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REDUCING THE TRANSACTION COSTS OF FINANCIAL INTERMEDIATION: THEORY AND INNOVATIONS

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Abstract

Transaction costs for financial transactions are often high in developing countries. Borrowing costs are large for small loans. The costs of mobilizing, lending, and recovering funds are high for financial institutions. Attention has increasingly been placed on measuring transaction costs and identifying ways to reduce them.

The first section of this paper presents a conceptual framework of transaction costs for financial transactions. Empirical evidence is then summarized from several transaction costs studies of both financial institutions, and depositors and borrowers. The next section includes a discussion of ways to reduce transaction costs including examples drawn from several developing countries. The following section outlines some ways that donors can work to reduce transaction costs. A final section summarizes the paper.

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INTRODUCTION

Transaction costs can be defined as the costs of transferring resources between markets or between participants in the same market. In the finance field, transaction costs refer to the resources required to transfer (lend) one unit (e.g. dollar, peso) of currency from a saver to a borrower, and recover that unit of currency at a later date plus some agreed interest charge. Interest and other charges represent the returns to the lender as compensation for the cost of mobilizing the funds, allocating them to borrowers, and recovering them through loan repayments. Unlike transactions in other markets, financial transactions always involve some risk because the contract is not completed until some future date when the loan is repaid. Credit rationing and loan collateral and collateral substitutes represent ways for the lender to reduce risks.

Transaction costs for financial transactions are often high in developing countries. In some cases, the total borrowing costs for small rural loans are so high, in spite of subsidized interest rates, that borrowers prefer loans from informal rather than formal sources (Ahmed; Ladman). Furthermore the high transaction costs of financial institutions often exceed the spread authorized between cost of funds and maximum lending rates. Because of this situation, attention has increasingly been placed on measuring the magnitude

of these costs and on ways to reduce them in order to expand lending to priority clients and to improve the viability of financial institutions.

The purpose of this paper is to present a simple conceptual framework for transaction costs of financial transactions, to summarize some recent empirical evidence on transaction costs, and to suggest ways to reduce these costs. The next section presents the conceptual framework and the empirical estimates. The following section discusses ways to reduce high transaction costs. The final section offers some suggestions about contributions that donors can make to help developing nations to improve financial intermediation.

FINANCIAL INTERMEDIATION COSTS IN DEVELOPING COUNTRIES

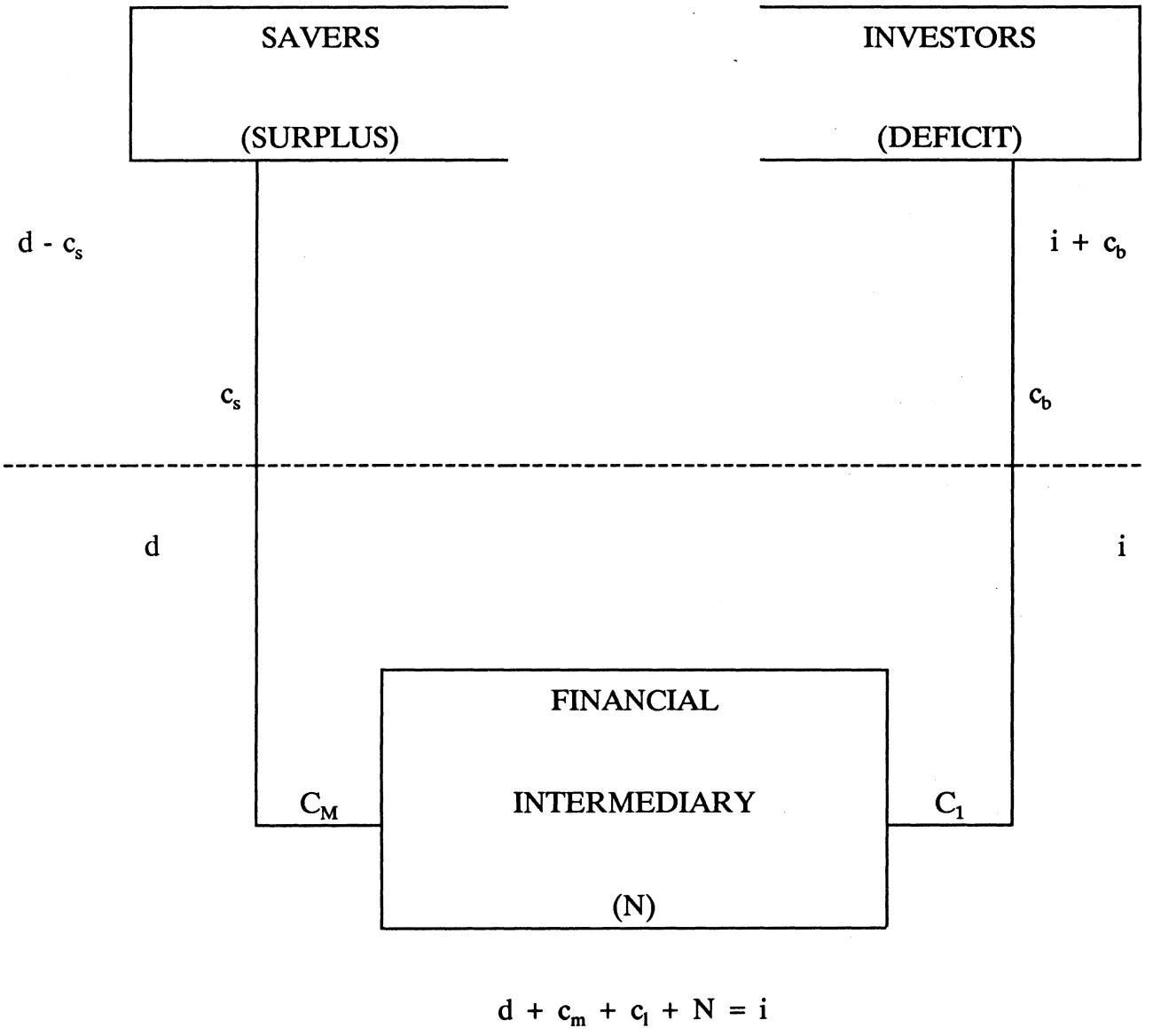
The Concept of Transaction Costs

Financial transactions entail non-financial costs for all participants in the market, i.e., depositors, borrowers, and financial intermediaries. The level and distribution of these costs among the participants are affected by changes in technology, by changes in consumer preferences, by financial regulations, and by the internal efficiencies of financial institutions. A framework in which to conceptualize these costs is presented in Figure 1. "d" represents the deposit interest rate paid by the financial intermediary to the depositor. "i" represents the lending rate charged to borrowers.

Depositors incur search and information costs to select a depository institution, and to perform account transactions (deposits, withdrawals). These costs correspond to "c_s" in Figure 1. Therefore the net return received by depositors per unit of deposits is "d-c_s". At the other end, borrowers also bear explicit and implicit costs of negotiating, obtaining and

repaying loans. These are represented as "c_b". For both borrowers and depositors, the opportunity costs of time may represent a significant component of c_s and c_b.

Figure 1. Financial Transaction Costs



Non-financial transaction costs incurred by financial intermediaries may be classified into costs of mobilizing deposits (c_m), and costs of lending (c_l). The former correspond to resources (labor, capital, materials) utilized in handling deposit accounts, documentation, record-keeping, and issuing statements. Costs of lending refer to costs associated with loan processing, disbursement, monitoring, and recovery. Gathering information about potential borrowers, assessment of collateral and documentation are among these lending costs. The interest rate charged on loans represents the income earned by the financial intermediary to cover interest paid on deposits, costs of mobilizing funds, costs of lending, and a net surplus (N) or profits which may be positive or negative.

In addition to the explicit resource costs of lending, financial intermediaries in developing countries often experience high risk costs, i.e. the implicit costs and explicit losses associated with loan default. Almost without exception, accounting provisions for loan delinquency and default are unrealistic, and are developed through diverse and usually undisclosed procedures. This fact introduces serious difficulties into the analysis of transaction costs across institutions and countries.

In summary, financial intermediaries are considered firms which use inputs of real resources to produce financial services (e.g., bookkeeping, loan evaluations, and deposit transactions), given a certain technology. Under this approach, financial assets as well as bank liabilities are considered bank outputs, to the extent that their production cause operating expenses. The treatment of deposits as a bank output is consistent with the "real resource model" approach to modelling the banking firm (Baltensperger), and it has been

accepted practice in recent empirical work (Benston, Berger, Hanweck, and Humphrey; Cuevas, 1984; Hunter and Timme; Srinivasan).

Measuring Transaction Costs of Financial Institutions

Two different methodological approaches were used to estimate the transaction costs of financial institutions reported in this paper. The econometric estimation of bank cost functions was used with pooled time series/cross-section data in the studies reported for Bangladesh, Honduras, and the Dominican Republic. A cost allocation method using bank accounting data was used for the estimates for the Philippines, Honduras, Niger, and Togo[1]. The methods are discussed only briefly here. More details can be found in Cuevas (1988b).

The econometric cost-function approach uses the duality relationships between cost and production functions to infer properties of the production technology from the knowledge of the cost function. Thus, this approach allows the estimation of parameters such as economies of scale and economies of joint production (scope), without making prior assumptions about the nature of the underlying production function. The analytical advantages of this method are partially offset by its large data requirements. A sufficient number of observations is required to allow enough degrees of freedom in the estimation. Moreover, even though it does not necessarily involve field data collection, the method does depend on the quality of the information available in financial statements and other bank records.

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[1] The only other example of measured transaction costs in developing countries found in our literature search was by Saito and Villanueva.

The studies reported here all used the translogarithmic (translog) specification of the cost functions as it offers a number of attractive properties. The estimates obtained of overall economies of scale (ES) refer to the percentage change in cost when all bank outputs increase by a constant factor. If ES is less than 1, economies of scale exist since costs increase proportionally less than output. Partial economies of scale can also be calculated to determine the impact on costs of increasing just one output while holding the others constant.

The alternative methods of measuring bank output have been a matter of concern in cost studies. The studies reviewed here have used two output definitions: (i) number of loans and number of deposit accounts, and (ii) value of loans and value of deposit balances. Outputs have been measured primarily as stocks, under the assumption that the flow of services is proportional to the stock, as well as due to the constraints of data availability.

The heterogeneity of loan and deposit accounts has been recognized by introducing average loan-size and average deposit-size as control variables in the estimation. It can be assumed that, everything else constant, lenders perceive large loans as riskier ventures; hence it is hypothesized that the marginal cost of a loan is an increasing function of loan size. However, the increase in marginal cost is expected to be less than proportional to the increase in loan size, thus making the marginal cost per dollar lent a decreasing function of loan size. On the other hand, large deposit accounts are assumed for "preferred" customers who receive special or additional services thus representing higher costs for the financial intermediary. It is expected, therefore, that the marginal cost of handling deposit accounts

increases as deposit-size increases, while the marginal cost per dollar mobilized decreases with increases in the average deposit balance.

The cost-allocation method involves the implicit assumption of a fixed-coefficient production function, unlike the econometric approach described above. As a consequence, returns to scale are assumed constant. The major data inputs required by the cost-allocation method are the financial statements for a sample of bank branches in a given time period (e.g., the most recent year), salary and wages of branch personnel, loan and deposit statistics for each branch for the corresponding time period, and the time allocation of bank employees. The latter data are obtained from field interviews with branch personnel.

The basic assumption of the cost-allocation method is that non-personnel inputs used in the production of banking services are allocated to different activities in the same proportion as are personnel costs. This method usually allows the researcher to obtain a detailed breakdown of the resource allocation in the institution. For example, through an appropriate questionnaire, it is possible to determine the relative importance of loan evaluation, loan monitoring, and loan recovery activities, within the general classification of lending activities. A similar degree of detail can be acquired in the description of funds mobilization. Since it involves field interviews, the cost-allocation method is necessarily restricted to a rather small sample of bank branches, thereby limiting the statistical testing of results. On the other hand, it gives the researcher a better understanding of the activities and procedures performed by the institutions than would be obtained solely from secondary data.

The results of the econometric studies for five banks in Bangladesh, two banks in Honduras, and one bank in the Dominican Republic are presented in Table 1. All estimat-

ed parameters were evaluated at the geometric mean of all variables in the cost equations. Therefore, they represent the parameters for the "average branch", i.e. a hypothetical branch described by the geometric mean of all variables.

Three banks, especially the public development bank of the Dominican Republic, show important economies of scale; therefore they would substantially benefit from an expansion in both lending and deposit activities. In all cases, the ES value will increase as loans and deposits expand indicating a U-shaped average cost surface. When feasible, therefore, banks showing constant returns to scale should realign service areas to expand small branches and shrink large branches to make their sizes approach the average branch size.

An interesting finding in Table 1 concerns the estimates for partial economies of scale. Public development banks which typically emphasize lending with little attention to deposit mobilization show the largest potential cost advantages to the expansion of deposit mobilization. On the other hand, the commercial banks in Bangladesh and Honduras could profitably expand lending relative to deposit mobilization. This "unbalanced" output growth would emphasize the expansion of the financial services with the lowest value of partial economies of scale.

The average and marginal costs of lending and deposit mobilization are also presented in Table 1. Overall the Bangladesh banks showed lower average and marginal costs compared to the other banks. Two caveats are important in analyzing these findings. First, costs of lending and deposit mobilization cannot be simply added to arrive at the overall costs of intermediation. Adjustments must be made to account for the share of deposits in

the total pool of loanable funds. The costs of mobilizing other funds (e.g., borrowings from the central bank) are likely to be substantially lower, although not necessarily negligible. Second, low intermediation costs may not necessarily reflect efficient overall performance of the institution, whereas high intermediation costs may indeed reflect wasted resources.

Studies undertaken on lending costs in six countries are summarized in Table 2. Bangladesh banks show relatively low lending costs compared to the other case studies reported. Even though the bank branches used in the Bangladesh studies are primarily rural and agricultural loans predominate in their portfolios, average costs of lending fluctuate between 1 percent and 4 percent. This cost range is comparable to the costs obtained for non-agricultural loans in other countries which appear substantially lower than agricultural loans.

Specialized government banks show high loan-administration costs in all countries. The rather low administration costs of public development banks in the Philippines can be partially explained by the large scale of operations of the Philippines National Bank (PNB). PNB operations are based on relatively large loans to agribusinesses and agricultural trade enterprises, a factor that may also explain the low costs of the Bangladesh Krishi Bank (BKB). The relatively high costs revealed for the development bank in Niger, on the other hand, are due in part to the input delivery function it performs in addition to making and recovering loans.

Table 3 includes data on loan recovery so that the potential trade-off between resources devoted to loan processing and loan recovery can be analyzed. The default rates were estimated based on past-due ratios with an opportunity cost of funds of 5 percent used

for all cases. The last column reports total noninterest costs of lending (ignoring the cost of funds mobilized). These rough calculations suggest that the nationalized commercial banks in Bangladesh and the Honduran public development banks have the highest rates. Private commercial banks in other countries tend to have the lowest costs. An implication of these results may be that the low cost of loan administration found in some banks before considering risks may indicate an insufficient amount of resources allocated to screening borrowers, supervising loans, and collecting outstanding loans. Therefore, lending costs may actually be too low in some cases and high loan delinquency and default is the result.

Measuring Transaction Costs of Borrowers and Depositors

A number of field surveys have been conducted in developing countries to measure borrower transaction costs. The results of nine of these studies are reported in Table 4. The results are reasonably comparable because a similar methodology was used for most of them. Data were obtained by direct interviews with borrowers in order to estimate the explicit non-interest costs incurred by them in the process of securing and repaying loans. Explicit costs consist primarily of transportation, lodging and meal expenses associated with trips to the bank office, and fees and other cash payments for documents and legal procedures. Bribes and "tea money" are important cash costs in some cases. Implicit costs correspond to the opportunity cost spent by farmers in negotiating their loans. With the exception of the Philippines, the data were collected during periods of low nominal interest rates intended to provide subsidized credit to small and medium-sized farmers.

Panel A presents transaction costs as a percent of loan amount, while in panel B these transaction costs have been expressed as a proportion of explicit-interest charges. This proportion indicates the relative importance of transaction costs as a tax on the price of liquidity. These indicators are reported for the sample average of each case, and for three loan-size categories defined for each study.

On average, transaction costs as a percent of the loan amount vary between about 1 percent (Niger) and almost 22 percent (Bangladesh). The magnitudes across countries and loan-size categories range from 0.2 percent to almost 30 percent. There is a striking contrast in Panel A between the results for Bangladesh and for other countries. This is due to the unusually small loan sizes in Bangladesh compared to other countries. This contrast is also reflected in Panel B, where transaction costs are expressed as a percent of explicit-interest charges. Transaction costs for Bangladesh on average are almost twice as large as the explicit interest charged on loans, whereas in the other countries the transaction costs tax represents (at the sample average) between 4 percent and 85 percent of explicit interest. Another special case is Niger where the low borrowing transaction costs are explained by an undeveloped and deficient credit delivery system, where conventional loan processing practices do not exist (Cuevas, Graham and Masini). Therefore the burden of transaction costs lies heavily on the institutions involved, rather than on the ultimate borrowers.

With the exception of Peru and the Philippines, the findings presented in Table 4 suggest that borrowing transaction costs play an important role as implicit prices in these credit markets. Their magnitude certainly cannot be ignored by prospective borrowers. The results also show the regressive distributional effects of borrowing transaction costs. In all

cases the incidence of transaction costs by loan-size category is clearly regressive with small loans bearing high costs and large loans entailing the lowest transaction costs as a percent of the loan. Hence, the intended effect of credit policies to promote a low and relatively uniform interest rate among borrowers is not attained. Instead, a skewed, regressive structure of total borrowing costs (interest rate plus transaction costs) is obtained. Even when the administered rates are set so that small loans are charged a lower rate than medium or large loans, as was the case in Costa Rica and Ecuador, transaction costs more than offset the explicit interest-rate differential resulting in higher total credit costs for the intended beneficiaries of the policy.

Compared to borrowing costs, there is much less systematic analysis available about depositor transaction costs. Generally it is expected that these costs are fairly low since there are incentives for most financial institutions to expand by providing attractive deposit services to attract more depositors. But it is also true that in many countries the network of financial institutions is not well developed so many rural residents live long distances from deposit-taking institutions. Travel time and costs, therefore, are expected to discourage the holding of deposits in banks. Furthermore, some specialized lending institutions with dispersed branch networks are prohibited from taking deposits.

Guerrero analyzed depositor behavior in the public agricultural bank (Banco Agricola) in the Dominican Republic after it began to take deposits for the first time in it's loan branches. He discovered that many depositors lived over 20 kilometers from the bank branch and spent 1 to 2 hours travelling to it. However, they chose to deposit with the branch because in some areas it was the only one available, and because they enjoyed

economies of scope by obtaining both loan and deposit services from the same institution. Not surprisingly, transaction costs were negatively associated with size of account balance and the level of account activity (deposits and withdrawals).

Khalily, Meyer, and Hushak analyzed transaction costs as one of the determinants of district level deposits in nationalized commercial banks in Bangladesh. An index representing number of bank branches and rural transportation facilities was constructed to represent transaction costs. The index was found to be negatively associated with bank deposits implying that more widely distributed bank branches and/or more transportation facilities would decrease transaction costs and thereby increase rural bank deposits.

Explanations for High Transaction Costs

The data reported in the previous section show a wide range in the non-financial transaction costs experienced by depositors, borrowers, and financial intermediaries in developing countries. In some cases the costs are quite high compared to standards in developed countries. In some cases, however, the costs appear to be too low as in the case of low loan administration costs that may contribute to poor loan recovery.

A number of factors contribute to high transaction costs. First, to a great extent the country's level of development determines the degree of development and maturity of the financial system. It influences the type of financial technologies available to the financial institutions. The development of communication and transportation infrastructure influences the costs of normal banking procedures. The lack of appropriate and timely legal services increases default risk by raising the costs and uncertainty of recovering loans. In other

words, some of the same general development problems which impede the production and raise the cost of producing other commodities and services also increase the transaction costs of financial intermediation. Furthermore, the poor in a low income country typically hold only a small amount of deposits and can effectively use only small loans so that financial institutions that serve rural areas and the poor must service many small accounts.

Second, the nature and extent of financial regulations affect intermediation costs. The availability, characteristics, terms and conditions, and effective rates of return on financial instruments are greatly determined by financial regulations. Some countries, for example, restrict competition by creating high barriers to entry for new institutions, by setting prices (interest rates) for many financial instruments and services, and by restricting some institutions from offering some services. Taxes are often set at high levels for profits on financial services because of the relative ease of revenue collection. Likewise, high reserve requirements, justified on the grounds of financial safety but actually used to finance government deficits, also raise intermediation costs. Subsidized interest rates on loans for priority sectors raise interest costs for non-priority borrowers. Loan quotas and targets often require institutions to allocate larger-than-optimum amounts of funds to high-cost high-risk borrowers while more severely rationing low-cost low-risk ones, without receiving appropriate insurance or guarantees to cover the added risk.

Third, public development/agricultural banks are created in many countries as specialized institutions to service specific clientele. Oftentimes, however, these institutions are too small to achieve economies of scale, and by emphasing lending they fail to achieve the economies of scope available by offering a more balanced mix of deposit and loan

services. They also miss the information that is available to a lender through servicing a potential borrower's deposit accounts. On the other hand, banks that aggressively mobilize rural deposits may hesitate to make what are perceived as small risky rural loans. Government targeting of these loans may contribute to low loan recovery.

Fourth, many financial institutions are just not managed very well and do not actively search for cost-reducing technologies and innovations. Part of the explanation is the nature of government regulations which prompt institutions to engage in regulatory avoidance that often increases costs (Kane). Another reason is that many institutions are state owned and are burdened by cost-increasing bureaucratic procedures and attitudes, and are expected to serve as a source of public employment. Labor costs are high relative to low levels of productivity. Internal operations are inefficient and costly while increasing the transaction costs for clients.

REDUCING TRANSACTION COSTS OF FINANCIAL INTERMEDIATION

The reduction in transaction costs of financial intermediation in developing countries requires improving information systems, reducing financial regulations, and implementing risk reducing mechanisms so that procedures and practices in financial transactions can be streamlined and simplified. Several types of improvements both external and internal to financial intermediaries are suggested below along with some examples of how they are being implemented in selected countries.

Improve the Economic Environment

Several types of improvements in economic environment can contribute to reducing transaction costs for financial intermediaries. Improved transportation and communication systems can help increase the efficiency of financial institutions, especially those with large nation-wide branch networks in which information, personnel, and funds must move long distances. Improved market intelligence and price forecasting will help both borrowers and bankers to better project the returns and risks associated with different types of investment projects. Any improvements in agricultural production and marketing which translate into higher, more stable agricultural incomes will make farmer-borrowers more attractive, less risky customers for loan and deposit services. For this reason, the macroeconomic policy adjustments taking place in many developing countries should eventually lead to a better banking environment generally and especially in rural areas.

One important area of economic environment which still requires great attention in many countries concerns the development of information systems for use in compiling and disseminating information needed by lenders to screen borrowers. Improvements are also needed in the systems used to identify, describe, and transfer real estate and personal property offered as loan collateral. Finally, legal systems need streamlining so that in the case of default lenders can expeditiously foreclose on and dispose of property pledged as loan collateral. It is quite common now for institutions to carry collateralized delinquent loans for long periods because of the high costs and long delays experienced in trying to prosecute borrowers. It may be true, as often argued, that most borrowers eventually pay

most of their obligations but the income received may not compensate for the transaction costs lenders incur in collecting it.

Improve Banking Regulations

Interest rate controls are the single most important banking regulation that must be examined in many countries. Frequently lending rates are fixed at sub-equilibrium levels in an attempt to benefit borrowers, especially small farmers, with cheap credit. This policy implies, however, that the financial institutions cannot recover the full cost of lending to that particular client group, and must ration customers because of the excess demand caused by the controls. [2] This rationing is often accomplished by creating additional procedures and delays in loan processing which raise transaction costs. Borrower transaction costs are also increased when lenders transfer to borrowers the costs associated with obtaining documents and processing loan papers. The economies of scale that could be achieved if the lender handled these tasks are lost when the lender cannot charge enough interest to cover the costs. Cuevas (1984) discovered that borrowing costs and interest rates were negatively correlated in Honduras suggesting that as interest rates were allowed to rise the lenders found ways to improve lending efficiency for the borrower. Likewise, in a study in Costa Rica, Gonzalez-Vega and Gonzalez-Garita found that for small loans of U.S. $200, a reduction of interest rates of one percentage point was accompanied by an increase in non-interest borrowing costs of 5.5 points.

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[2] A detailed discussion of how the Iron Law of Interest Rate Restrictions explains the concentration of loans is found in Gonzalez-Vega.

Controlled lending rates also have a negative effect on deposit mobilization. Although it is difficult to conclusively prove, there is evidence that suggests depositors are sensitive to interest rate changes (Meyer). If lending rates are low, the correspondingly low deposit rates discourage depositors and financial institutions are forced to rely on external funds from the central bank and, frequently, donors. Although these sources appear to be cheap because they usually carry subsidized rates, they may actually be quite expensive. Graham and Cuevas found that a private bank in Honduras experienced lending costs of 3.13 percent using own funds versus 7.82 percent for similar loans made through a World Bank credit project.

Regulations requiring large taxes on financial transactions and high reserve requirements tend to raise intermediation costs. In the Philippines, for example, the government taxes loans and collects a withholding tax on interest income earned on time and savings deposits. Tolentino has argued that these taxes should be reduced or eliminated in order to reduce intermediation costs. Reserve requirements of 25 to 30 percent are common in developing countries. Rates this high can hardly be justified as necessary for prudent financial management; their real purpose is usually to raise funds to cover government deficits. But they introduce deadweight losses which result in increased costs of funds mobilized, and these costs must be passed on to depositors in the form of lower deposit rates and/or to borrowers in the form of higher lending rates.

Several types of regulations restrict entry and thereby reduce competition among financial institutions. For example, until 1984 the agricultural bank in the Dominican Republic (Banco Agricola) was denied authorization to mobilize deposits even though it had

a large branch network (Guerrero). When it was allowed to accept deposits and achieve the related economies of scope, it was able to do so with only a small increase in personal and operating costs.

Banking regulations in the Philippines require that unit rural banks must purchase special five-year government securities worth 500,000 pesos for each branch opened. Other types of banks face even steeper requirements (Lamberte and Lim). This reduces their incentive to take over banks that are failing, or to open new banks in rural areas. Furthermore, the Central Bank classifies the country into service areas, and licenses are denied to banks desiring to operate in areas defined as over-banked. It is argued, however, that banks willing to risk their own capital are in a better position than bank regulators to decide which areas have the potential business to justify more banks (Chan).

Reduce Risks

One of the important reasons often given by financial institutions for not making more loans to agriculture, to low income households, and to small businesses is the perception of the high risks associated with these borrowers. The default rates reported in Table 3 suggest that in fact some of the clientele groups that are identified as high priority for financial assistance in developing countries contribute to high default rates.

Loan insurance and guarantee funds are the traditional ways used to attempt to reduce the risk element of transaction costs for financial institutions. It is expected that the additional fees and administrative costs these schemes impose on lenders and borrowers will be more than offset by a reduction in risk and an expansion in lending to priority clientele

groups. In practice, however, publically funded schemes do not seem to have lived up to expectations, particularly in terms of additionality in lending (Levitsky and Prasad; Magno and Meyer). For a guarantee to be successful, financial institutions should lend more to customers not normally served by the lenders, but still insure that the institutions employ sound methods in screening applicants and supervising loans in order to minimize risks. Two problems have frequently reduced the effectiveness of guarantees. First, commercial banks have had little faith that publically funded schemes would actually meet claims for losses or do so at reasonable administrative costs, so they have refused to participate in the programs. Second, some institutions have participated by continuing to lend to their previous customers who fall within the population targeted by the guarantee, but use any liquidity generated through the guarantee to expand lending to nontargeted clients. Therefore there is little additionality in lending.

Mutual guarantee associations in which a number of households/enterprises make payments to form a cooperative or association to guarantee loans taken by members are a variant of the guarantee model that holds some promise, particularly among artisans and microenterprises. These associations may also participate in two-stage loan guarantee schemes in which a counter guarantee fund shares part of the risk and helps increase and stabilize the self-help potential of the association (von Stockhausen). This concept is being actively promoted in Asia by APRACA (Asian and Pacific Regional Agricultural Credit Association) in projects designed to link financial self-help groups with formal financial institutions (Seibel and Parhusip). The groups accumulate savings that are deposited in the financial institutions that make loans to group members. The joint liability of the group

members covers the balance of the loan risk for loans made to members without collateral. This type of group scheme is also expected to reduce borrowing costs for its members, besides giving them access to loans otherwise denied to them. Organizing and participating in these groups, however, can represent fairly high transaction costs in itself.

Diversify Financial Institutions

Many financial institutions were created during the 1960s and 1970s as specialized lending institutions. They were designed to complement or substitute for the commercial banks that were perceived as being too risk averse to engage in large scale lending to priority clientele groups. A characteristic of these institutions is that only rarely did they engage in significant deposit mobilization. More frequently, they relied on subsidized external funds. This also occurred with many credit unions in Latin America that originally relied upon their own funds but gradually increased their dependency on external funds.

The empirical data presented in Table 1 suggest that many institutions could achieve economies of scope by balancing the services provided. In the case of the specialized lending institutions, this usually implies expanding deposit mobilization. For commercial banks, it may mean expanding loans relative to deposits. The initial results of the experiment by Banco Agricola in the Dominican Republic to begin taking deposits shows the wide scope for adding this banking service at little additional cost to the bank.

The institutions that begin to mobilize deposits may find that they reap several benefits. First, the present external funds that appear to be cheap may actually be quite expensive when transaction costs are defined to include the reporting and administrative

costs the donors and central banks usually require for utilizing their funds. An extreme example in Bangladesh was the bank that developed a form with almost 150 different rows for use in reporting on the many different lines of credit and loan purposes that the government and donors considered important. Furthermore, external funds are not completely risk free for a lender interested in establishing itself as a dependable long term financial institution for its customers. However, with the ebbs and flows in interest and funds of donors and the government, an institution may at one time find itself awash in funds, but starved at another time.

Second, a financial institution that has an active deposit relationship with a customer can accumulate information about that customers' reliability, cash flows, and savings potential. That information may be useful when the institution appraises the customer's future loan application.

Third, deposit mobilization may contribute to superior loan recovery. Specialized lending institutions often are under pressure to meet loan targets so they may not be as careful in sorting and screening borrowers and projects as they should be. Often political pressure is used to influence who gets a loan and who must repay. When the funds come from the government, the borrower may conclude that it is really a grant so repayment is not required. By lending funds that have been mobilized from depositors, the financial institutions know they must be more careful in making loans, they are more likely to be able to avoid political pressure in loan allocations, and borrowers may be more inclined to repay loans that they know represent their neighbors' deposits. The link between deposit mobilization and loans was demonstrated in a credit union rehabilitation project in the Dominican

Republic. Raising interest rates and savings promotion campaigns caused a dramatic increase in deposits. Furthermore, delinquency declined from 71 to 10 percent in one credit union, from 48 to 7 percent in a second, and from 45 to 15 percent in a third (Gonzalez-Vega and Poyo).

Expand the Banking Network

An expansion of the banking network can have two possible benefits for bank customers. First, if the number of banks (or branches) expand, there is greater likelihood of competition among institutions in the variety and efficiency of the banking services offered. Second, if the new banking units are widely scattered geographically, the transaction costs for borrowers and depositors should fall because of reductions in the costs and time required for banking.

Encouraging bank expansion is largely a matter of regulations. When interest rates are controlled for rural loans or loans to small enterprises and when capital and other requirements for new entrants into banking are high, the expansion of banking to service priority customers and to increase competition is retarded. The evidence presented above on possible economies of scale in banking, however, raises the issue of trade-off between bank and customer transaction costs. The creation of many small banks/branches that reduce customer transaction costs may do so at the expense of increased transaction costs for the institutions themselves. In these cases, it may be necessary to utilize less formal arrangements, such as self-help groups and credit unions, to reach customers that would be too expensive for larger, more formal institutions such as full service banks.

Group Lending

Group lending is often recommended as a way to reduce transaction costs. At least five advantages are claimed for group lending (Adams and Ladman). For the lender, 1) default risks are reduced because of joint liability, 2) loan transaction costs are reduced per unit of money lent by making one large loan to the group rather than several small ones to individuals, 3) scarce manpower can reach a larger number of clients through groups, and 4) technical services can be provided more cheaply to a few groups than to many individuals. For the borrowers, the transaction costs per unit borrowed may be reduced compared to individual loans.

It is not clear, however, how frequently these supposed benefits for group lending are actually realized in practice. Adams and Pablo Romero analyzed the Dominican Republic Development Foundation program of small farmer lending and found that loan recovery was not good in spite of group lending. On the other hand, the well-known Grameen Bank in Bangladesh has successfully utilized the small group approach to reach thousands of members and achieve loan recovery greater than 95 percent (Hossain). But other micro-enterprise lending programs in Bangladesh, using some of the same principles, experience less success in recovery (Hoque and Ahmed). Solidarity groups are widely used in Latin America to organize five to eight women into groups to participate in a program of credit and training (Otero).

One of the problems faced in analyzing transaction costs of lenders and borrowers is that there are no studies that carefully compare group versus individual lending. For example, the transaction costs of the Grameen Bank appear to be high, but loan sizes are

small compared to the loans given by commercial banks. As noted in Table 3, however, the commercial banks have a high default rate. These differences imply a trade-off between careful loan screening and supervision versus loan default.

Huppi and Feder conducted a comprehensive review of group lending and credit cooperative experience and found many examples that failed to live up to expectations. No clear pattern of reduced costs or improved loan recovery emerged. Group formation costs were high in many cases. They concluded, however, that most of the unsuccessful experiences are due to shortcomings in their implementation and complementary activities rather than an inadequacy of the approaches themselves. They believe these lending arrangements hold potential to improve small farmer access to credit while improving the viability of financial intermediaries. Therefore it seems that group arrangements offer no panacea for reducing transaction costs. Each must be carefully designed for the unique circumstances of each country, and alone they cannot overcome the problems of an inhospitable economic environment.

Improve Internal Operations

Banking institutions that actively seek ways to reduce costs and risks can often discover innovations that improve their performance, yet provide financial services to clientele groups that other institutions find too costly or risky to serve. The Syndicate Bank experience in Manipal, India provides an interesting example of a bank that was able to successfully grow and prosper by developing financial services for a new group of customers, namely the small and medium enterprises that had been shunned by larger, city-based banks

(Bhatt). The key to the Syndicate Bank success was the cultivation of the habit of thrift in the community through the pigmy deposit scheme. This scheme was introduced in 1928 to collect very small deposits door to door at stated intervals from a large number of relatively uneducated and poor customers. The concept relied on the idea that many poor people could save small amounts but did not have time to go to a bank and deposit this amount regularly (i.e. the transaction costs were too high). Bank agents were commissioned to collect these deposits, and received a fee not exceeding three percent per year based on the amount of deposits collected. The interest was 3.13 percent per year if the saver did not withdraw from the scheme for seven years. Within this period, the saver could borrow against the security of the deposit. On the average, the total cost to the bank for this long-term deposit has varied between three and five percent, significantly lower than the cost of a three or five year fixed deposit.

Another innovative feature of the Syndicate Bank was its reduction in information costs by the recruitment of relatively unsophisticated local people. They have familiarity with the local scene and their contacts enable them to expand Syndicate business because they inspire confidence in potential depositors, are able to appraise the soundness of projects and the creditworthiness of borrowers, and can assess the business potential of the local area. Staff persons without this background would have to collect more information and spend more time appraising borrowers and their projects.

By recruiting local persons and promoting the very best, the Bank has been able to hold down costs and achieve high productivity. Average salaries per employee are 20 to 30 percent lower than that of larger city banks. However, the employees handle an average

of 287 deposit accounts per employee compared to 120 for the banking system as a whole, and 48 loan accounts compared to 14 for the banking system.

The Bank provides technical assistance to farmers and small industries through a special staff. The bank's policy of opening branches in a cluster permits each of these technical assistance officers to handle five to ten branches. The technical assistance helps the borrowers, but also helps the bank enlarge its business and reduce its risk.

Operating costs are reduced through decentralized decision making. Loans to farmers and small enterprises are sanctioned by the branch managers with the advice of the technical staff. There is no reference to the head office so head office costs are low. The branch and branch manager are evaluated on the volume of deposits, volume of loans and loan recovery. Reporting procedures are confined to collecting and documenting information relevant for decision making either at the branch or the head office.

Some financial institutions are adopting a cost-reducing technological approach to reducing intermediation costs. Banks in more developed countries are beginning to adopt techniques used in high income countries such as automated teller machines and drive-through banking facilities. A promising innovation is the interesting FAO-initiated micro-banker concept pioneered by Ralph Houtman which is being implemented by APRACA in several Asian countries (Shrestha). The Cooperative Rural Bank of Bulacan in the Philippines was the first pilot site inaugurated in May 1988. It had approximately 2,500 customers. Most of its 900 borrowers were small farmers, shopkeepers, and market vendors. The total deposits of about $143,000 and a loan portfolio of $276,000 are managed by a total staff of 11 persons. Loans made recently are performing well, while a large part of the arrears are

due to overlending of government funds in the late 1970's and early 1980's. The Bank's microcomputer is used to manage the deposit accounts, develop lists of past due loans, print demand letters, prepare ad hoc reports, and generally rationalize the Bank's daily office routine. As a result, the staff have been redeployed to field operations, such as collecting past due loans, so that collections and bank profits have risen, and the accumulated losses are expected to be eventually wiped out.

In Thailand, the Bank for Agriculture and Agricultural Cooperatives (BAAC) is also testing the microcomputer concept. BAAC is experimenting with Micro Branches, the establishment of a relatively dense network of small offices staffed by six to eight staff only two of which will be full time in the office due to the microcomputer efficiencies. The others will be in the field, visiting farmers, appraising and collecting loans, and promoting the saving habit. This approach is aimed at improving customer service and creating a strong relationship between the bank and its customers. It is also likely to strengthen the savings mobilization strategy now implemented by BAAC to complement its historic emphasis on lending. An important dimension of the BAAC experiment is the substitution of a computer generated voucher for the traditional savings passbook. Full computer vouchering to eventually replace cash in/out slips will further reduce the bank's transaction costs (Shrestha).

Link Informal Finance with Formal Finance

In many parts of the developing world, informal financial services provided by moneylenders, commodity traders, and landlords have been perceived at best as inefficient

and unproductive, and at worst as usurious, monopolistic, and prejudicial to rapid, broad based development. Savings groups and ROSCAs have been seen as mere precursors to more formal credit unions. Pawnshops have been viewed simply as sources of high priced consumer credit for the urban poor. This negative view of informal finance is being replaced by a more positive interpretation, especially in light of the major problems experienced by formal financial institutions in developing countries (Adams, 1989). There is recognition of the fact that the practices and technologies that contribute to the strengths and advantages of informal finance, often in spite of many efforts to replace it, may give suggestions about how to improve formal finance. There is also greater recognition for the need to tap the strengths of informal finance by linking it with formal finance.

By linking informal with formal finance, all the participants in financial transactions may experience a reduction in transaction costs, and/or there may be a transfer in transaction costs from the participant less able to absorb them (usually the financial institution) to the one more able to do so (usually the borrower or saver). Linking savings clubs with financial institutions, such as is being done in Zimbabwe with great success (Chimedza), represents an example largely oriented towards savings. These clubs are formed mostly by small groups of peasant farmers from the same village or cluster of villages. The average size of a club is 35, many of the members are women and some are composed of extended family members. The current membership is approximately 200,000 people in about 5,700 clubs. An important factor bringing the members together is their desire to save money as an alternative to the use of agricultural credit, which in most cases is unavailable to them. The members agree to make regular deposits at the club's periodic meetings. Stamps are

placed in savings books to represent the savings deposits. Since the meetings are held at a local site, the members are saved the transaction costs of personally maintaining a bank account in a distant bank. Instead, the club's treasurer makes the deposits on behalf of the members. The savings are then available in the future for either individual or group projects. Through group interaction, the club members are encouraged to make regular savings and to identify productive uses for their savings.

As noted above, the self-help groups being formed in Asia as well as the Grameen Bank in Bangladesh also encourage savings and probably reduce member transaction costs for savings. But these groups also emphasize increasing access to loans through the guarantees offered by the group's deposits and by joint liability among the members.

Another way that the informal sector can be linked to the formal sector is through the lending activities of crop traders, input suppliers, and landlords (Esguerra and Meyer). These informal lenders already are responsible for a large amount of rural lending with their own savings or with funds obtained through their formal loans. For example, Larson found that 47 percent of the corn traders in southern Philippines provided cash advances to farmers and 26 percent sold production inputs on credit. The majority of the firms reported that 60 percent of their funds came from bank loans using urban real estate as collateral, and the remaining 40 percent came from equity capital.

The Philippines government has recognized the role that traders play in providing financial services and the National Agricultural Productivity Program (NAPP) has provided credit to agriculture using informal lenders as conduits (Esguerra). Loans are made by participating banks to traders, millers, input suppliers and users of farm produce for food

or animal feed. These borrowers in turn make cash or kind loans to farmers who forward contract their production to them. The possible advantages to the farmers are reduced transaction costs, and an assured supply of inputs and market for their products. There is no evidence available, however, to answer the important question of whether or not small farmers achieved much benefit from the program, or if the informal sector lenders simply used the funds obtained to make loans to their regular preferred clientele.

One of the ways that formal institutions attempt to reduce transaction costs for rural borrowers, yet avoid the expense of developing a network of full-service bank branches, is to create mobile units or mini bank branches. A recent APRACA meeting reviewed the experience of several Asian countries that are experimenting with these ideas. The innovations discussed appear to reduce transaction costs to clients by reducing geographic distance, but it was unclear if they reduced the psychological distance between bank and client. The cost accounting practices used did not permit a comparative analysis of lending costs between a regular branch and these special units (APRACA).

Pawnbroking has frequently carried the stigma of usury and exploitation of the poor but research in India and Sri Lanka has revealed some of the reasons for its continuous popularity (Bouman and Houtman). Both legal and illegal pawnbroking have expanded in some areas. Although the transaction costs of getting a pawnbroking loan from some of the formal lenders that engage in pawnbroking may be fairly high, they are relatively low for small loans compared to subsidized formal loans. Borrowers often turn to unlicensed pawnbrokers because the transaction costs are lower, the service speedier and more discrete, and business hours are more convenient. Pawnbroking seems to be especially prominent

in South Asia where an active market exists for gold and silver. Some banks refinance private pawnbrokers so this represents a possible way to reach poor households indirectly through formal institutions.[3] There will likely be more opportunities to expand pawnbroking and to incorporate pawnbroking operations into formal financial institutions when pawnbroking expands to cover a broader range of pawnable assets. This innovation is one that deserves more consideration by formal intermediaries.

OPPORTUNITIES FOR DONORS

The demise of many specialized agricultural lenders, the large amount of arrears in many others, and the large transaction costs that exist for borrowers, depositors, and financial institutions in many countries suggest a need for the continuation and expansion of the reforms that have begun in many financial institutions. Furthermore, the ubiquitous nature of informal finance and its resilience in the face of adverse regulations and economic environment suggest that it has successfully employed techniques and innovations that may be worthy of emulation by the formal sector. Donors have an opportunity to contribute to the search for innovations in financial intermediation that will reduce costs to all participants and contribute to the viability of financial institutions in developing countries. This section identifies and briefly describes some of these opportunities.

A number of developing countries began to liberalize their financial systems during the past decade (World Bank). These reforms have often included greater flexibility in the

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[3] Lamberte found that pawnbrokers in Manila borrowed a larger amount of funds from banks than they deposited with banks.

setting of interest rates, a reduction in interest rate subsidies, fewer controls on credit allocation, more reliance on deposit mobilization, and the privatization of some financial institutions. The experiences of some of these countries, such as Argentina, Chile, and Uruguay in Latin America and Indonesia and the Philippines in Asia, show that liberalization is fraught with complexity. Donors can help developing countries to analyze and understand the macroeconomic issues that influence successful financial sector reform and that determine the appropriate sequencing of reforms in the real and financial sectors. More importantly, donors can help develop adequate prudential regulation and banking supervision to avoid recklessness and fraud when controls are eased. Assistance can also be directed at assistance in the development of interest rate and credit allocation policies in a liberalized regime, and in restructuring insolvent and unviable institutions (Popiel; Roe and Popiel).

Donors also have to analyze the policies they use in conjunction with their resource transfer programs and projects in developing countries. As noted above, the reporting requirements of donors often greatly increase an institution's administrative costs, yet add little knowledge to improve the institution's management. Donor credit projects that tightly target specific clientele groups for loans can increase a financial institution's portfolio risk while guarantee programs may contribute little to reducing this risk. More attention should be given by donors to the impact of their projects on the viability of the financial institutions rather than focusing exclusively on the hard-to-measure issue of project impact on the beneficiary (Adams, 1988).

Through technical assistance and training programs, donors have an opportunity to assist developing countries with the following institution and country specific issues related to the costs of financial intermediation:

1. Design a methodology to systematically collect information on transaction costs, and monitor these costs over time as an indicator of efficiency in financial intermediation.
2. Identify specific innovations and improvements needed in a country to support efficient financial intermediation, such as a streamlined legal system, better information exchange between financial institutions, and improved management information systems that provide regulatory and supervisory authorities with the minimum information needed on a timely basis about the financial system.
3. Conduct experiments on specific innovations, document the results, and facilitate information exchange about the results of successful experiments on ideas such as:
    a. The application of microcomputers, mini and mobil banks, and other cost-reducing technologies in banking.
    b. The appropriate institutional design and incentive structures so that the utilization of groups will effectively reduce costs and risks in mobilizing deposits, making loans and communicating and collecting information.
    c. The introduction of additional ways to link formal with informal finance such as setting up pawnshops in banks or upgrading large informal groups into credit unions or banks, and ways of improving informal finance such as developing lines of wholesale credit for traders and lenders or creating central liquidity funds to ease the liquidity problems of credit unions.

Finally, donors can use some of their resources to fund the social costs of improved financial intermediation that cannot be easily recovered by financial institutions themselves. These costs may involve setting up training courses and institutions for training bank staff in their new responsibilities in liberalized banking, in training borrowers and savers about the practices of formal financial institutions, and in training central bank staff in the proper role of regulation and supervision in a liberalized financial system.

CONCLUSIONS

Transaction costs for financial intermediation are often high in developing countries. Recent empirical research has measured the magnitude of these costs for the participants in the intermediation process. The findings show that economies of scope are often available for financial institutions to employ a more balanced combination of deposit and loan outputs. Some institutions may also experience economies of scale so costs can be reduced by adjusting average bank/branch size. A trade-off may exist in some countries between increasing branch size to reduce costs for the financial institution versus expanding the network of small branches to reduce transaction costs for bank customers. The default costs are so high for some intermediaries that they swamp other operating costs. This implies that improved loan screening, monitoring, and supervision are required.

High transaction costs are affected by a country's general level of development, by the nature and incidence of financial regulation, by emphasizing lending through specialized institutions that mobilize few deposits and are too small to achieve economies of scale, and by poor management and a failure to adopt cost-reducing technologies and innovations.

These problems suggest a number of ways to reduce transaction costs ranging from improving the general economic environment in which financial institutions operate to adopting specific ideas found useful in some countries.

Donors can play a role in helping to reduce transaction costs. First, they can help countries manage the macroeconomic complexities that have emerged in countries that have already undertaken finance reforms. Second, they can review their own programs and projects to see how they contribute to costs and risks of financial intermediation. Finally, they can use their technical assistance and training opportunities to experiment with innovations, and disseminate information about the most promising ones.

Table 1

Economies of Scale and cost Shares of Loans and Deposits in Selected Case Studies

Case Studies	Economies of Scale			Costs of Lending		Cost of Deposit Mobilization	
	Overall	Partial					
		Loans	Deposits	Average	Marginal	Average	Marginal
				%	%	%	%
Bangladesh							
Nationalized							
Commercial Banks							
Agrani	0.95	0.34	0.61	3.56	1.21	3.90	2.37
Janata	0.90*	0.39	0.50	3.02	1.19	2.46	1.24
Rupali	0.98	0.36	0.63	3.78	1.35	2.41	1.51
Sonali	0.77*	0.43	0.34	1.96	0.84	1.29	0.44
Public Development Bank	0.66*	0.52	0.14	0.89	0.46	2.33	0.34
Honduras							
Public Development Bank	1.08	0.77	0.31	10.02	7.64	8.78	2.72
Private Commercial Bank	1.59	0.39	1.20	3.39	1.69	5.33	6.71
Dominican Republic							
Public Development Bank	0.51*	0.50	0.01	8.81	4.43	9.11	0.09

Sources: Bangladesh - Srinivasan, 1988,
Honduras - Cuevas, 1984,
Dominican Republic - Cuevas and Poyo, 1986.

* Significantly less than one.

TABLE 2

Costs of Loan Administration Estimated in Selected Case Studies for Agricultural and Non-Agricultural Loans. Average Costs in Percent of the Loan Amount, by Type of Loan

Case Studies		Agr. Loans %	Non-Agr. Loans %	All Loans %
Bangladesh[a]	Nationalized Commercial Banks (weighted average)	-	-	2.9
	Public Development Bank (BKB)	-	-	0.9
Philippines	A. 1983[b]			
	Public Development Banks (weighted average)	4.2	2.7	-
	Private Commercial Banks	1.6	2.7	-
	Rural Banks	5.4	3.9	-
	B. 1988[c]			
	Private Development Banks	-	-	5.3
	Private Commercial Banks	-	-	4.3
	Rural Banks	-	-	4.8
Honduras[d]	Public Development Bank	-	-	10.0
	Private Commercial Bank	3.7-8.4[e]	1.0-7.5[e]	3.4
Dominican Republic	Public Development Bank[f]	9.3	n.a.	9.3
	Public Development Bank[g]	8.8	n.a.	8.8
Togo[h]	Public Development Bank	-	-	5.3
Niger[j]	Public Development Bank	9.5	n.a.	9.5

Footnotes on next page.

TABLE 2

Footnotes

a/ Srinivasan, 1988. Data base: branch-level records 1983-1984. Weighted averages calculated by the author using the outstanding loan balances for each bank reported by Srinivasan.

b/ TBAC, August 1985. Data base: banks' financial statements 1983. Weighted averages calculated using the shares in total loans granted in 1983.

c/ Untalan and Cuevas, 1988. Data base: branch-level records and field survey, 1987.

d/ Cuevas, 1984. Data base: branch-level records 1970-1982.

e/ Cuevas and Graham, 1984. Data base: branch-level records 1982, and field survey, 1983. Highest cost of agricultural loans correspond to foreign-funded supervised loans.

f/ Cuevas and Poyo, 1986. Data base: branch-level records 1979-1983.

g/ Cuevas and Poyo, 1986. Data base: branch-level records 1984-1985. Deposit mobilization activity started in 1984.

h/ Cuevas, 1987a. Data base: bank records, 1985.

j/ Cuevas, 1987b. Data base: field surveys, household level (1985) and branch level (1986).

n.a. not applicable

TABLE 3

Cross-country Comparison of Non-Interest Agricultural Lending Costs
Including Risk Premia

Case Studies		(1) Default rate[a]	(2) Loan Admin. Costs	(3) Risk Premia[b]	(4) Total Non-Interest Costs (2+3)
		%	%	%	%
Bangladesh	Nationalized Commercial Banks (weighted average)	13.3	2.9	16.5	19.4
	Public Development Bank (BKB)	7.3	0.9	8.3	9.2
Philippines	A. 1983				
	Public Development Banks (weighted average)[c]	1.8	4.2	1.9	6.1
	Private Commercial Banks	2.5	1.6	2.7	4.3
	Rural Banks	5.8	5.4	6.7	12.1
	B. 1988				
	Private Development Banks	2.5	5.3	2.8	8.1
	Private Commercial Banks	2.5	4.3	2.8	7.1
	Rural Banks	5.8	4.8	6.7	11.5
Honduras	Public Development Bank	8.8	10.0	11.0	21.0
	Private Commercial Bank	1.3	3.4	1.4	4.8
Dominican Republic	Public Development Bank[d]	7.0	8.8	8.6	17.4
Togo	Public Development Bank	9.8	5.3	11.9	17.2
Niger	Public Development Bank	4.5	9.5	5.4	14.9

Sources: Same as Table 1.

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TABLE 3

Footnotes

a/ Assumed equal to one-fourth of the reported past-due ratios.

b/ Computed using the formula
$r = (d/(1-d))(1+a+f)$
where, r is the risk premium
d is the default rate
a is the loan administration cost
f is the opportunity cost of funds, assumed 5% for all cases.

c/ Default rate corresponds to the Philippine National Bank (PNB) and the Development Bank of the Philippines (DBP) taken together (see note a/ above on default rates).

d/ Only most recent study considered for this table.

Table 4

Borrowing Transaction Costs at the Farm Level in Selected Countries, by Loan Size

Transaction Costs by Loan Size	Country								
	Bangladesh	Philip-pines	Costa Rica	Ecuador	Honduras 1981	Honduras 1983	Panama	Peru	Niger
A. Transaction Costs as Percent of Loan Amount									
Sample Average	21.7%	1.2%	11.5%	2.8%	3.0%	3.5%	5.2%	1.2%	0.9%
Small Loans	29.4	2.4	15.6	5.3	5.9	5.7	5.7	3.9	5.8
Medium-size Loans	17.5	0.8	4.4	2.0	1.6	3.0	3.0	1.3	1.8
Large Loans	7.0	0.6	2.9	0.6	0.2	1.6	2.0	1.0	0.5
B. Transaction Costs as Percent of Explicit-Interest Charges[a]									
Sample Average	180.8%	6.7%	84.6%	22.9%	23.1%	22.0%	46.4%	4.0%	7.5%
Small Loans	245.0	13.3	124.8	47.7	45.4	35.9	50.9	13.0	48.3
Medium-size Loans	145.8	4.4	32.8	17.3	12.3	18.9	26.8	4.3	15.0
Large Loans	58.1	3.3	17.7	4.1	1.5	10.1	17.9	3.3	4.2

Sources: Bangladesh - Ahmed; Philippines - Abiad; Costa Rica - González-Garita; Ecuador, Panama and Peru - Inter-American Development Bank; Honduras 1981 - Cuevas, 1984; Honduras 1983 - Cuevas and Graham, 1985; Niger - Graham, Cuevas, and Negash.

a Computed as (Transaction costs/Interest charges)*100, using the explicit-interest rates reported in the different sources, e.g., for Bangladesh, the interest rate reported by Ahmed is 12%, hence, for the sample average, (21.7/12)*100 = 180.8%.

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