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COSTS OF FINANCIAL INTERMEDIATION: RECENT CROSS-COUNTRY EVIDENCE AND THE CASE OF BANGLADESH

by

Carlos E. Cuevas

Assistant Professor
Department of Agricultural Economi
and Rural Sociology
The Ohio State University

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INTRODUCTION

Knowledge of the cost structure and production technology of financial institutions is essential for analyzing institutional performance and assessing the adequacy of financial policies. Bank managers need to carefully monitor cost indicators in order to evaluate the performance of their institution over time and in comparison to their competitors, and to assess the profitability of different bank services. Managerial decisions about expansion or contraction of bank activities, as well as the provision of new financial services, must be based on the knowledge of specific features of bank technology such as economies of scale and economies of scope.

Policy-makers on the other hand, should consider the cost structure and technological parameters of financial institutions when deciding on policy measures that affect the financial system. The effects of reserve requirements, interest-rate ceilings, and branching regulations, among other policies, are conditional upon the ability of banking firms to adjust their operational procedures and resource allocation to the policy measures. More than one bank failure can be traced back to inadequate policies that have either under-estimated the costs of providing certain financial services, or over-estimated the market potential of specific areas.

This paper presents recent cross-country evidence on the costs of financial intermediation in developing economies, including five Bangladesh banks[1]. The other countries included in the study are the Philippines, Honduras, the Dominican Republic, and Niger. Since interest rates vary substantially across countries due to different monetary scenarios, the comparative analysis presented here focuses on the non-financial costs incurred by financial institutions in these countries.

The following section presents a brief discussion of the main cost components and different methods considered in the country case studies under analysis here. The factors likely to affect the level and behavior of costs are highlighted, before presenting the empirical results of recent studies in about twenty banks of five developing countries in the third section. Some concluding remarks follow.

TRANSACTION COSTS OF FINANCIAL INTERMEDIATION

Non-financial transaction costs incurred by financial intermediaries may be classified into costs of mobilizing deposits and costs of lending. The former correspond to resources utilized in handling deposits accounts, documentation, record-keeping, and issuing statements. Costs of lending refer to costs associated with loan processing, loan disbursement, monitoring, and loan recovery. Gathering information about

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[1] A detailed analysis of these Bangladesh banks is presented in the study by Meyer and Srinivasan.

potential borrowers, assessment of collateral and documentation are among these lending costs.

In addition to the (explicit) resource costs of lending, important consideration should be given to risk costs, i.e. the implicit costs, and explicit losses, associated with loan default. Almost without exception, accounting provisions for loan delinquency are unrealistic, and follow diverse and usually undisclosed procedures. This introduces serious difficulties into cost and performance comparisons across banks. An attempt to overcome these complexities is made in the following section.

Since some of the institutions under analysis are banks specialized in lending, the results discussed below refer to lending (non-financial) costs, rather than overall intermediation costs. The methods used in generating the costs figures reported here fall into two categories[2]: (i) econometric analysis of the cost function using pooled time series/cross-sectional data (Bangladesh, Honduras, the Dominican Republic); and (ii), cost-allocation exercises using accounting data for a given time period (the Philippines, Honduras, Niger). All studies however, use comparable definitions of the cost variable and of the relevant cost indicators. When necessary, adjustments have been made to assure the validity of the comparisons presented in the following section, in spite of the difference in methods indicated above.

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[2] Several methods can be used in the measurement and assessment of bank costs. A review of these methods however, is beyond the scope of this paper.

CROSS-COUNTRY COMPARISONS OF COST ESTIMATES

Several factors need to be considered in cross-country comparisons of bank costs. Two of these factors are highlighted here. First, the country's level (stage) of development determines to a great extent the degree of development and maturity of the financial system. It conditions the financial technologies available and/or applicable to the financial institutions. The stage of development of communications and infrastructure has an important incidence in the costs associated with bank procedures, and defines the constraints under which the system must operate. In other words, the "degree of sophistication" of the financial system is closely related to the country's overall development position.

Second, the nature and extent of financial regulations affect intermediation costs in several ways. The availability, characteristics, terms and conditions, and effective rates of return of financial instruments are greatly determined by existing financial regulations, and by the ability and willingness of the monetary authority to enforce them. Different types and strengths of financial regulations, along with differences in the country's overall monetary policy, are reflected in the degree of development of the financial system. Some selected indicators of the economy's overall level of development, and of the development of the financial system are presented in Table 1 for the countries involved in the case

TABLE 1

Case Studies: Selected Indicators of Countries Involved

Country	GDP per capita 1985, US$[a]	M2 / GDP %	Population per bank branch[b] ('000 inhab.)
Bangladesh	144	27.3	25
Philippines	616	22.6[c]	13
Honduras	790	30.3[d]	15
Dominican Republic	725	23.7[d]	7
Niger	270	15.3	250

Sources: IMF, International Financial Statistics. Niger figures from Cuevas, Carlos E., "Rural Finance Profile of Niger", 1986. Population per bank branch from the author's notes and miscellaneous country studies.

a Exchange rate conversion.

b Includes branches of other (non-bank) financial institutions, but does not include post-office savings offices.

c Includes development banks and savings banks.

d Includes deposits in other financial institutions (line 45 in the IFS bulletin).

studies analyzed here. Income per capita serves as the indicator of economic development in Table 1, while the proxies for financial development included are: (a), the ratio of total money (M2) over gross domestic product (GDP), or financial deepening, and (b), the population per bank branch in the country. All these indicators are admittedly subject to questions regarding biases introduced by exchange rate conversions, adjustment for inflation, and homogeneity of bank branches, among other methodological limitations. However, their presentation here provides a framework to discuss the contrasts in cost performance later in this section.

An overall assessment of the indicators presented in Table 1 suggests that the two Latin-american countries included in the case studies (Honduras and the Dominican Republic) are relatively more developed than the two Asian economies (Bangladesh and the Philippines), and the West-African country (Niger). The Philippines shows a bank density similar to that of the Latin-american countries, and Bangladesh displays the second highest level of financial deepening (M2/GDP ratio), in spite of being the country with the lowest income per capita. Niger appears "consistently" under-developed, showing the second lowest per-capita GDP, the lowest level of financial deepening, and the lowest bank density with respect to its population.

The results of cost studies undertaken over the last four years involving about 20 banks in the five countries indicated above are summarized in Table 2. As pointed out earlier, the

TABLE 2

Costs of Loan Administration Estimated in Bangladesh Banks, and in Selected Case Studies in Other Countries. Costs in Percent of the Loan Amount, by Type of Loan

Case Studies	Agr Loans %	Non-Agr. Loans %	All Loans %
Bangladesh[a/]			
Agrani	-	-	2.9
Bangladesh Krishi Bank	-	-	0.9
Janata	-	-	2.6
Rupali	-	-	3.9
Sonali	-	-	2.0
Philippines[b/]			
Specialized Gov't. Banks			
Philippines Natl. Bank	3.2	1.6	-
Dev. Bank of the Philippines	23.5	11.8	-
Land Bank of the Philippines	11.7	3.3	-
Weighted Average	4.2	2.7	
Private Banks			
Sample Priv. Comm. Bank	1.6	2.7	-
Sample Rural Banks	5.4	3.9	-
Weighted Average	2.3	2.7	
Honduras[c/]			
Gov't. Dev. Bank	-	-	10.0
Priv. Comm. Bank	3.7-8.4[d/]	1.0-7.5[d/]	3.4
Dominican Republic			
Gov't. Dev. Bank[e/]	9.3	n.a.	9.3
Gov't. Dev. Bank[f/]	8.8	n.a.	8.8
Niger[g/]			
Gov't. Dev. Bank	9.5	n.a.	9.5

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TABLE 2

Footnotes

a/ Meyer, Richard L., and Aruna Srinivasan, "Policy Implications of Financial Intermediation Costs in Bangladesh". ESO 1389, The Ohio State University, October 1987. Data base: branch-level records 1983-1984.

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

c/ Cuevas, Carlos E., "Intermediation Costs and Scale Economies of Banking under Financial Regulations in Honduras". Unpublished Ph.D. Dissertation, The Ohio State University, 1984. Data base: branch-level records 1970-1982.

d/ Cuevas, Carlos E., and Douglas H. Graham, "Agricultural Lending Costs in Honduras", in Undermining Rural Development with Cheap Credit, Westview Press, 1984. Data base: branch-level records 1982, and field survey, 1983. Highest cost of agricultural loans correspond to foreign-funded supervised loans.

e/ Cuevas, Carlos E. and Jeffrey Poyo, Costos de Operación y Economías de Escala en el Banco Agrícola de la República Dominicana. Centro de Estudios Monetarios y Bancarios, Republica Dominicana, 1986. Data base: branch-level records 1979-1983.

f/ Cuevas, Carlos E. and Jeffrey Poyo, "Costos de Intermediación Financiera en el Banco Agrícola de la República Dominicana. Los Efectos de la Movilización de Depositos". ESO 1316, The Ohio State University, November 1986. Data base: branch-level records 1984-1985. Deposit mobilization activity started in 1984.

g/ Cuevas, Carlos E., "Institutional Credit in Rural Niger: Low Performance and High Costs", ESO 1351, The Ohio State University, February, 1987. Data base: field surveys, household level (1985) and branch level (1986).

comparison focuses on the non-financial costs of loan administration, since costs of funds (interest rates) vary substantially (in nominal terms) across countries, due to different monetary conditions. Costs associated with default (risk premia) are not yet included in Table 2 for two reasons. First, there are differences across banks in the measurement and reporting of delinquency and default. Secondly, the opportunity cost of funds involved in the calculations of default costs depends on the absolute levels of interest rates prevailing in the country, thus contaminating the contrasts across banks with the effects of the countries' monetary policies. In spite of these limitations, the importance of the default factor when comparing bank performances will be discussed later in this section.

Bangladesh banks show relatively low overall lending costs compared to the other case studies reported in Table 2. Even though the bank branches used in the Bangladesh case studies are primarily rural, and agricultural loans predominate in their portfolios[3], average costs of lending fluctuate between 1 percent and 4 percent. This cost range is comparable to the average figures obtained for non-agricultural loans in other countries, which in turn appear substantially lower than agricultural loans.

With the exception of the Philippine National Bank (PNB), specialized government banks show high loan-administration costs in all countries. The low administration costs of the PNB can be partially explained by its large scale of operations based on

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[3] See Meyer and Srinivasan.

relatively large loans to agribusiness and agricultural trade enterprises4, a factor that may explain the low costs of BKB a well.

As indicated above, a comparison of (non-interest) lendin costs across banks of different countries should take into account two important factors: first, the overall "degree of sophistication" of the banks in question, and second, the different performance in loan recovery associated with the institutions under analysis. The first factor is clearly illustrated by the government development bank of Niger (The "Caisse Nationale de Crédit Agricole") which stands out as a v simple credit delivery system. In spite of performing a mere input delivery function, and without carrying out essential banking procedures of loan evaluation, monitoring and loan recovery, this bank shows the high administration costs report in Table 2. The case studies in the other countries considere here are comparable in the sense that basic conventional lendi practices are generally followed. Whether this is true for lo recovery practices is a question that the discussion below wil help answer.

Performance in loan recovery appears strikingly different across the banks under comparison. Table 3 shows the past-due ratios reported in the different sources for agricultural loans

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[4] A discussion of lending costs in Philippine banks is presented in Corales and Cuevas.

TABLE 3

Cross-country Comparison of Non-Interest Agricultural Lending Costs Using a 10% Opportunity Cost of Funds to Calculate Risk Premia[a/]

Case Studies	(1) Past-due ratio %	(2) Loan Admin. Costs %	(3) Risk Premia %	(4) Total Non-Interest Costs %
Bangladesh[b/]				
Agrani	54	2.9	133.1	134.0
Bangladesh Krishi Bank	29	0.9	49.1	58.1
Janata	57	2.6	149.9	152.5
Rupali	73	3.9	308.0	311.9
Sonali	39	2.0	71.6	73.6
Philippines				
Government Banks incl. PNB	7[c/]	4.2	8.6	12.8
Government Banks excl. PNB	7	17.6	9.6	27.2
Private Banks				
Commercial Banks	10	1.6	12.4	14.0
Rural Banks	23	5.4	34.5	39.9
Honduras				
Government Dev. Bank	35	10.0	64.6	74.6
Private Comm. Bank	5	3.4	6.0	9.4
Dominican Republic				
Government Dev. Bank[d/]	28	8.8	46.2	55.0
Niger				
Government Dev. Bank	18	9.5	26.2	35.7

Sources: Same as Table 2.

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TABLE 3

Footnotes

a/ Computed using the formula

$$r = (d/(1-d))(1+a+f)$$

where, r is the risk premium
d is the default rate (assumed equal to the past-due ratio here)
a is the loan administration cost
f is the opportunity cost of funds, assumed 10% for all cases.

b/ Past-due ratios as of June 1985, taken from annual reports.

c/ Past-due ratio corresponds to the Philippine National Bank (PNB) and the Development Bank of the Philippines (DBP) taken together. The ratios for the Land Bank of the Philippines and separate ratios for PNB and DBP are nor reported in the TBAC study.

d/ Only most recent study considered for this table.

(column 1) and calculates the risk premia associated with them assuming a homogeneous opportunity cost of funds of 10% (column 3)[5]. Column 4 in Table 3 indicates the total agricultural lending costs resulting from this exercise, excluding the interest paid on deposits and borrowings and the transaction costs of mobilizing these funds.

The use of past-due ratios needs to be taken with caution. The usual way of computing these ratios, i.e. overdue balances over total loans outstanding, may bias the comparison across banks if the term structure of their loan portfolio is substantially different. Furthermore, the larger the share of long-term loans not yet due in the portfolio, the larger the downward bias in the measured past-due ratio.

With the foregoing caveats in mind, the last column of Table 3 provides a rough comparison across banks and countries that encompasses both transaction costs of lending and loan recovery performance. Past-due ratios of Bangladesh banks, and consequently total non-interest costs, appear visibly higher than almost all other banks included in the cross-country comparison. According to the figures reported in Table 3, Agrani, Janata, and Rupali belong to the highest cost category. The Agricultural Development Bank of Honduras, the Agricultural Bank of the Dominican Republic, as well as BKB and Sonali comprise a second-

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[5] Note that past-due ratios are assumed to be the relevant indicator of effective loan default. This may over-estimate effective loan losses in some cases, and the degree of over-estimation may also be different across case studies.

highest costs category. Government banks in the Philippines (excluding the PNB), along with Philippine Rural Banks, and the government agricultural bank of Niger fall into an intermediate cost category. Finally, private commercial banks (in the Philippines and in Honduras) belong to the lowest cost group.

Perhaps the most important implication of the foregoing discussion is the need to pay close attention to the measurement and reporting of loan recovery performance. The comparison exercise presented in Table 3 highlights the incidence of default rates in building a comprehensive performance indicator for banks' lending activities. An important component of the observed differences across banks and countries may be precisely a different definition of past-due ratios, and a different correlation of this measure with effective loan default losses (see note 5).

On the other hand, the low cost of loan administration found in Bangladesh banks before considering the risk premia associated with loan default may indicate an insufficient amount of resources allocated to loan recovery. Hence, loan administration expenses appear low in the books, whereas effective lending costs are strikingly high due to poor recovery performance. It would be interesting to gather information on the amounts provided for bad debts in the accounting records of the banks in question, and contrast these against effective loan losses over time.

CONCLUDING REMARKS

The comparison of lending costs in Bangladesh banks against the findings obtained in selected case studies in other countries highlighted the importance of considering loan recovery as an integral part of an overall indicator of lending performance. Furthermore, the analysis emphasizes the need to appropriately measure loan delinquency, and to reflect the expected loan default losses in the accounting provisions of the institutions.

All Bangladesh banks appear among the institutions with the lowest lending costs, before considering the risk premia associated with loan delinquency. However, after adding risk premia to the cost calculations, Bangladesh banks show the highest lending costs in the group of banks under analysis. Both measures may be misleading in assessing the lending performance of these banks. The former, excluding risk costs, is misleadingly low because it reflects insufficient resources being used in the lending process, specifically in loan recovery and most likely in loan evaluation. The indicator that includes risk premia could also be deceptive to the extent that past-due ratios may greatly exceed the effective loan default rates experienced in Bangladesh banks, thus resulting in an over-estimation of total non-interest costs inclusive of risk premia.

Why is it that total lending costs, inclusive of risk costs, do not receive more attention from bank managers and policy-makers? Evidently, as underlined above, the explanation relies upon the distinction between the explicit nature of effective

bank expenses (i.e., cash outlays), which do not include imputed costs due to expected loan default, and the economic concept of bank costs which does consider the opportunity cost of loan losses. While, in the short run, the management may be primarily concerned with covering operational expenses, in the medium to long term the neglect of loan recovery procedures as well as inadequate accounting provisions for loan default inevitably result in substantial bank bail-outs and reorganizations.

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