FACILITATING THE ACHIEVEMENT OF FINANCIAL SELF-SUSTAINABILITY IN RURAL MICROFINANCE FOR EFFECTIVE OUTREACH: DESIGN AND MEASUREMENT ISSUES

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ABSTRACT

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This paper explores how microfinancial intermediation can be effectively
promoted in rural areas to alleviate poverty and increase incomes for economic
development. First, the inherent interdependencies in financial intermediation are
addressed since they have historically inhibited the efficient functioning of rural financial
markets. Second, the meaning of "successful" microfinancial intermediation is defined
and applied to two case studies of the most widely recognized "success stories" – the
Bank for Agriculture and Agricultural Cooperatives in Thailand, and the Bank Rakyat
Indonesia's Village Unit system in Indonesia. Third, lessons from the case studies are
drawn to identify minimum sufficient organizational (micro) and environmental (macro)
conditions necessary for "successful" microfinancial intermediation in rural areas.
Finally, the internal operational and external governmental policy implications of these
minimum sufficient conditions are analyzed.

ACKNOWLEDGMENTS

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LIST OF SYMBOLS, ABBREVIATIONS, OR NOMENCLATURE

BAAC	Bank for Agriculture and Agricultural Cooperatives
BRI-UD	Bank Rakyat Indonesia – Unit Desa
CGAP	Consultative Group to Assist the Poorest
GAAP	Generally Accepted Accounting Principles
GTZ	German Technical Cooperation Corporation (*Deutsche Gesellschaft für Technische Zusammenarbeit*)
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
MIS	Management Information Systems
MFI	Microfinance Intermediary
NGO	Nongovernment Organization
ROA	Return on Assets
ROE	Return on Equity
SOPs	Standard Operating Procedures
SDI	Subsidy Dependence Index
Unit Desa	Village Unit profit center of the BRI-UD

Chapter 1

INTRODUCTION

Background and Problem Statement

The poorest 50 countries in the world have about 70 percent of their 1.5 billion people dependent on agriculture for their livelihood.[1] Given the vast numbers of rural poor, many rural development programs focusing on the agricultural sector have been carried out over the last forty years. A prominent feature of many of these programs has been the provision of agricultural credit (IFPRI, 1993).

Over time, two distinct approaches to the provision of agricultural credit have evolved – the traditional approach focusing on agricultural credit and the new approach emphasizing rural microfinance. The traditional approach has attempted to stimulate income growth and poverty reduction by providing competition for moneylenders and compensating farmers for low, controlled prices on agricultural goods. Primarily based on equity grounds, agricultural credit programs under the traditional approach have established state-owned, specialized financial institutions that receive concessional funds to be on-lent at below-market interest rates to targeted agricultural producers for specific types of agricultural investments. Performance of these institutions has been principally assessed by the volume of loans disbursed and the level of agricultural production.

Credit provision under the traditional approach has generally resulted in high levels of credit disbursement and gains in agricultural production; however, these positive effects have been short-lived due to increasing program unsustainability. The strong

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[1] The poorest 50 countries are identified by the World Bank as those having GNP per capita of $770 or less in 1995 (World Bank, 1997). The proportion of agriculturalists in the total population of the poorest 50 countries was estimated by IFAD to be about 70 percent in 1988 (Jazairy *et al.*, 1992).

emphasis on disbursement neglects other concerns, including portfolio quality, non-farm rural development, savings mobilization, and the efficiency of financial markets. Repayment rates were often well below 50 percent, costs of subsidies ballooned, and the credit usually did not reach the intended beneficiaries. The failures of agricultural credit provision under the traditional approach to sustainably increase incomes and reduce poverty have been well documented by Von Pischke *et al.* (1983) and Adams *et al.* (1984). Since the traditional approach primarily treats the symptoms (lack of access to financial services and low agricultural productivity) rather than the causes of inefficient rural financial markets (high transaction costs and financial market failures), a new approach which mitigates the sources of rural financial market inefficiency is needed to sustainably increase incomes and alleviate poverty.

With these goals, the field of microfinance has been developing rapidly during the last decade as a means to sustainably provide financial services to the poor. As more is learned about microfinance design and implementation, increasing numbers of institutions are entering the field, and leading institutions are defining and expanding the frontiers of the new approach. Some institutions have consistently achieved repayment rates over 95 percent, reduced or negated their need for subsidization, and sustainably served poor clients. There is a growing consensus that once the start-up costs have been incurred, financial services can be effectively sold to the working poor without continued subsidy under certain conditions that allow the financial intermediary to become self-sustainable (World Bank, 1997). Using a conceptual framework based on elements of neoclassical and institutional economic theory, this paper analyzes empirical evidence from two case studies of the most widely recognized "success stories" in microfinance to

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determine what conditions lead to the sustainable, efficient functioning of rural financial markets for overall economic development. This paper uses the approach of distilling "best practices" from intermediaries that are considered leaders in the microfinance field. The major drawback of this approach is that there is no explicit control group used for comparison. However, although a control group is not used explicitly in this paper, the case studies of "successful" microfinance intermediaries are implicitly compared with other "less successful" institutions and with each other to draw out the "good" or "best" practices in microfinance.

This paper is organized into two parts containing a total of five chapters. Part I, Chapters 1 through 3, develops a conceptual framework for analyzing the case studies in Part II. Chapter 1 continues by defining rural microfinancial intermediation and its role in economic development. Chapter 2 identifies the major inherent interdependencies in rural microfinancial intermediation and explains why they have historically inhibited the efficient functioning of rural financial markets. Chapter 3 defines the meaning of "successful" financial intermediation and discusses measures of performance. Chapter 4 begins Part II, the empirical section, by applying these performance measures to two case studies of the most widely recognized "success stories" in microfinance – the Bank for Agriculture and Agricultural Cooperatives in Thailand, and the Bank Rakyat Indonesia's Village Bank system in Indonesia.[2] Chapter 5 draws lessons from the case studies to identify minimum sufficient organizational (micro) and environmental (macro) conditions necessary for "successful" microfinancial intermediation in rural areas.

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[2] The Grameen Bank in Bangladesh is perhaps the most popular microfinance provider; however, the institution also provides substantial social services, such as literacy and business training. Since Grameen Bank does not separate their social and financial services in their financial statements, the institution is not

Chapter 5 concludes the paper by highlighting the major policy implications of incorporating these conditions under the new approach.

The Contributions of Financial Intermediation to Economic Development

Rural microfinancial intermediation is a compound term used here to describe small-scale deposit and loan services (usually under $1,000) provided to relatively poor clients living in the rural areas of developing countries. Intermediaries are institutions such as banks that both accept funds, principally in the form of deposits repayable on demand or at short notice, and lend funds for consumption or short, medium, or long-term investment. The clients of these services are generally the working poor: those who earn their living in agriculture, fishing, or herding; who operate micro or small enterprises; who work for wages or commissions, or some combination of the above (Figure 1.1). Rural microfinance intermediaries perform two main functions: 1) creating money and administering the payments system; and 2) mobilizing funds from depositors and allocating the funds to borrowers. Through the process of financial intermediation – creating money and putting it to good use – rural microfinance institutions facilitate economic development.

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used as a case study here. Bank Rakyat Indonesia's Village Bank system and the Bank for Agriculture and Agricultural Cooperatives both maintain a separate system of accounts for their financial service provision.

Figure 1.1: Poverty Pyramid

Entrepreneurial Poor
(employ themselves and others)

Self-Employed Poor
(employ themselves only)

Working Poor

Laboring Poor
(work for others)

Ultra Poor
(unemployed)
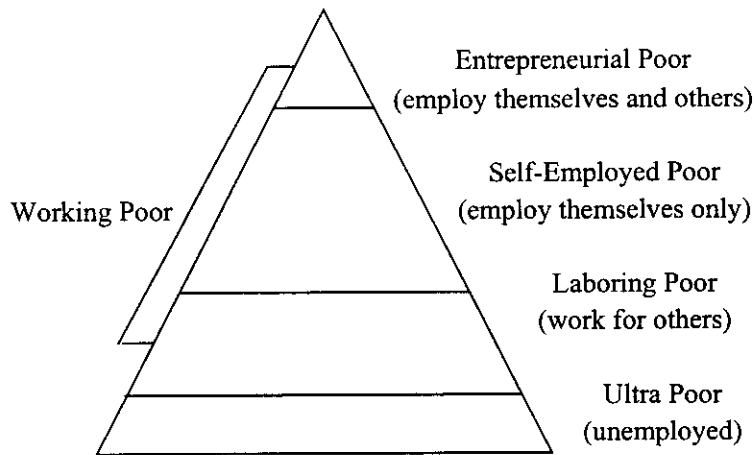
Source: Adapted from Remenyi, 1991.

Financial intermediation facilitates economic development by improving the efficiency with which resources are allocated and utilized across distance and time. At least three types of efficiency gains result from financial intermediation: resource allocation, fiscal and monetary policy implementation, and transaction cost efficiencies. The remainder of this chapter is devoted to exploring how financial intermediation translates into each of these efficiency gains and how they in turn contribute to overall economic development. The economic theory underlying the view that financial intermediation in general improves the efficiency of resource use is developed first. Specific examples are then given to reinforce the theory supporting how rural microfinancial intermediation in particular leads to each of the three types of efficiency gains noted above.

General efficiency gains resulting from increased financial intermediation can be graphically demonstrated. First, consider the situation in which financial intermediation takes place in the absence of transaction costs. The upward-sloping supply curve (S) represents the economy's supply of loanable funds, the amount of savings offered to

others. The positive slope of the economy's credit supply curve reflects, in part, the

increasing share of total saving provided for financial assets as their return rises relative

to the return on real assets or other assets (World Bank, 1989). The downward-sloping

demand curve (D) represents the economy's demand for credit. The negative slope of the

economy's credit demand reflects, in part, the increasing quantity of profitable

investments as the cost of borrowing declines. In the absence of transaction costs, the

market equilibrium interest rate is P* and the volume of financial intermediation would

be I*. The market for financial intermediation is Pareto efficient because the quantity

demanded and supplied is equal and the demand price and supply price are the same.

Figure 1.2: The Demand and Supply of Financial Intermediation
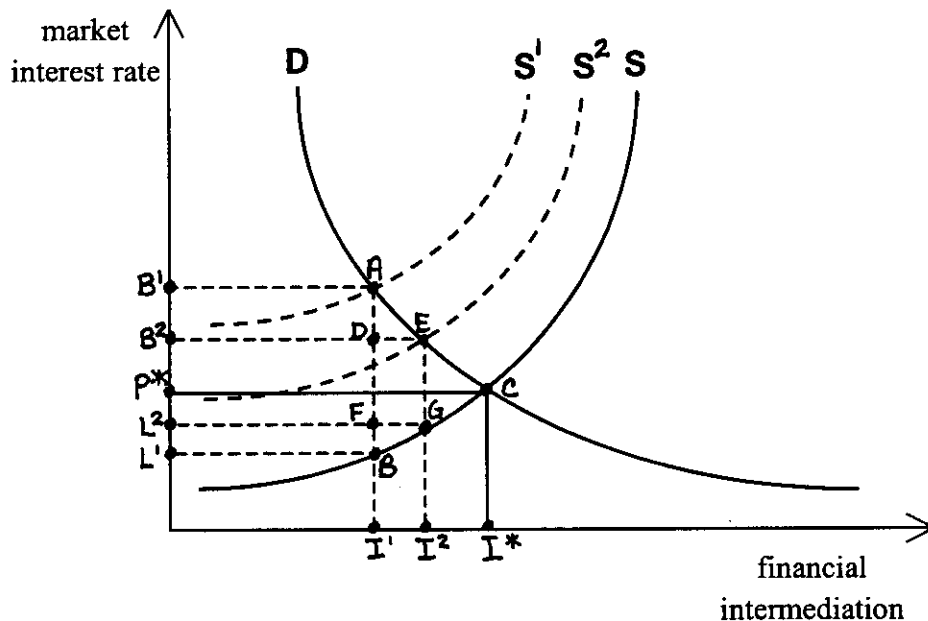
Source: Adapted from World Bank, 1989; and Fry, 1995.

It is more realistic; however, to consider the case in which transaction costs exist

since it is costly for lenders to locate borrowers and assess their repayment prospects.

The costs incurred by the lender are embedded in the lending interest rate. The increased

interest rate lenders must charge borrowers to cover transaction costs is reflected in curve S^1. The vertical distance between this curve and the supply of funds curve (S) is the amount of transaction costs. If lenders had to find borrowers on their own, they would be willing to supply I^1 in the expectation of earning L^1. For that amount of credit, borrowers would be paying B^1. Transaction costs introduce a wedge between the cost to borrowers and the return to lenders, which reduces the amount lent from I^* to I^1 (World Bank, 1989). This wedge causes a deadweight loss to society equal to the area ABC.

Financial intermediaries can reduce this wedge between the gross cost of borrowing and the net return on lending. By accumulating information over time to reduce search, monitoring, and enforcement costs; taking advantage of specialization and economies of scale; and engaging in denomination and maturity transformation, financial intermediaries might cut lender's costs, from L^1 to L^2. The decreased interest rate lenders must charge borrowers to cover transaction costs could be reduced from B^1 to B^2 and is reflected in curve S^2. The wedge between the cost to borrowers and the return to lenders would thereby be reduced and the amount lent would increase to I^2. Lowering transaction costs and increasing financial intermediation decrease the deadweight loss to society by the combined areas ADE and FBG. The financial intermediation market inefficiency measured by deadweight loss is now EGC. As graphically demonstrated, increased financial intermediation reduces deadweight loss and improves efficiency.

Over time, as the volume of transaction increases, it also may be reasonably expected that the demand and supply curves would shift to the right and become more elastic (Figure 1.3). Such movement in the supply curve can be expected as intermediation takes place over a larger geographic area and the knowledge of efficient

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intermediation practices becomes more widespread. Similar movement in the demand

curve can be expected since more efficient means of production may increasingly only be

available as purchased, off-farm inputs. The indivisible nature of such inputs would

require the user to acquire more financial resources for their purchase (Stevens and

Jabara, 1988).

Figure 1.3: Shifts in Demand and Supply over Time
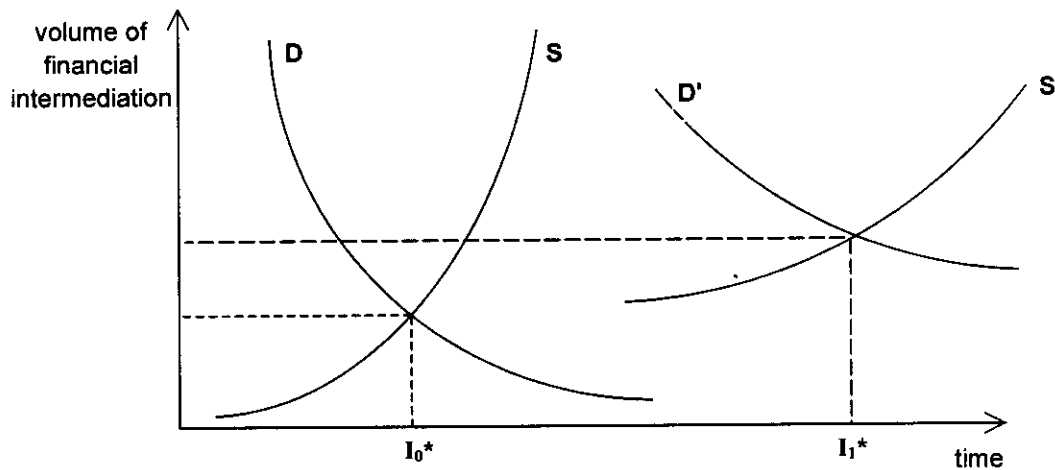
Source: Adapted from Stevens and Jabara, 1988.

Higher net returns to lending and lower costs of borrowing not only increase

lending and borrowing but also raise saving and investment. Figure 1.2 also can be

thought of as representing saving and investing. Savings would rise in response to an

increase in the net real return on lending; investing increases with a decline in the gross

real costs of borrowing. As the level and efficiency of financial intermediation increase,

so does the volume of investment. As the country develops and its capital stock

increases, the market for financial intermediation grows. Existing banks expand and new

banks enter the market, making it more competitive. As increased competitive pressures

push banks to become more efficient, the costs of financial intermediation fall (Fry,

1995).

There are at least three efficiency channels through which financial intermediation affects economic growth. Chief among these are efficiency gains in resource allocation, fiscal and monetary policy implementation, and transaction costs. More efficient resource allocation stems from enhanced quantity and quality of investment through financial intermediation. Increased efficiency in the implementation of fiscal and monetary policies results from the increased monetization which financial intermediation engenders. Reduction of transaction costs results from the increased mobility of funds across distance and time which financial intermediation promotes. Each of these efficiency gains is described more fully below.

Efficiency in Resource Allocation

Without adequate financial intermediation, the rate of investment in productive inputs would primarily depend on the accumulation of individual savings. Savers would have to hold wealth in the form of real assets or cash, or they would have to incur high transaction costs to find qualified borrowers for direct lending. Moreover, if potential investors wished to invest more than their own savings, they would have to incur high transaction costs to find willing and trusted lenders. Financial intermediation mobilizes savings and raises investment by promoting liquidity and ensuring the safety of financial assets. In addition to increasing the quantity of investment, their quality is also improved in that the financial intermediary can fund clients who have higher-return investment opportunities with savings deposited by clients who have funds but only have lower-return investment opportunities available.

Financial intermediation also increases the efficiency of resource allocation during stochastic events which may extend the time between the payment of expenses

and the receipt of income. For example, agricultural productivity is highly dependent on the natural environment, which is subject to the vagaries of nature, including hazards like pests and natural disasters. In addition, technological improvements and price changes in seed varieties, fertilizers, or processing can affect the demand for financial intermediation. Financial intermediation provides a more flexible command over resources to mitigate the potentially adverse impacts of stochastic events.

Efficiency in Fiscal and Monetary Policy Implementation

Financial intermediation is essential for implementing the fiscal and monetary policies of the government. Without financial intermediation, rural economies are more prone to be based on barter where goods are exchanged against goods and money is not the primary medium of exchange. Under such conditions, for example, changes in money supply are unlikely to alter substantially the aggregate demand in the sector and monetary policies will be largely ineffective. The monetization necessary for financial intermediation enhances the effectiveness of fiscal and monetary policies by translating the store of value from goods and services to money which is more freely transferable.

Efficiency in Transaction Costs

Financial intermediation promotes financial mobility as funds can be transferred across distance and time in manners which economize transaction costs. For example, checking services enable rural clients to receive funds and make payments at distant locations through local bank branches or the mail, so that money or farm goods do not have to be transported or exchanged in person (Stevens and Jabara, 1988). Financial intermediation also facilitates the purchase of large, indivisible investments by spreading the payments evenly through time. In this way, financial intermediation also mitigates

the negative effects of seasonality in agricultural production and the life-cycle problems

of asset accumulation for the young by providing loans while providing a safe, liquid

store of value for the old by offering saving accounts.

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Chapter 2

INHERENT INTERDEPENDENCIES IN
FINANCIAL INTERMEDIATION

The Origins of Transaction Costs

The credit side of microfinancial intermediation describes a relationship based upon a transaction between a lender and a borrower which contains a promise to repay a loan of small amount (generally under US$1,000) at some mutually accepted time in the future. A credit transaction is completed only when the borrower repays the amount borrowed plus any accumulated interest and fees. There is uncertainty about this repayment. Unlike most markets for goods and services, microcredit or capital markets are inherently more imperfect in that there is less initial certainty about the completion of a credit transaction.[3]

Such uncertainty concerning the completion of a microcredit transaction results from imperfections in information. Information asymmetries result from 'nature' (the inherent characteristics of credit as a service good) and can be exacerbated by 'nurture' (government regulations which create barriers to entry, interest rate ceilings, and the like).[4] This chapter reviews the inherent characteristics of credit which breed incentive problems (including adverse selection and moral hazard) and which, in turn, increase microcredit transaction costs.

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[3] A thorough discussion of the institutional requirements for the efficient functioning in terms of market clearing with least transaction costs of "pure goods" versus "pure services" markets can be found in Floro and Yotopoulos (1991).

[4] The terms "nature" and "nurture" are similarly used by Floro and Yotopoulos (1991) to explain the existence of informal versus formal sectors of an economy . I have adapted their general concept as it describes an important distinction in the sources of transaction costs in microcredit markets as well.

Transaction costs have been described as the "admission tickets" needed to provide access to microcredit in that before a loan can be obtained, time and money need to be spent by both parties to enter into a contract.[5] The costs associated with gathering and processing information, contract negotiation, credit monitoring, and repayment enforcement increase in direct proportion to the lack of institutional arrangements to overcome the inherent information and incentive problems. In order to clarify which inherent characteristics of the microcredit contract affect transaction costs, this analysis groups the interdependencies into the three main cost determinants - loan extension, servicing, and collection.[6] The transaction costs associated with these fundamental interdependencies are the basic determinants of what products are supplied in financial markets, who provides the products, and who uses them.

Loan Extension - Information and Contracting Costs[7]

Access to microcredit is mitigated by several risks borne by both the borrower and creditor. Borrowers face risks in their ability to repay. Creditors encounter two main risks associated with the borrower: his/her ability and willingness to repay. Both the lender's and the borrower's expectations - their perceptions of the riskiness of their ventures - are of necessity subjective, based on whatever data and information are available and the individual's ability to interpret them.

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[5] Von Pischke (1991) uses this metaphor to describe the relationship between transaction costs and financial market entry in general but the metaphor is extended here as the analogy also applies to the more specific case of accessing microcredit.

[6] Aleem's (1990) empirical analysis of rural credit markets in Pakistan strongly suggests that the transaction costs resulting from loan extension, servicing, and collection account for about fourteen percent of the marginal costs of lending operations. This should be compared with the marginal costs incurred by commercial banks, which are closer to two percent of the marginal costs of lending.

[7] The information costs associated with loan extension have been similarly analyzed by Hoff and Stiglitz (1990); however, they described the situation as a "screening problem."

The information costs associated with loan extension incurred by creditors vary greatly between high-income and low-income economies based on the prevalence of relatively low-cost and reliable sources of information or the existence of enforceable collateral contracts. Loans in high-income economies can be enforceably secured by collateral, which decreases the information costs for lenders since reliable information costs are relatively low. In most developing economies; however, institutions allowing for secured loan arrangements are virtually nonexistent, except in the cases of wealthy borrowers of very large loans. However, even in developing economies where enforceable collateral contracts and information sources are scarce, some lenders enjoy relatively low costs of determining the creditworthiness of loan applicants. For these lenders, information is merely a by-product of living near the borrower or being part of the same kinship group or a party to some other transaction with him.

Information problems feature prominently among the barriers to financial intermediation (Greenwald and Stiglitz, 1986; and Hoff *et al.*, 1993). The most serious concerns are related to the costs of acquiring information. These entail the need for a return on information to cover the costs; however, information rents can only be obtained in an imperfectly competitive environment. Indeed, the costs of acquiring full information may not be incurred at all, leading to asymmetries of information between borrowers and lenders (Akerlof, 1970).

Asymmetric information breeds two constraints to the supply of microcredit. Adverse selection generally inhibits microcredit transactions before they are made while moral hazard typically plagues microcredit transactions after they have been made. Both

adverse selection and moral hazard inhibit the efficient functioning of financial markets. The causes and some examples of each are provided below.

Adverse Selection

Efficient financial markets would price products according to the risk underlying the intended investment and the client's managerial ability. Clients with relatively risky projects would be expected to pay higher interest rates on loans. If the riskiness of the project is not observable to the lender, then the lender is constrained since varying the terms of the contract affects the pool of clients. For example, raising interest rates drives clients with relatively safe projects out of the market before clients with risky projects, which affects the lender's expected return. If, instead of pooling the clients, the lender attempts to sort them, for example into strong and weak management categories, the weak managers have an incentive to misrepresent themselves as strong managers if the contract tailored for strong managers is more attractive than their own. This leads to self-selection constraints on the contracts that the lender offers. With full information, these constraints would be removed, since the borrower characteristics and project riskiness would be fully known by the lender.

Moral Hazard

Given an uncertain environment, if a borrower's actions (for example, management skills or effort, or choice of risky versus safe projects) are not observable to the lender, then the bank will not be able to discern whether project failures are attributable to borrower's actions or to bad luck. Since the terms of the loan can influence the borrower's actions, the lender is constrained to providing contracts that are

incentive-compatible for the borrower[8]. With full information, this constraint would be removed, since the lender would have full knowledge of the borrower's actions.

Asymmetric information particularly constrains the supply of microcredit for poor clients. Because lower-income clients generally demand smaller loans, a higher interest rate spread is required to cover the fixed costs, but the spread that the lender can charge may be constrained by problems of adverse selection or moral hazard. Therefore, loans below a certain size may not be offered, and the poor may be excluded from credit markets.

Aside from aymmetric information, several factors which are exogenous to the financial markets constrain the supply of microfinancial intermediation. Chief among them are interest rate ceilings and floors. Whether they arise endogenously or are imposed exogenously, interest rate ceilings in particular act as major constraints on the ability of low-income borrowers to obtain funds in microcredit markets for reasons described above in the cases of adverse selection and moral hazard. This study is not persuaded by the arguments of Hoff *et al.* (1993) in favor of modest financial repression in the guise of interest rate ceilings, contending instead that the removal of such ceilings is essential if financial intermediaries are even to consider the possibility of providing small loans to low-income clients.[9] There is considerable empirical evidence to support

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[8] In this case, incentive compatibility means that the interests of the lender coincide with those of the borrower. In the borrowing/lending of funds, borrowers have less incentive to use responsively borrowed funds than they have to use responsibly their own money. The disparity in these incentives depends on the existence and enforceability of penalties incurred by the borrower in case of loan default.

[9] Hoff *et al.*'s argument is that the higher interest rates lead to adverse selection problems whereas modest financial repression lowers borrowers' costs and boosts their debt-to-equity ratio, leading them to invest more responsibly, since they have a larger stake in any project. However, banks can clearly select an interest ceiling endogenously to preclude undue risk in the pool of clients. The debt-to-equity reasoning assumes that profits are retained and ignores the non-interest rate costs of rationing, including the opportunity costs of forgone investments. Furthermore, the debt-to-equity issue should be tackled directly, rather than through the second-best indirect mechanism of setting interest rate ceilings.

the argument that the tighter the financial repression, including interest rate ceilings, the more likely it is that the interest subsidy will accrue to wealthier clients who have the political clout needed to obtain a loan (Adams *et al.*, 1984).

Loan Collection - Monitoring and Enforcement Costs

Loan collection suffers from incentive problems (especially moral hazard described above) when institutions which enable microcredit contract enforcement are weak or nonexistent. Such is the case in many developing economies where formal and informal institutional limitations on both secured and unsecured lending exist and foreclosure costs are prohibitive even when contracts which include pledged collateral are enforceable.

Secured lending rests on the collateral that a borrower puts forward for a loan. This collateral gives credence to the borrower's promise to pay and gives recompense to the lender should the borrower not repay. Since evaluating the collateral is often cheaper than acquiring information about the lender, collateral permits lenders to offer larger loans at lower interest rates. Formal institutional limitations on the use of collateral and formal and informal institutional constraints on repossession increase the risk of loan collection and raise enforcement costs.

Unsecured lending depends upon the lender's detailed knowledge about the borrower's ability and willingness to repay a loan and on the lender's ability to impose penalties on the borrower to provide incentives for timely and full repayment.[10] The geographic dispersement of borrowers and the lack of credit reporting systems make unsecured lending in developing countries cost-prohibitive. Institutional limitations

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which constrain secured lending also prevent lenders from creating, perfecting, and enforcing unsecured microcredit transactions.[11]

Innovative Institutional Responses

Group Lending

Group lending describes the relationship of a small group of people (three to ten, on average) who establish a specialized relationship to receive access to microcredit and related services such as training and organization building. The search and other related transaction costs are low in group formation when the new relationship is formed based on pre-existing bonds (for example, common membership in a craft or ethnic group). Transaction costs may not be lowered through group lending when these bonds do not pre-exist or are easily broken (for example, in villages or towns where people do not know their neighbors well or in communities primarily made up of short-term inhabitants.) In cases where some form of interdependence among the potential boorowers exists, they form a group to collectively guarantee loan repayment, and access to subsequent loans is dependent upon successful repayment by all group members. Loans are appropriate to borrower needs in size, purpose, and terms.[12] Group lending

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[10] Incentives for timely repayment are more prevalent in microcredit contracts than are penalties for default. This is in line with Skinner's (1974) argument that positive reinforcers have more of an effect than negative reinforcers.

[11] For example, once a farm input store has extended credit out of the store's own capital, the store operator will have an accounts receivable representing the credit extended. This can stand for a substantial amount of money, even though the individual loans may be of small amounts. In a developed economy with institutions for secured transactions, such a store manager could use that portfolio of accounts receivable as security for a loan at a financial intermediary. With that loan, the dealer could then extend more credit to his customers on an unsecured basis. The costs of obtaining reliable information is important to these transactions. Compared to a formal financial intermediary, the informal lender knows more about his customers and can discern creditworthy individuals. However, in most developing economies, the lack of institutions which support secured transactions will prevent the formal financial intermediary from creating, perfecting, and enforcing a security interest in the store's receivables. That will limit the access to credit for the store owner and decrease the level of unsecured lending.

[12] This institution adapts elements of the traditional models of rotating savings and credit associations (ROSCAs), credit unions with closed common bonds, and village banks.

addresses the inherent interdependencies between borrowers and lenders with peer monitoring and individual borrowers and the group from above.[13]

Standard Operating Procedures to Achieve Economies of Scale

The institutions and technologies developed for achieving economies of scale in microlending have greatly improved over the last decade and are accelerating with the evolution of microfinancial intermediaries. Although there exists a plethora of organizational forms of microfinancial intermediaries, each suited to its own environment, whether it be in Asia, Latin America, or Africa, beneath the organizational differences are standard operating procedures (SOPs) that curtail administrative and monitoring costs to make them effective providers of microcredit.

Some analysts have implied that the common element is the focus on the very poor.[14] Others emphasize that these organizations strip themselves of all services except microlending and as such become minimalist in their operations. These explanations; however, miss the point that the standard operating procedures which make for effective credit delivery systems have been adapted from informal sector microlending procedures that have evolved over many years. Three SOPs which represent the core of the borrowed structures are:

1. Only a few financial services are offered and they are tailored to the general needs of clients. Poor clients are willing and able to pay for access and convenience. They have similar credit preferences and the major service need among the poor is microcredit for liquidity and working capital, with loan terms of one year or less and with little attempt to direct credit to specific uses. This lack of variety in credit services

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[13] Stiglitz (1990) elaborates on the interdependencies addressed by peer monitoring in group loans.
[14] Biggs, Snodgrass, and Srivastava (1990).

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offered keeps prices (in the form of interest rates) low. Transaction costs for borrowers are lowered by locating lending outlets near the client, providing simple application processes, and disbursing quickly. Interest rates are high relative to prevailing rates in the formal system, but they are low compared with typical informal-system rates.

2. The simplest procedures are used for the smallest loans to decrease both absolute and relative administrative costs. Loan applications are often no more than one page, approvals are decentralized and based on readily verifiable eligibility criteria rather than business plan appraisal, and borrower groups often handle much of the loan-processing burden.

3. Lenders substitute other operating procedures for security and loan appraisals, such as group guarantees or pressure from social networks, the promise of repeat loans in increasing amounts with exclusion from future borrowing in case of default, the repayment to clients of a portion of the interest payments they make contingent on timely and full loan repayment, and savings requirements. These are examples of some of the static and dynamic terms on deposit and loan accounts that have been developed to make parallel the interests of the intermediary and the clients.

The essence of these innovative SOPs is the use of institutions which provide both repayment incentives and delinquency penalties instead of costly information gathering.

Interlinked Microcredit

Interlinkage describes a wide variety of contractual relationships which can be developed between two parties that relate two or more market transactions with jointly determined terms of exchange. Under conditions of uncertainty and with market agents who are informational channels of decidedly limited capacity and bounded rationality,

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microcredit interlinkage serves as an institutional structure to increase the reliability and decrease the cost of information. Some examples of the interdependencies which this institution addresses include: landlords who rent out land to their tenants and at the same time advance loans in cash or in kind (mostly food) that are payable upon harvest, traders who secure a reliable supply of output from farmers whose credit needs they meet in return, and workers who have their labor services tied to the employers who provide them with consumption credit. The interlinking of contracts provides an institutional structure to overcome otherwise prohibitive transaction costs and significant moral hazard, adverse selection, and other incentive problems.

Empirical Results Regarding the Innovative Institutional Responses

Group Lending

Group lending can achieve economies of scale even in environments that are characterized as having prohibitively high microcredit transaction costs for loans to individuals. Although the main reasons behind the existence of high transaction costs may differ between developed and developing economies, the institutional structure of group lending has been shown to overcome these costs and to achieve economies of scale in both of these environments. Group lending can take many forms. Two of the most common involve the provision of a loan by a financial intermediary to a group whose members mutually guarantee repayment of the loan, or the lending of funds generated internally within a group whose members rotate saving and borrowing responsibilities.

In developed economies, where reliable information is relatively cheap, transaction costs may still exceed the lender's perceived benefits of extending credit due to the uncertainty surrounding a project's return on investment. This may result in credit

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rationing or loans not being offered at any price. To overcome high transaction costs in cases such as this, Hawaiian businessmen of Japanese ancestry form *tanomoshii* associations to pool relatively large sums to finance the construction of buildings, financing characterized by relatively high uncertainty regarding cost overruns and the thin capitalization of contractors.[15]

In Cameroon, informal groups called *tontines* greatly economize transaction costs of various sorts for peasants as well as for people active in large-scale, formal sector activities.[16] The groups are generally formed on the basis of ethnicity, workplace, or neighborhood. Pre-existing social ties keep the information costs associated with credit extension low. *Tontines* intermediating sums up to $1 million have been reported. As the group increases the amounts they are able to intermediate, written rules and procedures and internal information systems become institutionalized to exclude people who have defaulted on earlier loans or loans from other *tontines*. Enforcement costs are kept low because of powerful social sanctions.[17]

A somewhat different example that adapts principles of group lending comes from the developing economies of Latin America – only in this case, the individuals do not know each other. The group (of N people) forms by the organizational efforts of a retailer of durable goods. The retailer incurs low transaction costs in organizing the group (information and search costs, for example) because the potential buyers of the durable good (of cost C) come to him. The retailer requires the group members to have

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[15] This example is taken from J. D. Von Pischke (1991), page 213.
[16] This example is taken from *The New York Times* (1987) as cited in Hoff *et al.* (1993), page 43.
[17] The number of defaults; however, is reported to be extremely low. One Cameroonian reported in *The New York Times* (1987), "If you don't make your payment to the tontine, you are rejected by the community. If you are banned from one group, you are banned from the others."

monthly meetings to contribute their share of the cost (C/N) into a common pool. Hoff *et al.* (1993, pages 43-44) describe that at each meeting, the individuals draw lots and

> "The winner takes the pool, buys the car, and becomes ineligible for future drawings, though he must complete his monthly payments. If he misses a payment, he loses the car. The same would, of course, hold true in a conventional car loan market. But by creating a group of individuals whom the borrower comes to know, and who would be hurt if he defaulted, the borrower performs more reliably than if the cost were borne only by the lender, with whom the relationship is brief and impersonal."

Interlinked Microcredit

A wide variety of interlinked microcredit contracts exist in the informal sector.[18] Five types of interlinkage are distinguished depending on whether the loan is tied to: 1) the provision of intermediation services in re-lending or procuring output, 2) the sale of output to the lender, 3) the purchase of inputs or lease of farm equipment from the lender, 4) the transfer of rights over the usufruct of the land to the lender, and 5) the provision of labor services to the lender. The diversity of interlinkages reflects both the variety of economic activities in which the market agents are involved and the complexity of their (gaming) behavior in the presence of uncertainties. The following discussion of empirical findings is limited to the loans tied to the sale of output, as they represent more than 50 percent of all linked loans.

Used in the Philippines, *Tampa* loans are tied to the sale of output and are made by merchant traders, wholesalers, millers, and others who intend to be repaid at harvest. The lender protects himself against the fungibility of microcredit, which can easily be diverted to consumption purposes, by extending credit upon "the release of the irrigation waters" or "with the coming of the monsoon rains" at an advanced stage of land

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[18] Much of the discussion on interlinked credit is derived from a survey conducted on this topic of Philippine households in 1984 by Floro and Yotopoulos (1991).

preparation when the utilization of the loan for purchasing fertilizer, for example can be easily demonstrated. This decreases the costs involved in monitoring loan fund usage. The loan repayment stipulations involve the sale at the time of harvest and at a specified discount of all marketable output of the borrower to the lender who withholds from the proceeds an amount representing the principal for the loan and the agreed upon interest. Again, monitoring costs are kept low since the borrower transfers his means of repayment to the lender and it is the lender who controls for what the borrower's income is initially used - namely, loan repayment. In addition, information costs concerning the income potential of the output are kept low since the harvest price is generally well known. Moreover, enforcement costs are mitigated by the linking of production and repayment.

Chapter 3

MICROFINANCE INTERMEDIARY PERFORMANCE INDICATORS

Traditional Performance Indicators

There can be many measures of success in microfinancial intermediation. Although traditional financial ratio analysis can be used to gauge the success of financial intermediation in developed economies, the differences in accounting standards and operating procedures of microfinancial intermediaries operating in developing economies make their meaningful use difficult or impossible. Therefore, some adaptations of traditional financial ratios have been needed to focus on the real financial cost of continued operations. These measures have been augmented by other criteria measuring the outreach of microfinancial intermediation and its impacts. Because of the different operating goals and environments of microfinancial intermediaries operating in developing economies, the assessment criteria needed to identify successful microfinancial intermediation can be grouped under two headings - the organization's outreach and self-sustainability (Figure 3.1). Although neither addresses the effects financial intermediation has on the borrower's well-being, these criteria indicate the efficiency with which financial intermediation is carried out by institutions.

There is in fact only one objective – outreach to increase the well-being of microfinance program participants. Self-sustainability is but one means to achieve it. Only by achieving a high degree of self-sustainability have rural microfinance intermediaries gained access to the funding they need over time to service significant

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numbers of low-income clients. These criteria should be examined jointly to adequately gauge the success of a rural microfinance intermediary.

Figure 3.1: Microfinance Intermediary Performance Indicators

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            ┌─────────────────────────────┐
            │  Microfinance Intermediary  │
            │   Performance Indicators    │
            └─────────────────────────────┘
           ┌──────────────┴──────────────┐
┌──────────────────────────┐   ┌──────────────────────────┐
│        Outreach          │   │    Self-Sustainability   │
│ Indicates depth and      │   │ Indicates extent of      │
│ breadth of target market │   │ managerial efficiency    │
│ penetration and quality  │   │ and financial self-      │
│ of services              │   │ sustainability           │
└──────────────────────────┘   └──────────────────────────┘
┌──────────────────────────┐   ┌──────────────────────────┐
│ • Value of deposits and  │   │ • Value of deposits and  │
│ the outstanding loan     │   │ loans divided by staff   │
│ portfolio                │   │ or outlets               │
│ • Number of deposit and  │   │ • Administrative expenses│
│ loan accounts            │   │ divided by staff or      │
│ • Variety of services    │   │ outlets                  │
│ offered                  │   │ • Traditional financial  │
│ • Annual growth rates in │   │ indicators: (profit-     │
│ deposit and loan accounts│   │ ability and portfolio    │
│ and volumes              │   │ indicators like ROA,     │
│ • Number of outlets      │   │ ROE, repayment rates,    │
│ • Percentage of rural    │   │ etc.)                    │
│ population served        │   │ • Subsidy dependence     │
│ • Percentage of women    │   │ index: (measures         │
│ clients                  │   │ subsidies received       │
│                          │   │ against interest earned) │
└──────────────────────────┘   └──────────────────────────┘
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Source: Adapted from Yaron et al. (1996).

New Performance Indicators - Outreach

Outreach is a measure of a microfinancial intermediary's level of service to its clientele - generally the rural poor. Some indicators of outreach are: 1) the value of their outstanding loan portfolio and the average value of loans extended, 2) the amount of saving and the average value of savings accounts, 3) the variety of financial services offered, 4) the number of branches and village posts or units, 5) the percentage of the total rural population served, 6) the annual growth of assets in real terms, and 7) the percentage of clients that are women (Yaron *et al.*, 1996). The rate of growth of the microfinancial intermediary in terms of loan portfolio, average annual assets, and new

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branches opened over in time in important because it demonstrates increases or decreases in outreach. The growth rate of an microfinancial intermediary's assets might also serve as a rough approximation of new client's access to the financial services offered. If the average loan size is relatively stable, and the value of average annual real assets is increasing over time, it indicated that new clients have joined the system.

New Performance Indicators – Financial Self-Sustainability

Financial self-sustainability addresses the ability of an microfinancial intermediary to continue operations without dependence on subsidization. It is achieved when the return on equity, net of subsidies received, equals or exceeds the opportunity cost of the equity funds. Traditionally, the most common forms of implicit or explicit subsidization have been: 1) interest rate differences between the market rate and the rates paid on concessionally borrowed funds, 2) foreign exchange losses on foreign currency-denominated loans that are not assumed by the microfinancial intermediary but rather by the state, 3) obligatory deposits by other financial intermediaries or by other public institutions in the microfinancial intermediary at rates below market, 4) direct reimbursement by the state or other donor of some or all of the operating costs incurred by an microfinancial intermediary, 5) exemptions from reserve requirements or from mandatory investments, and 6) a direct financial transfer (Figure 3.2). A dynamic approach is required to assess the progress made by a microfinancial intermediary in increasing self-sustainability in light of all the forms subsidization can take over time. Next, the Subsidy Dependence Index is developed to assess the subsidy dependence of the microfinance intermediaries reviewed.

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Figure 3.2: Example of Subsidies Common to Microfinance Intermediaries

More Common

↑

• Grants from the government or donors which
capitalize the intermediary

• Interest rate subsidies on borrowed funds from
the government or donors

• Reserve requirement reductions or exemptions
• Equipment or training provided at reduced or
no charge by the government or donors
• Government assumption of domestic or foreign
exchange loan losses or borrowing exposures

↓

Less Common

Source: Adapted from Yaron et al. (1996).

The Subsidy Dependence Index (SDI) is a composite measure of an

microfinancial intermediary's financial performance developed by Yaron (1992). Since

it accounts for the subsidies received by an microfinancial intermediary, and shifts the

focus away from traditional profitability ratios, the SDI provides a more appropriate

measure for the performance assessment of an microfinancial intermediary than do

standard financial indicators. Since subsidy dependence is the inverse of self-

sustainability, the SDI is particularly instrumental in: 1) tracking the progress made by a

microfinancial intermediary in reducing its subsidy dependence over time, and 2)

comparing the level of subsidy dependence of microfinancial intermediaries providing

similar services to similar clientele. The SDI can be used to monitor progress towards

subsidy independence.

The SDI is the ratio of the net subsidy received by a financial intermediary over

the interest income earned on its loan portfolio (Table 3.1). This indicator measures the

percentage increase in the microfinancial intermediary average on-lending interest rate

required to compensate for the elimination of subsidies. The index assumes, for

simplicity in measurement and comparison, that an increase in the on-lending rate is the

only change made to compensate for the loss of subsidy. Assuming a fixed loan portfolio and other things remaining constant, if a bank with a positive SDI were to raise its interest rate by a factor given by the SDI, the bank would no longer be dependent on subsidies.

Subsidy Dependence Index - Calculation

To calculate the Subsidy Dependence Index (SDI) for a microfinance intermediary (MFI), all the subsidies received by the MFI must be aggregated. Total subsidies are then compared to the MFI's average on-lending rate multiplied by its average annual loan portfolio. The ratio of an MFI's annual subsidies to its annual interest income indicates the percentage by which the MFI's interest income would have to increase in order to eliminate the need for subsidy. The SDI can is expressed in Table 3.1 below.

Table 3.1: The Subsidy Dependence Index

SDI = Annual net subsidies received (S) / Average annual interest income (LP * i)

$$= (A (m - c) + [(E * m) - P] + K) / (LP * i)$$

Where:
A = Average annual outstanding concessionally-borrowed funds;

m = Interest rate the MFI is assumed to pay for borrowed funds if access to concessionally borrowed funds were elimiated. This is generally the market reference deposit interest rate, adjusted for reserve requirements and the administrative cost associated with mobilizing and servicing deposits;

c = Weighted average annual concessional interest rate actually paid by the MFI on its average annual outstanding concessionally borrowed funds;

E = average annual equity;

P = Reported annual profit before tax (adjusted for appropriate loan loss provisions and inflation);

K = The sum of all other annual subsidies received by the MFI (such as partial or complete coverage of the MFI's operating costs by the state or other donor);

LP = Average annual outstanding loan portfolio of the MFI; and

i = Weighted average on-lending interest rate on the MFI's loan portfolio

= Annual interest earned / Average annual loan portfolio

Source: Adapted from Yaron (1992).

Concessionally Borrowed Funds Average Annual Balances   [A (m – c)]

An MFI's audited financial statements should provide the data required to calculate the Subsidy Dependence Index (SDI). However, there are often no separate presentations of voluntary and obligatory deposits held by other financial intermediaries or state enterprises in the MFI at a below market interest rate. Nevertheless, this information can be gathered. Whenever the cost to the MFI of the obligatory deposits is lower than the market interest rate paid by the MFI on other unconcessionally borrowed funds, the difference multiplied by the average annual amount involved should be treated as a subsidy.

Equity Average Annual Balances   [(E * m) - P]

A meaningful assessment of subsidy dependence of a microfinance intermediary must recognize that MFIs differ in their "gearing ratios," for example, the relationship between equity (capital) and debt (financial obligations.)[19] A MFI with a high equity-to-assets ratio might appear to be performing better because it requires less subsidization for a given volume and complexity of operations. MFIs generally have most if not all of the equity made up of donated funds. Their equity is presented as a costless item in accounting terms, while the financial obligations of a more leveraged MFI incur interest costs. To resolve the "gearing ratio" bias in measuring an MFI's subsidy dependence, the cost of equity is imputed.

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[19] Gearing or leverage refers to the ratio of debt to equity in a company. Too low a level of equity as a percentage of total assets can subject the bank to a disproportionate risk of failure if adversity strikes. On the other hand, too high a capital base will reduce the gearing or leverage, thus requiring the bank to push up margins and fees in order to generate an adequate return to investors (Baltrop and Mcnaughton, 1992).

Concessionally Borrowed Funds Market Interest Rate   [c]

The approximate market rate the MFI would pay on financial resources in the absence of concessionally borrowed funds is less easy to establish, particularly in underdeveloped financial markets. Reference rates for nonconcessionally borrowed funds can be based on Treasury bill rates, bank commercial paper, or the average market rates on certificates of deposit with maturities of six months to one year. These rates can be legitimate references for the MFI of the nonconcessionally borrowed funds market rate as long as adequate adjustments are made to account for the different risks and maturities involved.

Average Annual Balance Usage

The use of average annual values for borrowings, and equity may misrepresent the actual value of the SDI due to periodic changes that occur in the level of borrowed funds and capital accounts. Whenever available, annual averages computed from monthly, weekly, or daily balances should be used so as to minimize skewness in interpretation of the SDI resulting from portfolios significantly affected by periodic transfers onto or off of the balance sheet. These problems arise especially when MFIs are essentially profit centers of larger organizations. They may have their loanable funds (or equity) transferred from (or to) other parts of the organization on only one day of the year.

SDI Definition and Rationale

The SDI is a sensitivity measure that shows the change required in the on-lending interest rate, ceteris paribus, for the MFI to maintain its operations without subsidization.

The SDI has a lower bound of -100 percent, but no upper bound. An SDI of zero indicates that and MFI has achieved full financial self-sustainability. An SDI of 100 percent means that a doubling of the prevailing average on-lending rate would be required to just offset the elimination of subsidization. A negative SDI indicates that an MFI has achieved full self-sustainability, and that its annual profits exceeded the annual value of any subsidies received by the MFI. Such a microfinancial intermediary could have conceivably lowered its average on-lending rate, eliminated all subsidies, and remained self-sustainable.

Changes in the SDI with Respect to its Major Components

The SDI has many components, chief among which is the yield on lending (i). This section shows how the SDI changes as its main components change. The SDI is analyzed in relation to the yield on lending (i), the interest rate on concessionally borrowed funds (c), the adjusted market reference deposit interest rate (m), and the opportunity cost of equity (r). This knowledge can help map concrete plans to reduce subsidy dependence and to increase the knowledge of the profitability of a MFI and the levers available to change it.

In Relation to the Yield on Lending (i)

As the yield on lending (i) increases, the SDI decreases at a decreasing rate. That is, the SDI is convex with respect to i. This is shown in Figure 3.3 below for the two cases examined in Chapter 4. The yield on lending (i) affects the SDI in three ways. First, it increases revenue from lending $LP * i$ in the denominator, decreasing the SDI. Second, it increases revenue and thus profit in the numerator, decreasing the SDI. Third,

the increase in profit increases average equity (E) in the numerator, increasing subsidy

and the SDI.

Figure 3.3: Changes in the SDI with Respect to the Yield on Lending (i)
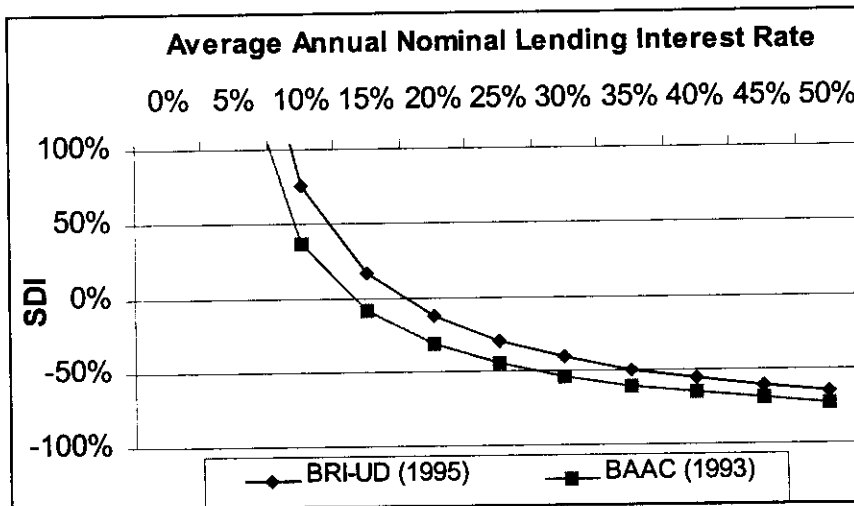
Sources: BRI-UD Annual Reports, various years; BAAC Annual Reports, various years; Yaron, 1992, and the author's calculations.

Selecting the year in which each intermediary had its lowest SDI and holding

everything else constant, the average annual nominal lending interest rate (i) was allowed

to vary between 0 percent and 50 percent. The corresponding SDI values are portrayed

on the vertical axis. Thus, BAAC's interest rate earned on its loan portfolio in 1995 was

actually 11.0 percent, entailing an SDI of 35.3 percent, but if its interest rate had been

raised to 14.9 percent, the SDI would have fallen to zero. Likewise, BRI-UD's actual

interest rate earned was 31.7, contributing to a negative SDI of –44.5 percent in 1995.

This indicates that BRI-UD could have reduced its lending rate from 12.4 percent to 17.6

percent and still have broken even.

In Relation to the Interest Rate on Concessionally Borrowed Funds (c)

Khandker (1997), Sacay *et al.* (1996) and Yaron (1997) claim the rate paid on concessionally borrowed funds (c) does not affect the SDI. If true, then a MFI could raise the rate paid on concessionally borrowed funds to equal the opportunity cost of market debt (m) and not change the SDI. In fact, an increase in c decreases the SDI. The change in c has three effects. The first two, a decrease on the discount on borrowed funds $A * (m - c)$ and an increase in profits, cancel out. The third effect is to increase expenses, decrease profit, decrease equity, and so decrease subsidy and the SDI.

In Relation to the Adjusted Market Reference Deposit Interest Rate (m)

The SDI increases as the adjusted market reference deposit interest rate (see Table 3.1) increases. The increase in m increases the discount on concessionally borrowed funds $A * (m - c)$ without increasing profits. The increase in m means an unsubsidized MFI would have to pay more for market debt, and thus, all else constant, a subsidized MFI is further from being able to pay market prices for its funds while still breaking even.

In Relation to the Opportunity Cost of Equity (r)

The SDI increases as the opportunity cost of equity for an investor (r) increases. The increase in r requires a higher level of financial performance and thus pushes a subsidized MFI further from private profitability. Increases in m or r increase the SDI, but the SDI increases more for a given change in r. However, this sensitivity of the SDI to r has no policy implication for a MFI since both m and r are beyond the control of the MFI, except inasmuch as the MFI can control its riskiness as seen by private creditors and investors.

SDI Application

As an example of the SDI's application, the 1995 index is computed below for the Bank for Agriculture and Agricultural Cooperatives (BAAC). Detailed yearly SDI calculations for BAAC are included in Annex 3 and the unadjusted balance sheet and income statement from the 1995 BAAC annual report are included in Annex 6.

Following the detail presentation of the SDI calculation in Annex 3, the market reference deposit rate is the simple average of the six-month and twelve-month commercial bank deposit rates published by the BoT to which mobilization costs estimated to be stable at two percent were added. The two maturities were used to reflect the type of deposits provided by BAAC. The average cost of concessionally borrowed funds is the average interest rate paid on commercial banks' deposits, on borrowed funds, and annual losses due to foreign exchange losses embedded in the "other expenses" line on the income statement divided by the average concessionally borrowed funds level.

$A = 7,354 + 40,076 + 9,996 = 57,425.$

$c = (529,026 + 2,598 + 189) / A = 5.8\%$

Subsidy on concessionally borrowed funds $= [(m - c) * A] = 3,388$

Average equity (E) includes any private equity since an unsubsidized MFI would need to meet the opportunity cost of all shareholders. Since the accounting cost of capital for BAAC is zero, the opportunity cost is equal to the adjusted market reference deposit rate (m), which is multiplied by the average annual equity calculated from the two year-end balances.

$E = (9,958,626,430 + 10,971,161,798) / 2 = 10,464,894,114$

Subsidy on equity $= [(m - c) * E] = 1,251$

The average annual deposit level (D) is calculated from the two year-end balances. BAAC is not subject to deposit reserve requirements (R) but for other banks it is two percent. Average annual deposits multiplied by the percentage reserve requirement yields the average annual reserve requirement level, which is assumed to yield zero interest.

Subsidy from reserve exemption = $[((A+E+D) / (1-R)) - (A+E+D)] * m = 354$

Adding the subsidies on concessionally borrowed funds (3,388), on equity (1,251), and on the reserve requirement exemption (354) yields a total subsidy (S) of 4,993. Profit is the net income figure as presented in Annex 6 minus the bonus appropriation for employees and directors per internationally accepted accounting principles. Finally, the SDI is computed from the net subsidy (total subsidy minus profit or loss) divided by interest income.

$SDI = (4,993 - 413) / 12,975 = 35.3\%.$

To reiterate, BAAC's SDI of 35.3 percent implies that if the institution was able to increase the average yield on its loan portfolio from 11.0 percent (actual) to 14.9 percent, holding everything else constant, the SDI would have fallen to zero and the institution would have just broken even.

By applying the imputed cost of subsidized resources extended to an MFI, the SDI captures the real financial cost of intervention in financial market and focuses on the real financial viability of the intermediary. The SDI can enable governments, donors, and MFI management to allocate and apply resources better in at least three ways: 1) the SDI provides an estimate of the total cost involved in supporting an MFI by making explicit the subsidies received, 2) the SDI enables comparisons of the financial performance and

degree of subsidy dependence of MFIs which provide comparable services to similar clientele, and 3) the SDI can serve as a long-term monitoring and planning tool by tracking progress toward financial self-sustainability over time.

The SDI also has several limitations. First, it is not a tool for general equilibrium analysis. For example, the effect on market rates of an MFI's entry into the market for deposits is not considered. Second, a subsidy-dependent lender need not be unsustainable – a government or other agency may be willing and able to subsidize it indefinitely. Third, positive SDI values provide no clear guidance as to whether the subsidies should be removed, because the SDI measures the costs but not the benefits generated by an MFI. The SDI says nothing about whether profit maximization should be pursued or whether clients' incentives are compatible with the MFI's. The SDI is a positivist analytical tool with no inherent normative policy prescriptions.

Chapter 4

SUCCESS STORIES

The microfinancial intermediaries whose operations represent the best practices in the field have achieved both a relatively high degree of outreach and financial self-sustainability. The two microfinancial intermediaries analyzed here both operate in Asia. They are the *Unit Desa* or Village Bank profit center of the Bank Rakyat Indonesia in Indonesia and the Bank for Agriculture and Agricultural Cooperatives (BAAC) in Thailand. The Village Bank program in Indonesia served over 16 million low-income clients and generated a profit of over $170 million in 1996. BAAC served 4.7 million predominantly small-scale agricultural clients (accounting for about 80 percent of Thailand's total agricultural households) and earned profits of over $15 million per year for the last five years ended 1996. Analysis of the relative performance of microfinancial intermediaries should be done in the context of their individual objectives and target clientele. However, while the two institutions selected differ from each other in many respects, both have consistently followed similar basic principles that have contributed to the success of each.

This chapter provides an overview of two microfinance intermediaries chosen for their best practices leading to their success, followed by an assessment of the organization's performance as measured in terms of outreach and self-sustainability. Elements of the two case studies are compared and contrasted to distill the key operating policies and procedures that have led to the high degrees of outreach and self-sustainability attained by both. Key data on outreach and self-sustainability is provided

in tables throughout this chapter. Annex 1 contains more detailed information on each intermediary's organizational policies, performance indicators, and operating environment.

Bank Rakyat Indonesia - Unit Desa (BRI-UD), Indonesia

Establishment

BRI-UD was established in 1984, the product of the transformation of the BIMAS (Mass Guidance) program of directed credit for rice intensification. The BIMAS program in general had essentially accomplished its goal of making Indonesia self-sufficient in rice production in the mid-1970s, but by the early 1980s, the BIMAS credit portion of the program was becoming increasingly unsustainable due to subsidized interest rates and poor loan repayment. In 1984, declining government budgetary revenues resulting from lower oil prices led the Indonesian government to transform the BIMAS credit program into the Unit Desa system of BRI.

Abrupt Transformation

BRI-UD was given the following ultimatum: either provide rural financial services on a self-sustaining basis or else face closure. In 1984, one loan product was introduced with terms that would facilitate BRI-UD to break even within two years. Holding the interest rate of the main deposit product offered through the system at 15 percent, the nominal interest rate to borrowers was set at 32 percent – high enough to provide a spread sufficient to cover all operating costs (Patten and Rosengard, 1991). BRI-UD became profitable within 18 months and at the end of 1996, BRI-UD generated a profit of $177 million, larger than the consolidated pre-tax profit for the whole of BRI. Also as of 1996, BRI-UD had about 2.5 million loan accounts and 16.2 million deposit

accounts, thereby combining substantial market penetration among low-income, rural clients with sustained profitability.

Country Context

The economic environment surrounding the formation and development of BRI-UD has been conducive to its survival and sustained growth. During 1985-1994, Indonesia experienced GNP average annual growth of six percent and was considered a middle income country with GDP per capita averaging US$880 in 1994. Indonesia's 1995 estimated population of 203 million was 66 percent rural: agriculture employed 55 percent of the country's total labor force and made up 20 percent of GDP. As the world's fourth most highly populated country, having a population growth rate of just 1.6 percent adds three million more individuals to the work force each year and further strains agricultural productivity.

Bank for Agriculture and Agricultural Cooperatives (BAAC), Thailand

Establishment

Established in 1966 by an Act of Parliament, BAAC replaced the former Bank for Cooperatives which suffered from poor outreach and loan repayment. BAAC's mandate was, simply, to serve the agricultural sector better. Unlike BRI-UD, BAAC has evolved slowly over time with incremental adjustments taking place in the organization mainly due to changes in the Thai financial system.

Rural credit policies initiated in 1975 required commercial banks to lend to rural areas.[19] In the early years, five percent of commercial bank loans outstanding of the previous year had to be lent in rural areas; since 1987, 20 percent must go to rural areas with 14 percent to agriculture and six percent to non-agriculture. The commercial banks could either lend to farmers directly or deposit with BAAC any portion of the quota that they did not lend directly.[20] Although these policies likely taxed the economy generally and the financial sector in particular, commercial bank deposits received by BAAC as a result of these policies were a major source of BAAC's initial funding. These funds also significantly increased BAAC's ability to lend to the agricultural sector and reduced BAAC's cost of funds relative to the cost of mobilizing voluntary funds.

The Bank of Thailand (BoT) eliminated interest rate ceilings on commercial bank deposits in June 1989. All interest rate ceilings were lifted in 1992 and the scope of agricultural credit quotas was broadened to include all types of rural credit.[21] Nevertheless, some priority sectors, including agriculture, still enjoy preferential interest rates as manifested in BAAC's maintenance of a 3.5 percent per year special credit accommodation with the BoT, which accounts now for a very small and declining share of BAAC's total liability and equity.

BAAC's main objective is to deliver financial services to low-income farmers, and its performance in this regard has been spectacular over the past five years. Net outstanding loan amounts have increased from $1.6 million in 1990 to $5.4 million in

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[19] There are 30 commercial banks (15 Thai and 15 foreign) and all have to lend 20 percent of their previous year's total outstanding loan portfolio to rural areas.
[20] At the same time, the Bank of Thailand directed BAAC to increase its loans by more than 10 times the 1974 level.

1995. BAAC's customer base has grown from 3.1 million households in 1990 to 4.7 million in 1995, an increase of 1.6 million families (Table 4.3). BAAC staff claim to serve now about 80 percent of Thailand's 5.6 million farm families - a share that is unprecedented in the developing world.

Country Context

Thailand also provided a conducive operating environment for the establishment and growth of the Bank for Agriculture and Agricultural Cooperatives (BAAC). This middle income country's 1994 GNP per capita was US$2,410 and annual growth in GNP per capita averaged over four percent from 1965-1994 and eight percent from and 1985-1994. Its population of 58 million has an average annual growth rate of one percent and is 80 percent rural. Agriculture, mainly in the form of intensive subsistence farming, employs 64 percent of the total workforce but only contributes 10 percent of the total GDP.

Performance Assessment - Outreach

Both intermediaries have achieved significant outreach in both the depth and breadth of their coverage. Their success in increasing extent of their outreach can be measured using several indicators (Tables 4.1, 4.2, and 4.3). Market share, women's participation, and account sizes are examined below.

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[21] The five largest bank have rural networks and can now meet the rural lending targets themselves. Competition among banks in rural areas has thus increased substantially in recent years.

Market Share

BAAC reaches about 70 percent of Thai farming households with its loan and deposit services. BRI-UD lends to almost 10 percent and services deposits for just over half of all Indonesian rural households (Table 4.1).

Table 4.1: The Market Coverage and Penetration of BRI-UD and BAAC

Population Statistics (mid-1995)				
	Total	Rural	Agricultural	Small Holder
Indonesia	193.3	127.6	80.4	75.2
Thailand	58.2	46.6	36.7	19.1

Number of Households (millions) (mid-1995)				
	Total	Rural	Agricultural	Small Holder
Indonesia	41.1	27.14	17.1	16.0
Thailand	10.58	8.5	6.7	3.5

Intermediary	Account Type	1995 Number ($ millions)	As a Percentage of Households:			
			Total	Rural	Agricultural	Small Holder
BRI-UD	loans	2.3	6%	8%	13%	14%
	deposits	14.5	35%	**53%**	85%	91%
BAAC	loans	4.7	44%	56%	**70%**	136%
	deposits	4.4	42%	52%	66%	127%

Sources: BRI-UD Annual Reports, various years; BAAC Annual Reports, various years; Jazairy et al., 1992; and the author's calculations.

Women's Participation

Women in developing countries generally have less access to financial intermediation because of formal laws or informal cultural influences. BRI-UD and BAAC attract women clients in large part because forms of collateral other than land titles are permitted and no overt gender bias exists in their promotional campaigns. Although no gender-disaggregated data was available for BAAC, twenty-five percent of BRI-UD clients are women.

Loan and Deposit Size

The average outstanding loan size in 1995 for BRI-UD clients was $512 while

BAAC's average was almost double at $1,021. The disparate average outstanding loan

sizes, however, mask the fact that both intermediaries serve the relatively poorer clients

in each country. The average outstanding loan size as a percentage of the GNP per capita

for BRI-UD was just over 50 percent whereas the similar percentage for BAAC was just

slightly lower at 40 percent.

Table 4.2: Indicators of BRI-UD's Outreach

Outreach	1985 ~	1990 ~	1995
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)	NA	7.3	14.5
Average Deposit Amount / Saver ($)	NA	94	164

Sources: BRI-UD Annual Reports, various years; BAAC Annual Reports, various years; and the author's calculations.

Table 4.3: Indicators of BAAC's Outreach

Outreach	1987 ~	1990 ~	1995
Average Annual Loan Volume ($ millions)	927	1,372	4,758
Number of Outstanding Loans (millions)	2.5	3.1	4.7
Average Outstanding Loan Amount / Borrower ($)	374	443	1,021

Average Annual Deposit Volume ($ millions)	310	722	3,212
Number of Deposit Accounts (millions)	NA	NA	4.4
Average Deposit Amount / Saver ($)	NA	NA	727

Sources: BRI-UD Annual Reports, various years; BAAC Annual Reports, various years; and the author's calculations.

Performance Assessment – Self-Sustainability

Both the intermediaries provide services to a large and increasingly growing share

of rural households, yet they differ substantially with respect to their self-sustainability.

As indicated by its SDI, BRI-UD became financially self-sustainable in 1988 while

BAAC is still marginally subsidy dependent. BRI-UD has achieved full self-

sustainability and its profitability has far exceeded the norms of the (non-rural) banking

industry since the end of the 1980s (Table 4.4 and Annex 2). In contrast, BAAC has

reached a substantial proportion of its target market but its still trying to improve its

relatively meager profitability and subsidy dependence. (Table 4.5 and Annex 3).

Table 4.4: Indicators of BRI-UD's Financial Self-Sustainability	1985 ~	1990 ~	1995
Nominal Avg. Yield Earned on the Loan Portfolio (%)	27.4	31.5	31.6
Nominal Avg. Interest Rt. 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 Avg. Yield Earned on the Loan Portfolio (%)	21.7	22.4	20.2
Real Avg. Interest Rate Paid on Deposits (%)	5.6	3.6	0.3
Lowest Nominal Lending Int. Rate Needed for Financial Self-Sustainability (%)	36.2	27.2	17.5
Lowest Real Lending Int. Rate Needed for Financial Self-Sustainability (%)	30.1	18.4	7.3
Operating Costs as a Percentage of:			
Average Annual Net Loan Portfolio (%)	20.5	12.9	12.6
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
Avg. Ann. Deposit Vol. / Avg. Ann. L.P. Vol.	0.3	1.2	2.0
Subsidy Dependence Index (SDI) (%)	32.2	-13.7	-44.5

Sources: BRI-UD Annual Reports, various years; IMF 1996 and 1998; Charitonenko et al.
(1998); and the author's calculations.

Table 4.5: Indicators of BAAC's Financial Self-Sustainability	1987	1990	1995
Nominal Avg. Yield Earned on the Loan Portfolio (%)	13.6	13.9	11.0
Nominal Avg. Interest Rt. Paid on Deposits (%)	NA	NA	NA
Nominal Interest Rate Spread (%)	NA	NA	NA
Inflation (%)	2.5	6.0	5.8
Real Avg. Yield Earned on the Loan Portfolio (%)	10.8	7.5	4.9
Real Avg. Interest Rate Paid on Deposits (%)	NA	NA	NA
Lowest Nominal Lending Int. Rate Needed for Financial Self-Sustainability (%)	16.2	21.8	14.9
Lowest Real Lending Int. Rate Needed for Financial Self-Sustainability (%)	13.4	14.9	8.5
Administrative Costs as a Percentage of:			
Average Annual Net Loan Portfolio (%)	NA	4.6	3.9
Average Annual Total Assets (%)	NA	3.0	3.1
Profits ($ millions)	8.1	7.5	16.5
Avg. Ann. Deposit Vol. / Avg. Ann. L.P. Vol.	0.3	0.5	0.7
Subsidy Dependence Index (SDI)	19.4	54.5	35.3

Sources: BAAC Annual Reports, various years; IMF, 1996 and 1998; and the author's calculations.

Another factor that indicates the degree of self-sustainability is the risk embedded in the intermediary's loan portfolio and stability in its sources of funds, namely, deposits. BRI-UD lends to customers with a relatively broad range of income-generating activities and has accordingly been able to diversify the high covariance risk associated with lending to clients who are strictly involved in agriculture (Figure 4.1). While BAAC provides loans exclusively for agriculture-related activities, it has diversified its risk through geographic dispersion by servicing farmers countrywide (Table 4.6).

Figure 4.1: 1995 Sectoral Distribution of BRI-UD Loans

Trading 48%
Agriculture 20%
Other 4%
Fixed Income 28%
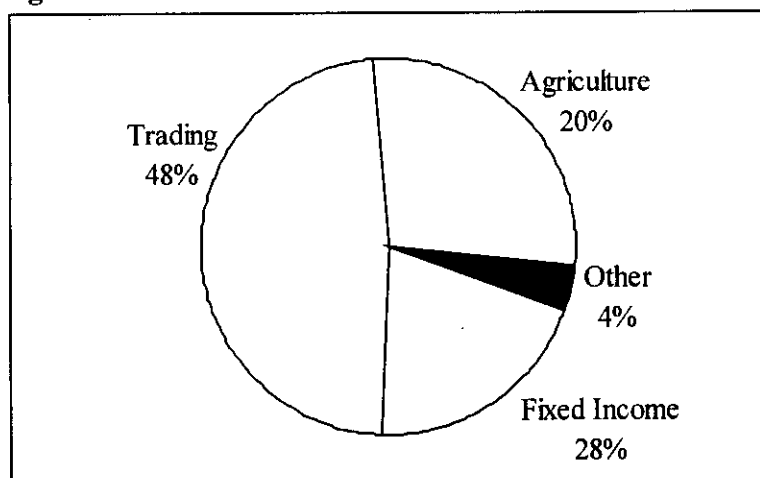
Sources: Yaron et al., 1996; and the author's calculations.

Table 4.6: BAAC Loan Disbursements by Region[22]
($ millions)

	1992	1993	1994	1995	1995 Regional Percentage of Total
North	680	697	922	1,146	25%
Northeast	831	921	1,205	1,491	33%
Central	270	286	322	362	8%
East	290	318	374	439	10%
South	336	429	501	641	14%
West	273	324	385	441	10%
Total	2,680	2,975	3,710	4,520	100%

Sources: Muraki et al., 1998; and the author's calculations.

Comparing and Contrasting Their Operating Policies and Procedures

Nine core operating procedures used by the two microfinancial intermediaries are examined below to understand the best practices at the organizational level. These areas of operation are: 1) corporate governance, 2) client and staff incentive systems,

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[22] Maps for Indonesia and Thailand are provided in Annexes 4 and 5, respectively.

3) management information systems, 4) interest rate policies, 5) credit policies, 6) collection procedures, 7) savings mobilization strategies, 8) expense controls, and 9) service delivery systems.

Corporate Governance

a) Organizational Structure

Both institutions serve the rural sector; however, their organizational structures differ considerably. BRI-UD serves primarily micro and small-scale rural clientele as a profit center within a state-owned bank, while BAAC is a state-owned, specialized rural finance institution that solely focuses on the agricultural sector.

Based on conversations with senior managers of both institutions, the management enjoy relatively high degrees of autonomy in determining operating policies and systems. The high level of autonomy is not so noteworthy in itself but because it allows fast adaptation by management to changes in the demand of their clientele. In addition, the actions of management are transparent through well-developed management information systems and they are held accountable via monetary and promotional incentives.

As a separate profit center within BRI, BRI-UD is expected to cover all its costs and the government has maintained a relatively hands-off position toward BRI-UD since its transformation in 1984 (Figure 4.2). This separation allows BRI-UD management the freedom to set its interest rates and other operating policies. The Indonesian government implemented financial sector reforms in the 1980s, deregulating certain interest rates and abolishing interest rate ceilings. As a result, market forces have driven decision making. As BRI-UD sought to become financially self sustainable, it increasingly became subject

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to competitive pressures from other financial institutions. Conjoined with the autonomy, management has full accountability for the performance of BRI-UD. This responsibility pervades the entire profit center since every division is responsible for its lending decisions and profits.

Figure 4.2: The 1996 Organizational Structure of BRI-UD

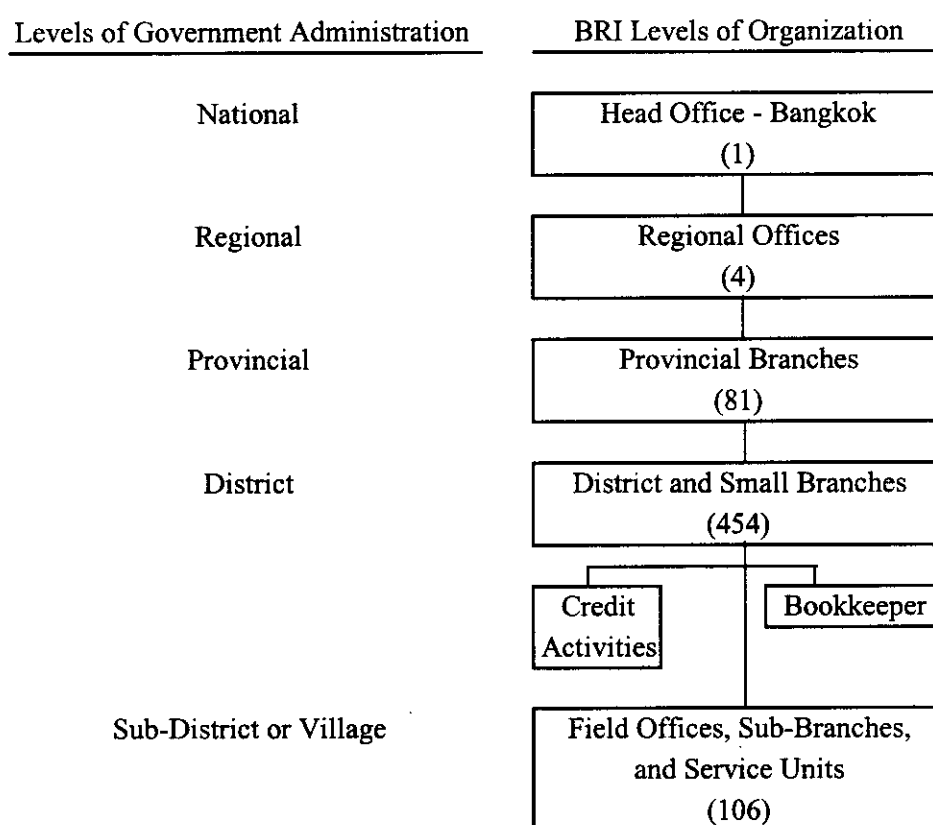| Levels of Government Administration	BRI Levels of Organization
National	Head Office - Jakarta (1)
Provincial	Regional Offices (15)
District	Branch Offices (325)
Sub-District	Village Units (3,595)
	Credit Officer / Bookkeeper / Teller
Village	Village Service Posts (392)
	Credit Officer / Teller
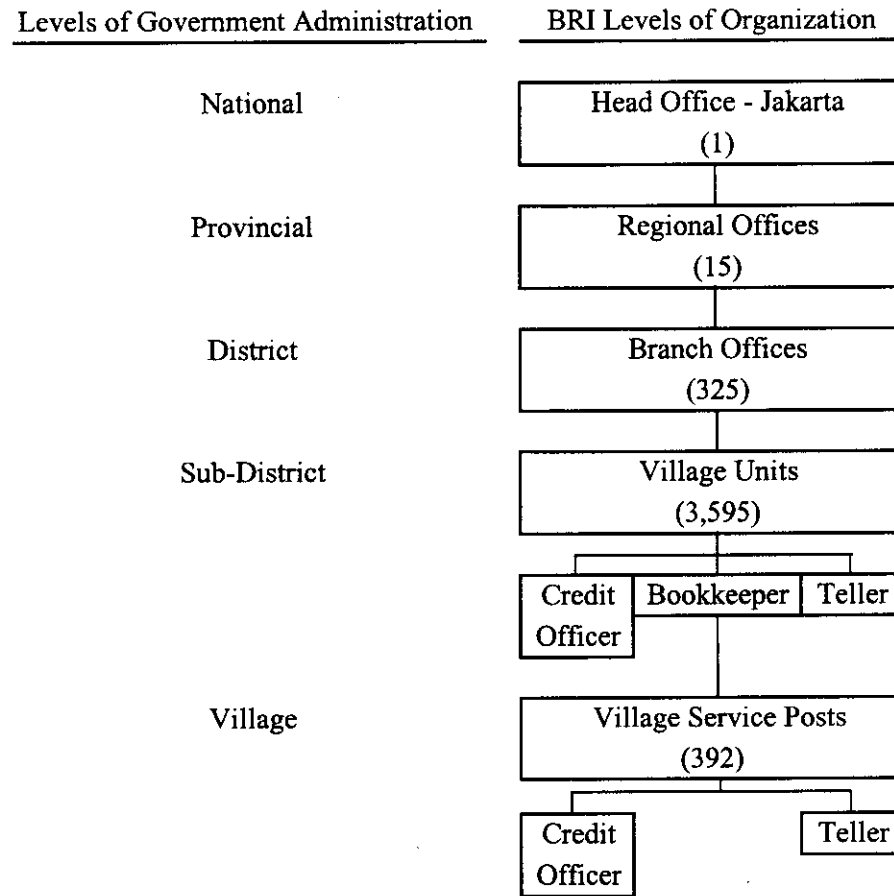
Source: BRI-UD Annual Report, 1997.

BAAC is also state-owned, with the Ministry of Finance holding 99 percent of its paid-up capital. BAAC may sell up to 10 percent of its paid-up capital to private investors, but it has not yet attracted great investor interest as it only started paying dividends in 1992. Since BAAC is the recipient of some privileges designed to facilitate

achievement of its primary goal of stimulating agricultural activity (like tax and reserve requirement exemptions), it is subject to certain directives (such as target clientele and loan types) with the same objectives. Within this framework of being told what to do but having the freedom to decide how to do it, BAAC has relative autonomy with an internal executive committee which sets operational directives similar to those of typical commercial enterprises. BAAC's organizational structure is shown in Figure 4.3.

Figure 4.3: The 1996 Organizational Structure of BAAC

Levels of Government Administration	BRI Levels of Organization
National	Head Office - Bangkok (1)
Regional	Regional Offices (4)
Provincial	Provincial Branches (81)
District	District and Small Branches (454)
	Credit Activities — Bookkeeper
Sub-District or Village	Field Offices, Sub-Branches, and Service Units (106)

Source: BAAC Annual Report, 1997.

BAAC has more managerial freedom than most other microfinance intermediaries but compared to BRI-UD it has less. Unlike the case of BRI-UD, the government continues to use BAAC to implement special projects. Unlike all privately-owned commercial banks in Thailand, BAAC operates under the supervision of the Ministry of

Finance instead of the Bank of Thailand. Heavy government involvement in defining interest rate policies and in managing special projects inhibits BAAC's pursuit of financial self-sustainability.

b) Institutional Culture

BRI-UD emphasizes profitability. As a profit center, BRI-UD gets immediate value for its excess liquidity by moving excess funds to BRI and benefiting from a transfer price which adequately covers BRI-UD's financial and operational costs involved in mobilizing deposits. Unlike BRI-UD, continued governmental involvement in the management and operations of BAAC interferes with the development of a corporate culture that adequately values financial self-sustainability. It also helps maintain an institutional culture focused on lending to agriculture-related enterprises at slightly subsidized interest rates.

c) Institutional Adaptation and Evolution

BRI-UD underwent an abrupt institutional transformation in 1984 from a specialized agricultural credit disbursement system to a full-service rural bank serving any income-generating activity. BAAC's operations, on the other hand, have evolved slowly and incrementally over time and have remained solely focused on servicing the agricultural sector.

<u>*Client and Staff Incentive Systems*</u>

a) Staff Incentives

The institutions employ well-trained staff and invest in the further development of their human capital through continuing professional education. BRI-UD staff are among

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the higher-paid employees in rural areas.[23] BRI-UD has an integrated staff incentive

system linked to transparent and well-defined performance criteria such as unit sub-unit

profits, loan portfolio quality, and savings mobilization. Rewards are tied both to

individual and group performance. For example, staff may receive over 10 percent of a

sub-unit's profits subject to a maximum of 1.5 months' salary in bonuses per year. A

sub-unit is given a car when it reaches the level of RP 2 billion (equivalent to US$1,980

as of 1995) in savings deposits. Ten percent of each Unit's annual profit is distributed to

that Unit's employees based on their individual salary levels and on their performance in

contributing to the Unit's profits. Since about 96 percent of the Units are profitable (as of

1996), a similar percentage of the more than 21,000 Unit Desa employees and trainees

are benefiting from this innovative bonus program, as well as from additional bonuses

earned in routine competitions between the Units for achieving other specific BRI-UD

goals.

About two-thirds of BAAC's credit officers are college graduates. Credit officers

have multiple roles and each manages up to 500 clients.[24] This is made possible through

the existence of joint liability groups, the excellent training offered to bank officers, and

the provision of motorcycles for staff transportation. BAAC staff are also eligible for

attractive incentives. Upon reaching predetermined annual bank-wide targets, all BAAC

employees receive annual bonuses (Muraki et al, 1998). Performance parameters are

productivity (number of loans disbursed), portfolio quality, and savings mobilization.

When target are met, bonuses are uniformly distributed as a percentage of salaries, up to

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[23]World Bank, Financial Sector Development, 1995.

[24]Sacay *et al.*, 1996.

five months' salaries in recent years. Like BRI-UD, there are also branch-specific reward systems based on branch performance. The importance of these incentive schemes to BRI-UD's success cannot be stressed enough, as they clearly set BRI-UD apart from government-run development banks elsewhere that still remunerate their employees exclusively based on civil service pay scales.

b) Client Incentives

BRI-UD provides incentives to its voluntary depositors through interest rates differentiated by deposit size, liquidity, and lotteries on some deposit products. Borrowers from BRI-UD also receive incentives through subsequent loan amount availability and increases upon prompt and full loan repayment, and an incentive for prompt payment (IPTW) which amounts to about 12 percent per year and which is repaid to the borrower after timely loan repayment.

BAAC also has client incentives, although they are less explicit and not as extensive as BRI-UD's system. BAAC has similar incentives for its depositors; however, borrowers do not have positive incentives for prompt and full repayment other than continued access to loans. BAAC relies more on forced deposits, joint liability lending, and close monitoring for loan repayment.

Management Information Systems

Both intermediaries have designed their own set of management information systems which suit their particular purposes and methods of operation. The transparency necessary for accurate performance evaluations and incentive measures is accomplished through well-developed management information systems. These systems enable

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management to track performance for the overall organization and at both the branch and individual personnel levels.

Management decisionmaking is supported through the availability of timely feedback with which to gauge financial policies or operating procedures. The tracking of clients' repayment performance enables the intermediaries to improve loan collection, penalize loan default, and speed the loan application process.

In attempting to supervise and monitor such a large branch network, it is extremely easy for management to become overwhelmed by information overload. BRI-UD carefully limits the flow of information in the system to a small set of reports carrying basic, crucial information on Unit performance and then insists that these reports be prepared accurately in a timely manner. Before the major transformation of BRI-UD took place in 1983, management reporting was simply that which was already developed by BRI up to then, but based on reconstructed balance sheet and income statements. Soon after 1984, these reports were streamlined from thirty-two down to five produced per month. These were the: 1) income statement, 2) balance sheet, 3) credit reporting of aging arrears, 4) savings report, and 5) Unit Desa development report of some key indicators (spread over a year) to indicate trends.

All booking of income, including interest income, is on a cash, not accrual basis. Interest is counted as income when received from the borrower. Costs include allocations to loan loss reserves calculated on a very conservative basis. In addition to reserves of three percent against all outstandings on loans whose final due date has not yet fallen, there are reserves of 50 percent against loans less than three months past their final due

date and reserves of 100 percent against loans three months to one year past their final due date. Loans more than one year past due are charged off.

BAAC also has a well-developed MIS with reports very similar to those produced by BRI-UD. Unlike BRI-UD's MIS, which is generally very good in its information production and use, BAAC's advanced MIS has some extraordinary positive and negative features. One drawback of BAAC's MIS is the intermediary's non-standard treatment of some accounts. For example, BAAC presents bonuses for directors and employees erroneously as appropriation of profit and not as an expense in their financial statements. This practice significantly overstates net income. International accounting practices and generally accepted accounting practices (GAAP) in the U.S. dictate that these bonuses be treated as expended and subtracted from net profits.

An exemplary feature of BAAC's MIS is its treatment of arrears as an indication of loan portfolio quality. Arrears, their aging, and repayment progress are measured against their original maturity. This is a unique feature in that it traces belated payments against the cohort of original loan schedules repayment, thereby, allowing a realistic assessment of the likelihood of belated repayment of arrears as well as assessment of the adequacy of the reserve for doubtful loans. However, this is another case in which BAAC has meaningful data from its advanced MIS but does not use it according to GAAP in the U.S. or abroad. Although BAAC maintains a very innovative and thorough system of aging of arrears, there is a disconnect between this system and their loan loss reserve, provisioning, and write-off policies. BAAC's reserve for loan losses as a percentage of its gross loan portfolio has declined consistently from 4.5 percent in 1992 to only 2.6 percent in 1995 (Table 4.7). Likewise, the annual provision for doubtful loans

declined from 0.6 percent in 1992 to slightly less than 0.4 percent of BAAC's 1995 net outstanding loan portfolio. In contrast to these policies, there is no indication in the MIS reporting that loan collections significantly improved during this period.

Table 4.7: BAAC's Provision for Doubtful Accounts and Loan Loss Reserves

	1992	1993	1994	1995
(a) Gross Loan Portfolio ($ millions)	2,929	3,332	4,267	5,527
(b) Net Loans Outstanding ($ millions)	2,797	3,184	4,096	5,381
Reserve for Loan Losses as a Percentage of (a)	4.50%	4.42%	4.01%	2.63%
Annual Provision for Doubtful Accounts as a Percentage of (b)	0.59%	0.55%	0.21%	0.38%

Source: BAAC Annual Reports, various years.

Interest Rate Policies

BRI-UD charges a flat rate of 1.5 percent per month or 32.7 percent per year. An additional 0.5 percent per month is charged but is later returned to the client upon timely repayment of installments. The interest rate which BRI-UD charges on loans has been sufficient to cover the full costs of mobilizing the funds. BRI-UD has achieved a high rate of savings mobilization by paying attractive interest rates on deposits. As a result, BRI-UD has become subsidy independent and financially self-sustaining.

BAAC had enjoyed the privilege of not being subject to interest rate ceilings which were applicable in Thailand until 1992.[25] However, BAAC has always aimed to keep the interest rates it charges on loans at least one or two percentage points below that of commercial banks. Tax exemptions, reserve requirement exemptions, and special discount rates received from the Bank of Thailand, have enabled BAAC to maintain a

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[25] Sacay *et al.*, 1996.

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relatively low lending interest rate. As a result, BAAC remains marginally subsidy dependent (Table 4.5).

Credit Policies

Both intermediaries have innovatively overcome information barriers concerning the credit-worthiness of their potential borrowers. In addition, problems surrounding the lack of generally-accepted collateral and the limitations on exercising foreclosure have been mitigated by ingenious operating procedures.

BRI-UD generally lends directly to rural entrepreneurs for any income-generating enterprise without restricting its lending to the agricultural sector, whose share in national GDP has been declining. Loan maturities are up to 24 months for working capital and 36 months for investment capital. BRI-UD has highly flexible loan terms and conditions, with minimum and maximum loan amounts being nearly the only restrictions. Recommendations made by village heads or other borrowers as to the credit worthiness of a potential borrowers are sometimes used. Although full collateral is required for most loans, the terms for what may be considered as collateral are not strict.

BAAC has three categories of lending: normal, special, and policy lending programs. While the first two are initiated by BAAC and administered according to BAAC's internal procedures, the policy lending was implemented in response to government directives. Unlike BRI-UD, BAAC targets its subsidized loan funds to farmers or farming-related enterprises. In 1993, BAAC was authorized to lend to farmers for agriculture-related activities. BAAC lends at low interest rates directly to farmers or through agricultural cooperatives and farmers' associations. BAAC has no minimum loan amount requirements but has a maximum amount that varies according to borrower

and loan type. Most loans have short to medium-term maturities but the share of the loan portfolio with maturities over three years has been increasing in recent years.

Collection Policies

The collection performance at both intermediaries is exceptionally good. Both BRI-UD and BAAC define "overdue" as the last installment not paid on time. They also share some important similarities regarding loan collection: clients are held responsible for loan repayment through collateral or joint liability; various monetary and other incentives and penalties for both staff and clients encourage timely repayment; and both intermediaries have well-developed management information systems, enabling them to track loan performance, and to implement and to manage effectively their varying incentive systems Details on loan terms and performance are given in Annex 1.

Annual loan collection as a percentage of current maturities falling due and old overdues in 1995 is figured to be 99 percent for BRI-UD. The difference in performance of the various types of loans extended by BAAC is noteworthy: the performance of BAAC loans extended directly to clients has been excellent, while the performance of loans to cooperatives and farmers associations, while improving, remains poorer. Participants in cooperative loans appear to benefit from the free-rider attributes of such group-based lending, with limited accountability and, therefore, little incentive to repay the loans.

Savings Mobilization Policies

Fieldwork throughout Indonesia since 1982 has pointed to extensive rural demand for reliable and liquid deposit facilities (Robinson 1994). Four savings instruments, with interest rates that vary with account size and liquidity, were made available at BRI-UD in

1986, as part of BRI-UD's new rural savings program. Since the instruments were designed to meet the demands of their target market, deposit growth in BRI-UD has been outstanding, steadily climbing to 174 percent of the total outstanding loan portfolio as of the end of 1996. Since the mid-1980s, BAAC has increasingly focused on deposit mobilization as a stable source of funds. The deposit-to-outstanding loan ratio has steadily climbed to 78 percent as of the end of 1996; however, substantial further efforts need to be made to lessen BAAC's dependence on government capital contributions. Indeed, some 40 percent of deposits at BAAC are from government offices and state-owned enterprises, owing to an official policy requiring that all government funds be deposited in government-owned banks (GTZ, 1997 draft).

Expense Controls

The administrative expenses and financial costs of microfinancial intermediaries are often high relative to commercial banks because of small loan and deposit amounts, geographic dispersion of clients, extensive efforts made to obtain scarce information about potential borrowers, and the use of non-traditional collateral. Nevertheless, controlling expenses is crucial to the financial performance of microfinancial intermediaries, as their income-generating capacity is often restricted by interest rate controls or other limitations.

BAAC has succeeded in keeping its costs exceptionally low because relatively large loan size and group lending activities, both of which imply lower per unit administrative expenses and transactions costs (see Tables 4.4 and 4.5 above). The government-mandated receipt by BAAC of large levels of deposits from other banks has also contributed to lower costs than normal. Through their exceptionally high market

penetration, BAAC is well-known and does not have costly promotional activities, and its large number of clientele has enabled it to gain from economies of scale. In contrast, BRI-UD is smaller but fast-growing and has placed much emphasis on voluntary savings deposits which are costly to mobilize.

Delivery Systems

Both intermediaries have wide and growing branch networks and use mobile banking to provide clients with easier access to their services while simultaneously reducing transaction costs. The use of self-help groups by BAAC is important to client education and loan collection.

Loan processing is efficient in both institutions, although different processes are employed by each. In BRI-UD, the manager of the village unit can approval loans of up to US$2,800, depending on the manager's experience. Loans over this amount must be approved by the branch manger. Simplicity in terms and conditions also helps facilitate fast and consistent loan approval. In BAAC, the branch manager reviews all loan applications, although joint liability groups are involved in the initial approval stage. Personal banking technologies, such as automated teller machines or SmartCards, have not yet been used by either of the intermediaries, although electronic banking is under development.

CHAPTER 5

Conclusions and Policy Implications

Lessons Learned

Microfinancial intermediation may seem a natural tool to help the rural poor escape from their condition. In order for this to happen, the poor must be able to engage in productive economic activities, that is, those that can produce goods for which there is a market. When the poor produce traditional goods such as agricultural commodities, they must produce more efficiently in order to escape poverty. Given that they are most likely already maximally efficient based on the technology they currently employ (Schultz, 1963), new technology must be created or made available to them. In certain circumstances, microfinancial services may be a necessary concomitant to their adopting new technology. Credit can then play a useful, if only supportive, role.

Microfinance may also play a more autonomous role for the poor residing in more economically vibrant environments, whether rural or urban. In this circumstance, there is a large demand for locally-provided goods and services which can be produced by the poor. But this role of microcredit is not fully autonomous even here since a vibrant local economy is a precondition for success. Microfinance can support the enterprises of the poor only if there are adequate systems of inputs and there are markets for their products, which in turn will arise only when local incomes have been rising (Liedholm and Mead, 1995).

Provided microfinance takes place in an environment with adequate inputs and markets, and growth of viable enterprises, there are innovative institutional structures to

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deliver the services to a large number of rural and/or urban poor on a financially self-sustaining basis. The alternative institutional structures related to lending and deposit services described in Chapter 2 were hypothesized to harmonize the inherent interdependencies of lenders and borrowers by making the interests of financial insitutions and clients parallel, and thereby to reduce the transaction costs of providing access to microfinance. The performance of these organizations, as examined through case study experiences, supports the hypothesis. Group lending, client and employee incentive systems which are supported by MIS, and interlinked credit are innovative institutional structures that decrease the transaction costs associated with loan extension, administration, monitoring, and collection. The case studies reveal that reductions in these transaction costs have led to the more efficient functioning of rural microfinance markets which, in turn, lays the groundwork for the efficient financial intermediation necessary to alleviate poverty and promote economic growth on a sustainable basis.

This paper is intended for policymakers and practitioners who may find the institutions such as interlinked credit and client and staff incentives identified here useful when designing and implementing microfinancial intermediation. Whether that intermediation includes the formal or informal financial sectors, it must take into account the interdependencies inherent in providing access to microfinance which have been presented here. Finally, promoting microfinancial intermediation must be a complement to nurturing institutions that make systems of input and marketing available for economically viable projects.

Potential Improvements

BRI-UD

As of mid-1998, BRI-UD has not yet been substantially affected by the Asian

financial crisis which began mid-1997. Since BRI-UD has virtually no foreign exchange

risk exposure in terms of borrowed funds or other commitments, the system has

effectively been insulated from the dramatic exchange rate movements between the

Rupiah and major currencies such as the Yen or US Dollar. In fact, BRI-UD has

benefited from a "flight to quality" in deposits, with total deposits, mainly in the form of

consumer demand deposits, increasing at over three times their normal year-over-year

growth. Usual June-over-June growth has been steady at 20 percent over the last three

years, while data to June 1998 indicate that the increase in total deposits is 75 percent

over June 1997 levels. On the loan side, growth in December-over-December

outstandings to the end of 1997 has declined to half the previous growth rate, from about

30 percent to around 15 percent. Data to June 1998 indicate that the average mid-year

growth rates have halved again from June 1997 levels, from 15 percent as of June 1997,

to 7 percent as of June 1998. Arrears have increased slightly, but portfolio status

indicators to June 1998 show repayments only declining by one or two percent.

Enhanced terms of trade for Indonesia's agricultural sector since the onset of the financial

crisis may be one reason for the sustained loan demand. Profitability has not yet suffered

either. BRI-UD maintained profits in 1997 at the 1996 level of over US$ 170 million,

and profits to mid-year 1998 have even improved a bit over mid-year 1997 rather than

declined.

BRI-UD's high profitability ultimately raises questions related to where those profits have gone. In effect, BRI-UD profits have been used to cross-subsidize the wealthier clients of BRI. In particular, even as BRI-UD has engaged in efficient financial intermediation with low-income, rural clients, the rest of the bank (BRI) has continued to suffer from lower recovery rates. BRI-UD's very success may have reduced pressure on the remainder of BRI to achieve the level of efficiency attained by BRI-UD. An important question, therefore, arises as to what would have been the impact on the rural economy, and particularly on BRI-UD's borrowers and depositors, or potentially poorer clients that are slightly more expensive to serve, if the value of BRI-UD's large profits had been used to decrease the spread between its lending and deposit interest rates while maintaining a profitable, albeit less profitable, position?

In view of the enormous size of the negative subsidy (about US$ 170 million in 1995 alone), this issue is of utmost importance since it results in regressive income redistribution: year after year, small-scale entrepreneurs subsidize BRI's more affluent clients. When BRI-UD was given an ultimatum in 1984 to become self-sustainable or face closure, it may have been expedient to leave traditional lending to influential borrowers essentially unchanged. However, it is clearly time to review these arrangements in light of their substantial economic costs to the country and their adverse impact on poverty reduction objectives.

BAAC

Up to mid-1998, BAAC has not fared as well as BRI-UD so far into the Asian financial crisis. Unlike BRI-UD, BAAC has large foreign exchange exposures through its borrowed funds, especially relative to the Japanese Yen. As a result, BAAC has

deferred losses of over Baht 9 billion due to exchange rate fluctuations for its financial

reporting year ended March 31, 1998. This has further eroded their equity-to-net loans

ratio from 13 percent for year ended March 31, 1989 to 7 percent for year ended March

31, 1997, and even to 4 percent for the year ended March 31, 1998. There are no agreed

guidelines on this ratio for development banks, but a comfortable ratio for an agricultural

development bank should be in the range of 15 percent. Also, unlike the case of BRI-

UD, BAAC has experienced a dramatic decline in consumer deposit growth, with year-

over-year growth declining from a steady growth rate over the last three years in excess

of 30 percent to just 5 percent for the year ended March 31, 1998. Net loan growth has

also declined, with year-over-year growth declining from a similar steady growth rate

over the last three years in excess of 30 percent to just 8 percent for the year ended March

31, 1998.

In light of the current problem areas highlighted above, the following areas of

reform might yield the greatest returns: 1) adjusting upward the interest rate charged on

loans; 2) expanding BAAC's mandate from an agricultural bank to a rural bank; 3)

eliminating cross-subsidization between borrowing groups; 4) reviewing staff incentives;

5) increasing BAAC's equity; and 6) improving disclosure of loan losses and

rescheduling of loans, and reviewing the adequacy of loan loss provisioning.

First, lending interest rates should be re-aligned to reflect the cost of providing

the loans. This means abandoning subsidized interest rates, mainly by allowing rates to

rise with inflation and the cost of funds. The main issue that arises here is whether

interest rates on BAAC's loans should be subsidized. A prevalent myth is that poor

people cannot afford to pay the real cost of capital and that loans to this group must be

subsidized. Experience all over the world has nullified this myth by showing that access to financial services is of much greater value to small farmers than is a lowered interest rate, i.e., access counts a lot more than price. Poor farmers have proven themselves willing and able to pay relatively high real rates of interest for small loans.

In fact, pricing loans to low-income people at market rates is now understood to be a more equitable practice than subsidies on the grounds that correct pricing can lead to sustainable financial institutions that are able to reach far more low-income people over time than are subsidized programs that reach relatively few people. As a government-owned bank, BAAC passes through subsidies from the government to poor clients. In theory, BAAC can continue to pass through these subsidies so long as the government is willing to foot the bill. Since BAAC's borrowers can pay the full price of their loans, this practice undermines BAAC's ability to achieve the full financial sustainability needed to guarantee its survival into the future.

Moreover, maintaining low lending interest rates on loans to small-scale borrowers results in rationing of credit, as the subsidies received or the ability to cross-subsidize, are budget-constrained. If the main objective is to resolve the issue of small farmers' lack of access to credit, then this policy is counter-productive. This policy prevents small farmers from benefiting from access to credit because it prefers to provide credit to fewer clients, with a higher subsidy per dollar lent rather than to lend to a larger number of clients with less or no subsidy per dollar lent.

BAAC needs greater autonomy in setting its interest rates if it is ever to reach full sustainability. When inflation and deposit rates rise, nominal interest rates must rise in tandem. BAAC has demonstrated remarkable acumen in maximizing its outreach and its

sustainability within the parameters set by government. Fully freeing interest rate policies would allow BAAC to complete the quest for full self-sustainability without negative impact on its outreach.

Second, BAAC needs to expand its mandate to become a rural bank instead one that is limited to agriculture. As noted, BAAC has almost fully penetrated the low end of the agricultural credit market in Thailand, and the potential for growth is limited-- especially given that the share of agriculture in the economy is falling. Rural areas in Thailand have shown significant dynamism in other sectors, but BAAC currently cannot lend to non-agricultural, rural enterprises. Broadening its mandate to allow lending to all rural enterprises would significantly expand BAAC's growth horizons by allowing it to diversify, and it would likely contribute to economic growth in rural areas as well given BAAC's extensive branch network in rural areas.

This could be palatable to the government for several reasons: 1) servicing the rural sector instead of only the agricultural sector would allow for greater risk diversification of BAAC's operations by reducing covariance risks by loan type and loan area; 2) it would save considerable scarce government funds; and 3) enough commercial banks have expanded into rural areas to sufficiently guarantee that BAAC would face competitive conditions on its products and its prices. BAAC and its shareholder, the government of Thailand, could consider adopting the SDI as an integral part of BAAC's MIS and corporate planning. This methodology is effective in assessing the desirability of allocating subsidies to BAAC and of reducing or eliminating them over time.

Third, BAAC needs to reduce or eliminate cross-subsidization between loan products. The first issue that arises here is whether smaller loans ought to carry higher

interest rates than larger loans. Current policies are to charge lower rates for smaller loans and higher rates for larger loans. This is directly counter to best practices in microfinance, which argue that interest rates on small loans ought to reflect the higher costs of providing such loans. In addition to the cost issue, lower rates for smaller borrowers make lending to them less desirable whenever profits are at issue; for example, where profits are part of staff incentive packages as is the case in BAAC, a pattern of discrimination can result. As documented around the world, subsidized interest rates lead to higher defaults as borrowers tend to take these loans less seriously and to rationing which tends to favor the wealthy and politically connected.

Similarly, BAAC needs to obtain a clearer picture of the benefits and costs of the policy programs that it operates on behalf of the Thai government. This would require, at the very least, a full disclosure, within a separate profit center, of the actual costs and income associated with implementing these activities so that BAAC and the government see clearly the net financial outcome of these programs. The political feasibility of such a disclosure would depend on the autonomy of BAAC's management to create these profit centers as they would identify the real net benefits of these programs to the Thai society. Depending on the outcome of such an analysis, BAAC would be better prepared to negotiate the terms of these programs with the government, and have a clearer picture of the cost/benefit of implementing their programs.

Fourth, BAAC should reconsider the balance in staff incentives between individual and collective incentives. The current system allocates the same bonus (minus some very small branch-level ones) to the entire branch network. This system has

produced tremendous results; however, instituting individual performance incentives tied to the same criteria would further enhance efficiency and improve profitability.

Fifth, BAAC needs to increase its asset-capital ratio to about 15 percent to achieve and maintain a sound healthy financial gearing ratio. Allowing BAAC to introduce higher spreads while eliminating the cross-subsidization that supports small scale and cooperative borrowers would result in increased retained earnings, which would decrease BAAC's reliance on scarce government resources.

Sixth, BAAC should improve disclosure of loan losses, adequacy of loan loss provisioning, and rescheduling of loans. BAAC should benefit from complying fully with generally accepted accounting principles (GAAP) with respect to full disclosure of loan losses and adequate provisioning for doubtful loans. Loan rescheduling and its impact on the adequacy of doubtful loan provisioning should be more transparent than is currently the case. This would ensure that these provisions are not understated and thereby leading to overstatement of equity and annual profits.

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Annex 1 - Summary Tables of Organization and Operating Performance

A.- GENERAL [1]	BRI-UD Indonesia (FY: Dec. 31, 1995)	BAAC Thailand (FY: March 31, 1996)
INSTITUTION		
Year of Establishment	1984 [2]	1966
Objectives	To provide credit to small, income-generating activities (primarily rural) and savings facilities for households	To provide financial assistance to farmers for agricultural and ag.-related activities
Type of Institution	Autonomous rural savings and credit program within a financial institution	Financial institution
Ownership	Bank Rakyat Indonesia (state-owned)	State-owned
Financial services	Loans and savings deposits	Loans and savings deposits
Other services	Serves as a service center to collect and forward client payments of school fees and electrical bills	Marketing services; technical assistance/advice (e.g., fertilizers)
Target clientele	Rural low and middle-income; broad-based	Low and middle-income farmers and farmers associations
COUNTRY		
GDP per capita	1994: Rp1,963,136 ($892)	1994: B59,787 ($2,383)
GDP average annual real growth: 1989 to 1994	6.8%	8.3%
Annual inflation rate	1994: 8.5%	1994: 4.4%
Average inflation rate over last 5 years	Avg: 8.9%	Avg: 5.0%

[1] The figures and financial data provided and the corresponding end-of-period exchange rates are as follows (unless stated differently):
BRI-UD (Indonesia):   December 1994: US$ = Rp 2,200   December 1995: US$ = Rp 2,308
BAAC (Thailand):   December 1994: US$ = B 25.09   March 1995:   US$ = B 24.74
[2] BRI-Unit Desa developed the KUPEDES Program in 1983, but it began to provide financial services in 1984.

B.- KEY OUTREACH INDICATORS	BRI-UD Indonesia (FY: Dec. 31, 1995)	BAAC Thailand (FY: March 31, 1996)
CLIENTS AND STAFF		
No. of clients/members	14.5 million[3]	3.07 million members representing 4.3 million individuals[4]
% agriculture or related (including livestock)	18%	100%
% of total target clientele serviced (current)	% of households: Loans: 5% Deposits: 20%	[5]Registered members: 76% of farming population; Share of total credit to farmers: 36%
No. of women as % of total borrowers	25%	Not Established
Number of Staff	16,916	11,379
Town units	3,520 [6]	365
Village posts/units	437	840
Ratio of village posts to town units	0.12:1	2.3:1
Mobile banking in use [7]	Yes	Yes
LOAN OUTREACH		
Number of loans outstanding (millions)	2.3 million[8]	3.07 million (individuals: 4.3 million)[9]
Volume of loans outstanding (annual Avg.)	Rp 2,825 billion ($1,224 million)	B106,154 million ($4,290.8 million) [10]
Real growth rate of total assets over last 3 years	41.6%	16.7%

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3 Based on number of saving accounts.
4 BAAC Fin. Statements FY 1995 p. 56: Farmer clients: 3,071,545
Coops & assoc: 1,321 with membership of 1,238,712
Total members: 3,072,866   or 4,310,257 individuals
5 BAAC Financial Statements FY 1995 p 15.
6 Numbers of "sub-district" units or "Unit Desas."
7   This refers to mobility of staff to be in the villages and poor neighborhoods daily or weekly, visiting borrowers, explaining requirements to potential clients, disbursing loans and collecting repayments.
8   Based on number of borrowers.
9   Based on estimated number of members.
10 Individual farmers: B 97,680 M
   Coops & associations: B 8,474 M
                            B106,154 M

B.- KEY OUTREACH INDICATORS	BRI-UD Indonesia (FY: Dec. 31, 1995)	BAAC Thailand (FY: March 31, 1996)
Loan size:		
Minimum	Rp 25,000	Not Applicable
Maximum	Rp 25 million ($11,364)	B 60,000 to B5 million [11] ($2,425 to $202,101)
Average outstanding loan size	Rp 1,247,673 ($567)	Individual Farmers: B 31,800 ($1,285)
Average outstanding loan as % of GDP per capita	54%	52%
Value of loans per staff member	Rp 167 million ($75,909)	B9.3 million ($377,527)
Number of loans per staff member	134	270
SAVINGS OUTREACH		
Annual average volume of savings	Rp 5,624 billion ($2,556 million)	B68.8 billion ($2,780.9 million)
Total average savings as a percentage of average outstanding loan portfolio:	1995: 199% 1989: 131%	1995: 65% 1988: 42%
Number of savers	14.5 million	3.07 million
Value of average savings account	Rp 388,383 ($177)	B 22,389 ($905)
Value of savings deposits per staff member	Rp 332.5 million ($151,136)	B6.0 million ($244,391)
Number of savers per staff member	856	270
Nominal deposit interest rate (per annum)	Not Established	5% to 10.75%
Real deposit interest rate (per annum)	Not Established	0.4% to 6.15%

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11 The loan size depends on the type of client, i.e. individual, group or agricultural association.

C. FINANCIAL PERFORMANCE	BRI-UD Indonesia (FY: Dec. 31, 1995)		BAAC Thailand (FY: March 31, 1996)	
PROFITABILITY	1989	1994	1988	1995
ROA= (Net income before tax) (Average annual assets)	3.8%	5.0%	0.6%	0.9%
ROE = (Return on equity) (Annual average equity)	36.3%	50.0%	8.5%	12.2%
INTEREST RATE SPREAD				
(a) Income from lending as % of average outstanding loan portfolio	28.0%	30.9%	14.0%	10.4%
(b) Financial expenses as % of average outstanding loan portfolio	11.2%	9.3%	9.1%	6.3%
(a)-(b) Spread	16.7%	21.7%	4.9%	4.1%
EXPENSES				
Total operating costs as % of:				
Annual average assets	10.9%	5.7%	3.0%	2.9%
Annual average savings	12.4%	6.1%	-	5.8%
Annual average o/s loan portfolio	15.2%	13.5%	4.7%	3.5%
Ann. Avg. o/s loans *plus* savings	6.8%	4.2%	2.9%	2.2%
Personnel expenses as a % of:				
Annual average assets	7.0%	2.9%	1.9%	1.7%
Annual average o/s loan portfolio	9.7%	6.9%	3.0%	2.0%
Other admin. expenses as % of:				
Annual average assets	2.6%	2.2%	1.1%	1.2%
Annual average o/s loan portfolio	3.6%.	5.2%	1.7%	1.5%
Costs of training staff as % of:[12]				
Total administrative costs	7.3%	1.9%	0.58	1.08%
Annual average assets	0.8%	0.1%	-	0.03%
Annual average o/s loan portfolio	1.1%	0.3%	-	0.04%
Financial expenses as a % of:				
Annual average assets	9.9%	8.8%	9.1%	5.5%
Annual average savings	11.2%	9.5%	-	10.9%
Annual average o/s loan portfolio	13.7%	20.9%	9.6%	6.5%

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12   Whereas BRI-UD only provides training to staff, BAAC (to a lesser extent) also provides training to borrowers.

D. LOAN EXTENSION	BRI-UD Indonesia (FY: Dec. 31, 1995)	BAAC Thailand (FY: March 31, 1996)
TERMS AND CONDITIONS OF LOANS		
Eligibility requirement and types of activities financed	No restrictions on operations financed	Farmers and farmers' associations for agriculture and related activities
Collateral requirement	100%. Usually land (difficult to repossess); Others include 80% of deposit amounts, or lease contracts	Joint liability and personal guarantee for loans not exceeding B 100,000 per person; . Over B 100,000, title to tangible assets
Loans provided to cooperatives/farmers' associations	No	Yes [13]
Lending to individuals.	Yes	Yes
Lending to groups	No	Yes
How are groups formed?	Not Applicable	By members
Size of groups	Not Applicable	5 - 30
Loan application processing (from submission to disbursement):		
For new borrowers	2 weeks (maximum)	1 week
For repeat borrowers	2 days	1 week
Loan approval by:	Manager of Unit Desa usually to Rp 5.0 million, Branch Manager over Rp 5.0 million [14]	Credit Officer < B 60,000 Branch Mngr < B300,000 President < B5 million Board > B5 million
Local leadership or local officials involved in approval of applications:	Yes	Yes
How?	Character reference for borrower	Character reference for borrower
Repayment frequency	Flexible -- mostly monthly or quarterly	Short-term loans: Upon maturity (11 months)

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13 Cooperatives have had dismal loan collection performance, and BAAC has taken measures to reduce the share of cooperatives and farmers' associations in its total lending portfolio.

14 Unit Desa is the village unit. The average Unit Desa serves 17 - 18 villages.

D. LOAN EXTENSION	BRI-UD Indonesia (FY: Dec. 31, 1995)	BAAC Thailand (FY: March 31, 1996)
Gradual increase in borrower's eligibility to subsequent lending	Yes	Yes
How are loans monitored?	Special department at headquarters in charge of monitoring plus normal branch regional office supervision	Visits by credit officers; Client meetings.
LOAN REPAYMENT INCENTIVES/ PENALTIES		
Social or peer pressure on borrowers to repay loans?	Yes--Partially[15]	For group loans
Disciplinary measures for non-repayment of loans:		
Penalty interest rate	Loss of 0.5% p.m. interest rebate (on original loan amount) for timely repayment	Yes, 3% per annum on arrears.
Access to future loans	No	No[16]
Foreclosure or repossessions	Yes[17]	Not Established
Staff incentives for loan collection	Yes - Annual profit bonus up to 1.5 month's salary and special awards to staff of top performing units	Yes - Annual bonus[18] and promotions
ON-LENDING INTEREST RATES		
Nominal quoted lending interest rate	1.5% p.m.[19]	8 to 14.5% p.a.
Effective (nominal) annual interest rate	32.7%	8.3 to 15.5%
Real interest rate (per annum)	23%	2.6 to 6.9%
Typical loan maturity	2 - 3 years	11 months
Informal interest rate prevailing in the country	Not Established	25%-60%
Maximum legal on-lending interest rate	No	No

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15 The effectiveness of social pressure varies widely among different geographic regions.

16 Entire group is disqualified if individual member defaults

17 Foreclosure is legally possible, but the time-consuming, costly process is rarely used.

18 In 1994/5, BAAC staff received up to five months salary based on overall performance of BAAC.

19 Flat rate of 1.5% per month, excluding the up-front penalty fee of 0.5% per month which is returned if all payments are made on time.

D. LOAN EXTENSION	BRI-UD Indonesia (FY: Dec. 31, 1995)	BAAC Thailand (FY: March 31, 1996)
LOAN PERFORMANCE		
Definition of arrears used by the institution	Last installment not paid on time	Last installment not paid on time
(Annual loan collection) (Old overdues + current maturities that fall due in the year)	Estimated 95%	Approximately 90%[20]
(Arrears) (Total outstanding loan portfolio)	6.5%	8.3%
(Annual provisions for loan losses) (Total outstanding loan portfolio)	4.9%	1%
(Interest paid) (Interest earned)	77%	61%

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20 BAAC's direct loans to individual farmers have a much better loan performance (close to 90%) than the loans to farmers cooperatives and associations (60 to 70%).

Annex 2 – BRI-UD's SDI Calculation Detail

|	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Financial Cost of Mobilizing and Servicing Deposits	18.0%	15.4%	16.8%	17.7%	18.6%	17.3%	23.3%	20.4%	15.1%	12.4%	15.8%
Administrative Cost of Mobilizing and Servicing Deposits	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
M: Market Reference Deposit Interest Rate	20.0%	17.4%	18.8%	19.7%	20.6%	19.3%	25.3%	22.4%	17.1%	14.4%	17.8%
Transaction Cost (M - Avg Transfer Price)	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.6%	2.8%	2.9%	2.9%	2.0%
Avg Interbank Deposit Level	0.046	0.062	0.043	-0.035	-0.209	-0.437	-0.927	-1.643	-2.332	-2.886	-3.207
K: Subsidy on Deposits with BRI	1	1	1	-1	-3	-7	-15	-46	-67	-83	-64
C: Avg Cost of Concessional Borrowed Funds	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
A: Avg Concessional Borrowed Funds Level	-0.019	-0.016	-0.016	-0.020	-0.044	-0.033	-0.001	0	0	0	0
Subsidy on Concessional Borrowed Funds [(M - C) x A]	0	0	0	0	0	0	0	0	0	0	0
Accounting Cost of Capital	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E: Avg Equity Level	70	64	67	75	82	104	108	107	138	201	296
Subsidy on Equity [(M - Accounting Cost of Capital) x E]	14	11	13	15	17	20	27	24	24	29	53
D: Avg Annual Deposit Level	56	118	220	376	701	1,303	2,082	2,902	3,761	4,656	5,497
R: Reserve Requirement	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Avg Annual Reserve Requirement Level (D x R)	1	2	4	8	14	26	42	58	75	93	110
T: Interest Rate Received on Reserves	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subsidy from Reserve Exemption [((A + E + D) / (1 - R)) - (A + E + D)] x M	1	1	1	2	3	6	11	14	14	14	21
Total Subsidy	15	13	14	16	17	19	23	-9	-30	-40	10
Profit/(Loss)	-1	10	22	31	37	65	66	69	133	256	393
Net Subsidy (Total Subsidy - Profit or (Loss))	16	3	-8	-15	-20	-46	-43	-78	-163	-297	-383
Interest Income	50	91	125	160	216	337	449	501	567	690	861
SDI (Net Subsidy/Interest Income)	32.2%	3.2%	-6.6%	-9.2%	-9.2%	-13.7%	-9.5%	-15.6%	-28.7%	-43.0%	-44.5%
N: Current Avg On-Lending Rate	27.4%	31.5%	34.0%	34.9%	32.9%	31.5%	33.1%	34.3%	33.4%	32.8%	31.7%
Increase in the On-Lending Rate Required to Eliminate the Need for Subsidy (SDI x N)	8.8%	1.0%	-2.2%	-3.2%	-3.0%	-4.3%	-3.2%	-5.4%	-9.6%	-14.1%	-14.1%
Lowest Nominal Int Rt that Could Be Charged While Maintaining Financial Self-Sufficiency	36.22%	32.48%	31.73%	31.70%	29.88%	27.16%	29.98%	28.93%	23.83%	18.73%	17.57%

Annex 3 – BAAC's SDI Calculation Detail

	1990	1991	1992	1993	1994	1995
Financial Cost of Mobilizing and Servicing Deposits	12.6%	10.2%	7.4%	6.7%	9.3%	9.7%
Administrative Cost of Mobilizing and Servicing Deposits	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
M: Market Reference Deposit Interest Rate	14.6%	12.2%	9.4%	8.7%	11.3%	11.7%
Transaction Cost (M - Avg Transfer Price)	14.6%	12.2%	9.4%	8.7%	11.3%	11.7%
Avg Interbank Deposit Level	0.000	0.000	0.000	0.000	0.000	0.000
K: Subsidy on Deposits	0	0	0	0	0	0
C: Avg Cost of Concessional Borrowed Funds	7.7%	7.3%	5.8%	6.7%	5.5%	5.8%
A: Avg Concessional Borrowed Funds Level	29,390	33,128	38,350	44,935	51,241	57,426
Subsidy on Concessional Borrowed Funds [(M - C) x A]	2,028	1,623	1,381	899	2,972	3,388
Accounting Cost of Capital	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
E: Avg Equity Level	4,541	5,429	6,138	7,430	9,182	10,693
Subsidy on Equity [(M - Accounting Cost of Capital) x E]	663	662	577	646	1,038	1,251
D: Avg Annual Deposit Level	18,480	26,238	34,424	44,781	60,494	79,967
R: Reserve Requirement	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Avg Annual Reserve Requirement Level (D x R)	370	525	688	896	1,210	1,599
T: Interest Rate Received on Reserves	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Subsidy from Reserve Exemption [((A + E + D) / (1 - R)) - (A + E + D)] x M	156	161	151	172	279	354
Total Subsidy	2,847	2,447	2,109	1,718	4,288	4,993
Profit/(Loss)	190	200	410	516	655	413
Net Subsidy (Total Subsidy - Profit or (Loss)	2,657	2,247	1,699	1,202	3,633	4,580
Interest Income	4,878	6,239	7,336	9,279	9,668	12,975
SDI (Net Subsidy/Interest Income)	54.5%	36.0%	23.2%	12.9%	37.6%	35.3%
N: Current Avg On-Lending Rate	13.9%	13.8%	12.1%	12.4%	10.6%	11.0%
Increase in the On-Lending Rate Required to Eliminate the Need for Subsidy (SDI x N)	7.6%	5.0%	2.8%	1.6%	4.0%	3.9%
Lowest Nominal Int Rt that Could Be Charged While Maintaining Financial Self-Sufficiency	21.47%	18.77%	14.90%	14.01%	14.58%	14.88%
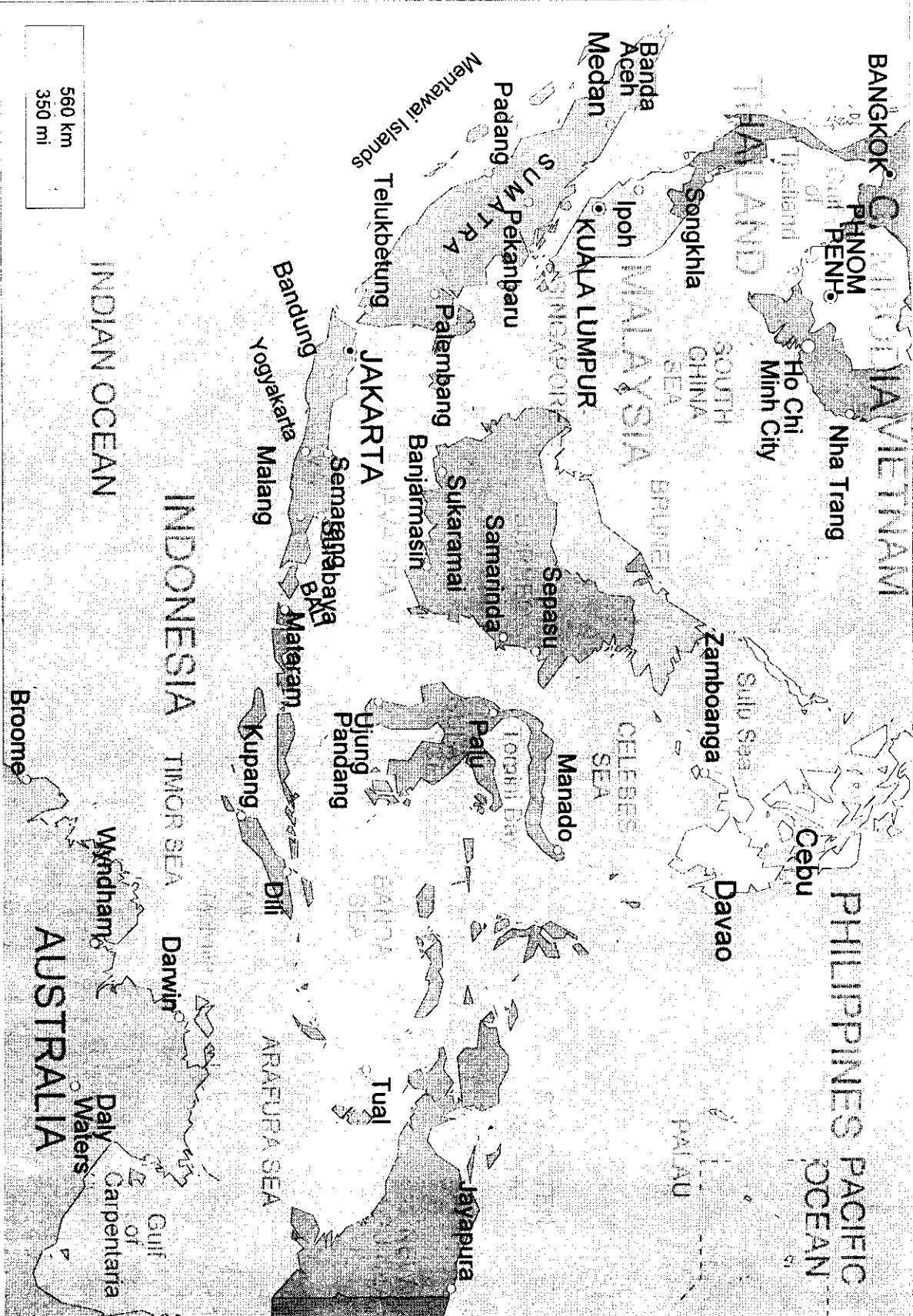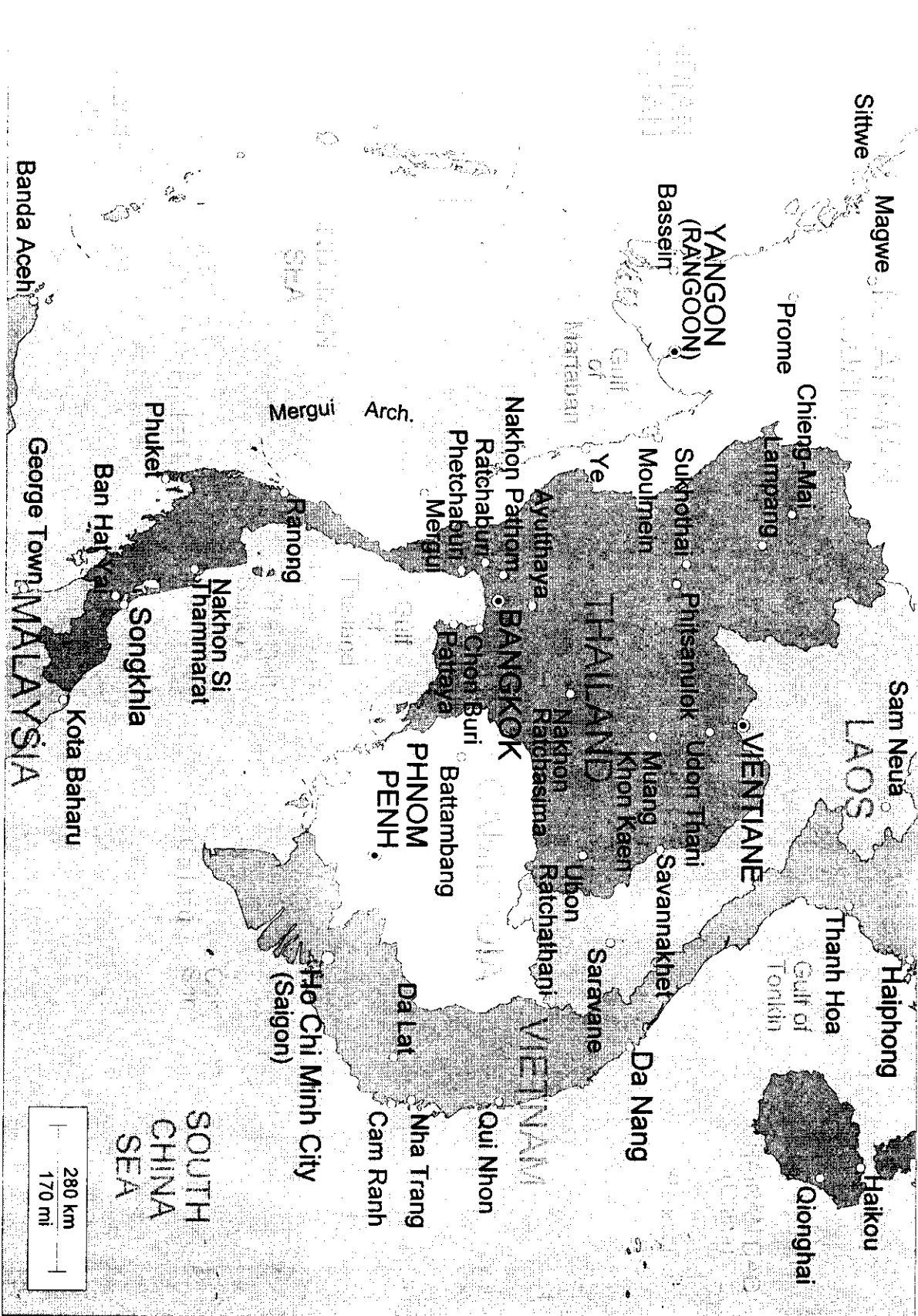
Annex 6 – BAAC 1995 Financial Data

Balance Sheet	March 31, 1995	March 31, 1996
Row Assets	**Baht**	**Baht**
1 Cash and deposits at banks	4,929,925,675	7,892,444,591
2 Investments in securities	12,461,616,020	5,853,699,600
3 Net Loans	102,400,080,192	134,529,925,672
4 Net Accrued Interest Receivable	4,093,175,711	4,917,729,418
5 Properties Foreclosed	3,920,473	5,700,022
6 Net Land, Buildings, and Equipment	3,315,068,220	4,752,763,870
7 Other Assets	5,301,136,544	5,257,638,211
8 **Total Assets**	132,504,922,835	163,209,901,384
Liabilities and Shareholders' Equity		
Deposits		
9 Current, saving and time deposits	68,768,826,999	91,164,362,904
10 Interest-bearing inter-bank accounts	7,570,973,500	7,137,343,500
11 Borrowings	37,874,286,887	42,277,469,399
12 Other Liabilities	8,332,209,019	11,659,563,783
13 **Total Liabilities**	122,546,296,405	152,238,739,586
14 **Shareholders' Equity**	9,958,626,430	10,971,161,798
15 **Total Liabilities and Shareholders' Equity**	132,504,922,835	163,209,901,384

Income Statement		
Income		
16 Interest earned on loans to client farmers	8,970,034,638	12,181,859,080
17 Interest earned on loans to farmer institutions	698,451,256	793,056,931
18 Interest earned on deposits with other banks	189,163,417	191,031,340
19 Interest earned on government bonds and		
20 promissory notes	667,587,939	579,022,989
21 Other income	706,483,018	1,181,679,363
22 **Total income**	11,231,720,268	14,926,649,703
Expenses		
23 Salaries, wages, and benefits	2,029,741,140	2,445,989,142
24 Interest paid on deposits	3,752,857,499	6,123,455,796
25 Interest paid on commercial bank deposits	548,100,401	529,026,684
26 Interest paid on government borrowings	2,110,052,308	2,598,711,198
27 Loan expenses	49,675,323	53,772,111
28 Other expenses	1,616,667,205	2,082,988,563
29 **Total expenses**	10,107,093,876	13,833,943,494
30 Net Income	1,124,626,392	1,092,706,209