
Promoting Efficient Rural Financial Intermediation

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Although governments have traditionally used subsidized credit programs to promote agricultural growth, this approach has generally failed to improve incomes and alleviate poverty in rural areas. It has also led to the mistaken belief that rural credit programs cannot be profitable. A new approach seeks to raise standards of living in rural areas by casting the government in a very different role—one of setting a favorable legal and policy environment for rural financial markets and addressing specific market failures cost effectively through well-designed and self-sustaining interventions. There is evidence that this approach can be highly successful. The Village Bank system of Bank Rakyat Indonesia has shown that financial services can be extended to millions of low-income rural clients without relying on subsidies. Indeed, the program has generated enormous profits for the bank by using simple, innovative, and largely replicable techniques.

Providing affordable financial services to the rural population has been an important component of development strategy for the last several decades. Direct interventions in rural financial markets to stimulate growth and reduce poverty—through a blend of targeted credit programs, interest subsidies, and other government policies—became widespread in the 1950s, when Keynesian economics inspired many governments to design fiscal interventions at the macroeconomic level. But these direct interventions have generally been disappointing and have tended to retard, rather than promote, the development of financial services in rural areas. One explanation is that these policies were based on serious misconceptions about the real challenges facing rural communities and were directed more toward the symptoms rather than the causes of inadequate rural financial intermediation.

More recent developments in the provision of rural financial services (both savings and credit) have demonstrated that proper institutional design and adherence to appropriate policies pay off handsomely and have the potential to generate substantial achievements in terms of both sustainability and greater institutional outreach.

Although the new approach focuses on the same objectives, that is, income expansion and poverty reduction, the perceived challenges and ways of addressing them are strikingly different. The principal change involves promoting deep and efficient rural financial markets by creating a favorable policy environment, improving the legal and regulatory framework that supports rural financial markets, and addressing specific market failures in cost-effective ways through well-designed, self-sustaining interventions.

The Traditional Approach to Rural Finance

Throughout the world, governments have intervened extensively in financial markets in general and rural financial markets in particular. The extent of intervention has varied from indirect measures aimed at improving the policy environment (for example, by addressing incentive problems and regulating financial intermediaries), to direct steps to increase or supplant credit provided by private lenders. Many countries eager to channel funds to farmers directed private banks to make concessional loans to agriculture, or they established and supported state-owned agricultural credit institutions.

Traditionally, the case for subsidized agricultural credit programs has been based on the following arguments: governments should focus on agriculture to promote rural development; agriculture is undercapitalized; farmers need cheap credit to encourage them to adopt modern technology and to compensate them for policies that are biased in favor of urban dwellers; farmers are too poor to save; and private banks provide little or no credit, forcing small borrowers to use moneylenders who charge usurious interest rates. Donors provided considerable support for subsidized credit; the World Bank, for example, lent \$16.5 billion in agricultural credit under largely traditional programs prior to 1992 (World Bank 1993).

These programs have generally had a limited outreach and resulted in huge costs, with little identifiable impact at the farm level. In an extreme example, during the 1980s, one Latin American rural financial institution with more than 500 branches and 27,000 employees received \$10.3 billion in fiscal and quasi-fiscal transfers (that is, capital injections and interest subsidies), while recovering only 10–15 percent on its portfolio and serving only 2 percent of the rural population. Elsewhere, government-sponsored rural credit programs and institutions from Peru to Malawi to Indonesia have collapsed under the weight of losses generated by traditional directed credit strategies.

These failures are largely explained by the pursuit of short-term objectives framed in terms of agricultural production gains rather than long-term objectives aimed at the sustained expansion of rural incomes. The excessive focus on disbursing cheap

agricultural credit has typically resulted in programs with a poor credit culture, manifested by a dependency on subsidies, low recovery rates, inadequately diversified portfolios, mistargeting of credit (Khan 1977), and rent-seeking by credit officials and influential farmers (Ladman and Tinnermeier 1984). The tremendous potential for rural savings has also been neglected, and private for-profit financial institutions have been crowded out by state-owned rural financial institutions dependent on government subsidies.

Although directed credit has been heavily criticized (Von Pischke, Adams, and Donald 1983), and more market-friendly approaches have been proposed for some time, many countries have resisted changing the rules under which state-owned financial institutions operate. Nevertheless, major reforms of rural credit systems have been launched in several countries, including India and Mexico, to ensure that public resources are used more effectively, to support the expansion of rural incomes, and to reduce poverty.

The New Approach to Rural Finance

The new approach continues to focus on income expansion and poverty reduction but makes the case for cost-effective alternatives, such as increased investment in rural infrastructure or in human development, to reach these goals. (For the literature on changes in rural finance, see Adams, Graham, and Von Pischke 1984; David and Meyer 1984; González-Vega 1984; and Vogel 1984). Advocates of this approach propose that governments concentrate on establishing a favorable policy environment that facilitates the smooth functioning of rural financial markets while playing a more limited and efficient role in the direct provision of rural financial services. The factors that prevent rural financial markets from operating efficiently are recognized to be broader and include macroeconomic policies, weakly regulated financial sectors, institutional features (legal and regulatory), and specific constraints related to intermediation in rural areas. This approach sees the government's main task as creating a conducive environment for private intermediaries in rural financial markets (figures 1 and 2). The case for direct interventions depends on whether the objective is general rural income expansion or targeted poverty reduction.

Creating a Conducive Policy Environment

The starting point for formulating policies aimed at increasing rural incomes and reducing poverty is an assessment of the efficiency of markets, particularly rural financial markets, and of the causes of market inefficiencies. Typically, there are weak-

Figure 1. *Decision Tree to Promote Effective Financial Markets*

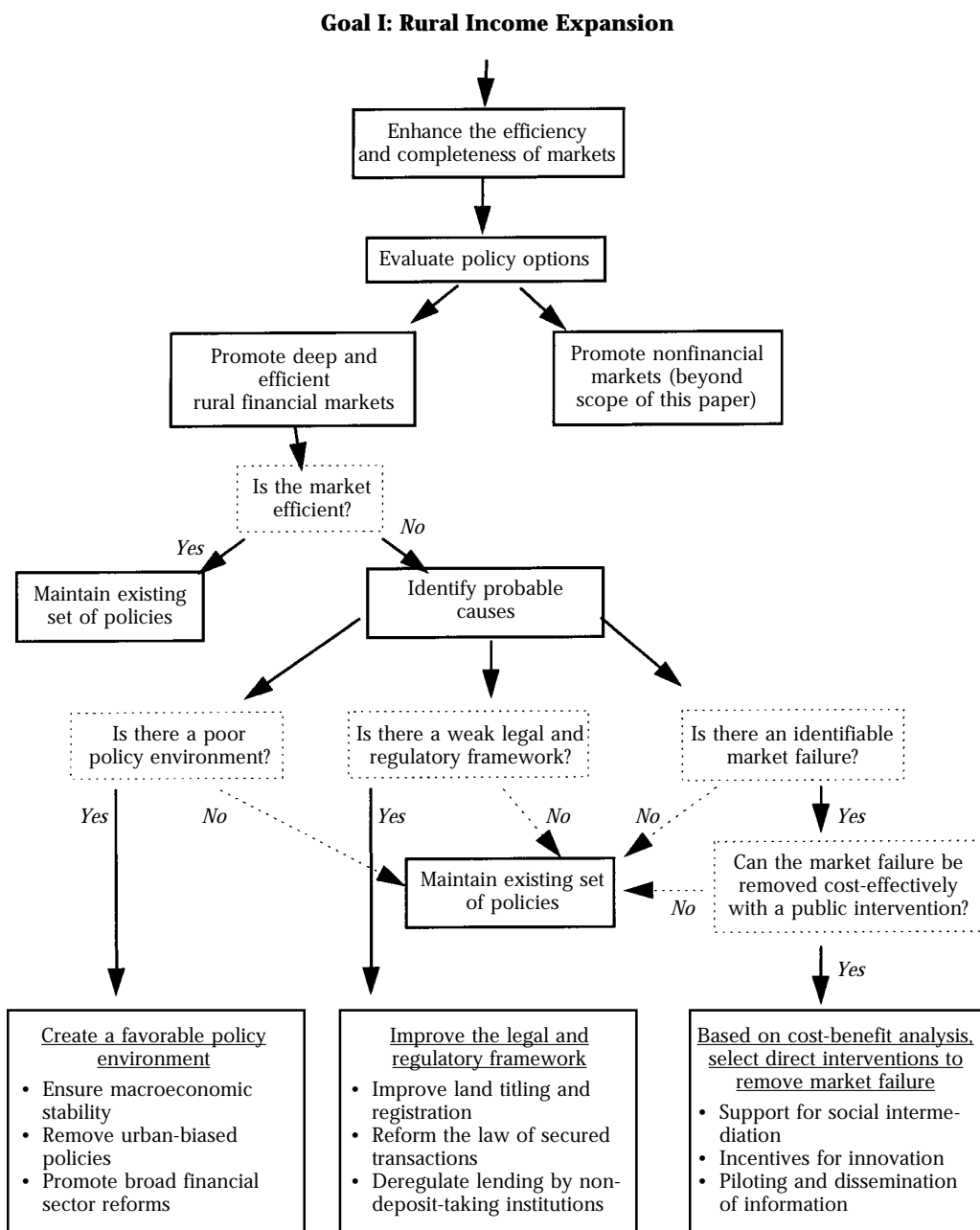
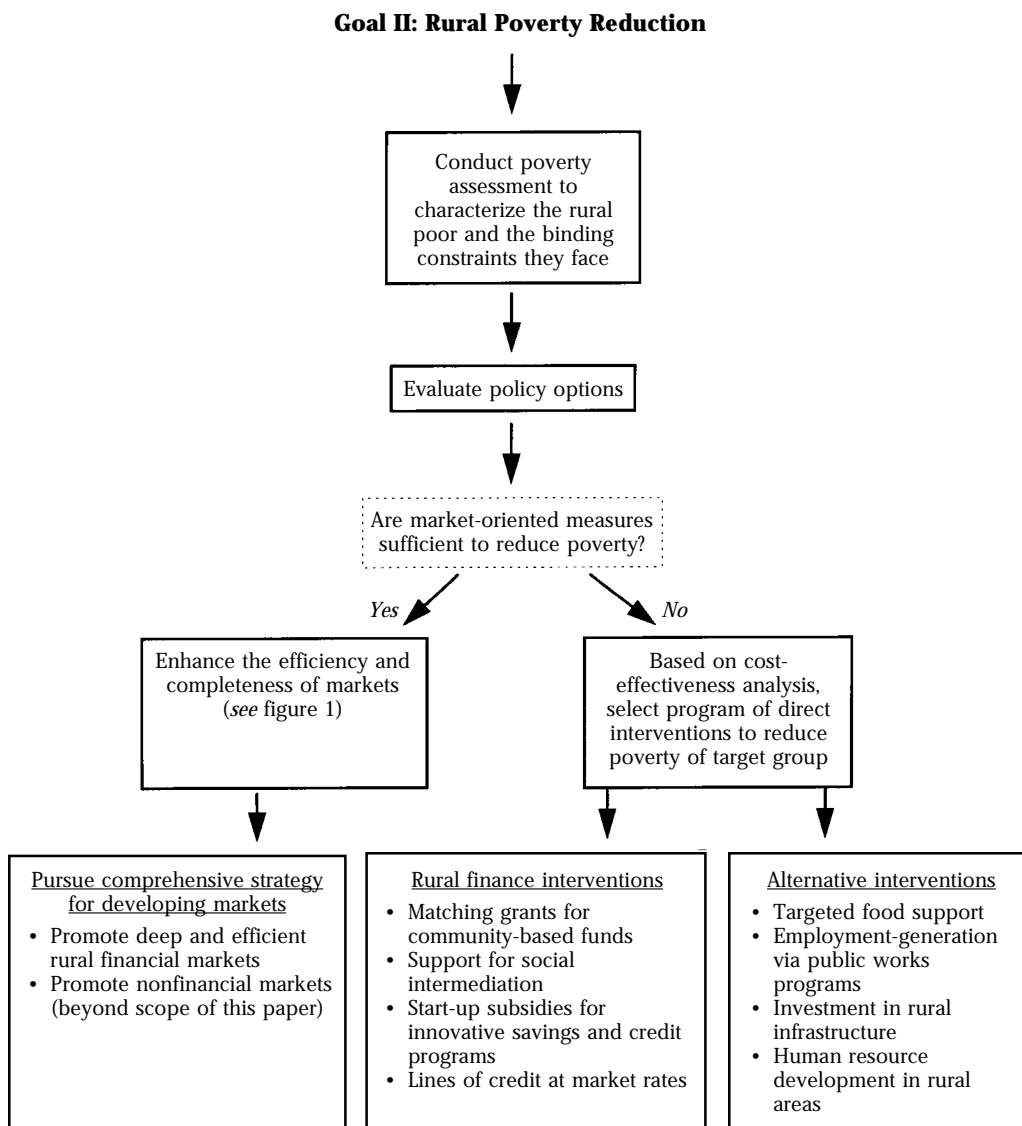


Figure 2. Decision Tree for Poverty Reduction



Source: Yaron, Benjamin, and Piprek (1997).

nesses in the policy environment that hamper the development of rural markets, including financial markets. For example:

- Unsound macroeconomic policies result in volatility and high real interest rates that can adversely affect all financial intermediaries, while misaligned exchange rates distort price signals and lead financial markets to channel excessive resources to inefficient sectors.
- Development policies biased toward urban areas reduce the profitability of agriculture and nonfarm rural enterprises and devastate rural financial markets. Countries with the highest degree of discrimination against agriculture have had the lowest rates of economic growth (Schiff and Valdés 1992).
- Inadequate regulatory oversight, inappropriate interventions in financial markets, and financial repression increase the risks and constrain the development of financial markets.

Governments can promote financial markets in general by strengthening the supervision and prudential regulation of financial institutions, deregulating interest rates, reducing excessively high reserve requirements, and relaxing credit controls. Governments can also adjust the regulatory framework to facilitate operations in rural areas by community-based, deposit-taking intermediaries. Such policies would combine lower capital requirements with higher capital-asset ratios and more circumscribed permitted activities to minimize regulatory arbitrage (see Berenbach and Churchill 1997 for similar regulatory issues in microfinance).

The Legal and Regulatory Framework

Too often the institutional foundations for financial markets in rural areas are absent. Lenders need a system that provides formal procedures for claims against property and enforcement of financial contracts. The more uncertain and expensive this process, the less willing are lenders to lend (Fleisig and de la Peña 1996). In many countries deficiencies in laws, regulations, and institutions prevent the formal sector from delivering credit to farmers, rural businesses or even nonbank creditors (typically traders), who have many advantages in efficiently reaching poor rural borrowers.

The required changes needed to expand access to credit in rural areas include titling and registering land; reforming the law of secured transactions, such as legally acceptable forms of collateral; establishing legal registries and expanding the scope for private operation; lowering the costs of registration and foreclosure; drafting specific, clear, and limited homestead provisions; and removing interest rate ceilings. Well-designed programs to reform the laws of secured transactions have increased

the supply of credit and lowered interest rates, producing gains over time that have been estimated at several percentage points of gross domestic product GDP (Fleisig and de la Peña 1996). The costs of implementing such legal reform programs are usually remarkably low.

Designing and Justifying Direct Interventions in Rural Financial Markets

What role should government play in rural finance and development? There is growing recognition that governments should first and foremost facilitate the workings of the market so that private participants can allocate resources efficiently in response to price and profit signals.

Risks of Market Failure

At the same time, markets may fail for several reasons, because the assumptions that are required in theory for efficient market-based resource allocation may not hold in practice. For example, individuals may not bear the full benefits or costs of their actions. Or externalities may arise because investors cannot capture the full benefits of their investments if they cannot exclude others from free-riding. Alternatively, individuals may fail to take into account the costs they impose on others when undertaking a given activity. A market may not have sufficient buyers and sellers or permit sufficient ease of entry and exit to ensure an efficient allocation of resources. In many countries market participants may not be able to enter easily into enforceable contracts. Finally, market participants may not be able to ensure against certain contingencies, although efficient markets for pricing and exchanging risks are required for optimal resource allocations when there is uncertainty. Rural financial markets, particularly in developing economies, generally have these shortcomings.

The critical factor that explains the externalities, missing markets, and local (competitive) monopolies in rural financial markets is imperfect information (Stiglitz 1996; Virmani 1982). Financial transactions in a given currency by their very nature involve a contractual exchange of cash for a promise of a future stream of payments, rather than a simultaneous exchange of cash or goods—or both—for goods. The promissory feature of financial transactions makes it essential for participants to be well informed about their counterparts' ability and willingness to honor contractual obligations. The absence of such information will constrain a lender's (or depositor's) ability not only to discern the creditworthiness of potential borrowers (or banks), but also to enforce contracts. These constraints point to an important role for government in regulating financial intermediaries, for in-

stance to limit excessive risk-taking by banks using other people's money, and in providing a sound legal and regulatory framework for enforcing contracts.

Rethinking Direct Interventions

Information constraints do not immediately justify direct government interventions in the market, because markets may be constrained-efficient, that is, they maximize incomes subject to the information and other barriers that participants face. For example, in rural areas, poverty, low population density, isolated markets, seasonality, and highly covariant risk such as widespread crop failures in a given region often result in high transaction costs, a lack of traditional collateral, variable incomes, and limited opportunities for diversifying risk. These features differentiate rural financial markets from urban ones and often scare off traditional for-profit financial intermediaries. They do not, however, entail market failures, because these features result in high real costs to society that government interventions would also face. At the same time, there may be clear economic gains that the market has not yet obtained, for example, transactions in which the first entrants bear the full cost of losses but are unable to capture the full benefits of success (box 1).

Careful analyses that identify market failures and specify their causes should precede appropriate interventions to expand rural incomes. Even if a market failure is identified, direct interventions (through subsidies, credit programs, or institutions) are warranted only if the market failure can be addressed cost effectively; thus, the benefits must exceed the costs. A government failure is not a solution to a market failure.

Although policy and regulatory reforms that promote growth are often the most promising way to reduce rural poverty, special interventions may be required if economic growth is not appropriately shared. These interventions are justified based on social norms rather than on market failures (see figure 2). Interventions in rural financial markets, however, are still warranted only if they are the most cost-effective means of reducing poverty.

Box 1. *How Imperfect Information Can Generate Market Failures*

It is widely—incorrectly—assumed that if a given activity were profitable, someone in the private sector would have done it already. As Besley (1994) notes, “An inefficiency might develop if individuals hang back waiting for others to try things out. The slow diffusion of certain agricultural technologies has often been attributed to a reluctance to be the first user. An obvious role for government intervention is to subsidize early innovators. Thus experiments in institutional design, such as the Grameen Bank in Bangladesh, might serve as prime candidates for subsidization. Such arguments appear only to justify subsidizing new ventures, however, and subsidies should be phased-out along the way.”

Box 2. *Two Perspectives on Market Failure and the Argument for Intervention*

Stiglitz (1993): “There *is* a role for the state in financial markets; it is a role motivated by pervasive market failures. In developing countries, market failures are almost undoubtedly greater than in the more developed countries. . . . While limitations on markets are greater in less developed countries than in developed countries, so too, many would argue, are limitations on government. We have argued that government policies can be designed which are attentive to those limitations. . . . What is clear is that a simple ideological commitment to financial market liberalization cannot be derived either from economic theory or be justified by an examination of a broad base of experience. . . .”

Besley (1994): “In summary, there may be good arguments for intervention, and some may be based on market failure. But as one unpacks each argument, the realization grows that, given the current status of empirical evidence on many relevant questions, it is impossible to be categorical that an intervention in the credit markets is justified. Empirical work that can speak to these issues is the next challenge if the theoretical progress on the operation of rural credit markets is to be matched by progress in the policy sphere.”

Government interventions in rural financial markets should aim to remove the causes of market failure or poverty, using the most appropriate mix of *instruments*, such as funding for pilot programs; *institutions*, such as private financial intermediaries, nongovernmental organizations, or state-owned rural financial institutions; and *products*, such as credit, savings, guarantees, and insurance. Where appropriate, market failure caused by imperfect information can be addressed by providing seed capital to establish rural financial institutions in remote areas (box 1).

Interventions should always be designed to complement, facilitate, or improve rural financial markets over the long term (box 2). For example, if an initial cost-benefit analysis suggests that a state-owned rural financial institution is a more cost-effective vehicle for promoting rural financial markets than working through private banks or nongovernmental organizations, the government should not later prop up its rural financial institutions with more favorable access to subsidies or concessional funds than are available to other entrepreneurs. On the contrary, competition should be encouraged. Subsidies or grants should generally be restricted to seed capital or be limited by a sunset clause. Finally, the cost of programs to develop rural financial markets should be monitored to assess the cost-effectiveness of the interventions.

There have been widespread failures among state-owned specialized agricultural credit institutions around the world (Adams, Graham, and Von Pischke 1984). These agencies have lacked appropriate governance, capable management, political autonomy, and innovative, efficient operating procedures. They have not addressed information constraints and have been plagued by incentive problems. Taking into account forgone opportunities by private rural financial institutions, the inefficient allocation of resources, and the fiscal costs of propping up loss-making and often

Box 3. Two Good Reasons for Market Interest Rates: Equity and Efficiency

Equity: Directed credit programs invariably face the following dilemma: whether to lend to more clients with no subsidy, or to fewer people with a high subsidy per dollar lent. If the issue is perceived as resolving the inadequate *access* to formal credit of the rural masses, then (on equity grounds), the policy should pursue *increased outreach*—a choice that requires eliminating or minimizing the subsidy per dollar lent.

Efficiency: Several studies show that liberalized financial markets generate a more efficient allocation of resources and higher rates of economic growth (King and Levine 1993; Jaramillo, Schiantarelli, and Weiss 1993; McKinnon and Shaw 1976). Other studies point to a positive relationship between savings and real interest rates in developing countries (Fry 1988). The importance of financial institutions in offering and charging positive real interest rates is clearly shown in King and Levine (1993), who find that real growth in gross domestic product during 1974–89 for a sample of 76 countries was more than 2 percent higher for those offering the highest deposit interest rates than for those offering the lowest deposit rates. Indeed, growth was negative for the latter group of countries.

corrupt institutions, the economic costs are likely to have far outweighed the benefits of these public-sector institutions. Even worse, the rich have frequently captured the subsidies, compounding problems of poverty and inequality.

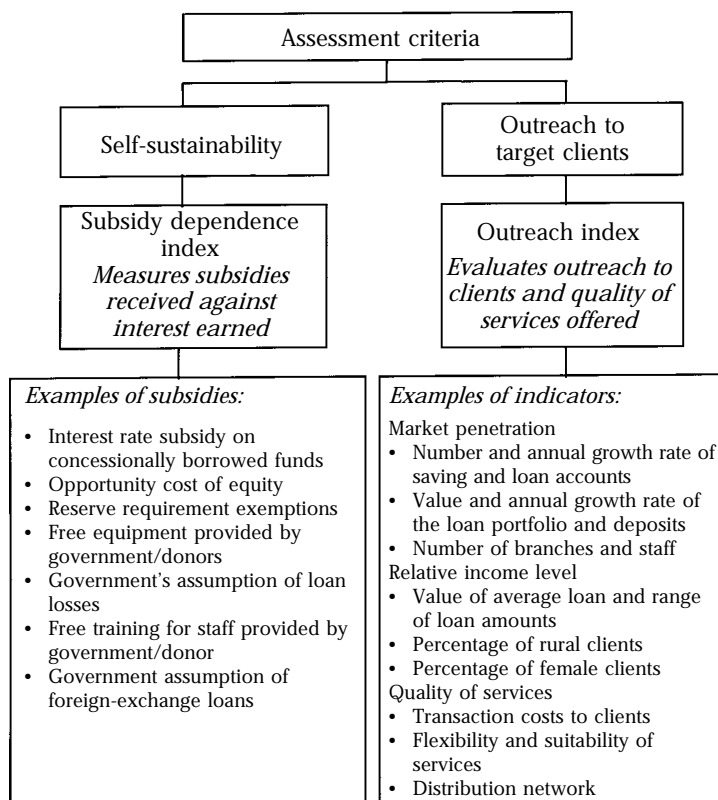
State provision of financial services in rural areas is not recommended unless it meets the following strict governance criteria:

- Fully autonomous management that is held accountable for the bank's financial performance
- Exemption from civil service pay scales to attract and reward quality staff on the basis of the institution's financial performance
- Insulation from staffing pressures by local authorities, for example through autonomous organizational charts with professional qualifications criteria
- The same freedom to set borrowing and lending rates that apply to commercial banks, so that both deposit and lending rates are at market rates, are usually positive in real terms, and provide an adequate spread to cover costs (box 3)
- Application of international best practice prudential regulatory, accounting, and disclosure practices, and therefore the development of a strong management information system by the rural financial institutions, and both off-site supervision and on-site examinations by the same agency that supervises private banks
- A hard budget constraint
- A clear strategy to develop rural financial markets that are supported only with initial, nonexclusive, time-bound, transparently budgeted subsidies.

Measuring the Performance of Rural Financial Intermediaries

Evaluating the effect of a rural credit program on incomes and poverty is very difficult because it is rarely clear what borrowers would have done in the absence of the program. Therefore, practitioners and academics have developed a new framework for assessing the performance of credit programs. This framework rests on outreach and self-sustainability (Yaron 1992a). It argues that rural financial institutions that provide a broad range of services to the targeted clientele in an efficient manner are likely to have the desired impact of expanding incomes and reducing poverty. Therefore, evaluating their performance based on these criteria provides an easily quantifiable proxy of the impact of rural financial intermediation in lieu of a full benefit-cost analysis (figure 3).

Figure 3. *Assessing the Performance of Rural Financial Institutions*



Source: Yaron, Benjamin, and Piprek (1997).

Outreach is measured by a hybrid index comprising several indicators, such as the number of clients, the value of the loan portfolio and its annual growth, the percentage of female clients (where social norms discriminate against women), the average loan size (as a proxy for income level of the clientele), and so on.

Self-sustainability is assessed by calculating the subsidy dependence index, that is, the percentage by which the agency's average on-lending interest rate would have to increase to make it self-sustainable (Yaron 1992b; Benjamin 1994). Conventional accounting practices fail to reflect most subsidies received by state-owned rural financial institutions or by nongovernmental organizations and therefore do not show the true social costs of maintaining these intermediaries. Yet without this measure it is impossible to determine whether continuing support for those institutions is warranted. Given the prevalence and extent of subsidies, recognizing the subsidy dependence is essential to evaluating the performance of state-owned institutions and nongovernmental organizations. The subsidy-dependence index is instrumental in:

- Relating the total amount of subsidies received by a rural financial institution to its level of activity, represented by the interest earned on its loan portfolio. This exercise is similar to calculations of effective protection, domestic resource cost, or job creation cost. It also captures the notion of matching grants by comparing the value of subsidies received against the income earned from clients in the market place.
- Tracking a rural financial institution's performance in terms of subsidy dependence over time and relative to that of other institutions that provide similar services to a similar clientele.

Successful Rural Financial Institutions

Three Asian rural financial institutions are widely considered successful based on the two primary criteria of outreach and self-sustainability: the Bank for Agriculture and Agricultural Cooperatives in Thailand; the Village Banks, or Unit Desas, of Bank Rakyat Indonesia (BRI-UD); and the Grameen Bank in Bangladesh. All have succeeded in providing financial services at unprecedented levels to millions of rural people. The Grameen Bank has reduced its dependence on subsidies, the Bank for Agriculture and Agricultural Cooperatives has benefited from low to modest subsidies, and the Village Bank program of the Bank Rakyat Indonesia has completely eliminated its dependence on subsidies. These successes contrast sharply with the traditional view that heavy subsidies are inevitable in the provision of financial services to rural entrepreneurs. A variety of mechanisms have enhanced the efficiency of these institutions, including the following:

- A high degree of management autonomy in formulating operational policies.

- Policies that provide for staff accountability, investment in human capital, and rewards (monetary incentives and promotions) that are related to sound financial performance and sustainability.
- Innovative, low-cost delivery systems and mobile banking services.
- Innovative and flexible loan terms and conditions adapted to social, economic, and cultural circumstances. For example, all offer weekly or monthly repayment schedules tailored to the clients' cash flow.
- Close monitoring of loan performance; high, on-time collection rates and low loan losses.
- Development of domestic savings accounts to reduce or eliminate the need for donor funds.
- Positive and often relatively high on-lending rates that ensure an adequate spread.
- Control over administrative expenses and effective use of economies of scale.
- Advanced management information systems that facilitate effective planning, control, and timely monitoring of loan repayments.
- Concentration on rural markets that have relatively high population densities.

A close look at the operations of the BRI-UD shows how it has achieved unparalleled success in rural financial intermediation.

Explaining the Success of the Village Banks Program

This successful public entity has succeeded in reaching financial self-sustainability while providing credit and saving services to rural low-income families that had not previously had access to formal financial services. Moreover, it has achieved an unprecedented level of profitability, earning \$177 million in profits during 1996, and a return on average assets of more than 5 percent a year between 1994 and 1996. This level of profitability is rarely found even among financial intermediaries that serve clients who borrow and save vastly larger amounts, and who have much more substantial enforceable collateral.

Background

By the mid-1970s Indonesia's directed-credit program aimed at channeling funds to rice farmers (under the BIMAS, or Mass Guidance program), had contributed to making the country self-sufficient in rice production. By the early 1980s, however, the program had become increasingly unsustainable as a result of subsidized interest rates, poor loan repayments, and employee incentives directed toward disbursing credit rather than generating profits. In 1984 the government transformed the op-

eration into the BRI-UD system and ordered it either to devise a program to provide rural financial services on a self-sustaining basis or to face closure. With a relatively small initial subsidy in 1984, the new BRI-UD became profitable within eighteen months. By 1996 the bank was a global leader in rural financial intermediation, with 2.5 million loan accounts and 16.2 million deposit accounts, combining substantial market penetration among low-income rural clients with sustained profitability (table 1 and figure 4).

The most fundamental policy change was a shift from disbursing credit to motivating loan recovery and mobilizing savings; that is, to genuine rural financial inter-

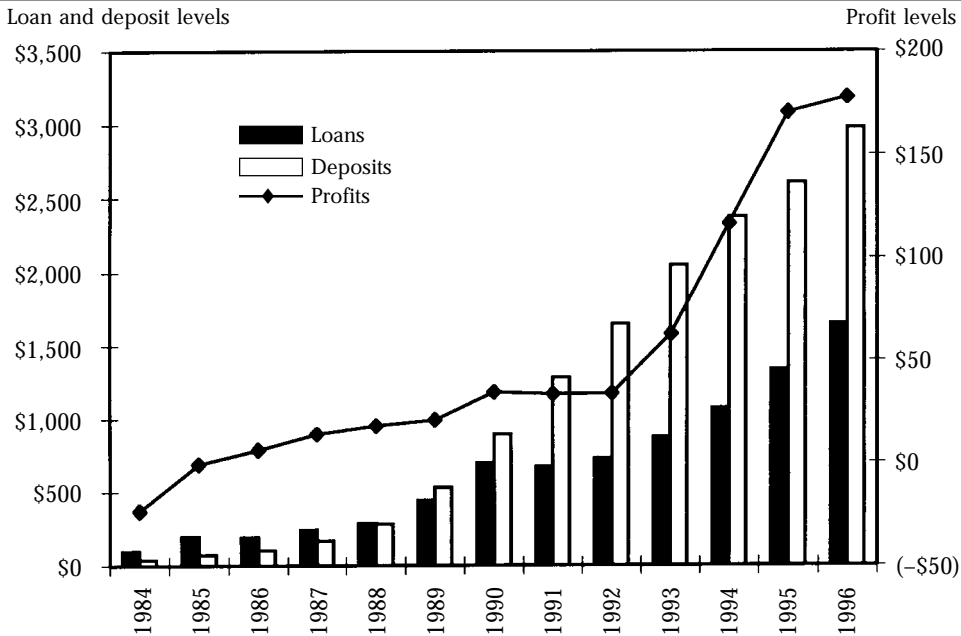
Table 1. *BRI-UD's Outreach and Financial Self-Sustainability*
(US\$)

| <i>Outreach</i> | <i>1985</i> | <i>1990</i> | <i>1995</i> |
|--|-------------|-------------|-------------|
| Average annual loan volume (millions) | 162 | 562 | 1,178 |
| Number of outstanding loans (millions) | 1.0 | 1.9 | 2.3 |
| Average outstanding loan amount / borrower | 162 | 296 | 512 |
| Average annual deposit volume (millions) | 49 | 685 | 2,382 |
| Number of deposit accounts (millions) | — | 7.3 | 14.5 |
| Average deposit amount per saver | — | 94 | 164 |
| <i>Financial self-sustainability</i> (in percentages unless noted) | | | |
| Nominal average yield earned on loan portfolio | 27.4 | 31.5 | 31.6 |
| Nominal average interest rate paid on deposits | 10.5 | 11.3 | 9.7 |
| Nominal interest rate spread | 16.8 | 20.2 | 21.9 |
| Inflation | 4.7 | 7.4 | 9.4 |
| Real average yield earned on loan portfolio | 21.7 | 22.4 | 20.2 |
| Real average interest rate paid on deposits | 5.6 | 3.6 | 0.3 |
| Lowest lending rate needed for financial self-sustainability | | | |
| Nominal | 36.2 | 27.2 | 17.5 |
| Real | 30.1 | 18.4 | 7.3 |
| Operating costs as a percentage of: | | | |
| Average annual net loan portfolio (LP) | 20.5 | 12.9 | 12.6 |
| Half of the average annual net LP and deposits | 31.5 | 11.6 | 8.3 |
| Average annual total assets | 15.1 | 8.0 | 5.3 |
| Profits (\$ millions) | -0.8 | 34.3 | 170.2 |
| Percentage of profitable units | 48.3 | 89.1 | 95.7 |
| Average ann. deposit volume / average ann. LP volume | 0.31 | 1.22 | 2.02 |
| Subsidy dependence index | 32.2 | -13.7 | -44.5 |

— Not available.

Source: Yaron, Benjamin, and Piprek (1997).

Figure 4. *BRI-UD Loan and Deposit Growth and Profitability (US\$ millions)*



Source: Bank Rakyat Indonesia's financial statements and authors' calculations.

mediation. To broaden and diversify its clientele, the bank targeted the low-income rural population and offered loans for all income-generating activities—a sharp departure from the traditional pattern of lending solely to the agricultural sector, which has accounted for a shrinking share of gross domestic product. BRI-UD underpinned these policy shifts with substantially higher loan and deposit interest rates, while maintaining a sufficient interest-rate spread to cover the high costs of servicing small loans and deposits. The average annual yield on loans has been about 32 percent in recent years; average annual financial costs have been about 10 percent. Innovative incentive systems were introduced for both clients and employees to encourage timely and complete loan repayment (Chaves and González-Vega 1996).

An Autonomous Organizational Structure

The Village Bank system functions as an independent profit center within the Bank Rakyat Indonesia. The Village Banks are free to set their own loan terms, although transfer prices (discussed below) are negotiated with the bank. BRI-UD has developed its own management tools, including an efficient management information system

to assess performance and a sophisticated employee incentive system to encourage profitability, loan recovery, and savings mobilization.

Since 1984, 10 percent of each unit's annual profit has been distributed to employees as a reward for achieving good collection rates. Bonuses are paid early in the year and are capped at 1.5 month's salary per employee. Because about 96 percent of the units were profitable in 1996, a similar percentage of more than 21,000 employees and trainees are benefiting from this program as well as from additional bonuses for achieving goals that are earned in routine competitions between units. The importance of these incentive schemes cannot be overstated; they clearly set BRI-UD apart from government development banks elsewhere that remunerate their employees on the basis of inadequate civil service pay scales.

Innovations for Rural Customers

The loan application process takes about a week for a new borrower and less time for a repeat customer. Loans are extended on an individual basis, and generally have a maturity of 18 months, with monthly repayments. Collateral is desirable but not mandatory. Loan delivery systems incorporate cost-minimizing features. For example, paperwork is kept to a minimum, and where the volume of business is relatively small, mobile offices provide limited services to clients in outlying areas once or twice a week.

The small average size of loans and relatively high cost of legal procedures make foreclosure prohibitively expensive (although warranted in certain cases to achieve a demonstration effect). Thus the focus is on quality at entry and appropriate incentives for repayment:

- Applicants are prescreened based on available information (gathered from peers and from village leaders), and proposed investments are evaluated.
- Clients are given a substantial incentive to repay through both interest rebates (of about 12 percent a year) and access to additional larger loans contingent on timely repayment.
- Staff incentives are linked to the performance of the loan portfolio, so clients are monitored more closely than is usual.
- Loans are priced to encourage more selective choices of investments and to promote credibility in the institution.

Because BRI-UD is not viewed as just another transient government program, borrowers have a greater incentive to repay their loans and depositors place greater trust and confidence in the institution. Fieldwork throughout the country since 1982 has pointed to extensive demand in rural areas for reliable financial savings facilities, especially for liquid savings accounts (Robinson 1994). Four savings instruments with interest rates that varied substantially with account size and liquidity were of-

ferred in 1986 as part of the new rural savings program. This program was the flagship of the bank's revamped effort to provide services to rural clients.

Managing Banking Operations

The BRI-UD's loan-loss treatment is very conservative compared with most state-owned rural financial institutions in other countries. In addition to general loan loss reserves of 3 percent against all outstanding loans that are not yet due and payable, there are reserves of 50 percent against loans less than three months overdue, and reserves of 100 percent against loans that are three months to a year overdue. Loans that are more than one year overdue are fully written off. Asset classification is also conducted conservatively with a view to avoiding hidden rescheduling, or "ever-greening," of the portfolio.

One of the principal advantages of belonging to a nationwide branch network is that the Bank Rakyat Indonesia system serves as a clearing house between cash-surplus and cash-deficit units. Fund transfers carry an interest rate—the transfer price—which is adjusted periodically according to the bank's overall liquidity position. The transfer price is usually set slightly higher than the top savings rate offered at the units so that those with a surplus of funds can at least cover their interest costs and are not discouraged from mobilizing savings (Charitonenko, Patten, and Yaron 1998).

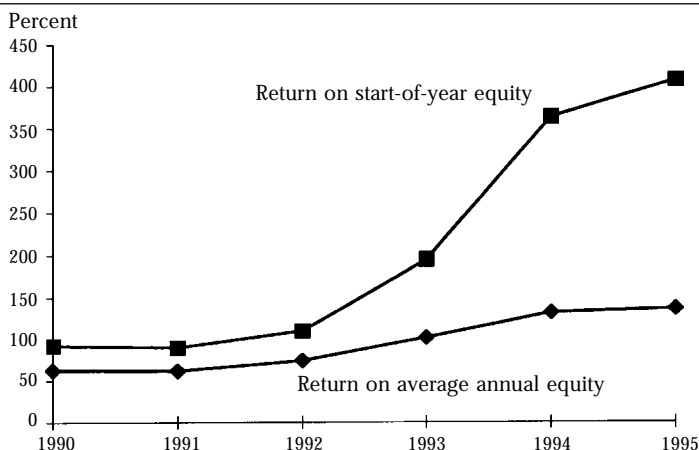
To improve the quality of bookkeeping and customer service, Bank Rakyat Indonesia has developed a stand-alone, personal computer-based system. By the end of 1995 computerization had been introduced in about 89 percent of the 3,135 Village Banks, facilitating the units' bookkeeping and management practices.

Measuring Financial Performance

The two most widely used financial ratios for measuring a financial institution's performance are its return on equity and return on assets. In addition, the subsidy dependence index is increasingly being used to evaluate state-owned financial institutions and nongovernmental organizations that provide financial intermediation services because the profitability of these intermediaries often depends on their access to subsidies.

In the case of BRI-UD, a further refinement is required. Typically, the return on equity compares an institution's net income in a given fiscal year with its average equity during that fiscal year. In the absence of more detailed data (on the timing and amount of capital injections and dividend payments), average annual equity is generally calculated simply as the sum of start-of-year equity plus year-end equity, divided by two. Complete information is available for the BRI-UD, however: there have been no capital injections or grants; and every year on January 1, all profits earned during the preceding year are transferred to Bank Rakyat Indonesia's general

Figure 5. *BRI-UD's Return on Equity, Measured against Average Annual Equity and Start-of-Year Equity*



Source: Bank Rakyat Indonesia's financial statements and authors' calculations.

account. Because the units do not retain their earnings, it is more meaningful to calculate the return based on start-of-year equity. This refinement has major implications for measuring profitability, as shown in figure 5. The system has been exceptionally profitable by any banking standards. Whereas banks in low-inflation countries might earn 15 to 20 percent (after tax) on their average annual equity, BRI-UD earned more than 60 percent on its average equity in 1990 and 1991. By 1995 this figure had more than doubled to 136 percent. When net income is measured against start-of-year equity, the return on equity increases to about 90 percent in 1990 and 1991, rising to an astounding 407 percent by 1995 (a net income of Rp. 403 billion on a start-of-year capital of Rp. 99 billion).

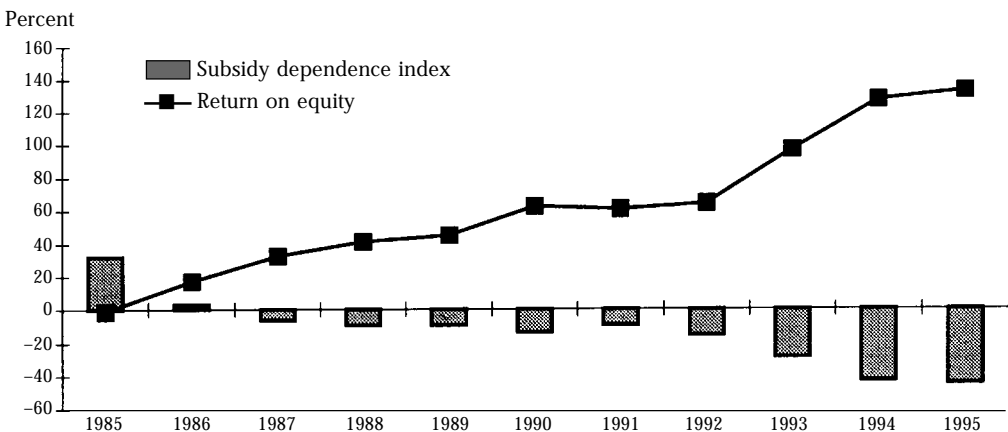
The relatively low ratio of equity to assets is an important factor in explaining these high returns on equity. If BRI-UD were to become an independent microfinancial intermediary, rather than a profit center within a larger bank, it would have to maintain a significantly higher equity-to-assets ratio (say, 15 percent instead of only 1.4 percent in 1995). The return on assets thus offers a more meaningful indicator of performance.

In competitive financial systems, a 1 percent return on assets is considered an indication of sound financial performance; figures of 2 to 3 percent are often recorded in the better performing commercial banking systems in emerging markets. By contrast, BRI-UD's pre-tax return on assets reached 6.1 percent in 1995, more than double the 2.6 percent return earned in 1991.¹ Thus, whatever common financial indicator is used to assess their performance, the units have earned returns on rural financial intermediation that are well above those in the banking industry.

Several rural financial institutions in developing countries have reported adequate financial returns using the returns on equity and returns on assets, even though they are in fact dependent on subsidies (these include the Agricultural Development Bank of Jamaica, the Caisse Nationale de Credit Agricole in Morocco, the Grameen Bank in Bangladesh, and the Bank for Agriculture and Agricultural Cooperatives in Thailand). Because the BRI-UD was built on an earlier program's infrastructure of rural branches, it was able to shed its subsidies in only three years (figure 6). In 1995 it achieved a negative subsidy dependence index; the units could have reduced the yield on their loan portfolios by 44.5 percent (from 31.6 to 17.5 percent) and still remained independent of subsidies and earned an adequate market rate of return on equity.² This indicates the "real" profitability that has resulted from effective rural finance intermediation and underscores the tremendous potential for efficient and profitable rural finance in other countries.

Although more in-depth impact evaluations are still required, borrowers enjoyed 25 percent growth in real profits, 21 percent growth in household income, and 18 percent growth in employment per enterprise, according to earlier studies (Sutoro and Haryanto 1990, as cited in Boomgard and Angell 1994; Patten and Rosengard 1991). Moreover, women have had greater access to banking service (25 percent) than is common in the Indonesian banking system (Reed and Befus 1993). The profits have also attracted competition from both private and public lenders, particularly at the higher end of the rural financial market, prompting BRI-UD to cut its on-lending rate on its larger loans by 7 percentage points; in some areas it also faces competition for deposits (Ravicz 1998).

Figure 6. *BRI-UD's Subsidy Dependence Index and Return on (Average) Equity*



Source: Bank Rakyat Indonesia's financial statements authors' calculations.

Table 2. Factors That Explain the Demise of BIMAS and the Success of BRI-UD

| <i>Attribute</i> | <i>BIMAS Credit Program, 1970–84</i> | <i>BRI-UD, 1984–present</i> |
|-------------------------------------|--|---|
| Institutional objective | Disbursement conduit for subsidized credit | Profitmaking, full-service rural bank |
| Financial autonomy | BIMAS windows in BRI branches, with accounts subsumed in BRI branches' financial statements | Distinct profit or loss centers, with separate financial accounting |
| Operational autonomy | Limited—borrowers chosen in practice by extension workers of the Ministry of Agriculture, which certified BIMAS participants | Full—borrowers selected on the basis of the financial viability of their farm or off-farm enterprise |
| Staff evaluation and accountability | Primarily based on the volume of disbursements or on hectares covered | Primarily based on the profitability of Unit Desas |
| Staff incentives | Civil service–like flat salary structure, promotions | Profit-related bonus incentives, promotions |
| Target market | Rice farmers | Any income-generating enterprises |
| Client incentives | Timely payment incentive: effectively none. Penalty for delinquency: curtailment of further loans, although not well enforced | Timely payment incentive: substantial interest rebate; larger follow-on loans. Penalty for delinquency: curtailment of further loans; incentives well monitored and enforced |
| Interest rates | 12% (subsidized); below both the inflation rate and the interest rate paid on small savings deposits | Around 30% (not subsidized); well above both the inflation rate and the interest rates paid on small savings deposits |
| Main sources of funds | Concessional lines of credit, plus grants | Client deposits at market rates of interest |
| Dealing with losses | Soft budget constraint: operating losses covered by government | Hard budget constraint: loss-making operations suspended |
| The bottom line | Heavy losses and subsidy dependence | Large profits and self-sustainability |

Source: Authors' findings.

Several insights into replicable findings can be gathered by contrasting the Village Bank system with its predecessor, the BIMAS credit program, which incorporated most features of traditional credit programs in other countries (table 2). That is, it offered targeted credit at below-market rates of interest and focused primarily on the volume of disbursements rather than on loan recovery and institutional viability. The lack of attention to the program's long-term institutional viability encouraged adverse incentives on the part of staff and clients that ultimately led to its demise. Considerable attention must be paid to creating a conducive institutional framework for a public intervention to succeed and therefore for the market to develop. The key elements of such an environment include a hard budget constraint; full operational autonomy (that is, insulation from political interventions); skillful management of information; and a careful alignment of staff and client incentives with long-term institutional objectives.

What Has Happened to the Profits?

The answer to this question is far from reassuring. The vast profits have been used to cross-subsidize Bank Rakyat Indonesia's wealthier clients. In fact, even as the Village Bank system succeeded, the rest of the bank continued to suffer from low recovery rates. This issue is of the utmost importance, because the enormous size of the cross-subsidy results in regressive income redistribution; year after year, small-scale entrepreneurs subsidize their more affluent countrymen. The rural lending scheme's very success may have reduced the pressure on the parent bank to achieve an equivalent level of efficiency. In 1984, when BRI-UD was handed an ultimatum to become self-sustaining or face closure, it may have been expedient to leave the bank's traditional lending to influential borrowers essentially unchanged. But it is clearly time to review these arrangements in light of their substantial economic costs to the country and their perverse effect on poverty reduction objectives.

Considerations for the Future

It is premature to assess the impact of the current financial crisis in Indonesia on the BRI-UD and its clients. Clients have not borrowed in foreign-denominated loans; the portfolios of the individual units were of excellent quality and high liquidity before the crisis—with a 55 percent loan to deposit ratio in 1996—and BRI-UD has enjoyed a flight to quality on the deposit side. Profits had not declined significantly as of 1997, largely due to high transfer prices late in the year for units with surplus liquidity. As an institution, however, Bank Rakyat Indonesia faces rising arrears and foreign exchange losses, reinforcing arguments in favor of broader reforms.

Nonetheless, the BRI-UD experience demonstrates not only that financial services can be extended to low-income rural clients at lower costs than previously thought possible, but that they can in many cases be provided while significantly reducing or even eliminating the need for any subsidies. The challenges that remain are those of strengthening the policy environment, improving the legal and regulatory framework, and adopting appropriate governance arrangements, management principles and operating procedures for interventions that reflect a new and more promising approach to rural finance.

The findings related to the level of subsidy independence are extremely important indications of the potential for improvement in the operations of numerous specialized agricultural credit institutions that still have little outreach to the target clientele and are heavily subsidized. Government policymakers, managers of state-owned rural financial institutions, and directors and managers of for-profit financial intermediaries generally believe that rural financial intermediation is not a profitable proposition and that subsidies are essential to compensate for mandated thin spreads and large loan losses. The experience of the Village Banks program shows that losses are not inevitable and that substantial and consistently increasing outreach can be achieved in rural financial markets in a self-sustaining manner. Indeed, the key lesson is crystal clear: rural finance can be highly profitable, even when it serves low-income clients.

Note

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1. Although BRI-UD, as a profit center within BRI, is not subject to corporate taxation, if a tax rate of 30 percent were applied, its return on investment would decline to 1.8 percent and 4.3 percent for 1991 and 1995, respectively.

2. A negative subsidy dependence index of 44.5 percent has no equal in rural or microfinance.

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