact of the reforms on economic growth using cross-country regressions and then compare the predicted growth rate of Latin American countries on the basis of the reforms with their observed growth during the 1990s. They find that most Latin American countries experienced growth rates consistent with the extent of the reforms and thus conclude that reforms had the predicted impact. However, the estimated pay-offs of the reforms in many cases are quite small, suggesting that initial expectations may have been overly optimistic.

<sup>46</sup> Renditions of this view, in the more general context of assessing the impact of reforms on economic development, can be found in Fernandez Arias and Montiel (2001), Krueger (2004), Singh et al. (2005), and World Bank (1997).



expectation of a rapid payoff may be justified with respect to some first-generation reforms, more complex second-generation reforms have long gestation periods.<sup>47</sup>

Proponents of the *laissez-faire* view also point out that, even in environments where there are institutional deficiencies that negatively affect financial contracting, there has been some progress in expanding access. One example of this is the strong growth of microfinance in developing countries. Microfinance consists in the provision of financial services to low-income individuals and informal firms.<sup>48</sup> Microfinance institutions have developed several mechanisms to deal with principal-agent problems and help reduce the transaction costs of serving small borrowers (see Appendix 1 for an overview). Unsecured consumer credit, including credit card lending, has also experienced significant growth in many developing countries in recent years (see, for example, BIS, 2005a and *The Economist*, 2006), fostered by advances in information systems and scoring methods.<sup>49</sup>

Although the arguments of the *laissez-faire* view are quite compelling and have attained widespread support, the associated policy prescription is not free of problems. Improving the enabling environment is easier said than done. Even if we knew exactly what needs to be done, and in what sequence, there is no denying that the actual reform implementation would be full of glitches and affected by the two-steps-forward-one-step-backward phenomenon. But the reality is that we do not know with precision all that needs to be done, as there is no *ex-ante* formula to achieve access-enhancing financial development. Financial development is not amenable to one-size-fits-all or a “template” approach, not least because of its evolutionary, path-dependent nature, as noted above. A good enabling environment is in effect the historical result of a complicated and rather delicate combination of mutually reinforcing institutional innovations and market dynamics—which cannot be transplanted at will from one country to another. Hence, financial reforms that are partial, inadequately complemented, or wrongly sequenced may lead to dysfunctional yet self-reinforcing institutional hybrids, which may be subsequently hard to dislodge. Learning and re-learning will be needed along the way, including through the cleansing aspects of financial crises and the pressures of competition, in order to re-route the process of financial development.

Given these characteristics of the institutional reform process, considerable time will elapse before most emerging economies can develop an adequate enabling

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<sup>47</sup> In general terms, first-generation reforms concern those taken as part of the initial wave of efforts to regain macroeconomic stability while de-regulating the economy. In the financial sector, first-generation reforms focused mainly on liberalizing the domestic financial market and on allowing freer cross-border capital mobility. Second-generation reforms concern the subsequent wave of reforms that are, by and large, much more intensive in institution building. In the financial sector, these entail, for instance, strengthening prudential oversight and transparency, improving creditor rights systems, enhancing corporate governance practices and minority shareholder protection, modernizing market infrastructures, etc.

<sup>48</sup> As CGAP (2003a) emphasizes, while microfinance originally focused on working-capital loans to micro-entrepreneurs, it has now expanded to include all sorts of financial services provided to low-income individuals, including savings, credit, insurance, and money transfer services. See also Honohan (2004).

<sup>49</sup> This rapid expansion may create some risks in the absence of prudent credit policies, as illustrated by the case of Korea where a credit card lending boom, partially fuelled by tax incentives, led to significant losses (see BIS, 2005a and *The Economist*, 2003).

environment and see any results in terms of broader access to credit. Even innovative solutions like microfinance that, at least partially, help to overcome institutional deficiencies are unlikely to broaden access significantly in the short term.<sup>50</sup> It seems rather naive to expect governments to remain completely disengaged from any direct intervention geared at broadening access during the long transition to a developed financial system. For one, governments are likely to face increasing political pressures to do something. As mentioned above, there is a growing disillusionment with the reform process of the 1990s as reforms have failed to meet the (possibly excessive) initial expectations. While it can be questioned whether this disillusionment is warranted or not, reform fatigue is in any case likely to boost pressures for government intervention. Second, in many countries governments are still so engaged in the financial system that a quick withdrawal may not be possible. Existing public financial institutions have institutional incentives to continue intervening in financial markets and in many cases closing them or significantly downscaling their operations may not be politically feasible or even desirable, given existing linkages among markets and institutional arrangements. Finally, one could reasonably argue that certain government interventions may help to smooth the transition towards a developed financial system or even speed it up, without distracting from the long-run policy objective of institutional reform.

If one thinks in terms of non-conflicting long- and short-run policy objectives, it is possible to rationalize some recent experiences of government intervention into a third, middle ground view, which we denominate *pro-market activism*. We now turn to the characterization of this view.

### **3.3 The Pro-Market Activism View**

The pro-market activism view is an emerging new view that rationalizes a series of recent government interventions. Given that this view is quite recent and just emerging it is difficult to accurately characterize it. It may be easier to understand it by contrasting it with the two well-established views described above. In contrast with the interventionist view, the pro-market activism view does not assume that market failures are widespread and that therefore direct government intervention in the allocation and pricing of credit is necessary. Much to the contrary, this view argues that markets can and do broaden access to finance and therefore the adequate role of the government is to promote the development of deep and efficient financial markets, not to replace them. This view recognizes that direct government interventions may be warranted in some cases, but argues that careful analyses to identify market failures and specify their causes should precede interventions. The observation that a certain group lacks access to credit does not constitute by itself an indication of a market failure and therefore cannot justify interventions in credit markets. Interventions should be directed at solving market failures underlying problems of access, not at increasing the use of financial services per se. And

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<sup>50</sup> Despite its strong growth over the last years, microfinance penetration is still quite low in most countries. For instance, Daley-Harris (2003) reports that the ratio of borrowing clients of microfinance institutions to the total population exceeds two percent in only eight countries and in most developing countries this ratio is below one percent.

even if a market failure is identified, public sector interventions can only be justified if they can solve this failure in a cost-effective manner. According to the pro-market activism view, government interventions should be designed to complement or facilitate the development of financial markets through the adequate choice of instruments (subsidies, funding, etc.) and institutions (private financial intermediaries, NGOs, public banks). This view is well aware of the risks of government lending, and therefore favors a wide range of instruments beyond lending. If subsidies are deemed necessary to solve a specific market failure, they should be restricted to seed capital to launch a project or be limited by sunset clauses and in all cases must be transparently budgeted to avoid the price distortions that have characterized past government interventions in financial markets.

In a sense, the pro-market activism view is closer to the laissez-faire view, as it contends that the governments' main focus should be to forge ahead with the task of improving the enabling environment for financial markets. However, in contrast with that view, it recognizes that there might be room for well-designed, restricted government interventions to address specific market failures and help smooth the transition towards a developed financial system or even speed it up. According to this view, it seems unrealistic and possibly unwarranted in good logic for governments to solely focus on the enabling environment and to remain completely disengaged from any direct intervention to broaden access during the long transition to a developed financial system.

Thus, the main message of pro-market activism is that there is indeed a market friendly role for the visible hand of the government to promote access in the short run, while the fruits of ongoing institutional reform are still unripe. The important qualifier is, however, that the government needs to be highly selective in its interventions, always trying to ensure that they work with the market, never against it. Interventions should be relatively small and temporary, being terminated when the underlying causes of the problem of access have been removed. There must also be mechanisms in place to prevent political capture that may undermine the temporary nature of the interventions or their compatibility with the long-run objective of institutional reform and financial market development. Pro-market activism, moreover, favors a policy strategy that explicitly creates room for a process of discovery and learning-by-doing as the interventions are implemented, and may be useful to give the authorities a first hand understanding of what legislation or enforcement mechanisms are missing for certain innovations to take off. For pro-market activism, the ultimate goal is to foster the broadening of access in ways that simultaneously create financial markets where they are missing or enhance the functioning of the existing ones.

The pro-market activism view seems to be part of an emerging new way of thinking about development policies, based on the experience of the last decades. While still very far from providing a coherent clearly articulated thinking on development policies, this view tends to argue that, although a good enabling environment is a necessary condition for sustainable long-term growth, it may not be enough to initiate the development process and selective limited government interventions to address market failures may be required. This view is presented, for instance, by Rodrik (2002) who argues that “[t]he record suggests that an adequate growth programme needs to be

anchored in two strategies: an investment strategy designed to kick-start growth, and an institution building strategy (...)" Similarly, Zaghera (2004) argues that reviewing the experience of the 1990s "confirms the importance for growth of fundamental principles: macro-stability, market forces in the allocation of resources, and openness" and also shows that "selective government interventions can contribute to growth when they address market failures, when and where they are carried out effectively, and are subject to institutional checks." As mentioned above, this emerging view is still far from providing clear guidelines on development policies. It is a more nuanced view that calls for policy diversity, selective and modest reforms, and experimentation. In fact, its main characteristic seems to be the recognition of the need to avoid one-size-fits all strategies and to follow a more targeted approach taking into account country specificities. World Bank (2005b), for instance, argues that "there is no unique set of rules (...) [W]e need to get away from formulae and the search for elusive 'best practices' (...)" While a more nuanced approach to development policies may be necessary, this view runs the risk of degenerating into an "anything-goes" approach. The main challenge for this emerging view is translating its recommendations into specific operational guidelines for promoting development, without degenerating into a rigid blueprint.

The pro-market activism view, if warranted, must however recognize itself as a solution for the short run. It must understand the idiosyncrasies of institutional arrangements and market conditions in each country, and the specific ways in which access problems arise in that context, not only because well-designed and efficient institutions are the first-best solutions, but because guaranteeing that the eventual interventions under pro-market activism do not conflict with the long-run objective of institutional reform will crucially hinge on the quality and extent of such understanding.

For all of its potential appeal, pro-market activism raises many questions. Are there actually cases where government interventions do not displace financial market activity, but rather crowd it in? Can direct interventions indeed be designed so as to ensure that at least no harm is done? If a given government intervention is efficient, in the sense that it leads to greater, mutually beneficial financial contracting, why don't private financial intermediaries take the initiative? Is direct government intervention necessary or, given the right incentives, private financial intermediaries would take the initiative? While it is very difficult to provide a definite answer to these questions, we will try to address them in the next section by analyzing how pro-market activism has worked in a number of recent experiences in Latin America. It is necessary to stress that we do not attempt to make a comprehensive assessment of these interventions or to claim that they have been successful. Rather, we use them to illustrate how pro-market activism has worked in practice and understand to what extent actual experiences have conformed to the stylized description of this view presented so far. This analysis will also help us to identify potential implementation problems, as well as pitfalls that must be avoided in the design of pro-market interventions.

#### **4. Recent Pro-Market Interventions in Latin America**

This section describes a number of recent experiences from Latin America that illustrate the approach of the pro-market activism view to government interventions. To guide the discussion, we group these experiences in terms of the type of instrument used in each case. However, most interventions are not as clear-cut in practice, as they tend to combine several instruments. This bundling of different instruments is in most cases the result of institutional design and incentives. An open question is whether these components can be effectively unbundled. The classification by type of instrument is used mainly for presentational purposes, to help depict the nature of the intervention under analysis and highlight the relevant policy issues. Two additional caveats are necessary before turning to the description of these experiences. In the first place, some of the instruments used in these interventions are similar to those promoted by proponents of the interventionist view (i.e., public lending, subsidies, and credit guarantees). However, pro-market interventions tend to differ from previous ones in important aspects of their design—especially regarding sustainability, time limits, governance, and transparency—and even in terms of their objectives, as they seek to complement and promote private financial intermediation, rather than replace it. Second, we focus on extracting the main policy lessons from these interventions, rather than on describing them in detail. Detailed descriptions of each experience are available in a number of appendices and several papers.

##### **4.1 Public Provision of Market Infrastructure**

A traditional argument for government intervention in the banking sector is that private banks may not find it profitable to open branches in rural and isolated areas, and thus government intervention is necessary to provide financial services to residents of those areas. Underlying this argument is the idea that access to financial services generates positive externalities in terms of growth and/or poverty reduction (Burgess and Pande, 2005). This led to the creation of public banks to serve rural areas and in many cases also resulted in the establishment of regulations requiring banks to open branches in certain regions. In India, for instance, the government imposed the so-called 1:4 license rule in 1977. This rule stated that banks could open one branch in an already banked location only if they opened four in unbanked locations.

An innovative approach to increase the availability of financial services in remote areas has been adopted by the Brazilian government through the use of correspondent banking arrangements (see Kumar et al., 2006). Correspondent banking refers to arrangements whereby banks outsource services typically undertaken at branches, like receiving loan applications, making deposits and withdrawals, and paying invoices, to non-financial institutions with a significant network of outlets, such as convenience stores and supermarkets. This process significantly reduces the cost of providing financial services, enabling banks to reach areas where it might not be profitable to open branches. One could question whether direct government intervention is needed to promote this

kind of arrangements, as they can (and do) take place among private parties.<sup>51</sup> However, in many developing countries some of the largest networks of non-financial outlets are owned or regulated by the public sector. Therefore, in order to achieve a wide geographic coverage it is necessary for the government to allow financial institutions to use some of these networks to distribute their services. In the case of Brazil, lottery houses have been used by the federal savings bank Caixa Economica Federal (CEF) to distribute financial services. The right to provide banking services through the post office was granted to Banco Bradesco, the largest private bank in Brazil, through a public bidding process. The use of correspondents significantly reduces the cost of servicing remote locations. According to Kumar et al. (2006), initial investments for a correspondent outpost in Brazil can be as low as 0.5 percent of those for a traditional bank branch, and operating costs are negligible if existing employees and communication networks are used. This has resulted in a significant geographic expansion in access to financial services. While in 2001 29 percent of the municipalities in Brazil had no bank services (branches or bank service outposts), by 2004 all municipalities had access to these services, with 31 percent of them being served exclusively by bank correspondents.

Another example of a government intervention designed to help reduce the costs of providing financial services in unbanked areas for private financial intermediaries is the Mexican development bank BANSEFI (Banco de Ahorro Nacional y Servicios Financieros, *National Savings and Financial Services Bank*).<sup>52,53</sup> BANSEFI has the mandate of spearheading the development of semi-formal and informal financial institutions (called *popular savings and credit institutions*), including a variety of credit unions, savings and credit associations, cooperatives, and NGOS that serve regions where the presence of commercial banks is minimal or non-existent.<sup>54</sup> To this end, BANSEFI performs two tasks. First, it administers a one-off government investment subsidy (mostly financed by the World Bank) to help popular savings and credit institutions meet the criteria of sustainability, prudent risk taking, and adequate risk pricing necessary to become formal regulated financial intermediaries. BANSEFI provides these institutions with technical assistance and training to upgrade their governance, transparency, and management capacity to standards required for licensing. BANSEFI's second task, which we view as the most innovative component of its operations, is to provide centralized back-office services like electronic transfers, liquidity management, clearing house

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<sup>51</sup> Even if direct government intervention is not necessary to promote correspondent banking, regulatory changes in several areas, including the use of electronic payment systems, account opening requirements, and agency relationships, may be required (CGAP, 2006). In the case of Brazil, for example, a number of Central Bank resolutions between 1999 and 2000 were key in the development of correspondent banking, by allowing correspondents to provide banking services, clarifying existing rules, and eliminating certain restrictions (Kumar et al., 2006).

<sup>52</sup> BANSEFI was established in 2001 to replace PANHAL (Patronato Nacional del Ahorro), a government-owned narrow bank that focused exclusively on mobilizing savings by capturing deposits, mostly among small rural clients, and investing these funds in government debt securities.

<sup>53</sup> See Appendix 2, Coutinho (2006), and Taber (2005) for more detailed descriptions of BANSEFI's operations.

<sup>54</sup> BANSEFI has a second, separate mandate to promote savings by acting as a narrow bank, which it inherited from its predecessor, PANHAL. This second mandate may place it in competition with some of the popular savings and credit institutions it is supposed to support, generating some conflicts of interest (see CGAP, 2005a).

services, debit and credit card services, and foreign exchange and derivatives transactions to the popular savings and credit institutions to allow them to capture economies of scale and scope that they may not be able to achieve individually. In the case of liquidity services, for instance, BANSEFI can consolidate the liquidity of all the participant institutions and invest it on their behalf in the commercial banking system, securing a higher rate of return than what the institutions could negotiate individually. BANSEFI is developing a technological platform to allow the sector to operate effectively as a network and to help institutions minimize operation and supervision costs. These centralized services are offered at fee and can be voluntarily contracted by the institutions. BANSEFI has also created a commercial alliance among several popular savings and credit institutions (L@Red de la Gente, *The People's Network*) to share branches and facilitate the distribution of financial products.<sup>55</sup> This network uses a common technological platform to distribute financial products, helping to generate homogenous products that are offered under an umbrella trademark, significantly reducing distribution and marketing costs. L@Red de la Gente is also used to distribute several government programs and operates with traditional money transfer companies that use its network to distribute remittances. This increases the revenues of member institutions through distribution fees and helps to attract new customers and bring them into the financial system.

The BANSEFI-led program has made substantial progress in meeting its objectives, although there have been some delays in the process of upgrading and converting the popular savings and credit institutions into regulated entities. As mentioned above, government funding of BANSEFI was limited to the provision of seed money to finance technical assistance to the popular savings and credit institutions and build the technological platform to provide them with centralized services. BANSEFI was established with a clear sunset clause, which states that it will be, at least partially, sold to the popular savings and credit institutions once these institutions become formal regulated entities. The result of this sale will be a clear indicator of whether BANSEFI has actually added value by providing centralized services. The terms and procedures for this sale are currently under analysis (BANSEFI, 2006) and many sector representatives have expressed interest in taking part (CGAP, 2005a).

Another example of electronic infrastructure provided by the public sector to reduce operational costs for financial intermediaries is the on-line market for factoring services developed by the Mexican development bank NAFIN (Nacional Financiera).<sup>56</sup> In many countries, small businesses find it difficult to finance their production cycle, since they lack access to bank credit and most buyers usually take between 30 and 90 days to pay. After delivery, sellers issue an invoice, recorded as an account receivable by the seller and an account payable by the buyer. Factoring is a type of financing in which firms sell their accounts receivable at a discount (equal to interest plus service fees) to a financial firm (called the factor) and receive immediate cash. Factoring is an asset sale, not a loan. There is no debt repayment and no additional liabilities on the supplier's

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<sup>55</sup> This network is currently integrated by 68 institutions with a total of 1,170 branches, including 548 branches that BANSEFI inherited from PANHAL.

<sup>56</sup> See Appendix 3, Naranjo (2005), and Klapper (2005) for detailed descriptions of this program.

balance sheet. An alternative to ordinary factoring is reverse factoring. In this case, the factor only purchases accounts receivable issued by certain buyers. Reverse factoring reduces information problems, as the factor only needs to assess the credit worthiness of a specific group of large firms. A significant advantage of factoring, especially in developing countries, is that it does not require good collateral laws, just the legal ability to sell, or assign, accounts receivables.

NAFIN, a Mexican development bank, created an online system, called Cadenas Productivas (*Productive Chains*), to provide reverse factoring services to SMEs. This program works by creating chains between “big buyers” and their suppliers. The buyers that participate in the program, large credit-worthy firms, must invite suppliers to join their chain. This reduces principal-agent problems by effectively outsourcing screening to the buyers, who have an informational advantage relative to financial intermediaries. All transactions are carried out on an electronic platform, reducing transaction costs, increasing speed, and improving security. Once a supplier delivers goods to the buyer and issues an invoice, the buyer posts an online “negotiable document” equal to the amount that will be factored on its NAFIN webpage. Participant financial institutions that are willing to factor this particular receivable post their interest rate quotes for this transaction. Finally, the supplier can access this information and choose the best quote. Once the factor is chosen, the discounted amount is transferred to the supplier’s bank account. The factor is paid directly by the buyer when the invoice is due.

NAFIN was responsible for the development, production, and marketing costs related to the electronic platform. It operates the system and also handles all the legal work. NAFIN requires all participating financial institutions to use its second-tier funding to provide credit through the system.<sup>57</sup> In fact, NAFIN does not charge a fee for the factoring services, but rather covers its costs with the interest it charges on its loans. NAFIN’s factoring program has been very successful, extending over nine billion U.S. dollars in financing since its inception in September 2001 and brokering more than 1.2 million transactions, 98 percent by SMEs. More than half of NAFIN’s second-tier lending in 2004 corresponded to the financing of factoring transactions originated from this program. NAFIN has entered into agreements with development banks in several Latin American countries, including Colombia, El Salvador, and Venezuela, to implement similar programs and development banks in other countries in the region are considering replicating this program.

## 4.2 Structured Finance

Structured finance can be defined as a form of financial intermediation based upon securitization technology.<sup>58</sup> In its simplest form, it is a process where assets are pooled and transferred to a third party (commonly referred to as special purpose vehicle or SPV), which in turn issues securities backed by this asset pool. Typically, several

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<sup>57</sup> As discussed in Appendix 3, this seems to be the result of institutional incentives as NAFIN is a second-tier bank that is evaluated on the basis of its volume of loan disbursements.

<sup>58</sup> Accurately defining structured finance is quite difficult, as even among market participants there is no agreement on exactly what it encompasses. See Davis (2005) for a survey of alternative definitions.



classes of securities (called tranches) with distinct risk-return profiles are issued.<sup>59</sup> Innovations abound in this market and several types of assets have been included in the collateral pool, ranging from cash instruments (e.g., mortgages, loans, bonds, credit card receivables) to synthetic exposures (e.g., credit default swaps). The structured finance market in developed countries has experienced significant growth over the last years (see BIS, 2005b). In the case of developing countries, although the volume of transactions has also increased significantly, structured finance markets are still small and underdeveloped.<sup>60</sup>

Structured finance transactions involve a number of different participants. These typically include: the *originator*, who originates the underlying assets in the course of its regular business activities or purchases them in the market; the *arranger*, who sets up the structure and markets the securities; the *servicer*, who collects payments and tracks the performance of the asset pool; the *trustee*, who oversees cash distributions to investors and monitors compliance with deal documentation; and, in some deals, *financial guarantors*, who provide guarantees for certain tranches.

FIRA (Fideicomisos Instituidos en Relación con la Agricultura, *Agricultural Related Trust Funds*), a Mexican development-oriented financial institution that provides second-tier funding to the agricultural sector, has recently promoted several structured finance transactions.<sup>61</sup> One of these transactions was designed to provide working capital financing to shrimp producers in collaboration with a large shrimp distributor called Ocean Garden.<sup>62</sup> The general structure can be summarized as follows. Shrimp producers sign supply contracts with Ocean Garden to deliver a certain amount of shrimp at a future date. Ocean Garden pays them a portion of these contracts in advance to provide them with working capital financing and subsequently transfers these credit rights to an SPV, which sells participations to investors. Ocean Garden not only acts as originator but also as servicer, being responsible for transferring payments to the trust fund once the producers deliver their production. To help align the incentives of the different industry participants and reduce adverse selection problems, shrimp producers, shrimp feed suppliers, and Ocean Garden provide liquid guarantees to cover the first credit losses. Shrimp producers and feed suppliers provide guarantees that cover the credit losses of each individual working capital loan up to 24 percent, whereas Ocean Garden provides a general guarantee that covers up to 25 percent of the total asset pool. Once these guarantees are exhausted, investors start facing credit losses.<sup>63</sup> FIRA not only acts as an arranger in this transaction, but also as a financial guarantor providing guarantees to

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<sup>59</sup> Some authors (see, for example, Alles, 2001, and BIS, 2005b) differentiate between securitization (which only involves the pooling and transfer of assets to a third party and subsequent issuance of securities) and structured financing (which also involves the creation of different classes of securities). In keeping with common usage, we use the term structured finance to refer to both types of instruments.

<sup>60</sup> See Meddin (2004) for an overview of structured finance in emerging markets and the role it may play in fostering capital market development.

<sup>61</sup> See Appendix 4 for a detailed description of FIRA's structured finance operations.

<sup>62</sup> Ocean Garden is one of the main exporters of Mexican shrimp to the U.S. It handles approximately one quarter of Mexico's shrimp production and has annual sales of about 250 million U.S. dollars. The firm was owned by the Mexican government and was recently privatized.

<sup>63</sup> This happens when credit losses exceed approximately 32 percent of the total asset pool, see Appendix 4 for details.

partially cover credit losses once the liquid guarantees from industry participants are exhausted. FIRA charges a fee for its services as arranger and also for the provision of the guarantees. FIRA requires all investors participating in this scheme, which are financial institutions, to use its second tier lending to purchase the securities issued by the SPV.

This structured finance transaction helps to solve principal-agent problems by outsourcing the screening of small producers to a large commercial firm that has an informational advantage relative to financial intermediaries. A significant problem in this type of transaction is that the originator may have incentives to include lower quality assets in the pool. Anticipating this possibility, investors who have less information about the quality of the assets may not be willing to invest or may ask for a premium to compensate them. In this particular transaction, the adverse selection problem is ameliorated by the fact that, since Ocean Garden signs supply agreements with the producers, it depends on the fulfillment of these agreements for its future sales and therefore has incentives to adequately screen and monitor producers. The adverse selection problem is further reduced by the fact that Ocean Garden provides guarantees to cover the initial credit losses. The pooling of working capital loans to several producers reduces transaction costs and also helps financial institutions to diversify their risk exposure, as they do not face the idiosyncratic risk of an individual producer. Also, financial institutions do not face Ocean Garden's credit risk, as the supply contracts are removed from its balance sheet and their ownership is transferred to the SPV. This means that if Ocean Garden files for bankruptcy, the assets in the pool do not come under court jurisdiction. FIRA has been successful in using similar structured finance transactions to improve access to credit in several sectors (including wheat, corn, and sorghum production) by using large commercial firms as originators and the loans provided through this type of transactions now account for five percent of its total portfolio.

### 4.3 Credit Guarantee Systems

Credit guarantee systems are mechanisms in which a third party, the *guarantor*, pledges to guarantee loans to a particular group of borrowers. Credit guarantee systems reduce the lender's expected credit losses—even if the probability of default remains unchanged—acting as a form of insurance against default. Public credit guarantee systems are widespread: according to a survey conducted by Graham Bannock and Partners, in 1995 there were at least 85 countries with some type of government credit guarantee program.<sup>64</sup> The largest and more established guarantee schemes are mostly in developed countries, including Canada, Japan, the U.S., and several European countries. The general experience with credit guarantee systems, especially in developing countries, has been poor to mixed, at best: most systems have depleted their reserves due to high

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<sup>64</sup> Graham Bannock and Partners (1997) find that in 14 countries there is no public credit guarantee system and in another 76 countries it is not possible to tell whether operating guarantee schemes exist. See also Herrero Calvo and Pombo Gonzalez (2001) for an overview of public credit guarantee systems around the world.

credit losses and bad investment decisions and in many cases they have been designed to channel funds to certain sectors without due regard to loss rates.

There is significant debate in the literature regarding the role fulfilled by credit guarantees and the need for this type of government intervention (see for example, Green, 2003; Holden, 1997; Levitsky, 1997a; Rodriguez Meza, 2004; and Vogel and Adams, 1997). The most frequent cited justification for credit guarantee schemes is as a substitute for collateral where the collateral market operates imperfectly due to cumbersome and costly repossession processes, political difficulties in the realization of assets pledged by certain sectors, or uncertainty about the value of collateral, which lead to excessive collateral requirements.<sup>65</sup> However, one could reasonably argue that imperfections in the legal system should be addressed through improvements in collateral laws and enforcement mechanisms, rather than through direct government intervention (Holden, 1997; Vogel and Adams, 1997). Nevertheless, both strategies are not necessarily exclusive, at least in the short-term (Graham Bannock and Partners, 1997), and therefore collateral guarantee systems could help to reduce problems of access to finance while institutional reform is taking time to mature.<sup>66</sup> An alternative argument contends that credit guarantee systems work as subsidies to cover the costs of learning how to provide loans to a new group of borrowers by financial intermediaries. However, as Vogel and Adams (1997) point out, there is no evidence of public programs that have been able to eliminate guarantees after a certain period. Critics of public credit guarantee systems also argue that these schemes cannot decrease asymmetric information problems in credit markets, and are even likely to increase them. Public guarantee systems may increase moral hazard for both borrowers and lenders: borrowers that know that their loans are guaranteed by the government may not feel obligated to repay them and lenders may have fewer incentives for screening and monitoring borrowers, as guarantees cover their credit losses. An open question therefore is whether credit guarantee systems can be designed in a market-friendly way, minimizing their unintended consequences while at the same time promoting private financial market activity.<sup>67</sup>

FOGAPE (Fondo de Garantía para Pequeños Empresarios), a state fund designed to provide partial credit guarantees to loans issued by commercial banks to small firms in Chile, has been considered a success story in terms of fostering market activity while minimizing the problems that have characterized previous guarantee schemes (Benavente, Galetovic, and Sanhueza, 2006 and Bennett, Billington, and Doran, 2005). FOGAPE was created in 1980 but remained relatively inactive until 1999, when the Chilean government decided to reformulate the program. The fund is administered by

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<sup>65</sup> Public credit guarantee systems have also been justified in terms of market failures, although the nature of these failures is usually not identified (Vogel and Adams, 1997). And even if a market failure is identified, it is not clear whether credit guarantee schemes are the best form of addressing it. One possible market failure could be the absence of credit insurance markets (Rodriguez Meza, 2004).

<sup>66</sup> Benavente, Galetovic, and Sanhueza (2006) develop a theoretical model showing that under certain conditions, credit guarantee systems can improve access to credit for borrowers with viable projects that would otherwise be excluded due to lack of collateral, without increasing moral hazard.

<sup>67</sup> See Levitsky (1997b) for a review of best practices in operating guarantee schemes. Bennett, Billington, and Doran (2005) analyze some recent successful experiences of credit guarantee systems in developing countries.

Banco Estado, a public commercial bank, which charges a fee for its services. FOGAPE functions as a classical guarantee fund, sharing the risk of default on eligible loans and charging a guarantee premium. The commercial relationship is between FOGAPE and the banks. Banks select those loans that they wish guaranteed and FOGAPE only checks whether they meet eligibility criteria.<sup>68</sup> According to Benavente, Galetovic, and Sanhueza (2006), several features of FOGAPE's operations have been key in reducing moral hazard problems. First, commercial banks share part of the risk of default, as guarantees only cover between 70 and 80 percent of credit losses. Second, and more important, to allocate the available guarantees Banco Estado conducts auctions four to six times per year among participating banks. Each bank has to submit a bid indicating the amount of guarantee it wants to receive and the maximum coverage rate as a percentage of lending. The bids are selected by the lowest coverage required until the total amount auctioned has been assigned; therefore the bidding process determines how the risks are shared among FOGAPE and financial intermediaries.<sup>69</sup> Banks with high default rates on previously guaranteed loans can be permanently or temporarily excluded from participating in the bidding process (this has already happened in one case). This helps to reduce moral hazard, as banks that reduce screening and monitoring today lose profitable opportunities in the future. Also, the use of a bidding process increases competition among financial institutions. The risk share taken by commercial banks has increased from 21 percent in 2001 to 29 percent in 2003 (Bennett, Billington, and Doran, 2005). Third, the amount of FOGAPE guarantees each bank can obtain is limited: no bank can be awarded more than two thirds of the total rights auctioned. This also helps to reduce moral hazard, as the amount that can be gained by reducing screening and monitoring today is reduced. Following the bidding process, banks have three months to grant the corresponding loans.

FOGAPE used to charge a fixed commission of one percent of the credit guaranteed, but since June 2004 has increased it to a range between one and two percent, depending on the claims performance of each bank. Default rates on loans guaranteed by FOGAPE have been relatively low, standing at 1.05 percent in the second semester of 2005, suggesting that the provision of its guarantees has not resulted in lower screening and monitoring by banks.<sup>70</sup> FOGAPE is designed to be a sustainable fund, in the sense that fees and other income, such as returns on investment, should cover all administrative costs and claims. Government support should be restricted to the provision of start-up capital. Benavente, Galetovic, and Sanhueza (2006) show that fees charged have been roughly equal to guarantees paid and that the fund seems to be operating on a break-even basis with revenues typically matching expenses. However, it is still an open question whether FOGAPE can be sustainable in the long-run, as there is little evidence that credit guarantee systems can achieve sustainability, even in developed countries.<sup>71</sup>

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<sup>68</sup> The main eligibility criteria are related to borrower and loan size. Also, total exposure of the guarantee fund to each borrower through loans from all banks is limited to UF 5,000 (approximately 120,000 U.S. dollars).

<sup>69</sup> FOGAPE establishes maximum guarantee coverages of 80 and 70 percent for long- and short-term loans, respectively.

<sup>70</sup> In comparison, default rates for the banking system as a whole stood at 1.01 percent.

<sup>71</sup> Graham Bannock and Partners (1997) claim that in practice no government credit guarantee scheme has been found to be able to cover administrative costs and default claims with fees collected. There is some

#### 4.4 Transaction Cost Subsidies

Access to credit by small borrowers, especially in developing countries, has usually been hindered by many difficulties, including lack of usable collateral, no credit histories, and no reliable records. Also, small borrowers usually seek to borrow small amounts, making the transaction costs of lending per unit too high. In developing countries these problems are compounded by deficiencies in institutions and market infrastructure that make it more expensive to gather information, value assets appropriately, and monitor and enforce contracts. As a result, small borrowers are usually excluded from the formal financial system. To address this problem, governments in most countries have provided loans to small producers, either through public banks or by using directed credit programs, at subsidized rates. As described above, interest rates subsidies have resulted in significant fiscal costs and have failed to improve access to finance. These subsidies just aim at increasing credit use, but do not address any of the underlying causes of access problems. Theory advocates that subsidies, if granted, should be targeted directly at the source of the distortion; otherwise, they create additional distortions that may lead to a worse outcome in equilibrium. In fact, interest rate subsidies have led to significant price distortions in financial markets associated with pervasive general-equilibrium implications.

An open question is whether subsidies can help to solve problems of access in a market-friendly way, that is, by fostering private financial intermediation without increasing distortions. In Mexico, the development agency FIRA has introduced a program called SIEBAN (Sistema de Estímulos a la Banca) to provide subsidies to cover the administrative and screening costs of serving small borrowers. This subsidy covers low-income rural producers that access credit from commercial banks, credit unions, or financial firms for the first time. The subsidy is a fixed amount that varies with the size of the loan, representing a maximum of 16.7 percent of the amount borrowed in the case of smaller loans, consistent with the idea of covering costs that tend to be relatively fixed. SIEBAN subsidies are portable by borrower (i.e., they can be used to obtain credit from different financial institutions), fostering competition. Financial institutions are required to provide borrower information to the credit bureau in order to help them establish credit histories. The subsidy decreases over time and has a duration of three years. The temporary nature of the subsidy is based on the fact that once borrowers have been able to establish credit histories, screening costs for financial institutions should be significantly lower, eliminating the need for subsidization.

The provision of a subsidy like SIEBAN could be justified on the basis of one of the arguments mentioned above for the creation of public credit guarantee systems, that is, subsidizing the costs for financial institutions of learning how to provide loans to a new group, in this case low-income rural borrowers. However, SIEBAN has several

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debate on this issue as Riding (1997), for instance, argues that the Canadian Small Business Loan Act , the Small Business Administration in the U.S., and the Loan Guarantee Scheme in the U.K. operate, in some cases, on a break-even basis.

design features that address the limitations of credit guarantees in achieving this objective. First, as Vogel and Adams (1997) point out, there is no evidence of public guarantee programs that have been able to eliminate guarantees after a certain period. In contrast, SIEBAN is designed to be temporary: after three years borrowers no longer receive any subsidy. Second, SIEBAN does not generate moral hazard. As discussed above, credit guarantee systems reduce incentives for financial institutions to screen and monitor borrowers, as the guarantee covers part of their credit losses. In the case of SIEBAN, there is no risk shifting to the public sector. Financial intermediaries only receive a (relatively small) fixed initial subsidy and have incentives to adequately assess borrowers' credit quality, since they face all the costs in case of default. Another important feature of SIEBAN is that it requires financial intermediaries to register borrowers in the credit bureau, consistent with the idea of reducing the information asymmetries that typically characterize small borrowers. An open question, however, is how effective SIEBAN has actually been in improving access to credit and whether small borrowers continue to receive credit once the subsidy ends. Also, the program is provided by FIRA, which finances it with the profits from other operations. To increase transparency, subsidies should be explicitly budgeted and separate from the provision of financial services.

#### **4.5 Public Lending**

As described above, the general experience with the provision of credit by public banks has been negative, resulting in high subsidies, recurring fiscal drains, and retarding, rather than fostering, financial market development. Major incentive and governance problems in the operation of public banks have tended to surface, leading to poor loan origination and even poorer loan collection, wasteful administrative expenditures, overstaffing, plain corruption, and political manipulation of lending. An open question is whether there is any role for the provision of public credit in fostering financial development and if this type of intervention can be designed in a way that ensures that at least no harm is done.

Yaron, Benjamin, and Charitonenko (1998) argue that some experiences from Asia, such as the Village Bank program of the Bank Rakyat Indonesia, show that public institutions can provide credit to rural producers in an efficient, market-friendly way and that subsidies are not necessary for the provision of financial services to these producers. They highlight the role of several mechanisms in increasing efficiency, such as shifting from disbursing credit to motivating loan recovery, establishing a hard budget constraint, increasing management autonomy, introducing innovative systems for both clients and employees to encourage repayment, and increasing staff accountability.

The microfinance lending operation implemented by Banco Estado, a public commercial bank from Chile, has also been considered a successful experience of provision of credit by a public financial institution (Benavente, 2006). Banco Estado decided to start lending to micro entrepreneurs in 1996 in order to foster the development of the Chilean microfinance market. At the time, no commercial bank was participating in this market and Banco Estado wanted to generate a demonstration effect. As discussed

above, financial innovation in many cases can be hampered by the fact that once a new lending technology is introduced and proves to be successful, others can easily adopt it. Therefore, there is little incentive for lenders to invest in new credit technologies. In this situation, as Besley (1994) argues, there might be a role for the government to subsidize innovation. A key factor for the success of Banco Estado's microfinance program has been the implementation of a new organizational structure tailored to meet the needs of micro entrepreneurs. Banco Estado also established new incentive systems for employees. An important change in this respect has been the increase in the fixed portion of the remuneration of account executives, in order to reduce incentives to focus solely on loan disbursement. Banco Estado's microfinance operations are managed by a separate business unit with its own profit and loss statement. The program was designed to be self-sustainable, without providing any subsidies. In fact, this program achieved break-even by the third year of operations and has remained profitable since then.

Banco Estado's microfinance program seems to have been successful in terms of fostering innovation, as three commercial banks have now entered the microfinance market. The program has also had a positive impact on the micro entrepreneurs that have access its funds, helping their firms to expand, increasing formality, and improving business practices (Benavente, 2006).

## **5. Final Remarks**

One of the objectives of this study was to once more call the attention of policymakers, development institutions, and academics alike to the fact that there are many problems of access to credit in developing countries, generated by the difficulties of solving principal-agent problems and reducing transaction costs in weak institutional environments. As a result, the penetration of formal credit in most developing countries is low and banks are disengaged from many economic activities.

Given the major potential benefits of access-enhancing financial development, a relevant question is whether government intervention to foster financial development and broaden access is necessary and, if so, what form should this intervention take. As we discuss, answers to this question tend to be polarized in two highly contrasting but well-established views: the *interventionist* and the *laissez-faire* views. We describe a number of recent experiences in Latin America that illustrate an emerging third view in this regard, which we denominate *pro-market activism*. This exercise shows that there are now a range of institutions in this region that seem to be moving in the direction of pro-market interventions, but little is still known about their activities. It is difficult yet to evaluate the results of these interventions. We do not attempt to undertake a comprehensive assessment of these interventions or to claim that they have been successful. Rather, we use them to illustrate how pro-market activism has worked in practice. The analysis of these experiences raises a number of questions that deserve further study and that are key to understanding whether the pro-market activism view can constitute a viable alternative to broaden access to finance in developing countries.

First, an open question is whether idiosyncratic experiences can lead to more general policy guidelines. We believe that the experiences analyzed show that the government can play a role in broadening access to finance through restricted self-sustainable interventions that aim to foster market activity, not replace it. However, one could reasonably question to what extent these experiences are the consequence of a specific institutional environment that favors government innovation and reduces the risk of political capture. Also, these interventions may be a result of certain characteristics of the public financial institutions that have implemented them, such as their management quality. A better understanding of these issues is key to determining to what extent these experiences can be replicated in other countries. As we have emphasized throughout this study, financial development is intrinsically linked to the institutional environment and therefore, government interventions that work under a given institutional matrix and at a given stage of financial development may produce unintended effects when transplanted to another institutional milieu. This suggests that interventions should be modified to take into account the idiosyncrasies of the institutional arrangements and market conditions in each country. A related question is whether, even if experiences can be replicated with some adjustments to local conditions, the government should try to create organizational capabilities to implement pro-market interventions where these capabilities do not exist.

Second, the analysis of the experiences suggests that it might be necessary to rethink some institutional features of development-oriented financial institutions to ensure that pro-market interventions succeed in fostering private financial intermediation and broadening access. In the first place, the move to pro-market interventions may require public financial institutions to separate subsidies from financing and to start functioning more as development agencies than financial intermediaries. Restricting government financial support to the provision of an initial endowment may help to reduce the distortions created by interventions, by forcing development institutions to provide their services at market prices—or at least at cost—in order to remain sustainable. Also, limiting the ability of these institutions to assume financial liabilities, including by taking deposits, may limit the potential fiscal costs of their interventions. Second, the mandate of institutions implementing pro-market interventions may need to be redefined in dynamic terms, not statically. This would provide incentives for these institutions to move on to new activities once the market they were promoting becomes self-sustainable. However, this might not be easily achieved, as public institutions may try to protect their franchise value by continuing to operate profitable and successful programs, even when public intervention is no longer necessary. This problem could be ameliorated by establishing separate business units, with their own profit and loss statements, to implement new interventions and by creating clear sunset clauses when launching a new program. Third, the management of these institutions should be devoid from political influence. The negative experiences with public banks in developing countries illustrate the high costs of political interference. Guaranteeing that public financial institutions are managed in an independent and professional manner seems to be a key factor for the success of pro-market interventions. Finally, the advent of a new approach to government intervention in financial markets may require new ways of evaluating the performance of development-oriented financial institutions. Most of the programs analyzed were implemented by first or second-tier public (development) banks that are evaluated on the basis of traditional performance indicators, such as the volume of loan disbursements or



the amount of guarantees provided. These evaluation criteria generate incentives that could be inconsistent with the implementation of interventions that foster private market development. Evaluations based on credit growth, for instance, force development institutions to combine more innovative market friendly interventions with the provision of loans, even if liquidity is not a constraint for private financial intermediaries. The bundling of more innovative instruments with traditional ones— such as second-tier lending, guarantees, and subsidies—motivated by the use of traditional performance indicators, makes it very difficult to analyze the individual merits of each instrument. Bundling also carries the risk of distorting prices and incentives. Fostering the proliferation of new market friendly instruments may require basing the evaluation of development-oriented financial institutions on a new set of indicators, including measures of the increase in financial activity generated by their interventions and indicators of their impact on economic activity and the socio-economic environment of the targeted population. These new indicators may be more difficult to design and estimate than traditional ones, and it may take time and a process of trial and error to find the correct indicators to evaluate each type of intervention.

Third, further research is needed to understand how to minimize the unintended consequences of pro-market interventions. First, the focus on short term-interventions may distract governments from the hard work of improving the enabling environment for financial markets, which is the first best according to the pro-market activism view. Institutional reforms may take a long time to yield visible results in terms of access and the possibility of obtaining some short-term results through pro-market interventions may reduce government incentives to forge ahead with reform efforts and may even divert resources away from those efforts. Although the pro-market activism view argues that institutional efficiency is the economy's first best and considers direct government interventions as a complement, not a substitute, for institutional reform, it is not clear that the actual implementation of its proposals will not result in the diversion of government efforts away from achieving the economy's first best. Second, given the existence of path dependence in the evolution of financial markets, the implementation of second-best solutions like those proposed by the pro-market activism view may lead to inefficient equilibriums. Direct government interventions, even if designed in a market friendly way, may lead to dysfunctional yet self-reinforcing institutional hybrids, which may be subsequently very hard to dislodge. Finally, the creation of vested interests entailed in any direct government intervention raises tricky political economy issues. Even if interventions are designed to be time-bound and financial support is restricted to the provision of seed capital, the government may face pressures to provide additional funds in the future or might be tempted to prop up programs or institutions with more favorable access to subsidies or public funds. This is one of the main challenges faced by pro-market interventions. A number of instruments can be used to mitigate this risk. For example, the government could create sunset clauses by law with clear indicators of when the public sector should end its participation, or even fixed time limits, which raise the institutional costs of extending or propping up interventions. Of course, this type of clauses also reduce flexibility, but this may be a small cost to pay to avoid the recurrent fiscal drains that have characterized past public interventions in financial markets. The participation of multilateral organizations may also help to ameliorate political risks.

However, in those cases where institutional incentives cannot be designed to effectively reduce this risk, the government should refrain from intervening.

Fourth, an open question is whether there is a need for pro-market interventions in the long run. As discussed throughout this study, the economy's first best is achieving a good enabling environment that allows financial markets to flourish. In this context, pro-market interventions are seen as short-term solutions to broaden access while institutional reforms are taking time to mature and may even help to speed up the process. However, it is not clear whether once a good enabling environment is achieved there is a need for direct government interventions. If there are long-term market failures that even in a good contractual environment cannot be dealt with by private parties, there could be a role for pro-market interventions in the long run. The widespread intervention of the public sector in financial markets in developed countries suggests that this could be the case. However, one could question to what extent the persistence of these interventions is the result of political capture and self-reinforcing institutional arrangements that make it very difficult to dismantle them, even if they are no longer useful for fostering financial market development. Further research is needed to clarify this issue.

Finally, the experiences of pro-market intervention described raise the question of why, if a certain activity is profitable, the private sector does not take the initiative. As discussed, in some cases innovation in financial markets may be hindered by the fact that once a new lending technology is introduced and proves to be successful, others can easily adopt it. Therefore, there is little incentive to invest in new credit technologies and there might be a role for the government to subsidize innovation. However, even if some type of government support is necessary, it is not clear that this should result in a direct intervention by a public institution, as the government could subsidize innovation by private financial intermediaries. This also suggests that the government should exit the operation of innovative programs once the market they were promoting becomes self-sustainable. An open question in this regard is whether direct government intervention is necessary at all or if, given the right incentives, the private sector would take the initiative. Further research is necessary to answer these questions, but they suggest that there is an important role for collaboration between the private and public sectors in fostering financial development and broadening access.

## Appendix 1

### An Overview of Microfinance

Microfinance consists in the provision of financial services to low-income individuals and informal businesses. As CGAP (2003a) emphasizes, while microfinance originally focused on providing working-capital loans to micro-entrepreneurs through the use of collateral substitutes, it has now expanded to include all sorts of financial services, including credit, insurance, savings, and money transfer services.

Access to credit by low-income borrowers, especially in developing countries, has usually been hindered by many difficulties, including lack of usable collateral, no credit histories, and no reliable records. Also, low-income borrowers usually seek to borrow small amounts, making the cost of lending per-unit too high. To overcome these obstacles, microfinance institutions developed a series of innovative lending techniques. A much studied mechanism (see, for example, Armendariz de Aghion, 1999b; Besley and Coate, 1995; Ghatak and Guinnane, 1999; and Morduch, 1999) is group lending, in which lenders group themselves to apply for loans. Loans are made to individual members of the group, but the group as a whole is held jointly liable for repayment. This reduces screening and monitoring costs for the creditor, as risky borrowers are excluded from the group and group members have strong incentives to monitor each borrower, with social sanctions among members replacing (weak) legal sanctions. Microfinance institutions also try to ameliorate the problems caused by asymmetric information through the use of dynamic incentives such as progressive lending, which involves increasing loan disbursements gradually over time, so that failure to repay an earlier loan causes borrowers to lose access to larger loans in the future. Another mechanism is the use of frequent repayment schedules, to help establish the creditworthiness of the borrower and reduce the possibilities for diversion. Technological advances, especially those related to scoring methods, and the availability of debtor information have also played an important role in the expansion of the microfinance industry by significantly reducing screening costs.<sup>72</sup>

As microfinance has evolved, there has been an increasing flexibility in the use of techniques, with business models and lending technologies now differing widely across countries and even across microfinance institutions within a given country. This is partly the result of the still experimental nature of microfinance and also reflects the need to adapt to local conditions. As the practices of microfinance institutions have changed, their lending techniques have become increasingly similar to those of mainstream financial institutions (Honohan, 2004).

Microfinance was initially developed and is today still primarily deployed by nongovernmental organizations (NGOs), with most of the funding coming from multilateral development agencies and, to a lesser extent, private charities and local

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<sup>72</sup> See, for example, Hardy, Holden, and Prokopenko (2002) for a description of how the availability of debtor information systems combined with scoring technologies has allowed Banco del Trabajo in Peru to become a commercially-viable microfinance institution. CGAP (2003b) presents an overview of how scoring works and its application to microfinance.

governments (Hardy, Holden, and Prokopenko, 2002). However, there has been an increasing trend towards microfinance operations becoming self-sustainable and commercially viable. Between 1992 and March 2003, 39 NGOs in 15 countries have transformed into full-fledged banks, while another 200 have become supervised non-bank financial institutions, either permanently or as an interim step towards becoming a bank (Krebsbach, 2003). Some of these microfinance institutions have even been able to successfully issue bonds in local capital markets (Jansson, 2002). Also, several commercial banks have started to enter the microfinance market, either by providing financial services directly to low-income customers or acting through existing microfinance institutions (see, for example, CGAP, 2005b; Littlefield and Rosenberg, 2004; and The Economist, 2005). These trends have been particularly pronounced in Latin America, where by 2001 commercial banks provided around 29 percent of financing to micro enterprises, while NGOs that became licensed financial institutions, together with other non-bank licensed financial intermediaries, provided an additional 45 percent (CGAP, 2001).<sup>73</sup>

Despite its strong growth over the last years, microfinance penetration is still quite low in most countries. For instance, Daley-Harris (2003) reports that the ratio of borrowing clients of microfinance institutions to the total population exceeds two percent in only eight countries and in most countries (35 out of a total of 55 developing countries covered by the study) this ratio is below one percent. CGAP (2004) analyzes the penetration of all institutions that focus on expanding financial services to the poor, including not only microfinance institutions, but also postal savings banks, financial cooperatives, rural banks, and development banks. Its results indicate that the number of savings and loan accounts in these institutions as a percentage of the total population reaches four percent in Africa, five percent in Eastern Europe and Central Asia, and three percent in Latin America. Coverage is much higher in East and South Asia, reaching 17 percent of the population.

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<sup>73</sup> In 2001 the microfinance industry in Latin America served approximately 1.5 to two million clients and had a total loan portfolio of about 1.5 billion U.S. dollars. There were 97 specialized regulated financial institutions operating in this segment, most of which were created through the transformation of NGOs, with a combined portfolio of 914 million U.S. dollars (Jansson, 2002).

## Appendix 2

### BANSEFI's Experience

#### 1. Introduction

Access to financial services in Mexico is very limited. World Bank (2003b), for instance, estimates that three quarters of the adult population of Mexico City has no bank account or any dealings with a financial institution. In the case of rural areas, access to financial services is even more reduced, with only six percent of households using formal financial savings instruments and less than three percent having access to credit from a financial institution (World Bank, 2001). Bank density rates are low, with a country-wide average of one branch per 12,000 people. Around 74 percent of municipalities, representing 22 percent of the population, have no bank branch (World Bank, 2004b).

Lower income households, especially in rural areas, rely on a wide variety of loosely regulated or unregulated financial institutions (called *popular savings and credit institutions*)—including credit unions, savings and credit associations, cooperatives, and NGOS—for the provision of financial services. As of June 2001, this sector was comprised of about 618 institutions serving approximately 2.3 million people (around seven percent of the economically active population) with total assets of more than 1.4 billion U.S. dollars (about one percent of banking sector assets).<sup>74</sup> The lack of effective regulation and supervision has meant that these institutions and their depositors are exposed to significant risks, constraining the sector's development. Also, most of these institutions are small, community-based organizations, with limited product offering, no links to the national payment system, and low efficiency levels.

The Mexican government tried to increase access to financial services in rural areas by providing these services through several development-oriented financial institutions and trust funds. These interventions created large fiscal outlays and failed to achieve a significant increase in access to finance. The total cost of government intervention in the rural financial system in Mexico during the 1983-1992 period has been estimated at approximately 28.5 billion U.S. dollars, 80 percent of which is associated with interest rate subsidies. The annual average of these costs represents about 13 percent of agricultural GDP (Brizzi, 2001). The government started to reform rural credit policies in the early 1990s to increase the efficiency of public rural finance institutions and reduce their fiscal costs. It made transfers to these institutions more transparent, reorganized inefficient entities, and reduced subsidies.

Between 1996 and 1999 the Mexican government tried to encourage commercial banks to extend their presence in rural areas by subsidizing the costs of opening and operating new branches. However, this project failed to induce a significant expansion of branch networks, partly as a result of the consequences of the 1994-1995 financial crisis, but also due to the availability of alternative profitable opportunities for commercial banks. Also, opening new branches in rural areas represented a significant investment in

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<sup>74</sup> See Table 2.1.

new infrastructure and staff for commercial banks and required them to develop knowledge on rural economic activities.

The failure of these attempts to increase access to financial services in rural areas led the Mexican government to focus on strengthening popular savings and credit institutions in order to help them increase their outreach. Since these intermediaries were already working in rural areas and had knowledge of rural economic activities, the incremental cost of extending client outreach for them was expected to be smaller than for commercial banks. To this end, the government developed a new regulatory and supervisory framework for popular savings and credit institutions. The decision to create a new legal framework was also motivated by the failure of several of these institutions due to fraudulent activities in the late 1990s (Taber, 2005).

The new legal framework, enacted through the *Ley de Ahorro y Credito Popular (Savings and Popular Credit Act)*, became effective in June 2001. This law provides for the gradual incorporation of popular savings and credit institutions into the new legal framework over a four-year period. Under this law, two types of popular savings and credit institutions will be authorized to mobilize deposits from the public: *Sociedades Cooperativas de Ahorro y Credito (Savings and Credit Cooperatives)* and *Sociedades Financieras Populares (Popular Financial Associations)*. The main difference between the two is that the former are non-profits owned by their members, while the later are partial for-profits owned by shareholders. The scope of financial intermediation activities allowed, as well as the regulatory and supervisory standards applied, depends on several characteristics of institutions, including asset size, number of clients, number of branches, geographic location, and technical and operational capabilities, with four distinct categories. The CNBV (Comisión Nacional Bancaria y de Valores, *National Banking and Securities Commission*) is responsible for regulating and supervising the sector and licensing the different popular savings and credit institutions. The new legal framework establishes an auxiliary supervision scheme, with federations (voluntary groupings of popular savings and credit institutions) enforcing secondary regulations and carrying out some supervision and oversight tasks.<sup>75</sup> To be licensed by the CNBV an institution must first receive a favorable rating from the supervision committee of its federation. Federations are grouped in confederations, which are responsible for operating a deposit insurance fund. This fund will be created using an initial government contribution and will subsequently be strengthened with contributions from popular savings and credit institutions. Both federations and confederations are licensed by the CNBV.

## **2. BANSEFI's Role**

As part of its strategy of fostering the development of the popular savings and credit sector, in April 2001 the government created BANSEFI (Banco de Ahorro Nacional y Servicios Financieros, *National Savings and Financial Services Bank*), a development bank with the objective of providing support to this sector. BANSEFI was

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<sup>75</sup> This system of auxiliary supervision is based on the models of financial cooperative supervision employed in Germany and Canada.

created out of PANHAL (Patronato Nacional del Ahorro), a government-owned narrow bank that focused exclusively on mobilizing savings by capturing deposits, mostly among small-scale rural clients, and investing these funds in government debt securities. BANSEFI has two main mandates: first, promoting savings by acting as a narrow bank (a function it inherited from PANHAL) and second spearheading the development of the popular savings and credit sector.

To accomplish this second mandate, BANSEFI performs two tasks. First, it administers and coordinates a one-off government subsidy for about 45 million U.S. dollars (mostly financed by the World Bank) to strengthen and support popular savings and credit institutions in their transition process towards licensing under the new legal framework. BANSEFI provides institutions and federations with technical assistance and training to help them improve their governance, transparency, and management capabilities to standards required for licensing. BANSEFI also helps to coordinate the evaluation of the popular savings and credit institutions and the development of action plans to strengthen those institutions that do not yet meet the operational and financial standards of the new legal framework. Supervisory committees were created in each federation to assess, with the support of international institutions specialized in this sector, the financial condition of each institution and its operational capabilities.

BANSEFI's second task, which we view as the most innovative component, is to provide centralized back-office services like electronic transfers, liquidity management, clearing house services, debit and credit card services, and foreign exchange and derivatives transactions to the popular savings and credit institutions to allow them to capture economies of scale and scope that they may not be able to achieve individually. In the case of liquidity services, for instance, BANSEFI can consolidate the liquidity of all the participant institutions and invest it on their behalf in the commercial banking system, securing a higher rate of return than what the institutions could negotiate individually. BANSEFI is developing a technological platform, financed with a one-off subsidy of about 90 million U.S. dollars, to allow the sector to operate effectively as a network and to help institutions minimize operation and supervision costs. These centralized services are offered at fee and can be voluntarily and modularly contracted by the institutions.

BANSEFI has also created a commercial alliance among several popular savings and credit institutions (L@Red de la Gente, *The People's Network*) to share branches and facilitate the distribution of financial products.<sup>76</sup> This network uses a common technological platform to distribute financial products, helping to generate homogenous products that are offered under an umbrella trademark, significantly reducing distribution and marketing costs. L@Red de la Gente is also used to distribute several government programs and operates with traditional money transfer companies that use its network to distribute remittances.<sup>77</sup> This provides additional revenues to member institutions through

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<sup>76</sup> This network is currently integrated by 68 institutions with a total of 1,170 branches, including 548 branches that BANSEFI inherited from PANHAL.

<sup>77</sup> Remittances are a major source of income in Mexico. In 2004 Mexicans received 16.6 billion U.S. dollars in remittances and estimates for 2005 are around 20 billion. About 75 percent of the 25 million emigrants living abroad have no access to financial services (BANSEFI, 2006).

distribution fees and helps to attract new customers and increase financial services penetration. The distribution of government programs is linked to the opening of savings accounts for beneficiaries, helping to introduce them into the financial system. At the end of 2003, for instance, more than 80 percent of the beneficiaries of the Oportunidades government program who received their benefits through L@ Red kept positive balances in their accounts.<sup>78</sup> There is no exclusivity agreement or legislation restricting competition for the distribution of government programs and therefore L@Red de la Gente must provide its distribution services on a competitive basis.

The BANSEFI-led program has made substantial progress in meeting its objectives, although there have been some delays in the process of upgrading and converting the popular savings and credit institutions into regulated entities. In April 2005 the deadline to comply with the new regulatory standards for those institutions that meet minimum ratings was extended to December 2008. As of December 2005, three popular savings and credit institutions and 12 federations had been authorized by the CNBV. Out of 406 institutions participating in the technical assistance program, 360 have already been classified, with about six percent meeting the requirements to apply for licensing and another 48 percent having to implement a stabilization plan before become eligible for authorization (see Table 2.2). The remaining institutions will have to undergo major reorganization processes or will be liquidated. The technological platform is in the implementation stage with four institutions currently participating and an additional 83 intending to start roll-out.

### **3. Policy Discussion**

A salient characteristic of BANSEFI's activities is that, in line with our stylized description of the pro-market activism view, they are designed to promote the development of private financial intermediaries, not replacing them. However, one could reasonably question whether providing support to popular savings and credit institutions is warranted and whether other policy options would not yield similar or even better results. If increasing access to financial services in rural areas is considered beneficial due to the associated externalities, the government could subsidize the opening of commercial bank branches in those areas, rather than supporting informal institutions. As mentioned above, the Mexican government tried to encourage commercial banks to extend their presence in rural areas between 1996 and 1999 by subsidizing the costs of opening and operating new branches. However, this project failed to induce a significant expansion of branch networks. The failure of this effort led the Mexican government to try to foster the development of those intermediaries that are already working in rural areas and have knowledge of rural economic activities. The need to transform the popular savings and credit institutions into regulated institutions was reinforced by the failure of several of these institutions due to fraudulent activities in the late 1990s. BANSEFI explicitly recognizes that the government could focus on improving the enabling environment, so that popular savings and credit institutions would resolve their

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<sup>78</sup> The Oportunidades program provides cash transfers for health and education expenses to lower-income families.



deficiencies over time, until becoming fully integrated with the formal financial system. However, it argues that this would take a long time and therefore some type of government intervention is necessary to speed-up the process (see BANSEFI, 2003).

Another relevant question about BANSEFI's activities is why government intervention is needed to provide centralized services and help popular savings and credit institutions achieve economies of scale. In principle, if there are significant benefits of scale, these institutions should grow and capture these economies of scale by themselves. Alternatively, they could contract a private provider of back-office services. Most popular savings and credit institutions are rather small (only two institutions have more than 50 branches) because the type of credit they provide requires detailed knowledge of local borrowers and business conditions, constraining their geographic expansion. Most of these small institutions may also lack adequate capital and human resources to use new information and communication technologies to expand their operations and achieve economies of scale. Regarding the private provision of centralized services, most of the costs of back-office operations are fixed and therefore the adoption of a similar provider by many institutions may be necessary to achieve economies of scale and make this kind of service profitable. The failure to coordinate efforts among different institutions may prevent the development of a private provider. Also, while commercial banks could use their existing back-office operations to provide services to popular savings and credit institutions, this may be prohibited by regulations and many institutions may be unwilling to share data with banks that could potentially become their competitors.

BANSEFI has some institutional features that differentiate it from more traditional interventions. BANSEFI was financed by a one-off subsidy from the government (mostly financed by the World Bank). Therefore, government funding was limited to providing seed money to upgrade the popular savings and credit institutions and build the technological platform to provide them with centralized services. The lack of annual budget allocations forces BANSEFI to provide its services at market prices—or at least at cost—in order to remain sustainable, reducing distortions. Of course, the creation of vested interests entailed in this type of intervention raises tricky political economy issues, as the government may face pressures to provide additional funds to BANSEFI in the future or to use it to channel funds to the private sector through the popular savings and credit institutions.<sup>79</sup> We believe that these are important risks that must be considered when designing any intervention. In the case of BANSEFI these risks may have been mitigated by the participation of multilateral organizations and the creation of a clear sunset clause, establishing that BANSEFI would be, at least partially, sold to the popular savings and credit institutions once these institutions become formal regulated entities. The result of this sale will be a clear indicator of whether BANSEFI has actually added value by providing centralized services. The terms and procedures for

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<sup>79</sup> Although the law authorizes BANSEFI to lend to the popular savings and credit institutions and their clients, it has concentrated on providing fee-based services and not taking credit risk exposure, as this could threaten its sustainability. Also, providing credit to the public would place BANSEFI in direct competition with private institutions, which runs contrary to its objective of fostering financial market development. While the fact that BANSEFI has avoided providing credit is commendable, one could reasonably argue that the best option to reduce political risk would be to explicitly prohibit BANSEFI from extending credit.

this sale are currently under analysis (BANSEFI, 2006) and many sector representatives have expressed interest in taking part (CGAP, 2005a).

On aspect of BANSEFI's experience that raises some questions is the fact that, as described above, it performs two tasks in relation to popular savings and credit institutions: giving them technical support to help them become formal financial institutions and providing them with centralized services to help them achieve economies of scale and scope. An open question is whether having a single institution fulfill both tasks may not generate some incentive problems. For instance, since BANSEFI provides popular savings and credit institutions with technical support and training, they might feel pressured to use its centralized services, even if these services do not add much value or are not competitively priced. Of course, constructing a technological platform to help informal institutions to reduce their costs may not make much sense if these institutions are not sustainable and lack adequate capabilities. Therefore, upgrading informal institutions may be a pre-condition to the provision of centralized services, and both functions may complement each other, to the extent that sustainable institutions may be better able to take advantage of the cost reductions generated by the centralized provision of back-office services, and lower costs may increase sustainability. However, while admitting that both tasks are necessary, one could reasonably question whether they should be performed by the same institution. In the case of BANSEFI, this problem may be compounded by the fact that it has second separate mandate. As mentioned above, BANSEFI inherited a wide network of branches from PANHAL that capture deposits and invest them in government securities. The participation of BANSEFI in the retail savings sector may place it in competition with popular savings and credit institutions. In fact, according to CGAP (2005a), some of the largest institutions have opted not to use BANSEFI's centralized services because they see it as a potential competitor. In contrast with this perception, BANSEFI does not believe it competes with popular savings and credit institutions, as it does not provide credit services and many of its branches are located in areas where they are not present.

**Table 2.1: Overview of Popular Savings and Credit Institutions**  
(June 2001)

<b>Type of Institution</b>	<b>Number of Institutions</b>	<b>Number of Clients (Thousands)</b>	<b>Legally Authorized to Receive Deposits?</b>	<b>Regulated?</b>
Credit unions	32	19	Yes	Yes
Savings and Loans Associations	11	675	Yes	Yes
Cooperatives	157	1,081	Yes	No
Social Credit Institutions	210	190	No	No
Populer Credit Institutions	208	344	No	No
<b>Total</b>	<b>618</b>	<b>2,309</b>		

Source: BANSEFI

**Table 2.2: Evaluation of Popular Savings and Credit Institutions**  
(November 2005)

<b>Global Rating by Technical Assistance Experts</b>	<b>Number of Institutions</b>	<b>Share of Institutions</b>
A	20	6%
B	172	48%
C	110	31%
D	58	16%
<b>Total</b>	<b>360</b>	

### Rating Categories

**Category A:** Institutions that meet the requirements to apply for authorization.

**Category B:** Institutions that require an improvement program to be authorized.

**Category C:** Institutions that are in need of overhaul and that require financial support to strengthen their capital. This includes institutions that will require a merger, spin off, or major reorganization process.

**Category D:** Institutions that are incapable of meeting the minimum requirements for operating pursuant to the Savings and Popular Credit Act. These institutions shall be liquidated or dissolved.

## Appendix 3

### The NAFIN Reverse Factoring Program

#### 1. Factoring

In many countries, small businesses find it difficult to finance their production cycle, since they lack access to bank credit and most buyers usually take between 30 and 90 days to pay. After delivery, sellers issue an invoice, recorded as an account receivable by the seller and an account payable by the buyer. Factoring is a type of financing in which firms sell their accounts receivable at a discount (equal to interest plus service fees) to a financial firm (called the factor) and receive immediate cash. Factoring is an asset sale, not a loan. There is no debt repayment and no additional liabilities on the supplier's balance sheet. Most factoring is done "without recourse," meaning that the factor assumes the default risk, as it does not have recourse against the supplier if the buyer defaults. Thus, the credit risk that the factor faces is that of the buyer.

An alternative to ordinary factoring is reverse factoring. In this case, the factor only purchases accounts receivable issued by certain buyers. Reverse factoring may have significant advantages in providing financing to SMEs in developing countries. Ordinary factoring requires information on all of the borrowers' customers, which may be difficult to obtain in countries without good credit information systems. Also, fraud (false receivables, non-existing customers, etc.) is a significant problem in ordinary factoring, especially in countries that lack credit bureaus and electronic registries and have weak legal environments. Reverse factoring reduces these problems, as the factor only needs to assess the credit worthiness of a specific group of large firms. Another advantage of factoring in developing countries is that it does not require good bankruptcy systems, just the legal ability to sell, or assign, accounts receivables. Since factoring involves the purchase of accounts receivable by the factor, not the provision of a loan, the receivables become the property of the factor and are not affected by the bankruptcy of the supplier.<sup>80</sup>

Factoring has experienced significant growth in both developed and developing countries in recent years. In 2004, total worldwide factoring volume reached 860.2 billion euros (about 1.1 trillion U.S. dollars), after an impressive growth of 88 percent since 1998. Factoring volume, both in absolute terms and as a percentage of GDP, is higher in Western European countries, with the U.K. and Italy having the largest markets. Factoring is still relatively underdeveloped in most developing countries, but transaction volume in those countries has more than doubled over the last seven years.<sup>81</sup>

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<sup>80</sup> Despite this advantage, creditor rights and contract enforcement are not irrelevant for factoring transactions, as they affect the factor's ability to collect payment from the buyer. Also, in emerging economies there may be additional legal, tax, and regulatory issues that limit the ability to conduct factoring transactions (see Klapper, 2005 for a discussion).

<sup>81</sup> See Bakker, Klapper, and Udell (2004) for an overview of worldwide factoring markets, with a focus on Eastern European countries. Klapper (2005) analyzes the determinants of factoring market development.

## 2. Description of NAFIN's Reverse Factoring Program

Nacional Financiera (NAFIN) is a Mexican development bank created in 1934 to provide commercial financing. NAFIN is mostly a second-tier bank: about 90 percent of its lending is done through banks and only ten percent is made directly to borrowers. NAFIN launched an online system, called Cadenas Productivas (*Productive Chains*), to provide reverse factoring services to SMEs in 2001. This program works by creating chains between “big buyers” and their suppliers. The buyers that participate in the program, large credit-worthy firms, must invite suppliers to join their chain. All transactions are carried out on an electronic platform. NAFIN maintains an internet site with a dedicated page for each buyer. Once a supplier delivers goods to the buyer and issues an invoice, the buyer posts an online negotiable document equal to the amount that will be factored (usually 100 percent of the value of the receivable) on its NAFIN webpage. Participant financial institutions that are willing to factor this particular receivable post their interest rate quotes for this transaction. Finally, the supplier can access this information and choose the best quote. Once the factor is chosen, the discounted amount is transferred to the supplier's bank account. The factor is paid directly by the buyer when the invoice is due (see figure 3.1).

This program has several advantages in terms of dealing with principal-agent problems and transaction costs. First, buyers must invite their suppliers to join their chain and participate in the program. This effectively outsources screening to the buyers, who have an informational advantage relative to financial institutions. Buyers generally require suppliers to have a relationship of a minimum length and a good performance record before inviting them to participate in the program. Banks are not required to invest significant resources in the screening process since they only need to collect credit information and estimate the credit risk of buyers, which are large credit-worthy firms that in many cases already have an ongoing business relationship with them. Second, the system increases information availability and prevents fraud. Banks can access information on the performance of the suppliers, which helps to establish credit histories and may provide cross-selling opportunities. Also, since the buyer (not the supplier) enters the receivables into the system, the supplier cannot submit bogus receivables, preventing fraud. Third, the use of an electronic platform significantly reduces transaction costs. The electronic platform allows NAFIN to capture economies of scale, since most of the costs of the system are fixed and electronic access enables a large number of firms and financial institutions to participate. The platform also increases the speed of transactions: all transactions are completed within three hours and the money is credited to the suppliers' account by the close of business, providing them with immediate liquidity. Furthermore, the system increases competition among financial intermediaries, as once a transaction is posted online all participating financial institutions can bid to factor it by posting an online quote. The use of an electronic platform allows all banks to participate, giving national reach to smaller regional banks.

NAFIN was responsible for the development, production, and marketing costs related to the electronic platform. It operates the system and also handles all the legal work, such as document transfers, preparing and signing documents, etc. NAFIN requires all participating financial institutions to use its second-tier funding to provide credit

through the system. In fact, NAFIN does not charge a fee for the factoring services, but rather covers its costs with the interest it charges on its loans. Banks are allowed to charge a maximum interest rate of seven percentage points above the rate at which they get funding from NAFIN. This limit seems to be non-binding, as banks charge on average five additional percentage points (which is about eight percentage points below commercial lending rates).

NAFIN's factoring program has been very successful. As of mid-2004, the program encompassed 190 large buyers (45 percent of which were private) and more than 150,000 suppliers (about 70,000 of these were SMEs). About 20 domestic lenders participated in the program, including banks and independent financial companies. NAFIN has extended over nine billion U.S. dollars in financing since the program's inception and has brokered more than 1.2 million transactions, 98 percent by SMEs. According to Klapper (2005), many of the suppliers had no access to external financing before participating in the program and most depended on credit from their own suppliers and internal funds to finance their activities. More than half of NAFIN's second-tier lending in 2004 corresponded to the financing of factoring transactions originated from this program. NAFIN has started to offer other credit products, like contract financing, using the same electronic platform and has created a similar system to provide factoring services to exporting firms. NAFIN has also entered into agreements with development banks in several Latin American countries, including Colombia, El Salvador, and Venezuela, to create similar programs and development banks in other countries in the region are considering replicating NAFIN's model.

Several factors have contributed to the success of NAFIN's program (see Naranjo, 2005). A key element was the consistency between strategy and resource deployment. The creation of the Cadenas Productivas program required NAFIN to change from a model where its focus was affecting the supply of credit through second-tier lending to a model where it had to affect the demand for funds by promoting financial intermediation. The promotion of the factoring program had to be made mostly at the firm level and required different human and technical resources than acting as a second-tier bank, namely a new and larger retail sales staff and promotional resources. Deploying the required resources to establish the productive chains was one of the main drivers of the success of NAFIN's program. Second, the use of a non-lending contract like factoring helped to overcome institutional deficiencies and reduce principal-agent problems, fostering financial intermediation. Finally, the success of the program depended on the availability of technology to implement the electronic platform which significantly reduces transaction costs. The use of this electronic system was facilitated by the existence of adequate legislation regulating electronic transactions.

### **3. Policy Discussion**

In line with the stylized description of pro-market interventions presented in this study, NAFIN's program is designed to foster financial market activity, not replace it. However, one could question whether this is actually the case, since, in principle, the services offered by NAFIN's online system could be provided by a private firm and

therefore this program could be displacing private sector activity. At the time of the program's introduction, some financial firms were providing factoring services in Mexico, but none had developed a system integrating a large number of firms and financial intermediaries. A possible explanation for this lack of private sector initiative is that financial innovation in many cases can be hampered by the fact that once a new lending technology is introduced and proves to be successful, others can easily adopt it. Therefore, there is little incentive for lenders to invest in new credit technologies. In this situation, as Besley (1994) argues, there might be a role for the government to subsidize innovation. Furthermore, the system created by NAFIN may present significant network effects, since the value for firms of participating increases with the number of financial institutions that take part, and vice versa. This type of network effects may give rise to a "chicken and egg" problem: to attract buyers and suppliers, the program needs a large base of registered financial intermediaries, but these will be willing to register only if they expect many firms to participate. Also, note that financial intermediaries are most likely to have the know-how to create a program of this type, but they may not be willing to allow their competitors to participate, reducing the incentives for buyers and suppliers to take part. Without a coordination mechanism, no innovation may take place in this situation. As mentioned above, a key factor in the success of NAFIN's program has been the development of a large retail sales staff and promotional resources to reach firms and establish the productive chains, which requires different human and technical resources than financial intermediation.

There are several characteristics of NAFIN's Cadenas Productivas program that may hold important lessons for the design of pro-market interventions. First, the program is designed to foster competition among financial institutions and increase information availability. Once a transaction is posted online, all participating banks can bid to factor it by posting an online quote. The system also increases transparency, as all banks can access historical information on the performance of suppliers which helps them to establish a credit history. NAFIN's experience suggests that in order to foster competition through this type of intervention, it is necessary to facilitate the participation of all financial intermediaries and to avoid giving preferential access or other advantages to larger banks or public institutions.

Second, as mentioned above, NAFIN requires all financial institutions that participate in the Cadenas Productivas program to use its funds for lending through the system and does not charge any fees for the use of the electronic platform, covering its costs with the interest it charges on its loans. This reduces transparency and makes it difficult to evaluate whether the program's services are adequately priced. Also, there is no reason for NAFIN to provide funds to the participating financial institutions. The requirement to use loans from NAFIN seems to be the result of institutional incentives: since NAFIN is a second-tier development bank, its performance is evaluated in terms of the volume of loan disbursements. In fact, as Naranjo (2005) highlights, the creation of the factoring program seems to have been driven, at least partially, by the loss of NAFIN's traditional cost advantage in lending to the financial sector and the resulting need to increase demand for its loans through other means. As the financial system recovered from the 1994-1995 financial crisis and overall macroeconomic conditions improved, the spread between bank rates and the Mexican sovereign rates decreased significantly and

NAFIN's financing became relative expensive. It was no longer possible for NAFIN to promote credit to SMEs using second-tier lending. Therefore, it tried to increase its loan volume by fostering financial intermediation through the reverse factoring program. NAFIN's experience suggests that in order to foster pro-market interventions and avoid distortions, it may be necessary to develop new ways of evaluating the performance of public institutions that go beyond the volume of credit provided and rather focus on the amount of financial intermediation promoted.

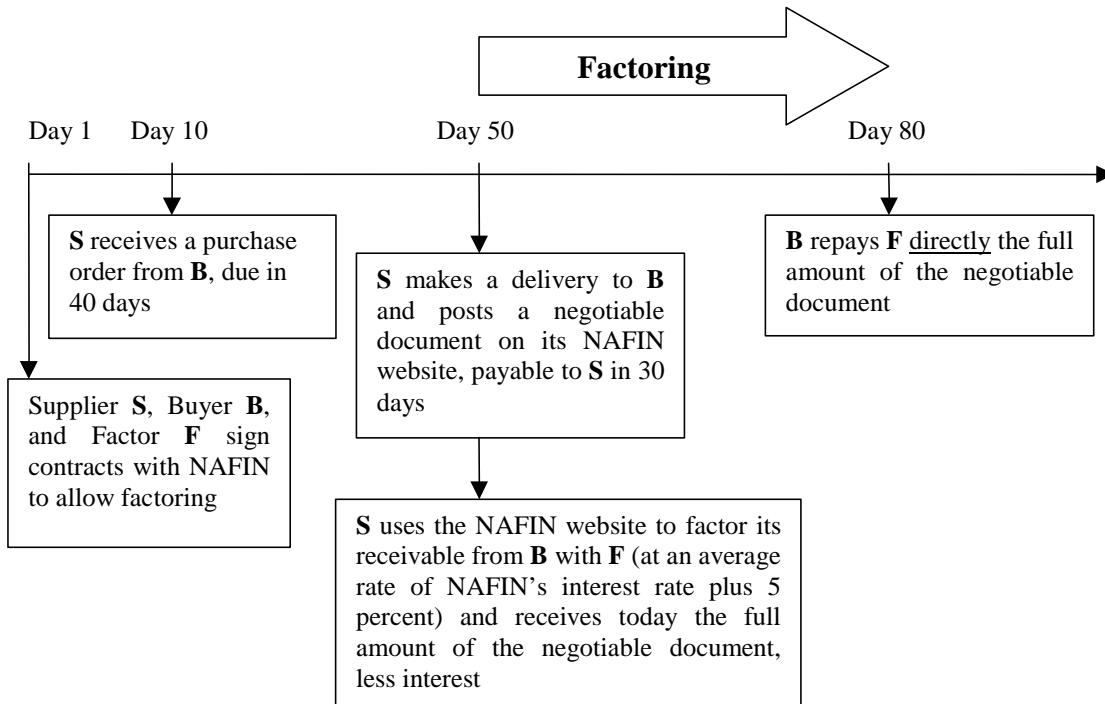
Finally, one could reasonably question whether continued government operation of the program is necessary. While there might be arguments for subsidizing the initial costs of developing and promoting the program and operating it in its initial stages, there is no a priori justification for government participation once it becomes fully functional. Development institutions should move on to new activities once the market they were promoting becomes self-sustainable. For instance, NAFIN could sell the Cadenas Productivas program to a private firm. However, institutional incentives may make this quite difficult. When a program is successful and profitable, the public institution that manages it does not have incentives to divest it. Also, the program may become an important part its activities. In the case of NAFIN, for instance, more than half of its second-tier lending in 2004 corresponded to the financing of factoring transactions originated from the Cadenas Productivas program. Transferring it to a private operator would mean losing a significant part of its franchise value. Also, note that in order to transfer the program to a private firm it must be separate from other activities and have a clear market-based pricing, which is not the case of NAFIN. All these arguments suggest that when designing a program of this type it is necessary to create clear sunset clauses, establishing when public participation in the program will be terminated and under what conditions its operation will be transferred to the private sector. This may require defining the mandate of development institutions in dynamic, rather than static, terms to encourage them to move on to new activities once a certain intervention has proved successful. Also, to increase transparency and facilitate the eventual transfer to the private sector, the program should be operated as a separate business unit with its own profit and loss statement.<sup>82</sup>

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<sup>82</sup> An alternative would be creating a separate institution to operate the program, but this may create additional costs and generates some agency and incentive problems of its own. Also, this would imply missing an opportunity for capacity building in public development institutions, which could be useful for conducting other direct interventions.



**Figure 3.1: The NAFIN Reverse Factoring System**



Source: Klapper (2005)

## Appendix 4

### FIRA's Structured Finance Transactions

#### 1. Structured Finance

Structured finance can be defined as a form of financial intermediation based upon securitization technology.<sup>83</sup> In its simplest form, it is a process where assets are pooled and transferred to a third party (commonly referred to as special purpose vehicle or SPV), which in turn issues securities backed by this asset pool. Typically, several classes of securities (called tranches) with distinct risk-return profiles are issued.<sup>84</sup> Innovations abound in this market and several types of assets have been included in the collateral pool, ranging from cash instruments (e.g., mortgages, loans, bonds, credit card receivables) to synthetic exposures (e.g., credit default swaps). The structured finance market in developed countries has experienced significant growth over the last years (see BIS, 2005b). In the case of developing countries, although the volume of transactions has also increased significantly, structured finance markets are still small and underdeveloped.<sup>85</sup>

Structured finance transactions involve a number of different participants. These typically include: the *originator*, who originates the underlying assets in the course of its regular business activities or purchases them in the market; the *arranger*, who sets up the structure and markets the securities; the *servicer*, who collects payments and tracks the performance of the asset pool; the *trustee*, who oversees cash distributions to investors and monitors compliance with deal documentation; and, in some deals, *financial guarantors*, who provide guarantees for certain tranches.

As described above, structured finance transactions have three main features: (i) pooling of assets; (ii) transfer of the asset pool from the originator to a finite-lived standalone entity (SPV); and (iii) tranching of securities that are backed by this asset pool. Each of these features may create significant benefits for both issuers and investors. First, the transfer of assets from the originator to the SPV provides collateral for the transaction. This transfer also de-links the performance of the instrument for that of the originator: payments to investors only depend on the cash flow generated by the asset pool, but not on the performance of the originating firm. Another advantage is that the SPV is a bankruptcy remote entity, in the sense that if the originator files for bankruptcy, the assets in the pool do not come under court jurisdiction. All these benefits taken together make it possible to issue securities with well-defined risk characteristics and returns that may be more predictable than those of the originator. Pooling may improve

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<sup>83</sup> Accurately defining structured finance is quite difficult, as even among market participants there is no agreement on exactly what it encompasses. See Davis (2005) for a survey of alternative definitions.

<sup>84</sup> Some authors (see, for example, Alles, 2001, and BIS, 2005b) differentiate between securitization (which only involves the pooling and transfer of assets to a third party and subsequent issuance of securities) and structured financing (which also involves the creation of different classes of securities). In keeping with common usage, we use the term structured finance to refer to both types of instruments.

<sup>85</sup> See Meddin (2004) for an overview of structured finance in emerging markets and the role it may play in fostering capital market development.

the liquidity of many types of assets by increasing the number of potential buyers (Duffie and Garleanu, 2001). Finding a buyer for a specific asset (e.g., a specific loan) may be difficult and generate high costs. By pooling homogenous assets, transaction costs can be reduced and liquidity improved. Tranching can add value by creating securities that cater to specific investor groups (Oldfield, 2000). Furthermore, tranching may also help to mitigate adverse selection problems. If the originator has private information on the quality of the assets, investors who do not know the true quality of those assets will demand a premium (Akerlof, 1970). To reduce this problem, risk averse investors and those with less information can purchase *senior* tranches (those that are more protected from default and only face residual losses), which are less affected by adverse selection. Also, the originator, the arranger, and the servicer may retain subordinated exposure (i.e., the first losses in the pool) to alleviate investor concerns.<sup>86</sup>

## 2. Description of FIRA's Structured Finance Transactions

FIRA (Fideicomisos Instituidos en Relación con la Agricultura, *Agricultural Related Trust Funds*) is a Mexican development-oriented financial institution created in 1954 that provides financial services and technical assistance to the agricultural sector.<sup>87</sup>

In recent years, FIRA has tried to increase access to finance through the use of structured finance transactions. The structured finance transactions arranged by FIRA can be classified in two groups: asset backed securities (ABS) and collateralized loan obligations (CLO). FIRA's ABS transactions are typically designed to help transform movable assets, such as commodity inventories, into viable collateral for financial institutions. These transactions involve the securitization of loans backed by movable collateral and the sale of participations in the trust fund that owns these loans to investors, typically financial institutions. They also involve an operational agent, usually a large commercial firm, that shares the risk, screens producers, monitors inventories, and provides an outlet for the liquidation of the collateral in case of default. FIRA's CLO transactions, on the other hand, are usually designed to provide working capital financing (there is no physical collateral in this case). In this type of transactions, a large commercial firm acts as originator, granting working capital loans to its suppliers. These credit rights are then transferred to an SPV and securities backed by this asset pool are issued. To help align incentives and reduce adverse selection and moral hazard problems, various participants in the supply chain provide liquid guarantees to cover eventual credit losses. We now turn to the description of two specific structured finance transactions arranged by FIRA, which illustrate how structured finance can solve problems of access to finance and also help us to understand the role played by FIRA.

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<sup>86</sup> See De Marzo (2004), De Marzo and Duffie (1999), Mitchell (2005), and Riddough (1997) for analyses of issues related to asymmetric information in structured finance transactions.

<sup>87</sup> FIRA is composed of four trust funds which work in coordination with one another to provide financial services and technical assistance to the rural sector. The services provided by FIRA include second-tier lending, credit guarantees, technical assistance, and several subsidy programs.

### 3.1 Collateralized Loan Obligation (CLO) Transaction to Provide Financing to Shrimp Producers

FIRA designed a CLO transaction to provide working capital financing to shrimp producers in collaboration with a large shrimp distributor called Ocean Garden.<sup>88</sup> The general structure can be summarized as follows (see Figure 4.1). Shrimp producers sign supply contracts with Ocean Garden to deliver a certain amount of shrimp at a future date. Ocean Garden pays them a portion of these contracts (typically 75 percent) in advance to provide them with working capital financing. These loans have a maturity of 180 days, renewable for another 90. The interest rate on these loans is determined by Ocean Garden based on the credit quality of each producer.<sup>89</sup> These credit rights are subsequently transferred to an SPV, which sells participations to investors, mostly commercial banks. Ocean Garden not only acts as originator but also as servicer, being responsible for transferring payments to the SPV once producers deliver their production. This structured finance transaction helps to solve principal-agent problems by outsourcing the screening of small producers to a large commercial firm like Ocean Garden that has an informational advantage relative to financial intermediaries. A significant problem in this type of transaction, as discussed above, is that the originator may have incentives to include lower quality assets in the collateral pool. Anticipating this possibility, investors who have less information about the quality of the assets may not be willing to invest or may ask for a premium to compensate them. In this particular transaction, this adverse selection problem is ameliorated by the fact that, since Ocean Garden signs supply agreements with the producers, it depends on the fulfillment of these agreements for its future sales and therefore has incentives to adequately screen and monitor producers.

To further reduce incentive compatibility problems, different industry participants provide liquid guarantees to cover the first credit losses. Shrimp producers and suppliers of shrimp feed provide guarantees that cover credit losses up to 24 percent.<sup>90</sup> These guarantees are linked to specific loans. Ocean Garden provides a general guarantee that covers all credit losses up to 25 percent of the total asset pool. Once these guarantees are exhausted, investors start facing credit losses. This happens when losses exceed about 32 percent. FIRA has estimated that the maximum historical annual productivity decrease in the shrimp sector has been around 27 percent; hence these guarantees are expected, in most cases, to cover all losses.<sup>91</sup>

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<sup>88</sup> Ocean Garden is one of the main exporters of Mexican shrimp to the U.S. It handles approximately one quarter of Mexico's shrimp production and has annual sales of about 250 million U.S. dollars. The firm was owned by the Mexican government and was recently privatized.

<sup>89</sup> Ocean Garden has developed scoring methods to evaluate the credit quality of small producers and also has historical data on their performance that allows it to construct credit histories.

<sup>90</sup> Shrimp feed suppliers agreed to participate in this transaction and provide guarantees because before they were the main source of financing to producers, which required them to invest more capital and face a higher credit risk. Also, note that since the guarantee provided by shrimp feed suppliers are linked to specific loans (it is not a general guarantee as the one provided by Ocean Garden), these firms have incentives to screen and monitor shrimp producers.

<sup>91</sup> The average credit loss in the shrimp sector, according to FIRA, has been around 4.2 percent.

Credit losses not covered by these liquid guarantees are divided between FIRA (90 percent) and the banks that purchase the securities (ten percent), as shown in Table 4.1. The total net risk exposure of the banks in this scheme is 5.1 percent, while that of FIRA is 45.9 percent, in both cases after first losses. FIRA charges a one percent premium for the provision of this guarantee.

As described above, FIRA not only acts as an arranger for the transaction (charging a fee of 0.75 percent for this service), but also as a financial guarantor, covering second losses. Furthermore, since FIRA is a second-tier lending institution, it requires all banks participating in this transaction to use its funding to purchase the securities issued by the SPV.

This structured finance transaction presents several advantages in terms of dealing with problems of access to credit. First, as mentioned above, the participation of a large commercial firm like Ocean Garden that has a better knowledge of small producers helps to ameliorate principal-agent problems. Second, the pooling of working capital loans to several producers (about 150) reduces transaction costs and also helps financial institutions to diversify their risk exposure, as they do not face the idiosyncratic risk of a single producer. Also, financial institutions do not face Ocean Garden's credit risk, as the supply contracts are removed from its balance sheet and their ownership is transferred to the SPV. This means that if Ocean Garden files for bankruptcy, the assets in the pool do not come under court jurisdiction. This type of transaction also allows smaller, mostly urban banks to provide financing to the agricultural sector, helping them to diversify their portfolio. Finally, this transaction generates a more efficient and transparent distribution of risks. Before the creation of this scheme, shrimp producers relied mostly on trade credit from their suppliers, who in many cases faced significant credit constraints themselves, to finance production.<sup>92</sup> In contrast, this CLO transaction takes advantage of the informational advantages of industry players without requiring them to act as financiers. It also increases transparency, by making clear the credit risk faced by each party and how it is being compensated for it.

FIRA has been successful in using similar CLO transactions to improve access to credit for small producers in several sectors (including wheat, corn, and sorghum production) by using large commercial firms as originators and the loans provided through this type of transactions now account for five percent of its total portfolio.

### **3.2 Asset Backed Securities (ABS) Transaction to Provide Financing to Sugar Mills**

FIRA designed an ABS transaction to provide financing to sugar mills with the collaboration of Cargill Mexico. The general structure can be summarized as follows (see Figure 4.2). Sugar mills store their sugar inventories in warehouses previously selected and authorized by Cargill. Cargill then gives credit to the sugar mills by making a repurchase agreement (repo) for the certificates of deposit issued by these warehouses.<sup>93</sup>

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<sup>92</sup> Another possible source of financing was Ocean Garden. However, at the time this firm was facing financial difficulties that significantly constrained its ability to finance its suppliers.

<sup>93</sup> A repurchase agreement (or repo) is an agreement in which one party sells an asset to another at a certain price with the commitment to buy back the asset at a later date for another price. A repo is legally a sale

These loans are for an amount equivalent to 80 percent of the value of the sugar inventories stored in the warehouse and have a maturity of 45 days, renewable for successive periods of 45 days up to a maximum of 270 days. The implicit interest rate on these loans is equal to LIBOR (London Interbank Offered Rate) plus 4.75 percentage points, without any differentiation across mills. Cargill then sells the certificates of deposit to investors, mostly commercial banks, through a funded participation agreement.

FIRA acts as an arranger in this transaction and also provides a credit guarantee to investors, which covers 96 percent of the total value of the loans. FIRA charges a one percent premium for the provision of this guarantee. To reduce its risk exposure, FIRA has an agreement with Cargill, who guarantees that it will purchase any repossessed inventories from FIRA in case of default. Under this agreement, Cargill covers 80 percent of the total credit losses, reducing FIRA's exposure to 16 percent.<sup>94</sup> Since FIRA is a second-tier lending institution, it requires all banks to use its credit to purchase the participations in the fund.

Cargill acts as a servicer in this transaction. It is in charge not only of evaluating and selecting warehouses but also of monitoring their operations and transferring payments to the fund when sugar mills cancel their loans. Cargill also administers a margin call system that is designed to protect investors from fluctuations in the price of sugar. When the ratio of the market price of the sugar stored in the warehouse to the value of the loan falls below 1.25, Cargill issues a margin call requiring the mill to deposit additional sugar in the warehouse (or provide cash guarantees) to restore this relation. Mills have three days to fulfill the margin call, otherwise they are declared in default and their inventories are liquidated.<sup>95</sup> Cargill charges a 2.5 percent fee for acting as a servicer and providing the guarantee to FIRA.

This structured finance transaction improves access to finance for sugar mills by transforming their inventories into viable collateral for financial institutions. The use of these inventories as collateral faces several difficulties. The first one, which applies to most forms of movable collateral, especially in developing countries, is that this type of collateral is difficult to secure. Sugar mills could pledge their inventories as collateral and then easily sell those inventories without the bank knowing about it. In the case of Mexico, this problem was compounded by the lack of a reliable warehousing market that could guarantee the value and the quality of the inventories stored. Cargill's know-how to select and monitor commodity warehouses is crucial in this respect. The second problem of using sugar inventories as collateral is the high volatility of sugar prices in Mexico. There are no derivatives markets in Mexico for sugar, therefore financial institutions

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and subsequent repurchase, effectively transferring the property of the asset to the creditor. However, from an economic perspective, it is similar to a secured loan.

<sup>94</sup> The fact that FIRA provides the guarantee to banks and then gets a guarantee from Cargill, instead of Cargill directly providing the guarantee to the banks, is explained by regulatory arbitrage: since FIRA is a public institution, capital requirements on loans guaranteed by FIRA are significantly lower than those on loans guaranteed by a private party.

<sup>95</sup> FIRA estimates that, given the historical volatility of sugar prices, the maximum expected loss during a three day period, at a 95 percent confidence level, is 2.82 percent.

could not protect themselves from this risk.<sup>96</sup> The solution to this problem adopted in this scheme is creation of the system of margin calls administered by Cargill. Third, in many cases financial institutions may be unwilling to grant credit even if collateral is available due to the high costs of liquidating that collateral. In this ABS transaction, this problem was solved by the participation of Cargill, who provides an outlet for the liquidation of sugar inventories. As described above, in case of default FIRA can sell 80 percent of the reposed sugar inventories to Cargill. Another important feature of this transaction is the use of a repurchase agreement which effectively transfers legal ownership of the inventories to Cargill, eliminating the need to go through the cumbersome collateral repossession process in case of default.

In addition to addressing the problems related to collateral, this structured finance transaction also helps to reduce transaction costs, by pooling loans to several sugar mills (27 in total). This pooling also helps financial institutions to diversify their risk exposure, as they do not face the idiosyncratic risk of a single producer. Furthermore, this transaction increases transparency by making clear the amount and type of risk that each party is taking and how they are being compensated for it. Cargill takes 80 percent of the credit risk and acts a servicer, obtaining a 2.5 percent fee. FIRA takes 16 percent of the credit risk and charges one percent for its guarantee. In addition, it charges .09 percentage points over LIBOR for its second-tier funding. The banking sector takes 4 percent of the risk and obtains an intermediation margin of 1.16 percent. Overall, sugar mills pay an interest equal to LIBOR plus 4.75 percentage points.

FIRA has been successful in using similar ABS transactions to improve access to credit for rural producers in several sectors (including corn, wheat, sorghum, shrimp, and love cattle) and the loans provided through this type of transactions now account for ten percent of its total portfolio.

### **3.1 Policy Discussion**

In line with the stylized description of pro-market interventions presented in this study, FIRA's structured finance transactions are designed to foster financial market activity, not replace it. However, one could question whether this is actually the case. First, structured finance transactions could be arranged by private firms; therefore FIRA's intervention could be displacing private sector activity. At the time of these interventions, no firm was providing structured finance to the sugar and shrimp sectors and producers in both sectors lacked access to bank financing. As Besley (1994) notes, not all profitable opportunities are necessarily exploited by the private sector. Financial innovation in many cases can be hampered by the fact that once a new lending technology is introduced and proves to be successful, others can easily adopt it. Therefore, there is little incentive for lenders to invest in new credit technologies. In this situation, there might be a role for the government to subsidize innovation. In the case of structured finance transactions, the

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<sup>96</sup> An alternative solution would be to hedge this price risk in international derivatives markets, but this is not possible in the case of sugar, as worldwide sugar markets are segmented due to tariff protections and therefore the evolution of prices across different markets may differ significantly.

unfamiliarity of market participants with its techniques and its seeming complexity may further difficult the development of private solutions. Second, one could question to what extent FIRA's interventions actually foster financial market development as they seem to leave very little room for private financial intermediation. In both of the transactions described above, FIRA provides second-tier financing to banks and also gives them credit guarantees that limit their risk exposure to about five percent. In more recent transactions FIRA has reduced the level of credit enhancement, but it still remains quite high. As discussed below, some of these features seem to be the result of institutional incentives, as FIRA is evaluated on the basis of its loan disbursements and the volume of guarantees it provides. It is still an open question whether these transactions would work without such extensive FIRA involvement. Regarding the provision of second-tier lending, interviews with banks suggest that they would be willing to participate in these transactions without receiving FIRA's funding. In fact, for some of the largest banks FIRA's financing is no longer cost-competitive, as they can get capital in financial markets at similar or even lower rates. In the case of credit guarantees, the evidence is less clear. The high level of guarantees provided by FIRA seems to be explained not by banks' risk aversion, but rather by regulatory arbitrage: since FIRA is a public institution, capital requirements on loans guaranteed by FIRA are significantly lower than those on regular loans. Banks would be willing to take more credit risk, but this would lead to higher costs as lower FIRA guarantees would mean higher capital requirements. Finally, in the case of the ABS transaction one could reasonably question whether it would be better to improve the collateral market, by fostering the development of a reliable warehousing system and improving collateral repossession laws and judicial procedures, instead of designing a structured transaction to solve the problems of using inventories as collateral. However, both measures are not mutually exclusive. The ABS transaction may be a short-term solution while the warehousing market takes time to develop. Also, the ABS scheme may contribute to the development of the warehouse market by providing adequate incentives to warehouses and helping authorities to understand what regulations or enforcement mechanisms are necessary for this market to develop.

There are several characteristics of FIRA's structured finance transactions that may hold important lessons for the design of pro-market interventions. First, as described above, FIRA not only acts as an arranger in these transactions, but also provides credit guarantees and second-tier lending. This bundling of several instruments makes it very difficult to analyze the individual merits of each instrument and carries the risk of distorting prices and incentives. It is not possible to analyze whether the different services provided by FIRA are adequately priced, as financial institutions cannot buy them separately. The requirement to use FIRA's second-tier lending and its credit guarantees seems to be the result of institutional incentives: since FIRA is a second-tier development financial institution, its performance is evaluated in terms of the volume of loan disbursements and the amount of guarantees provided. FIRA's experience suggests that in order to foster pro-market interventions and avoid distortions, it may be necessary to develop new ways of evaluating the performance of public institutions that go beyond the volume of credit and guarantees provided and rather focus on the amount of financial intermediation promoted.



Second, FIRA provides guarantees that cover most of the credit risk faced by financial institutions. FIRA reduces its risk exposures by buying guarantees from private parties and only taking second losses, decreasing the amount of risk shifting to the public sector that actually takes place. As mentioned above, the high level of credit guarantees provided by FIRA seems to be the result of regulatory arbitrage: since FIRA is a public institution, capital requirements on loans guaranteed by FIRA are significantly lower than those on regular loans. One of the main functions of FIRA's guarantees therefore seems to be reducing regulatory capital requirements. This highlights the fact that there might be a conflict of interest in the public sector between the roles of regulator and promoter of new activities. Finding the adequate equilibrium between both roles may not be easy. Also, the fact that banks only face residual credit risk may reduce incentives to invest in improving their risk assessment capabilities. Furthermore, the provision of guarantees by FIRA may prevent the development of a private guarantors market. In developed countries, guarantees in structured finance transactions are usually provided by private financial guarantors (so called monolines). Since FIRA provides guarantees covering most of the credit risk and its guarantees have a significant advantage in terms of capital requirements, there may be little incentive for developing an active private market for guarantees.<sup>97</sup>

Third, an important element to take into account is that interventions should be designed to increase competition in the financial system. Participations in the structured finance transactions could be sold to financial institutions other than banks, including insurance companies, mutual funds, and pension funds. FIRA's mandate was modified to allow it to include other financial intermediaries in its transactions. The fact that only banks have invested in these operations so far seems to be explained by the relative small size of these transactions, which makes it difficult to meet the minimum size thresholds to develop a liquid market for the securities issued. However, FIRA is actively working on including other investors in its operations.

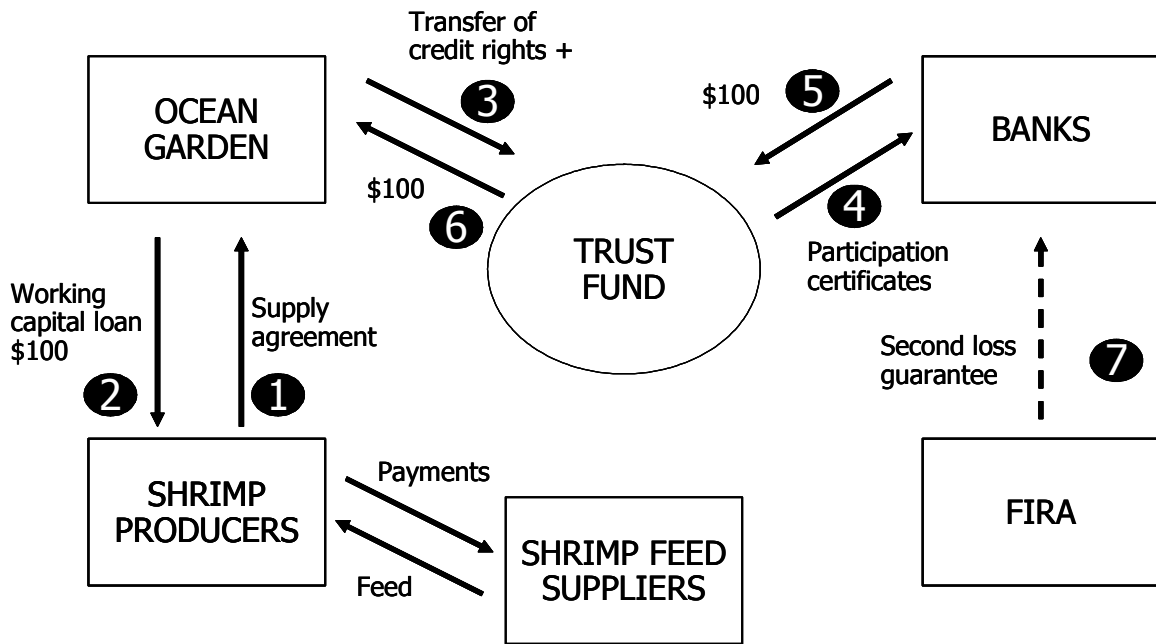
Finally, although structured finance transactions can help to overcome some of the limitations of the contracting environment in developing countries, they require having an appropriate legal framework that accommodates the numerous legal relationships that must be established for these transactions to work. The lack of an adequate legal framework for structured finance may be a significant constraint for the replication of FIRA's experience in other developing countries.<sup>98</sup>

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<sup>97</sup> The lack of a private guarantors market also makes it difficult to assess whether FIRA's guarantees are accurately priced.

<sup>98</sup> See Alles (2001) for a general discussion of the elements of the legal framework that may prevent the development of structured finance in developing countries.

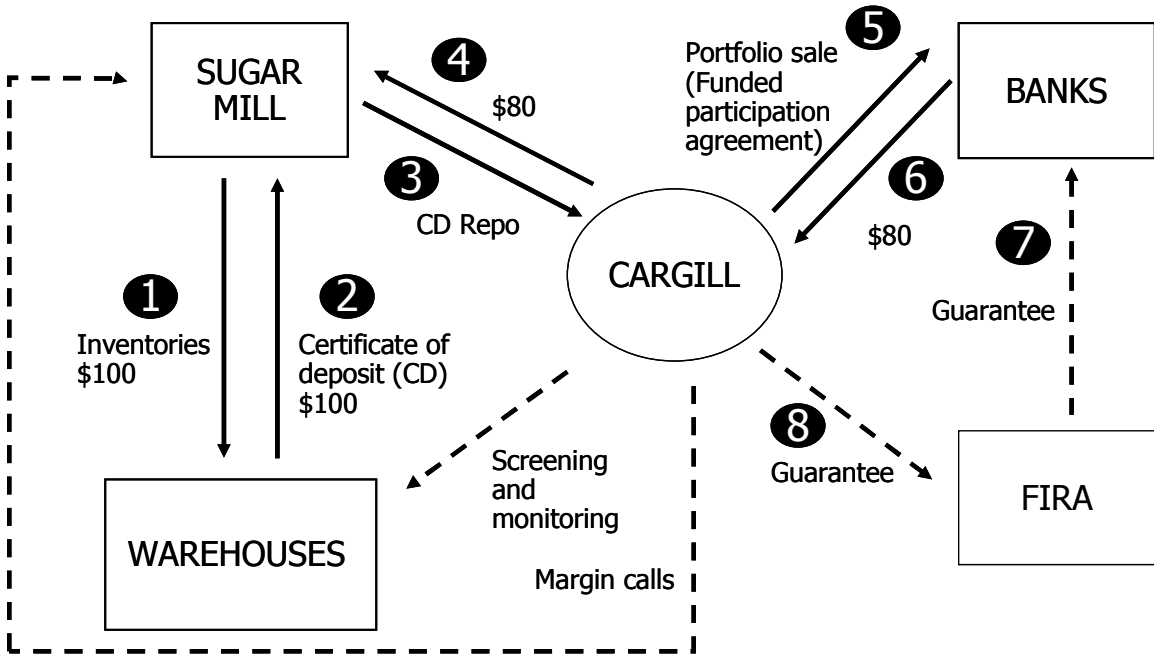
**Figure 4.1: Description of CLO Transaction to Provide Financing to Shrimp Producers**



**Table 4.1: Distribution of Credit Losses among Participants in CLO Transaction**

Percentage of Credit Losses	Shrimp and Feed		FIRA Guarantee	Bank Credit Losses
	Producers Guarantees	Ocean Garden Guarantee		
10	2.4	7.6	0.0	0.0
20	2.4	7.6	0.0	0.0
30	2.4	7.6	0.0	0.0
40	2.4	2.2	4.9	0.5
50	2.4	0.0	6.8	0.8
60	2.4	0.0	6.8	0.8
70	2.4	0.0	6.8	0.8
80	2.4	0.0	6.8	0.8
90	2.4	0.0	6.8	0.8
100	2.4	0.0	6.8	0.8
<b>Total Risk Exposure</b>	<b>24</b>	<b>25</b>	<b>45.9</b>	<b>5.1</b>

**Figure 4.2: Description of ABS Transaction to Provide Financing to Sugar Mills**



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