

Capital Enhancement Guarantees and Risk Management by Capital-constrained Lenders

by J. D. Von Pischke

ABSTRACT: Commercial lenders require capital to bear risk. The capital enhancement guarantee (CEG) encourages lenders to make loans they would not otherwise make, such as microenterprise loans. The CEG is auctioned and awarded to bidders who promise the greatest amount of new lending for a given increment of permanent capital. Whether the incremental lending causes losses or gains for the lender, the incremental capital is free. The CEG subsidizes innovation in risk management. It places the analytical focus on risk and its cost, supports the key party to the lending decision, promotes skill in managing risk, is transparent, minimizes moral hazard, and has trivial transaction costs. The CEG should be attractive to donor agencies.

Introduction

The capital enhancement guarantee (CEG) is a new financial instrument designed to encourage innovative lending in situations in which capital is a greater constraint than liquidity. This is typical in well-managed commercial retail lending institutions, including banks and credit

unions, that have been in business for several years or more. CEGs enable such institutions, including microfinance operations, to expand their outreach.

The purpose of the CEG is to use market-based, risk-sensitive measures to direct subsidies to lenders and their clients (the ultimate borrowers) that qualify for guarantees. Accordingly, criteria must be provided for the types of borrowers who are supposed to benefit. Relevant variables may include location, the value of assets or sales, the size of the workforce, the type of economic activity or function performed by the borrower, the loan purpose, and other features favored by the donor. The selected targeted characteristics that define eligible borrowers should be specified in the funding agreement that governs the CEG program or in criteria for specific allocations of CEG coverage.

The CEG proposal originated during an Food and Agriculture Organization of the United Nations (FAO) mission to a transition economy. The mission was organized in response to a request from the country's government to design a system for agricultural credit guarantees,¹ based on the assumption that grants would be forthcoming for this purpose from an official source in western Europe. Existing guarantee mechanisms were examined, and alternatives were explored. Major concerns of the mission were to diminish possibilities for political patronage and to minimize transaction costs such as those that seemed likely to arise if a tiered system of local, regional, and national guarantee associations were formed, patterned after those of certain Western European countries. This never implied that such structures were characterized by

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patronage and inefficiency in the western European countries where they developed. The mission's view was simply that such results would be likely if they were transplanted to the country concerned. The results of the mission were inconclusive.

Capital in Microfinance Institutions

Capital (also called equity or net worth) is not generally a constraint in microfinance institutions (MFIs). Grants commonly fund their operations, giving them plentiful capital. Their grant-funded capital comprises a high proportion of their total assets: reliance on borrowing to fund operations is relatively low. Because a number of official donor agencies are enthusiastic about providing equity capital for these ventures, capital is also not initially a constraint for specialized microfinance institutions that seek to operate on a commercial basis. In both these cases capital-to-asset ratios (also called capital ratios) are higher, often much higher, than the 8% or 10% regarded as standard in commercial banking.

These high proportions of capital tend to decline as commercial microfinance institutions grow (introducing a wider range of services including deposit accounts), as they become regarded as creditworthy in local financial markets, and as they begin to tap local credit sources. Donors may be less willing to deal with profitable commercial microfinance institutions, but on the other hand, donors are at times attracted to them because their service to the target group coincides with donor priorities. It seems probable, however, that loans from donors would represent a diminishing portion of the expanding balance sheets of such institutions.

However, the microfinance field is too new and therefore too heterogeneous to define a standard minimum capital ratio, such as regulators have done for commercial banks, which are much more

homogeneous. At some point, as the capital ratios of commercially oriented MFIs decline through liability-funded growth, capital enhancement guarantees may become interesting to them because they seek more capital in order to grow and because liquidity can be obtained at reasonable cost from a number of sources, such as depositors and local money markets.

The growth constraint posed by capital may be illustrated as follows: if the board of an MFI feels that a minimum capital ratio of 20% is required, one additional peso of capital at the 20% minimum level permits a growth in total assets of five pesos. A board would be concerned about the relationship between capital and total assets because of capital's role as the ultimate cushion for risks and because of leverage. Losses reduce capital disproportionately. A loss of one peso by an institution that is operating at its minimum target capital ratio of 20% would require a five-peso shrinkage of total assets. Beyond some normal level of comfort (20% in this example), risk aversion rises. This causes lenders to decline to undertake lending at the margin that they regard as too risky, novel, or inconvenient. These are the constraints the CEG is designed to ease.

Expressions of Risk Aversion at the Margin

Why do banks reject loan applications when liquidity is not a binding constraint?² Common reasons are that loans requested are:

- too risky.
- inconsistent with the lender's business strategy and credit policy.
- unlikely to meet the standards of banking regulators.

These reasons for rejecting loan applications are generally applied as follows:

Loans That Are Too Risky

If lending is asset-based, loan applications are rejected when collateral is insufficient. If lending is based on a loan applicant's expected future cash flow, applications are rejected when cash flow³ is regarded as inadequate to service the loan within a time frame acceptable to the lender. Loan applications are also rejected as being too risky when lenders are not comfortable with the type, amount, or content of the information provided by or otherwise obtained about a loan applicant.

Loans Inconsistent with Business Strategy and Credit Policy

Loans that do not conform to a bank's business strategy and lending policy include those rejected as too risky because of collateral, cash flow, and information deficiencies. Additional strategy and policy reasons for rejecting loan applications include (1) the lender's desire to avoid risk concentrations by diversifying their portfolios as a means of controlling overall credit risks; (2) avoidance of lending for activities with which the lender has little experience or expertise; (3) loans that are likely to be costly to administer because of the location of the applicant, the type of business in which the applicant engages, or the applicant's credit history; and (4) managing loan portfolio size to maintain consistency with the liquidity and capital positions of the bank, i.e., maintaining capital adequacy as measured by the capital ratio, and liquidity sufficient to meet the bank's obligations. Increased lending funded by growth in deposit liabilities, for example, can lower the capital ratio. Increased lending funded by drawing down a bank's cash and government securities reduces the bank's liquidity.

Loans Unlikely to Meet Regulatory Standards

Regulatory standards include collateral adequacy, projected cash flow, source of repayment, and information and documentation on which the credit decision is based. Banks that do not meet standards and standard application may be subjected to unusual transaction costs that may result in higher costs of funding.

Traditional Credit Guarantees and Incentives

Traditional credit guarantees are defined here simply as those provided by governments and development assistance agencies that are off the guaranteed lender's balance sheet. Several dimensions are explored here.

Purpose

The purpose of a loan guarantee is to encourage a bank to make a loan that it would refuse without a guarantee. The successful traditional guarantee or loan insurance enables the lender to make such a loan by (1) reducing the credit risk burden; (2) providing a substitute for collateral; (3) offering comfort when cash flow is problematic; (4) diminishing the risks of portfolio concentration; or (5) meeting regulatory standards.

Traditional guarantees are usually only partial, requiring the lender to assume some of the risk, thereby creating incentives for lender diligence. Traditional guarantees are not shown on a lender's balance sheet because of their contingent nature. They may be unlikely to persuade bankers to lend in the following three cases: (1) bankers constrained primarily by their capital position may be unwilling to undertake any incremental risk because of leverage—losses reduce their capital at a faster rate than their assets and may be only partially offset by a guarantee; (2) bankers constrained primarily by their liquidity positions fear that the loan applicant's presumed inability to service debt in a timely manner depletes liquidity, again partially miti-

gated by a guarantee; (3) bankers would not be interested in a guarantee if they believed that the costs of obtaining, monitoring, and realizing a guarantee would be excessive relative to expected income from the relationship with the proposed borrower. Realization of the guarantee may take time and effort, including documentation and delays in compensation.

Risk Management

Traditional guarantees associated with development finance usually fail to deal directly with risk management and reduction. They clearly transfer risk to the guarantor. In most cases, however, they are not structured in a way that increases lenders' or guarantors' knowledge about what is most likely to go wrong with guaranteed loans or the actual (i.e., nonfinancial) activities they finance. These guarantees are usually not integrated with the promotion of better management or financing techniques that borrowers and lenders alike could use, with or without a guarantee, to reduce the incidence and impact of risks such as business failure, livestock mortality, or crop failure. As a consequence they do not necessarily generate insights into how real risks facing the borrower can be reduced.

Costs and Benefits

Traditional guarantees add transaction costs to the credit process in the form of their own overheads, which are often substantial in relation to amounts guaranteed. A common source of these costs occurs when the banker and the guarantor each perform a detailed credit analysis of the loan applicant and application, in effect duplicating effort. However, this cost rarely appears to create better management of real risks. Provision of guarantees through traditional guarantee funds is almost always very costly in the long run, as suggested by the demise of such funds and calls

for replenishment of their capital. They tend to decapitalize slowly, because risks take time to become apparent.

Moral Hazard

Traditional guarantees may also create moral hazard, which occurs when the guaranteed party behaves in a way that increases the cost to the guarantor. For example, a guarantee may lessen a lender's incentive to manage loans well and analyze risk intensively, thus weakening credit standards and discipline. It may likewise diminish a borrower's commitment to the success of the loan-financed venture. In each case this tends to occur because the financial cost of failure is reduced for the party or parties benefiting from a guarantee.

Capital Enhancement Guarantees and Risk Management

Capital enhancement guarantees provide a mechanism that avoids the disadvantages of traditional guarantees, while offering a basis for lenders to explore and assume risk on an incremental basis, as explained below.

Capital

CEGs operate entirely through the financial system and the regulatory framework at negligible administrative costs. They are based on the principle that banks require capital to bear risk. Insufficient capital limits a bank's ability to bear losses, and in extreme cases can cause a bank to fail. Well-capitalized banks are more willing and likely to undertake risky lending in a sustainable manner.

The CEG simply provides additional, free capital to bankers willing to make more risky loans in return. A bank does not have to pay for the guarantee but does have to perform as it contracts to do under the guarantee. Regardless whether a bank obtaining a guarantee suffers a loss on

guaranteed loans, the amount of the guarantee obtained is transferred to the bank, assuming adherence to the guarantee contract.

Banks' losses from guaranteed loans would provide extremely important information in judging the performance of CEGs. The impact on a bank's capital resulting from its lending supported by CEGs should be calculated by the bank and reported periodically over the period for which CEG-supported loans are outstanding. This information should be reported publicly, possibly excluding the names of specific banks.

CEG Award Mechanics

In countries with a number of lenders (e.g., microlenders), capital is provided by the guarantor through auctions. A simple participation agreement between bidding banks and the guarantor could specify criteria determining a bank's eligibility to participate (details are provided in Appendix 1), targeting objectives, bidding procedures, rules and enforcement measures; and other operating details and instructions regarding remittance of guarantee funds to successful bidders. It would also include performance-monitoring requirements that govern guaranteed loans and specify sanctions against unacceptable behavior.

The guarantor's requirements would define eligible loans, based, for example, on types of loan recipients, amounts, maturities, and purposes that the guarantee is intended to support, which would otherwise be nonconforming and hence ineligible for bank credit. Periodic auctions are envisaged, making management easier. This would also facilitate segregation of activities: i.e., today an auction devoted to microenterprise loans, two months from now small farmers, four months from now loans for environmental purposes, six months from now small enterprises in export sectors, followed by home improvement loans, etc.

A bidding bank's "price" is its ratio of additional capital to additional loans. The funding provided by a CEG, therefore, amounts to only

a fraction of the additional risk that a bank could incur on a loan supported by a CEG. The calculation would begin with the bank's present capital ratio, specified as a percentage (e.g., a bank with total assets of 10,000 and capital of 800 would have an 8% capital ratio). The bank's bid would be expressed in percentage points above its capital ratio. If a bank with an 8% capital ratio wanted to make an additional loan of 100 and felt that capital of 10 would be required to support the risk it perceives, the bank's bid would be 2%. The 2% is the difference between its capital ratio of 8% and the 10% capital base that would enable it to make the proposed loan of 100. If this bid were successful, the bank would receive 10 from the guarantee fund in the form of subordinated debt (which is treated by bank regulators as a form of capital). Unsuccessful bids could be resubmitted in later auctions.

Awarding capital on the basis of bids approaching banks' own capital ratios has several implications. One is that all eligible banks are treated equally at the margin. Banks with relatively low capital ratios could not use this characteristic to outbid banks with relatively high capital ratios. The fact that banks with higher capital ratios would receive more capital from a CEG than banks with low capital ratios is not relevant in this context.⁴ The purpose of the CEG is to encourage banks to explore risks incrementally, dealing first with loan applications that they would otherwise reject by narrow margins. This is consistent with good risk management, which is a source of profit for lenders; failure at risk management creates losses for lenders. Furthermore, the purpose of the CEG is to subsidize banks' efforts in risk management and help donors find productive outlets for funds.⁵

Successful bidders are those who submit the lowest bids, offering the most leverage for guarantee capital, relative to their present capital. In other words, winners would promise the most additional lending for a given size of guarantee, relative to their capital position. A bank has to

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have at least the minimum capital ratio prescribed by the central bank or other bank regulatory authority to be eligible to bid.⁶

The guarantee award is in the form of subordinated debt convertible into permanent capital. However, bank regulators often specify that to be treated as capital at all, subordinated debt must have a minimum maturity, such as three years. In this case, guaranteed lending would have to have maturities of at least three years. With respect to short-term loans, banks would have to agree to continue cycles of such lending for at least three years. Conversion of subordinated debt to permanent capital would occur on the third anniversary of the award, or as the retail loans under the guarantee fell due, whichever occurs later. If a five-year loan were made, for example, the principal portion repaid by the end of year three would be converted at that time, and the remaining installments of principal would be converted as they were received.

Receipts of subordinated debt or permanent capital should not be booked as income, but rather treated as a “below the line” transfer to capital. As permanent capital the funds would rank just below owner’s equity. They could be eroded by losses but could not be withdrawable except in the liquidation of the bank.

The amount of a bank’s subordinated debt (Tier 2 capital in international terminology) that can be treated as capital is usually limited by regulators, often not to exceed 50% of permanent capital (Tier 1 capital). Eligibility for CEG capital may have to be more limited. Assume that the bank with an 8% capital ratio (cited above) wanted 1000 and that its successful bid would still be 2%, resulting in a transfer of 100 to the bank, or assume that a 10,000 deal was based on a transfer of 1000. Without a monetary limit, bidding could produce an unsatisfactory result in which one bank absorbed all auction funds. The monetary limit should be related to a bank’s Tier 1 capital, which reflects the bank’s basic risk-bearing capacity. The monetary limit could possibly have a cap to

encourage active bidding by banks of all sizes. Such requirements could keep guarantee operations within feasible limits.

It is also necessary to set a maximum capital ratio for participation. For example, an MFI that has just converted into a bank may have a very high capital ratio, given the minimum capital requirement for establishment of a bank and its previous dependence on capital grants. An institution with a 50% capital ratio, for example, could bid 2%, and receive 52 for every 100 of new lending promised. It is not reasonable to permit such an institution to compete for CEGs because it is not capital constrained, and the impact of its winning a CEG would have little impact on its aversion to or capacity to manage risk.

The transfer of capital to a successful bidder is permanent⁷ unless the bank fails to make the specified loan or unless irregularities are discovered. Such failure or irregularities should be reported by the bank concerned. Bank supervisors should ensure in their periodic examinations that loans have been made as specified in the bank's bids. Failure to perform as promised requires the bank to return the funds to the donor.

Multiple Roles of Guarantee Capital

The capital provided to a bank under the guarantee is regarded as (1) shadow collateral provided by the loan applicant; (2) a shadow addition to the loan applicant's own funds invested in the project supported by the guarantee; and (3) shadow equity on the loan applicant's balance sheet. In other words, the bank's increased capacity to bear risk exactly offsets an equal amount of a loan applicant's deficiency in the ability to bear risk, as determined by bankers in the application of their credit policies or as defined by regulators.

This feature enables banks to make loans that they would otherwise like to make but which, without the guarantee, would neither meet their

credit standards nor conform to regulatory guidelines. Clearly, this would influence banks' bids as banks endeavor to obtain sufficient shadow enhancement for applicants. (This compensating feature could require changes in bank regulatory practices or laws in some countries.)

It is expected that banks charge higher effective interest rates on guaranteed loans than on similar loans because the risks remain higher. Also, guaranteed loans may have longer maturities than other loans because these borrowers' cash flows may be insufficient to support rapid repayment. Guaranteed loans should not differ, after these shadow or regulatory adjustments, from otherwise similar loans in a bank's portfolio; i.e., because of the CEG, they should conform to the lender's credit standards.

Bankers' bids would have to specify the grounds on which the guaranteed loan would otherwise be unacceptable (see Appendix 2). Regulators would routinely check *ex post* that the bank did not make similar nonconforming loans at the same time without a guarantee, or adjust credit policy opportunistically in order to obtain a guarantee.

Related Concerns

The CEG in the form articulated here may not be suitable for all countries. The fact that some markets have only a handful of banks, and hence only a limited number of competitors, makes it difficult to establish efficient auction prices. Noncompetitive auctions defeat one of the primary purposes of CEGs, which is to ensure that risk taking and risk management are market based. How should awards be made in such cases? One alternative is for donors to specify a threshold bid and invite eligible lenders to participate. Another is to have negotiated bids, but this increases transaction costs. Yet another is to regionalize coverage, as in East or West Africa or the Balkans.

Other concerns are what features other than bid ratios could be used to prioritize bids with identical ratios, and how prepayments by guaranteed borrowers should be handled. In addition, CEGs should not be issued to insiders or other parties related to banks that are successful bidders. This would create moral hazard, possibly leading banks to write off a portion of loans to such parties equal to the capital enhancement received. CEGs could also be accompanied by technical assistance in risk management.

Conclusion: The Capital Enhancement Guarantee Scorecard

Several objectives are accomplished by the CEG:

1. The analytical focus is on risk, its precise cost and management.
2. The guarantee supports the key party to the lending decision who requires support to make the loan.
3. Greater skill in managing risk, not merely transferring it, is accumulated through experience in pricing and making more risky loans, representing a permanent enhancement in the risk-management skills of participating banks.
4. CEGs operate through leveraging financial capital; better risk management lowers banks' bid ratios, enabling guarantee funds to underwrite even more lending.
5. Better risk-management techniques developed from experience with guaranteed lending are likely to be applied to other lending and to be adopted and adapted across the banking community.
6. Moral hazard is greatly reduced if insider transactions can be avoided. Banks have relatively undiminished incentives for good credit decisions and loan administration because their capital and liquidity remain at stake.

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7. Banks would presumably include a profit margin in their bids, the result being a permanent capacity to make higher-risk loans.
8. The process is entirely transparent, diminishing possibilities for corrupt practices and perpetuation of bad practices.
9. Administration costs are trivial, consisting of the costs of operating periodic bids for guarantee funds (Appendix 2 consists of a one-page bid sheet), banks' costs of submitting undertakings to make specified guaranteed loans, and verification by bank supervisors who would in any event examine a bank's loan portfolio.
10. Donor funds provided for auction as capital enhancement guarantees can be disbursed very quickly, preferably on the day of the bidding and award.
11. No permanent guarantee organization is created, which means that future losses are contained and that taxpayers are not burdened, given that virtually all such traditional guarantor organizations fail or require continued taxpayer support.
12. The auction process makes it impossible (except through collusion) for those responsible for setting conditions for guarantees and operating auctions to direct guarantees to specific borrowers. Administrative direction of guarantees to specific borrowers would corrupt the system and usurp lenders' role and responsibilities in credit allocation and risk management. However, broad conditions defining the target group are easily accommodated through the CEG.
13. When guarantee funds are exhausted through auctions, they remain at work in the banking system as capital, as experience with losses, or both.
14. No social loss, discontinuity, or transition requirement is created by the termination of the guarantee program.

Finally, it is important to maintain perspective on what finance can actually contribute to equitable, broadly based development. Being mar-

ket-based through an auction process, capital enhancement guarantees will fail to satisfy promoters of certain projects and activities that they feel should be supported by banks or by taxpayers at all costs. This is in fact one of the strengths of capital enhancement guarantees. For credit allocation to be efficient and developmental, lenders have to be skilled at identifying bad, unremunerative projects as well as good projects and activities that are rewarding. Lenders can often do as much good socially and economically by saying no and preventing the misuse of scarce resources as by saying yes to productive uses of resources. Skilled bankers in competitive financial markets work with loan applicants to structure deals so that they are acceptable and are within reasonable ranges of risk. This is of course not possible for deals that are fundamentally bad.

Appendix 1

CEG Administration

Certain administrative measures are required to provide and monitor capital enhancement guarantees. Some considerations are explored here.

Ownership

Guarantee funds must be obtained from a donor, or from the government if there is no external donor. Their ownership must be established. The owner acts as the guarantor and as the creditor, providing temporary subordinated debt to successful bidders.

Possible owners include the donor, the government, a trust, or an official agency, such as the central bank or banking regulatory authority. A fiduciary such as a foreign bank (not interested in bidding) or the central bank could hold funds and execute transactions requested by the owner. The owner should establish an accounting system for the transfer of funds and design reports that would indicate the activities of the fund.

Eligible Bidders

CEGs may be awarded to banks, finance companies, credit unions, or other regulated retail financial institutions. Eligibility standards would include satisfactory capital adequacy as specified by regulators, adequate liquidity as demonstrated through the clearing system and interbank transactions, presumably some minimum level of return on assets to eliminate desperate lenders, financial statements audited by an audit firm of acceptable standing, and other criteria specified by the donor, owner, or regulator.

Auctions

The auction should be conducted by an existing impartial entity and follow procedures that make corruption difficult. Examples may be the central bank, a donor's office, a legal firm, an insurance company, the local office of the International Monetary Fund, or even the national lottery. No additional, permanent institution is required to administer CEG operations, minimizing costs. Complete auction results should be made public and communicated immediately to all banks and other interested parties.

The auctioneer should prepare tallies of auction results immediately and make them public so that more information is generally available about risk and its management by banks. A representative of the owner should be present during the auction and indicate whether any irregularities were observed. The owner is responsible for examining bidding patterns to identify unusual activity or behavior and for investigating rumors or complaints about collusion.

Banks that collude should, at the least, be barred from further participation, and this information should be made public; such a bank should be required to return the CEG funds it has received, become ineligible for future bidding, and be subject to legal proceedings. These mea-

tures should be specified in the process used to identify eligible bidders, and should be a condition for the acceptance of bids.

Likewise, actions by governments that interfere or attempt to interfere with the process should also be subject to surveillance, because these upset the market-based nature of CEGs.

Each bidder uses sealed bids, or secure electronic bids sent to the auctioneer by fax or email, to indicate the amount of additional capital needed to support a given amount of additional lending that conforms to the requirements of the guarantor specified in the CEG contract. A sample one-page bid sheet is included as Appendix 2.

Bids should not be accepted for loans that are unlikely to be made within a reasonable period of time, such as six months after the award. This limitation would curb preemptive behavior by bidders and also simplify CEG administration. Allowing a reasonable time limit would permit unsuccessful bidders to resubmit their rejected proposals, possibly modified, to subsequent auctions prior to the time the funds would be used by their client(s) or prospective client(s) who are in line to receive CEG support.

Appendix 2: Sample Bid Sheet for a Capital Enhancement Guarantee

For the auction at (time and date): _____

Time and date received by auctioneer: _____

Our bid in 2 decimal points of a percent: _____._____%	Our serial number of this bid: _____
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CEG amount requested: _____	Amount of new lending to be undertaken: _____
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Maturity(ies) of subordinated debt requested (not less than 3 years):

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The more recent of our externally audited data for our last full financial year or our last examination by the banking regulatory authorities indicates that our capital ratio was __. __%. We certify that no material change in this ratio has since occurred and that our Tier 2 capital would not exceed (50% or other specified proportion, i.e., __%) of our Tier 1 capital if this bid is successful.

Name of our bank: _____

Our sorting code/identification number: _____

We expect to make _____ new loan(s) under this guarantee.

Without this guarantee we cannot undertake this new lending because of one or more considerations, as follows:

Insufficiency of applicant's(s') collateral

Insufficiency of applicant's(s') cash to fund new investment

Insufficiency of applicant's(s') capital

(debt-to-equity ratio is too high)

Our liquidity position

Our capital position

Other (please explain below)

Credit proceeds to our account
_____ at the central bank

Signature:
Name:

or at _____ Bank, Title:
_____ branch. Date:

Reference

Michael Gudger, "Credit guarantees: An assessment of the state of knowledge and new avenues of research," FAO, Rome 1998.

Notes

1. To the best of the author's knowledge, this instrument is original, dating from work done for FAO in collaboration with Richard Roberts and the late Michael Gudger. Also to the best of the author's knowledge, no capital enhancement guarantee has ever been executed. An earlier, modified exposition was provided in Michael Gudger (1998). For purposes of simplicity, the discussion here uses banks as the point of reference. Credit unions are subject to many of the same dynamics, as are mature specialized commercial MFIs, such as banks and finance companies that operate for profit in Bangladesh and Bolivia. In the case of credit unions and other cooperative financial institutions, capital as used in this paper would be called "institutional capital" in credit union terminology. Institutional capital excludes members' withdrawable shares and normally consists primarily of retained surpluses.

3. The cash flow that lenders usually focus on is "free cash flow," defined as the amount of liquidity available after the borrower has met other expenses (called "senior claims") which are essential to maintaining the operations and status of the firm, household, or person seeking credit. Free cash flow projections may also be adjusted downward to reflect reasonably predictable risk.

4. Assume that two banks want to make different loans of equal size (e.g., 100) and that each places a successful bid of 2%. One bank has an 8% capital ratio and wants capital of 10 to undertake the otherwise unacceptable deal. The other bank has a capital ratio of 11%, and is willing to make an otherwise impossible loan against capital of 13. The first bank receives 10, while the second receives 13.

5. The author's view, after 35 years in the development assistance business, is that official donor agencies have considerable difficulty finding productive outlets for their funds, while facing very strong political and institutional imperatives to lend or to make grants. At any given time, depending on current priorities, and from the perspective of sustainable ventures, donors face a relatively restricted set of useful things to do, especially when they seek to intervene in financial sector activities.

6. Regulatory capital ratios are customarily calculated using risk weights for dif-

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ferent types of assets. For example, cash may have a zero risk weight, while commercial loans would have a 100% risk weight. Eligibility could be determined according to the risk-weighted or the unweighted capital ratio, but would require consistent application of whichever measure is selected.

7. Why should a bank receive free capital from a donor? Retail lenders in most developing countries lost a lot of capital as a result of participating in donor-funded credit projects through the early 1990s. Hence, CEGs could offer a crude form of restitution or apology, but not a foolproof one—bankers who fail to price risk correctly can still lose money with CEGs. Further justifications, less fanciful, are provided in the text.

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