

THE BENEFITS AND COSTS OF LOAN GUARANTEE PROGRAMS

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Loan guarantee schemes are popular in both high- and low-income countries, their objective being to induce lenders to extend loans to individuals and firms they would otherwise not accept as loan clients. Despite the popularity of these programs, there is controversy regarding their effectiveness in overcoming two interrelated problems: supposed distortions or credit market imperfections, and the lack of formal lending to groups targeted by policy makers.

We begin our discussion by providing background on loan guarantee programs, and move next to a discussion of financial market imperfections and the extent to which loan guarantees solve these problems. We then focus on the benefits and costs of these programs, and conclude with a listing of important unresolved issues related to loan guarantees.

Background

Loan guarantee schemes have a long history. Most high-income countries have used these programs to stimulate lending for a variety of purposes, but most often to help operators of small businesses (Levitsky and Prasad). Governments and donors have also promoted hundreds of these programs in low-income countries. The primary assumption behind these efforts is that disadvantaged groups are unable to get formal loans because of credit market imperfections. Loan guarantee schemes attempt to overcome these imperfections by allowing lenders to shift some loan recovery risk to the guarantee program -- risks not covered by collateral furnished by small and new borrowers. Largely, policy makers see guarantee programs as collateral substitutes for disadvantaged borrowers.

These schemes are commonly part of a package of subsidized

activities that operate under the traditional Directed Credit Paradigm (Vogel and Adams).¹ Instead of attaching a subsidy directly to loans -- as in directed credit -- loan guarantee programs attempt to alter lender behavior by subsidizing loan-recovery risk. The loan guarantee covers part of the lender's risk of not recovering loans made to target groups. Loan guarantee supporters further argue that, once lenders have experience with new clients covered by loan guarantees, these clients will later graduate to borrowing without subsidized loan guarantees; partly because borrowers learn how to obtain formal loans, and partly because lenders assemble sufficient information about these new borrowers to make loans to them later without special guarantees.

Unlike other forms of insurance, such as casualty and life, few profit seeking organizations create insurance programs for loans. In almost all cases, these schemes depend on subsidies to start and to persist (e.g.: Rhyne; Riding). Risk pooling -- an important advantage of most forms of formal insurance -- is not a benefit widely claimed for loan guarantee programs in low-income countries. The targeted nature of most loan guarantee efforts is at variance with risk pooling when targeted groups have many members with important characteristics in common.

Although justifications for loan guarantee programs typically reference one or more financial market imperfections or distortions, there is rarely any detailed analysis of these (Meyer and Nagarajan). Rather, the discussion usually shifts to other justifications, including the assumption that small businesses face a systematic lack of access to credit and, moreover, that the economy and small businesses would benefit from increased access to credit. Given the pervasiveness of this line of reasoning, it is useful to address the issue of the effectiveness and efficiency of loan guarantees programs in providing additional credit access to small businesses, despite the justification given for the program.

Loan Guarantees and Credit Market Imperfections

Discussions of using loan guarantee programs to overcome market imperfections usually first note that there are a variety of imperfections that affect credit markets. Imperfections alone, however, are not sufficient

¹ We define "directed credit" as administered loans that have subsidies directly attached to them.

justification for a loan guarantee program, as there may be other interventions that are more appropriate. Alternatively, there may be no intervention that can overcome the imperfections noted in ways that would enhance welfare. One of the key issues is the cost of creating and maintaining institutions that provide loan guarantees, and an aspect that is often overlooked are the possible importance of the additional transaction costs that may be imposed on the lending and borrowing parties by the insertion of a third party--the guaranteeing agency -- into the lending process.

In examining justifications for loan guarantee programs as remedies for possible credit market imperfections, it is useful to begin by reviewing general rules about interventions to increase welfare, three in particular. First, there must be a genuine market imperfection or distortion. The fact that it is costly per dollar lent to make small loans to small businesses because of various fixed costs of loan processing is not an imperfection -- although it is usually a reality. It would be an imperfection if there were informational externalities or asymmetries, but these information problems must prevent small-scale borrowers in particular from obtaining access to credit if a loan guarantee program is justified to assist this group.

Secondly, the intervention chosen must be targeted as directly as possible to the perceived imperfection. If the imperfection is in another market, a credit market intervention is not an efficient approach. If the problem is that public transportation is deficient and small-scale borrowers do not own vehicles, a loan guarantee program is a roundabout and inefficient intervention, and it would clearly be more appropriate to deal directly with public transportation problems. If the problem is that small-scale borrowers typically do not possess collateral that is acceptable to lenders, a loan guarantee program might be an appropriate intervention, but it is still necessary to show that this problem is an imperfection and that a loan guarantee program is the most effective and efficient remedy (e.g., compared to legal system reform or bank training).

Thirdly, there can be "second-best" arguments for interventions, including loan guarantee programs, but such arguments are difficult to sustain. It must be demonstrated that there is an imperfection, but it is now also necessary to show that the first-best remedy is not possible. It is then necessary to show that a proposed loan guarantee program is indeed

second best compared to other possible options. In addition, it must be shown that the second-best remedy is indeed welfare enhancing, especially since -- being only second best -- it will introduce other imperfections that are welfare reducing. For example, a loan guarantee program to offset legal imperfections that impede the use of mortgages involves additional transaction costs for participating borrowers and lenders plus the costs of financing the required subsidy that could be avoided by dealing directly with the legal shortcoming impeding mortgages.

With these three rules in mind, arguments for interventions via loan guarantee programs can be more effectively reviewed. The argument most commonly encountered is simply that small-scale enterprises do not receive enough formal credit, either in proportion to their economically attractive opportunities or in proportion to what larger businesses receive. The underlying reasons for this are rarely addressed. One must take the preferences of economic policy makers as given and ask whether loan guarantee programs increased the amount of credit (or number of loans) made available to small-scale borrowers. This is covered in the next section.

As already noted, small size can be a barrier to getting formal credit because of the fixed costs of loan processing. However, as also noted, this is not, an imperfection, so that more credit for small-scale borrowers will reduce economic welfare because of the higher costs involved. Nonetheless, an argument could be made that innovations that introduce new lending procedures to reduce the costs involved in dealing with small-scale borrowers will not be undertaken because a lender cannot capture most benefits of developing and introducing such innovations because the innovations can readily be replicated by others. Arguments of this type are sometimes found in attempts to justify interventions to promote microenterprise lending (e.g., grants and cheap loan funds for non-governmental organizations -- NGOs -- focusing on such clients). However, this argument would be more convincing if profit-seeking formal lenders began microenterprise lending after the demonstration of successful innovations in micro-lending by NGOs and state-owned banks, something that does not often occur.

Information

Externalities and asymmetries associated with information are among the credit market imperfections most often cited to justify interventions (Stiglitz and Weiss). The externalities argument is straightforward: externalities arise because valuable information is costly to produce but almost free to disseminate, so that not enough will be produced because the producer of information cannot capture all the benefits. Information is obviously an important component of lending decisions, so there is potentially a problem. However, profit-making credit bureaus and rating agencies have emerged in some countries to attempt to internalize this externality. How successful they are and under what conditions are interesting questions, but beyond the scope of this paper. Nonetheless, it is noteworthy that loan guarantee programs do exist that are based on subsidizing initial loans through loan guarantees (e.g., Chile) to encourage the production of information about borrowers who would not otherwise be served. This, however, is a second-best approach compared to a direct subsidy for the production and dissemination of information about borrowers. In addition, it must be shown that informational externalities affect small-scale borrowers disproportionately and that loan guarantees do bring in additional small-scale borrowers (see below).

The asymmetric information argument -- that borrowers will always know more about their ability and willingness to repay than lenders -- has been popularized by Stiglitz and Weiss to show that interest rate increases can lead to adverse selection (good borrowers will opt out) and moral hazard (more risky projects will be chosen) so that lenders may find it optimal to ration credit rather than increasing interest rates to their "equilibrium" levels. If credit is rationed, it again must be shown that this affects small-scale borrowers disproportionately. In addition, the question has been raised of the crucial importance of the "single transaction" assumption in the Stiglitz-Weiss model. In practice, borrowers and lenders find it advantageous to do a series of transactions. The building of credit relationships and the use of small loans to collect information about repayment provides further examples of how for-profit institutions deal with potential externalities involved in information on their own without the need for subsidized external interventions. In addition, however, the literature on credit rationing due to asymmetric information often turns to the issue of collateral as a substitute for information -- which brings us to the market imperfection that is perhaps most frequently cited as the basis for loan guarantee programs for small-scale borrowers.

Collateral

Lack of loan security or collateral is said to be the main barrier that prevents small-scale borrowers from accessing formal loans. There are two -- possibly inconsistent -- arguments with respect to collateral. The first is that commercial banks and other formal lenders rely excessively on collateral. The appropriate remedy would then be to train bankers to be better bankers, rather than creating loan guarantee programs. However, it is unclear where the imperfection is, that is, why bankers will not make these changes on their own to enhance their profits. This leaves aside the issue that supervisory agencies might require collateral to classify the performance of loans, but this is similar to the issue of reforming the legal system discussed below. Two further considerations suggest that the problem may be more complex: first, collateral is seen as a substitute for informational imperfections, but analyzing rates of return and cash flows brings us back to heavy reliance on information; second, collateral is expensive to constitute and difficult to execute, so that reliance on collateral to collect loans would most often not be cost effective.² The willingness to constitute collateral may thus be foremost a signaling device that provides important information rather than a hook for collecting overdue loans.

The difficulties in constituting and executing collateral are the basis for the second collateral-based argument for loan guarantee programs. On one hand, micro-borrowers may simply have no assets and cannot provide physical collateral, or they may have assets that could be used as collateral, but imperfections in the legal system make it too costly or risky for lenders to accept these assets as collateral. In the case of imperfections in the legal system, correcting these imperfections is clearly the best option. There may be, however, an argument for a loan guarantee institution based on externalities; lenders individually may have little incentive to spend their own resources to work toward improvements in the legal system with respect to collateral that would benefit all lenders. In such a case, a loan guarantee program might be justified if it could be structured to internalize in a single institution all the costs and benefits of working toward improvements in the

² In many low-income countries it is virtually impossible and/or extremely costly for a formal lender to take ownership of collateral pledged by a defaulting borrower. Weaknesses in the legal system and social pressure against taking the assets of poor people who default on formal loans that are laced with altruism are major explanations for this.

legal system with respect to the use of collateral.

If small-scale borrowers simply do not have any assets that could be used as collateral under any circumstances and, at the same time, the use of collateral is an effective and efficient approach to lending decisions, this does not represent an imperfection. Nonetheless, there could be room for loan guarantee programs, but only in so far as they provide effective and efficient substitutes for collateral. This implies that they must be profitable without subsidies and, given the profit-making opportunity, should be found in the private sectors of various countries. There are only a few examples of this. In the United States, for example, there are private institutions that provide guarantees for housing loans, and there are also private companies that provide guarantees for state and local government debt. When there are instances of risks that can be pooled for a profit, profit-making entities can be expected to arise to do this. Analyses of possible government interventions to create loan guarantee funds might well focus more on whether there are risks to be pooled and, if there appear to be, what is preventing the private sector from doing so.

As noted above, “learning-by-doing” is a justification sometimes used for loan guarantee programs and, in fact, is often used for interventions of all types. An example of this is the guarantee of loans from commercial lenders (e.g., banks) to lenders (e.g., NGOs) that specialize in lending to small-scale borrowers. Borrowing from commercial lenders such as banks might enable these specialized lenders to increase their outreach, but banks can be hard to convince that lending to such specialized lenders is safe, given that most banks have themselves dismissed such small-scale lending as unprofitable. However, if guarantees of loans from banks to lenders that specialize in small-scale clients are to be justified through learning-by-doing types of arguments, there should be evidence that banks can be induced eventually to undertake such lending themselves -- or at least to lend to specialized lenders without guarantees. We do not know of any evaluations that show this, but it is an area that merits attention.

Transaction costs

The importance of transaction costs for financial intermediation is a topic that has only recently received attention. This is because transaction costs are hidden in the actions of lenders and borrowers -- and likewise, of

deposit institutions and savers -- rather than being explicit parts of financial contracts. Nonetheless, transaction costs are a major part of the total cost of financial operations, especially when small, short-term loans are involved. Because of the focus on loan guarantees as a device to assist micro-borrowers, transaction costs loom relatively large compared to interest.³ In loan guarantee programs, the issue is that an additional institution is introduced and hence additional transaction costs are implied; the borrower must now deal with both the lender and the guarantor and, likewise, the lender must also now deal with both the borrower and the guarantor. Careful attention must be paid to these costs and to their distribution among the different entities involved with the introduction of loan guarantee programs to assess properly the overall costs of these programs, a topic to which we next turn.

Costs and Benefits of Loan Guarantee Programs

At least three questions should be asked about loan guarantee programs in assessing their effectiveness and efficiency in reaching small-scale borrowers:

- Do these programs significantly alter lender behavior in desired directions?
- Are the costs of these programs less than their benefits?
- Could the resources committed to loan guarantee schemes be more effective in assisting disadvantaged groups if they were used in other programs?

Costs of loan guarantee programs

Three categories of costs accompany loan guarantee schemes: the costs of setting up the program; the costs of funding the subsidy needed to energize and sustain the program; and the additional cost incurred by the financial system to run and to participate in the program.

Set-up costs: Often, establishing a loan guarantee program involves setting up a new organization, or a new office in an existing organization, to

³ Transaction costs can often explain the preferences of small-scale borrowers for informal lenders charging high interest rates even when these borrowers may have access to commercial banks and other formal lenders charging much lower rates.

administer the scheme. Typically, donors or governments cover all or most of the costs of setting up these facilities. Offices, equipment, employee salaries and associated benefits, and the expenses of advertising the program to potential participants are major parts of these set-up costs.

Program subsidies: Most loan guarantee programs involve hefty subsidies either to set them up and/or to sustain their operations. The subsidies may come via grants or concessionary loans to establish the initial guarantee fund, or later to replenish the fund through additional grants or government transfers.

Transaction costs: In addition to the obvious costs incurred by the guaranteeing agency to operate its program, lenders and borrowers usually incur additional transaction costs to participate in the program. In extreme case, the guaranteeing agency may insist on receiving copies of loan documents on insured credits and then essentially duplicating the initial loan screening done by lenders. In other cases, borrowers of insured loans may be required to provide additional information to lenders beyond what is required for non-insured loans, and lenders usually have to prepare special reports on the portions of their loan portfolios covered by loan guarantees. If lenders participate in several guarantee programs, reporting requirements are multiplied.

Lenders also incur additional transaction costs when they submit claims for defaulted loans covered by guarantee programs. These transaction costs may be substantial in case of disputes with the guaranteeing agency and when the lender participates in several guarantee programs and is processing information manually. In some cases, the borrower is asked to pay for part of these costs through interest rate surcharges on guaranteed loans. In other cases, the guaranteeing agency may unilaterally decide not to honor its guarantee unless the lender has pursued all legal remedies against the defaulting borrower -- but the costs involved in doing this can be the main reason that collateral was not used in the first place.

Unfortunately, we were unable to find any evaluation of loan guarantee programs in low-income countries that carefully documented the costs of setting up, subsidizing, and participating in loan guarantees.

Benefits of loan guarantee programs

The benefits generated by a loan guarantee program are concentrated in the additional lending induced by the transfer of part of the lender's loan recovery risk to the guaranteeing organization. Both borrowers and society would benefit from the increases in net income realized by borrowers who were supposedly more severely credit rationed before the help provided the loan guarantee program.⁴ Unfortunately, these increases in net income can only be proxied by loan recovery performance. Borrowers are more likely to repay loans that help them significantly increase their incomes. Additional net incomes can only occur if additional borrowers receive loans because of the incentives provided to lenders by loan guarantee programs.

Additionality: Loan guarantee programs are justified on the basis of altering lenders' decisions in directions favored by designers of the loan guarantee. The success of these programs hinges on the extent to which guarantees cause additional lending to targeted groups, additional meaning more lending than would have occurred without the guarantee. If the program causes additionality, subsidiary issues are the comparisons of the program's costs with estimated benefits, and whether or not similar benefits could be achieved through less expensive methods. In the absence of additionality, the subsidiary issues are mute.

Additionality is often poorly measured, or ignored, in evaluations of credit guarantee programs. In most cases, the number of borrowers covered by the guarantee and the total value of their guaranteed loans are used as an estimate of program benefits. These numbers likely overstate, however, the impact of loan guarantees on lender behavior. In evaluating the merits of loan guarantees from this perspective, the primary question to be answered is an empirical one, not one of theory: did the guarantee induce lenders to augment targeted lending and, if so, by how much? Additionality might be expressed either in terms of number of clients, number of loans, or in terms of volume of funds lent for targeted purposes.

⁴ Some secondary social benefits may also occur in the form of additional taxes paid by borrowers, additional employment, and fewer government subsidies paid to successful borrowers. Some of these social benefits, however, are off set by secondary social costs. Production by a firm benefiting from a guaranteed loan may substitute for production by firms outside of the guarantee program. These other firms -- as a result -- may pay fewer taxes, employ fewer people, and be forced to rely more heavily on other government subsidies.

Simple examples may clarify the notion of additionality. Assume the purpose of a loan guarantee program is to stimulate lending to microentrepreneurs. Further assume that before the availability of the guarantee, lender X was making loans to ten microentrepreneurs for a total of \$1,000. If, after participating in the loan guarantee program, lender X lent to twenty microentrepreneurs for a total of \$2,000, one could conclude that the loan guarantee was *associated* with additionality in both number of loans and value of loans made to the target group. Additionality might likewise occur when another lender Y, who initially made no loans to small businesses, later lent a total of \$1,000 to ten small businesses under a loan guarantee. Measurement of additionality and attributing it to a loan guarantee program is complicated, however, by counterfactual and substitution problems.

Counterfactual: It is impossible to know with precision what the lender would have done in the absence of the loan guarantee program. This is an event that did not occur and is therefore impossible to measure. One might argue that both types of lenders, X and Y, mentioned in the example above would have increased their lending to microentrepreneurs by the same amounts without the loan guarantee. Reforms accompanying the loan guarantee program, for example, that created an economic environment more hospitable to microenterprises might have induced both types of lenders to expand microenterprise lending without additional guarantees. One must be careful in attributing all changes in lending behavior to loan guarantees schemes when the guarantee program is nested in a bundle of programs that are improving the environment for a targeted group or activity.

There are two subjective ways to deal with the counterfactual issue: the first is to ask lenders, *ex ante*, what they would likely do regarding targeted lending with and without a loan guarantee. The other alternative is to ask the same question of participating lenders *ex post*. Both alternatives are vulnerable to the Hawthorne Effect: lenders' responses may be influenced by what they think the interviewer wants to hear. The lender's response is likely to overestimate additionality, especially when access to future subsidies appended to loan guarantee programs depends on positive and optimistic responses by lenders.

Substitution: Measuring the impact of loan guarantees on lender

behavior is further complicated by two types of substitution: that which occurs within the lending institution and that which occurs among lenders. A loan guarantee program may, for example, cause a bank to transfer part or all of the qualifying portion of its existing loan portfolio to the guarantee programs, and then expand its lending in non-targeted areas. We term this intra-portfolio substitution. This might include making multiple loans to individuals in order to fit them under a loan-size ceiling specified in the loan guarantee program, or redefining the purpose of existing loans to qualify borrowers for the loan guarantee. Large amounts of this type of substitution can substantially diminish additionality, and this is likely to occur when the objectives of the loan guarantee are perceived by lenders to be unprofitable activities. If lenders are under political pressure to expand lending targeted by loan guarantee programs, they are likely to comply by shifting some of their existing borrowers -- perhaps those perceived to be the most risky -- to the loan guarantee and add only a few token new borrowers as window dressing to demonstrate that they are responding to political priorities. Whether or not the lender sustains this token lending after political concerns shift elsewhere is problematic.

The second form of substitution that occurs is among lenders, inter-lender substitution. For example, an NGO may have access to a loan guarantee program that allows it to provide loans on a more favorable basis to borrowers than is possible for other lenders to do, including informal lenders and other NGOs. The NGO subsidized through the loan guarantee may, as a result, draw borrowers from these other lenders. If all of the borrowers covered by a loan guarantee program were previously clients of other lenders, little or no additionality in number of clients might result from the guarantee when net changes in the entire financial sector are considered.

One should expect significant amounts of both types of substitution to occur, so that the numbers of borrowers who are covered by a loan guarantee may substantially overestimate the amount of additionality caused by the guarantee program.

The problems of substitution and the counterfactual could lead casual observers to conclude that a credit guarantee program had a major impact on lender behavior when, in fact, the guarantee caused little additionality in lending for targeted purposes. Several studies in Canada and in the United

Kingdom suggest that loan guarantee programs there resulted in only one-quarter to one-third of the clients covered by the guarantees being additional (Riding).

Given the difficulties of measuring additionality, it is not surprising that few evaluations of loan guarantee programs present information on this vital measure of performance. We have been unable to find any evaluation of a loan guarantee program that correctly documents -- in our opinion -- additionality. Explanations of this include: either that little-or-no additionality occurred; or that it can not be measured. Both explanation weaken claims made by advocates of loan guarantees. Lacking evidence showing loan guarantee programs caused additionality, it is impossible to determine the benefits of these programs. Skeptics might go on to argue that only the costs of these programs can be determined with any precision.

Lessons and Suggestions

Four critical features stand out in our review of loan guarantee programs. The first is that the assumptions about credit market imperfections -- on which loan guarantee programs are often built -- and the design of these programs are seldom logically related. The second is that virtually all of these programs, at least in low-income countries, involve subsidies. The third is that most evaluations of these programs report only part of the associated costs, including the subsidy component. The fourth is that benefits of these programs are seldom documented, and additionality is never accurately measured. Claims for various types of secondary benefits are not convincing without this type of fundamental information. With only scraps of information available about costs and even skimpier information on benefits, it is impossible to make informed judgments about the relationship between benefits and costs of these efforts.

Compared to the subsidies attached to cheap credit, the subsidies involved in loan guarantee programs do not lessen the incentives that participating intermediaries have to mobilize voluntary deposits. In this respect, loan guarantee programs have a more benign influence on financial market performance than subsidized credit, the heart-and-soul of the traditional Directed Credit Paradigm. Whatever the benefits and costs of loan guarantees, they clearly do less damage than providing lenders with cheap funds. At the same time, nevertheless, loan guarantee schemes

impose additional transaction costs on financial markets that are similar to those caused by directed credit.

Where to from here?

It is impossible to arrive at definitive conclusions about the effectiveness of loan guarantee programs until more careful and comprehensive evaluations are done. There is too little information available on these schemes to determine their costs and especially their benefits. Perhaps the most efficient way of doing this would be to evaluate carefully the performance of a handful of current schemes that are nominated by their designers and implementers as being successful (for example, see Stearn). The results of such a study would likely provide an upper bound on the performance of all credit guarantee schemes. If the costs and benefits of the projects that are thought to be most successful are found to be unsatisfactory -- or are impossible to document -- then it is likely that the performance of schemes whose designers and implementers are unwilling to brag about their projects would be even less impressive. We propose the following list of questions as suggestions for questions that might be addressed by such evaluations:

- What are the specific credit market imperfections that the loan guarantee addresses? How did the loan guarantee scheme overcome these imperfections?
- What were the costs of the program including the costs of setting up the third party to administer the guarantee, the subsidy involved in setting up or sustaining the operation of the program, and the additional transaction costs imposed on borrowers and lenders who participated in the program? To what degree is the program subsidy dependent and is this increasing or decreasing? Who pays the subsidy and what is its distribution among the participants?
- Was the loan guarantee scheme associated with additionality in lending to the target group? This should include measures of number of borrowers, amounts of money lent, and changes in term structure of lending. The estimates of additionality should be net of intra-portfolio substitution by each participating lender, as well as inter-lender substitution.

- If the scheme is associated with additionality, then questions can be asked about the effectiveness of loan guarantee programs compared to other alternatives that might be used to assist the targeted group.
- If the scheme is associated with little or no additionality, questions can also be asked about possible changes in design that might enhance the performance of the program. The lack of additionality might be cause for policy makers to abandon loan guarantee programs if design changes do not look especially promising.

A wise man once said that: "When you cannot measure it, when you cannot express it in numbers your knowledge is of a meager and unsatisfactory kind" (Lord William Thomson Kelvin). This unsatisfactory situation dominates discussions about loan guarantee programs where advocacy is far ahead of documented results. It may be time to do more careful documentation of the results of loan guarantee programs.

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