I. INTRODUCTION

Commercial banks dominated the financial system in Barbados during the colonial period and today remain the most important financial institutions, mobilizing the greatest proportion of domestic savings and being the largest lenders. At the end of December 1990, commercial banks had an 67.3% share of total deposit liabilities at deposit-taking institutions\(^1\) and their loans represented 56.6% of credit extended by the major financial institutions.\(^2\)

The portfolio behaviour of banks and the form of bank lending to firms in a bank-based system of finance have important implications for the performance of individual firms and the system as a whole. The provision of loan finance (and on favourable terms) to firms, by reducing capital shortages, prevents distortions in their production choices and profitable investment opportunities from being foregone [Tybout, 1983].\(^3\) This in turn increases the economy's long-term growth.


\(^1\) The deposit-taking institutions are commercial banks, trust companies, finance companies, credit unions and life insurance companies.

\(^2\) These include the deposit-taking institutions plus the Barbados Development Bank, general insurance companies and the Barbados Mortgage Finance Corporation.


There is a growing body of empirical work which supports the contention that the ability of firms to obtain external finance influences their investment activity. See, for example, Morgan [1991], Hoshi et al [1991] and Whited [1992].
The provision of bank loans to firms depends crucially on the amount of information banks have or can acquire about the quality of firms' management and their investment projects. This point was highlighted in an influential paper by Stiglitz and Weiss [1981] who demonstrated that asymmetric information between banks and borrowers may result in a credit rationing equilibrium. The Stiglitz and Weiss result is based on the adverse selection and moral hazard effects which make lending at high interest rates unprofitable for the banks.

Studies on the financing of investment in industrialized countries have emphasized that asymmetric information in the credit market also influences the type of loan contract offered by banks. Corbett [1987], for example, argues that the close involvement of Japanese banks with companies, achieved through bank participation in equity finance and having representation on company supervisory boards, reduces the extent of information asymmetry between banks and borrowers, so that bank loans are available on more favourable terms than in the U.S.⁴

This paper details the practices of the Barbadian banking system. Information on the practices of banks was obtained through an interview survey of senior banking executives conducted by the author in 1991 and official financial data published by the Central Bank of Barbados. Evidence will be presented which suggests that imperfect or asymmetric information in the credit market affects the behaviour of Barbadian banks. Using evidence provided by Corbett [1987] on the operation of the Japanese banking system we argue that the ability of Barbadian banks, at present, to reduce the problems of asymmetric information between lenders and borrowers, so improving the terms of bank loans and allowing more borrowing from banks to occur is limited.

The remainder of the paper is organised as follows: in Section II we present evidence on the sources of investment financing for Barbadian non-financial firms; Section III examines the operation of the Barbadian banking system and compares it with the Japanese case as outlined in Corbett [1987]; Section IV then discusses credit allocation and the nature of credit rationing in the Barbadian banking market; concluding remarks are in the final section.

II. BANKS AS A SOURCE OF FINANCE

Table 1 records the financing of investment activities of selected Barbadian corporations over the period 1984-1991. The sample of companies for which financial data are available is dominated by those companies listed on the

⁴ See also Edwards and Fischer [1991a, 1991b].
Securities Exchange of Barbados. The sampled companies are major contributors to employment, income, investment and tax revenue in the economy. Between 1984-1986 the companies accounted for about half of the corporation tax paid and a third of expenditure on fixed assets by the private sector [Emtage, 1991]. Internally generated funds, on average, are the largest source of finance of investment activities. Loan finance is the next most important source of finance over the review period. Most firm debt in Barbados takes the form of bank loans; for example, bank loans accounted for about 95 percent of loan finance to firms in 1989.\(^5\) The other external source of finance - share issues - has made a limited contribution to the financing of investment activities of the corporate sector. Thus the evidence reported in Table 1, though based on a somewhat restrictive sample, indicates the importance of banks in the funding of investment activities of the Barbadian corporate sector.

There is also a dearth of published and unpublished information on the financial structure of small non-financial enterprises in Barbados. However, preliminary results of a survey of twenty-six small businesses conducted in 1988 [Henry, 1990] give some indication of the importance of bank loans as a source of finance for small businesses. The sample includes enterprises which are at least five years old and a small business is defined as a business which satisfies at least two of the following criteria: (i) employs at most 50 employees; (ii) earns, on average, a level of profits which does not exceed half a million U.S. dollars per annum; and (iii) makes an average level of annual sales of at most one million U.S. dollars.\(^6\) The debt ratio -ratio of total debt of the enterprise to its total capitalization - for these enterprises was 44 percent. Sectorally, agriculture had a relatively higher debt ratio than the other sectors: the debt ratio for agricultural enterprises was 66.6 percent compared with 49.6 and 33.3 percent for commercial and industrial enterprises, respectively. "Indeed, enterprises in the agricultural sector may be more encumbered with debt because they are frequently exposed to the ravages of uncontrollable factors, such as the weather, disease and macroeconomic vicissitudes" [Henry, 1990: 19].


\(^6\) This is a statistical or quantitative definition of 'small' business which is employed in practice when it is necessary to analytically concentrate on 'small' as against 'medium' or 'large' businesses. However, in analytical economic theory 'smallness' is usually defined in terms of lack of power, that is, the inability to control or influence market outcomes. For a further discussion of this point, see Harper [1984] and Downes [1988].
III. HOW THE BARBADIAN BANKING SYSTEM OPERATES

This section details the operation of the Barbadian banking system and compares it with the Japanese system as outlined in Corbett [1987]. Since the main focus of the paper is the lending behaviour of banks we concentrate on the following areas: screening, loan decision process, monitoring activities and handling problem loans. Information on the operation of the Barbadian banking system was obtained via an interview survey of bank personnel conducted by the author in 1991 and financial data published by the Central Bank of Barbados. The survey covered six of the seven commercial banks operating at the time of interviewing - Barclays Bank, Royal Bank of Canada, Canadian Imperial Bank of Commerce, Bank of Credit and Commerce International and the Barbados National Bank - and the Barbados Development Bank. A structured questionnaire was used which is included in the Appendix, although interviewees were encouraged to discuss issues of particular interest, even if tangential.

i) Screening

In the theory of bank lending screening has as an important role to play. The ability to accurately screen projects (and firm's management) makes it possible to avoid bad loans [Broecker, 1990] and to remove some forms of market imperfections such as credit rationing which can arise from imperfect information [Bester, 1985, 1987]. Of central importance in the screening function is access to sources of information.

The main sources of published information include: (a) Performance documents prepared by Ernst and Young (chartered accountants) which provide an annual financial summary of the larger companies; (b) Information on the tourist industry contained in the Caribbean Tourism Organisation reports; (c) Central Bank reports which provide information on sectoral performance and broad economic forecasts; (d) Newspapers.

These sources of information in Barbados are few, when compared to other countries. For example, Corbett notes that Japanese banks also benefit from quarterly company accounts of all companies listed on the stock exchange which are submitted to the Ministry of Finance and made publicly available; published profiles of companies (e.g. the Japan Companies Handbook) provided by the large securities houses; credit rating companies; and special companies providing both an electronic databank based on company accounts and individual company analyses.

The method of handling the published information and ways of collecting other information varies in some respect between types of lending institutions. The Barbados National Bank (BNB) has an economic databank and along with
the Barbados Development Bank (BDB) possess units actively engaged in research on investment prospects and market activity. In contrast, the dominant foreign-owned commercial banks are not equipped with economic research units; rather they rely on their special knowledge of particular sectors and, to a limited extent, on published sources of information. Also emerging from the interviews was that the commercial banks' staff generally lack effective training in project evaluation and implementation which limit their ability to evaluate proposals on the basis of sound economic and financial criteria, particularly those related to highly innovative and non-traditional areas in non-sugar agriculture and manufacturing.

Before a loan relationship is established an evaluation form is completed giving information on the company's line of business, the purpose of the loan, what collateral and guarantees are available, and a detailed section on the internal situation of the company. The latter typically covers management (their history and experience etc.), business details (who are the chief customers and suppliers), other bank relationship (who is the principal bank etc.) and financial details (company performance for the more recent past and ability to service debt are important). Various bank officers sign the form giving their assessment and judgement as to whether a relationship should be established. The forms are then forwarded to the relevant decision-making authority.

These are the screening procedures typically followed by banks granting a short-term loan which is likely to be used for general working capital by the firm. Banks providing longer-term loans follow essentially similar screening procedures but may also require a detailed feasibility study for the project. The BDB calculates projected returns to the project and usually advises the client on improvements or alternatives to the proposal. The BNB also provides advice on clients' proposals through its recently established Business Advisory Unit. These cases are the only evidence of direct bank intervention or influence over managerial decisions in the normal course of business (but see the discussion below of problem cases).

Guidelines for credit assessment are clearly set out in a loan manual. These guidelines would be familiar to banks in other countries, with some minor differences in the types of financial ratios that are calculated to judge the current health of the business. In Barbados banks typically place emphasis on financial ratios that are closely linked to an assessment of default risk, for example, liquidity, debt-equity and net profitability ratios. In the case of Japan, however, Corbett [1987] notes that banks are not typically concerned about debt-equity ratios. In addition to gross profitability on sales which is considered the chief source of debt payments, Japanese banks are concerned about the total value of the firms' assets. "The implication of this seems to be that the value of

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7 Edwards and Fischer [1991a] observed a similar feature with banks in Germany.
the firm as a going concern is more important than ratios which in other
countries would be seen as more closely linked to an assessment of default risk" [Corbett: 37].

Conclusion on Screening

Barbadian banks utilize published and internally-generated information in
the screening process. However, the dominant foreign-owned banks do not
possess units actively engaged in research on investment prospects and market
activity, nor the relevant technical expertise capable of assessing the riskiness
of lending especially well. This limits their ability to pursue imaginative and
flexible policies to bring about sectoral (industrial) shifts in the employment of
their resources.

ii) Loans: Conditions and Decision Process

The groundwork on the evaluation of proposals is usually undertaken by the
branch managers who are empowered to make loans up to a certain limit.
Proposals outside the branch manager's limit are forwarded with a recom-
mandation to the local Loans Supervision Committee (in the case of foreign
banks) or the Credit Administration Division (in the case of the BNB). Substantial loan requests are referred to the overseas head offices or in the case
of the BNB, to the bank's Board which comprises members chosen by the
Minister of Finance. A similar hierarchical structure for loans approval exists
at the BDB (see Table 2).

One conclusion that emerged very clearly from the interviews with banks
was that banks do not use interest rates alone to allocate credit but resort to
other means. Additional conditions of the loan contract and other considera-
tions, which are used to offset risk, are examined below.

1. Maturity. The main form of commercial bank lending is short term.
Loans with a maturity of less than one year accounted for 70.1 per cent of
commercial bank credit to domestic enterprises in 1980.8 The corresponding
figure in 1990 was 65.7 percent. Of these short-term loans overdrafts are
Nevertheless, commercial banks together with the BDB do provide a fair
amount of long-term credit. Table 3 shows that the ratio of loans with a
maturity of more than five years to total loans increased from 10.5 percent in
1973 to 40.4 percent in 1985, before falling to 30.8 percent in 1990. This
stands in marked contrast to the U.S. where long-term lending is very much the

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exception rather than the rule. Of loans surveyed in the Federal Reserve System of the Terms of Bank Lending in February 1986 only 19 percent had a maturity of more than one year. In Japan the comparable figure is nearly 40 percent [Corbett, 1987], and in Germany 57.1 percent of loans in 1989 had a maturity of more than four years [Edwards and Fischer, 1991(a)]. Thus, while Barbadian maturities are long relative to those in the U.S. they are by no means exceptional when compared with other countries.

What does the evidence on the maturity structure of bank loans tell us about the willingness (and ability) of banks to bear risks? In general a shortening of maturity would be expected if firms get into difficulty. Indeed, the interviews with bankers did suggest that this is a practice of Barbadian banks but the aggregate data of Table 3 shows the general lengthening of maturity of loans until 1985. Because the lengthening of the maturity of bank loans occurred during distinct periods of economic decline (most notably 1973-75 and 1980-1983) one might be tempted to conclude that the term composition of bank lending is not very sensitive to risk factors. However, we argue that the aggregate data do not tell the true story about the banks’ willingness (and ability) to bear risk. An analysis of the maturity structure of loans to different types of customers or projects will give a clearer picture of the extent to which risk factors affect the term composition of lending. The most disaggregated data on the maturity structure of bank lending published in Barbados are at the sectoral level. Table 4 shows the maturity structure of commercial bank loans to selected sector. Because loans from the BDB usually have a maturity of more than five years and the BDB is mandated to provide loans for particular projects we exclude BDB loans in the construction of Table 4. The Table indicates that despite the fact that manufacturing investments require longer term finance, about 70 percent of the loans extended to manufacturing in 1980 had a maturity of less than one year, and in 1990 the figure reached 77.9 percent.

The comparable figures for agriculture were 75.9 and 66.9, respectively. On the other hand the proportion of the loans extended to tourism which are long term has increased significantly, from 11 percent in 1973 to 60.2 percent in 1990. The longer term lending for projects in tourism relative to agriculture and manufacturing reflects the banks’ knowledge of the tourist sector and, as the section below describes, the adequacy of the collateral security. The longer term credit to tourism may also be explained by the dominant foreign-owned banks having some form of commitment to those hotels that are subsidiaries of large multinational corporations. The suggestion here is that the overseas head offices influence the lending decisions of banks because of their involvement with the parent firm of the foreign subsidiaries. The evidence presented in

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9 A more conclusive statement in this context can be made if data on bankruptcy rates were available [see Corbett, 1987].
Table 4 therefore tends to suggest that the term composition of Barbadian commercial bank lending is not insensitive to risk factors.

2. Collateral. Most loans in Barbados are collateralized. The survey evidence indicates that 70 percent of the loans extended by the BNB are collateralized, while about 90 percent and 99 percent of the loans extended by foreign-owned commercial banks and the BDB, respectively are secured by some form of collateral. An overwhelming proportion of the commercial bank loans are secured by real estate and mortgages (sometimes up to 90 percent), followed by machinery and equipment, and third party guarantees. Loans are very seldom backed by stocks and bonds because of the lack of a vibrant securities exchange. Over 60 percent of the BDB loans are collateralized against equipment and approximately 35 percent against mortgages. These figures for secured debt in Barbados compare favourably with the U.S. where the Interagency Task Force on Small Business Finance [Glassman and Struck, 1982] finds some form of collateral securing almost 80 percent of the dollar volume of large and small business loans from all sources, while the National Federation of Independent Business [1983] reports collateral securing 78 percent of the total volume of small business loans. In Japan however Corbett [1987] reports that around 60 percent of loans in 1985 were collateralized.

How can we explain the considerable emphasis placed on collateral by banks in Barbados relative to banks in Japan? A number of explanations have been advanced in the literature for the widespread use of collateral in banking, some of which lend themselves to empirical verification based on our survey evidence. First, offering contracts which feature collateral is a response to the problems caused by asymmetric or imperfect information in the credit market. When a lender has less information and lower assessment (than the borrower) of a project's value, collateral can be used as an information acquisition device because it allows borrowers to signal their creditworthiness to the lender [Chan and Kanatas, 1985; Bester, 1985, 1987]. In this view, the considerable use of collateral is indicative of the intensity of information asymmetries in the credit market and the banks' inability to obtain the requisite information about borrowers (and their projects) via other direct methods.

Second, government intervention in the financial market may also influence the use of collateral security. Usury ceilings on interest rates prevent banks from raising rates to levels necessary to compensate them for the information acquisition costs and risks accompanying lending to some borrowers. To the extent that these ceilings are binding and effective, banks will restrict lending

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10 For a review of theories explaining the existence of secured debt, see Schwartz [1981] and Leeth and Scott [1989].
11 The use of collateral has also been explained by primary default risk in a symmetric information world [Neuberger, 1991].
to those borrowers with adequate collateral security [McKinnon, 1973; Shaw 1973]. Hence, credit controls should increase the incidence of secured debt by preventing the interest rate adjustment necessary to keep lenders indifferent between a secured and an unsecured loan [Scott, 1979].

Third, the use of collateral increases as the possibility of default increases [Scott, 1977]. Thus, characteristics associated with the likelihood of nonpayment, such as relatively inexperienced management, high leverage, great business risk, long time to maturity, or depressed economic conditions, should be associated with the use of secured debt.

Fourth, the widespread use of collateral is a market response to the costs of enforcing debt contracts [Benjamin, 1978]. Once a loan is issued borrowers can increase shareholder wealth (and reduce creditor wealth) by engaging in asset substitution, that is, by substituting high-risk projects for low-risk projects.¹² Loan covenants which specify carefully the firm's investment decisions would prevent asset substitution. However, such covenants are expensive to monitor since they require fairly continuous assessment of the firm's activities. A collateral provision offers a way to limit asset substitution which is not as expensive to monitor as alternative forms of loan covenants. A collateral provision reduces the cost of enforcing loan contracts by permitting a lender to foreclose on specified assets if the borrower violates any loan agreements. In turn, this reduces monitoring costs because it raises the probability that a lender will enforce the loan contract and so lowers the probability that a borrower will violate the contract. A collateral provision also directly limits some aspects of claim dilution because it ensures the creditor title to pledged assets at bankruptcy, assuming that priority interest can be strictly enforced [Leeth and Scott, 1989].

The high incidence of secured debt in Barbados can be best explained by the intensity of informational asymmetries in the credit market. Because the information bases of the dominant foreign-owned banks are not very extensive and banks generally do not have the technical expertise capable of assessing risk especially well and, as the later section describes, their monitoring programmes are not very detailed (compared with Japanese banks) banks in Barbados rely heavily on collateral security as an information acquisition device and a means of protection against lending risks. Schwartz [1981] suggested that short-term creditors will rely heavily on the relatively cheap and effective reputation effect, while long-term creditors will favour more expensive bonding mechanisms such as collateral provisions. This occurs because the wealth transfer (from creditors to shareholders) through asset substitution on short-term debt is relatively small, whereas the reputation cost (higher future

¹² See Jensen and Meckling [1976].
interest rates or even denial of future funding) is relatively large. However, the Barbadian evidence indicates that the short-term creditors emphasize adequate collateral security which suggests that short-term lending to firms in Barbados has less to do with the reputation consideration and more with risk considerations. This reinforces our point about the importance of information asymmetry in the Barbadian banking market.

Determining the extent to which government control on interest rates in Barbados influences the use of collateral in commercial banking is difficult in the absence of data on the terms of loans applied to different types of customers or projects. In Barbados the Central Bank sets the average loan rate for commercial bank loans, and the rates on loans from the BDB are fixed within loan categories (see Appendix). The prime lending rate at commercial banks is usually about 1 - 1.5 percentage points below the rate set by the Central Bank. Given that during the recent interviews with commercial bankers there was a general consensus that an interest rate policy is not an effective way of controlling risk (suggesting that the removal of interest rate controls will not necessarily lead to increases in interest rates), we can argue that the high incidence of secured debt cannot be significantly explained by interest rate controls. Even in the case of the BDB which provides mainly longer-term loans for riskier projects in industry and small business, it is difficult to conclude that the high incidence of secured debt results from the implicit subsidization of loans by fixing interest rates at levels which do not reflect the riskiness of the loans and the scarcity of capital. The considerable use of collateral might simply result from the fact that the loans have longer maturities (and hence the probability of default is high) independent of the actual interest rates charged. Further, the lack of an effective monitoring and control mechanism, as will be discussed later, which reduces the ability of the BDB to cope effectively with informational asymmetry problems might be the primary reason for the bank relying so heavily on collateral provisions.

3. Other Conditions. Debt covenants and compensating balances are other conditions of the loan contract which might be used to offset risk. As mentioned above, debt covenants which specify in detail the firm's investment decisions would prevent (ex post) asset substitution. Brealey and Myers [1982] also suggest that debt covenants are ways for creditors to ensure that conflicts of interest between creditors and shareholders are reduced in the event of default. Covenants used by banks in Barbados are included in the "letter of offer" or "letter of undertaking" and restrict (a) capital expenditures, (b) loans to shareholders and (c) dividend payments. However, because covenants impose monitoring and enforcement costs (which might be substantial) they assume

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13 For a further discussion of this point, see Goodhart [1989, Ch. 7].
limited importance. Another conclusion emerging from the interviews with bankers was that private commercial banks place no real emphasis on the holding of compensating balances as a means of offsetting individual increases in risk (an increase in collateral requirement is the more preferred option). On the other hand, the BNB places emphasis on compensating balances which are viewed as first rate security. The holding of deposits (compensating balances) reduces the size of net loans but so long as the net position is still large further collateral will be required against the net balance [Corbett, 1987].

Incentive considerations also weigh heavily in the banks’ decision-making process; customers who are able to provide the bank with more ancillary income-earning business, for example, additional income from collections, letters of credit, foreign exchange transactions, in addition to information on important economic developments, are usually assured credit and on better terms. As Zepirin [1981: 41] notes, "the interest rate charged on loans may be a function of the other business which the borrower brings to the bank, rather than a result of the relative productivity of the particular project to be funded [see also Harris, 1973, 1974]. Banks also favour loans which provide a "dovetailing" of their customers. The term "dovetailing of bank customers" is used to describe a situation in which the bank extends a loan to a customer primarily because the customer is closely attached to one or more of its established customers; for example, a small maintenance firm is offered finance because of its strong linkage to a large hotel chain.

Conclusion on Conditions and Decision Process of Loans

Barbadian banks rely heavily on non-price features of the loan contract (collateral etc.) and incentive considerations to allocate credit. The considerable use of collateral in banking is indicative of the intensity of information asymmetries in the credit market and the banks' inability to obtain the requisite information about borrowers (and their projects) via other direct methods. The conditions used by banks to offset risk have important implications for the type of proposals favoured for bank finance. The discussion of the distribution of bank lending is considered in the final section where we undertake a comparative analysis of models of credit rationing for Barbados and Japan.

iii) Monitoring

The ability of banks to monitor clients' performance is important in many respects. First, monitoring mitigates information and incentive problems in the capital market [Diamond, 1984, 1991]. Equally obvious, but less often mentioned, is the importance of monitoring in an implicit contract relationship
where there are no legal constraints on behaviour. Second, monitoring allows debt contracts to be renegotiated before shareholders are forced into suboptimal strategies [Myers, 1977]. In Barbados (and other LDCs) the role of monitoring is also to inform about the quality of management which is an essential function banks must perform in the absence of credit rating agencies and lack of an active acquisition market.

This subsection highlights the difference in the extent and closeness of monitoring carried out by Barbadian and Japanese banks. We argue that the more active monitoring by Japanese banks allows them to cope more effectively with the agency problems of the asymmetric information type which cause difficulty for the provision of finance to firms.

Monitoring activities of Barbadian banks are marked by regular (formal and informal) visiting (and telephone contact) between banks and clients and by reviews of clients' accounts. When loans are made at the branch level the lending officer assumes responsibility for their performance. For larger loans regular monitoring is carried out by the Loans Supervision Department and/or the Corporate Banking Division of the local head office (in the case of foreign-owned banks) and the Credit Administration Department of the head office (in the case of government banks). The banking officers check the payments position of clients on a monthly basis. Officers make initial contacts with clients after a lapse of just one monthly payment. Loans with repayments outstanding for 90 days or more are considered non-performing or non-productive and it is at this stage that banks consider remedial action.

The clients' accounts, covering at least the financial ratios initially provided in the evaluation form, are inspected annually or more often when the company performance reveals this to be necessary. Between large clients and banks there may be other contacts which are not explicitly related to the loan contract. Private banks in particular reported regular contacts with their largest clients to exchange views on general matters of mutual interest (such as macroeconomic developments, interest rate movements etc.). An official also noted that his bank (Barclays) obtains information about the business environment through contacts with the various bodies which organize the business community, notably the Barbados Manufacturers Association, Barbados Chamber of Commerce and the Barbados Employers Confederation.

In the main the monitoring activities of Barbadian banks are routine rather than continuous or detailed. Barbadian banks, unlike banks in Japan, do not

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14 The idea of parties engaging in implicit contractual arrangements has been used extensively in banking market analysis [Fried and Howitt, 1980; Osano and Tsutsui, 1985] and labour market analysis [Azariadis, 1975; Hart, 1983].

15 Regular visits (and telephone contact) are more characteristic of the foreign privately-owned banks.
acquire equity positions in companies nor do they have representation on company supervisory boards. Because Japanese banks have large financial stakes in their clients they have stronger incentives to monitor these firms, thereby reducing information and incentive problems. Also, representation on company boards facilitates information flows between banks and firms which reduces the extent of information asymmetry between the two parties. Corbett [1987] also notes that at the junior level there are regular secondments of personnel between banks and large firms (and government ministries) in Japan. Though the primary purpose of these exchanges (at the junior level) is training rather than specific monitoring, the general familiarity with business and bank practice which is created adds to the skills required for both screening and monitoring.

Another characteristic feature of the relationship between banks and firms in Japan is the existence of "main" or "house" banks, whereby individual companies use one large bank (which is usually a stockholder of the company) which provides most of their financial requirements, acts as lead bank wherever syndicated loans and other facilities are provided, and closely monitors the business affairs of the respective company. If the company suffers a financial setback, the main bank assumes a major organising role in coordinating both other creditors and shareholders in the financial rescue strategies. It is therefore argued that one of the essential functions of monitoring by main banks in Japan is to enable the restructuring of the firm's liabilities without having to rely on the coordinating role of the bankruptcy courts [Suzuki and Wright, 1985; Sheard, 1989]. In this sense, as noted by Corbett [1987], the American concept of conflict of interest between lenders and shareholders is ameliorated in the Japanese case.

Though the existence of "house" or "main" banks, as described above, is not a feature of the relationship between banks and firms in Barbados, a number of banks did report during the recent interviews that they like to assume the role of the chief (or sole) provider of funds to firms. Such a strategy has advantages for the bank, with respect to better control of clients and unshared benefits from clients' use of its varied services; and for the clients in terms of reduced fees because of economies of scale from consolidation of accounts.

The analysis thus indicates that there exists some difference in the extent and closeness of monitoring carried out by Barbadian and Japanese banks. In addition to the routine checks of clients' performance through visits and reviews of financial statements Japanese banks also benefit from informational flows through close involvement with their clients. As mentioned above, the fact that the monitoring programmes of Barbadian banks are not extensive (compared to Japanese banks) may partly explain the higher incidence of secured debt in Barbadian banking.
Monitoring and control of borrowers by government banks in Barbados is also affected by the heavy involvement of the political directorate in their daily operations. With constant political interference, banking officers don't have the incentives to do a good job in selecting projects and monitoring loans. The lack of an effective monitoring and control mechanism was stressed in a recent discussion with a senior official of the BDB: "the rapid expansion of bank lending since 1977 was unaccompanied by an efficient monitoring process, partly due to staff shortages, with the result being a sizable non-performing loans portfolio which has undermined the financial strength of the bank... the bank is only now coming to grips with proper monitoring". Similarly, an official at the BNB remarked during a recent interview, "the bank-firm relationship is pretty weak; the relationship between bank and firm personnel is close only at application and review stages, and in the interim periods contact is almost non-existent".

iv) Reaction to Problem Loans

The paper has described the type of contract involved in lending and how it is monitored and suggested (based on evidence from the interviews) that the risks of high gearing in Barbados are compensated by pricing and the use of traditional remedies (collateral, maturity structure etc.). We now focus on how banks behave towards firms in financial distress.

Though no quantitative evidence is available on the course of action taken by Barbadian banks against firms in financial crisis some tentative conclusions can be drawn from the qualitative evidence obtained during the recent interviews with banks. Once a problem loan has been identified banks may undertake any of the following actions: (i) attempt to increase the collateral or security of the loan; (ii) give advice to and attempt to influence management; (iii) cancel loans and attempt to obtain repayments; and (iv) attempt a financial rescue package.

A conclusion that emerged very clearly from the interviews was that banks cancel loans and seek repayments only in cases of firms in extreme financial difficulty. However, this does not necessarily mean that banks are very supportive of firms in financial distress in that they invariably provide rescue finance. A low incidence of loan cancellation may be more indicative of the well-secured position of banks (and the ability of ailing firms to provide additional collateral) or the ability of banks to influence management's decisions concerning the future direction of the firm, for example, banks may persuade management to scale down the size of the firm's operation.

We should note however that the well-secured position of Barbadian banks and the ability of banks to influence management may have a favourable effect on their attitude to rescue attempts. Decisions about rescue attempts depend on
a number of other factors, such as the market position of the firm, willingness of other outside investors of the firm to cooperate and submission by the firm of a recovery plan including details of rationalisation and cost cutting measures. The bank may participate in the drawing up of this plan but firms usually employ the services of professional accountants and management consultants. In the case of government banks, financial rescue attempts may reflect the fact that loan decisions are often based on non-economic criteria, such as encouraging the growth of small indigenous enterprises, saving jobs, regional development, foreign exchange generation etc.

There are however some features of Barbadian banking which might reduce the banks' willingness to mount rescue operations. First, banks are not equipped with specialist departments which deal with problem loans. Second, in contrast to Japan, Barbadian banks do not usually get involved in the reorganization of the management structure of firms who get into financial difficulty, nor do they possess any specialist at turning struggling companies around.

*Conclusion on Problem Loans*

The lack of empirical evidence on Barbadian bank behaviour towards firms in financial distress has prevented us from making conclusive statements about the extent and form of banks' support for firms experiencing financial difficulty. However, banks reported during the interviews that their general policy towards firms in financial distress is not to cancel the loan and seek early repayments. Because the existence of "house" or "main" banks is not a feature of the relationship between banks and firms in Barbados, we believe that the typical response of banks to a financial crisis at a firm to which they had lent does not involve a great element of risk sharing, that is, banks do not typically mount rescue attempts.

**IV. THE NATURE OF CREDIT RATIONING IN THE BARBADIAN BANKING MARKET**

The Barbadian credit market is characterised by credit rationing. The foregoing discussion indicates that credit rationing in Barbados can be usefully explained by the Stiglitz-Weiss "equilibrium rationing" model which emphasizes the influence of imperfect or asymmetric information on bank behaviour.\(^\text{16}\) Stiglitz and Weiss discussed two separate effects. First, suppose that the bank cannot distinguish sufficiently between the risk characteristics of

\(^{16}\text{For a recent survey of the theoretical literature on credit rationing, see Jaffee and Stiglitz [1990] and Zephirin [1990, Ch. 7].}\)
the borrowers. The interest rate charged may then become a sorting device among borrowers. High risk borrowers may be willing to pay higher interest rates because they perceive their probability of repaying the loan to be low. As a result the average riskiness of a pool of loan applicants may become an increasing function of the interest rate charged by banks (adverse selection effect). Second, suppose the bank has no control over the riskiness of the project undertaken by borrowers. There might be no incentive on the part of the borrowers to avoid default risk. Higher interest rates encourage borrowers to undertake riskier, but higher return, projects because this choice maximizes their net expected payoff (moral hazard effect). Both adverse selection and moral hazard make lending at high interest rates unprofitable for the banks. There may therefore be a bank-optimal rate (interior maximum) at which the banks' expected return is maximized. If at this 'optimal' interest rate the demand for loans exceeds supply of funds, a rationing equilibrium is obtained. The Stiglitz-Weiss analysis suggests that even without effective ceilings on interest rates banks would not be prepared to charge very high (market clearing) rates of interest to reflect the true risk and scarcity of capital.

Informational asymmetry problems, which are common to financial markets, are especially important in Barbados where the information bases of the dominant foreign-owned commercial banks are not very extensive and banks lack the technical expertise to enable them to assess the riskiness of lending especially well. Further, the monitoring activities carried out by banks are routine and not detailed. As a result banks place considerable emphasis on collateral security as a way of obtaining information about the creditworthiness of borrowers and a means of protection against lending risk. However, in Barbados (and other LDCs) where collateralizable wealth is limited, strict adherence to collateral screening (by banks) and not actively pursuing other direct ways of obtaining information and controlling behaviour will result in significant rationing of funds, both by exclusion and by loan size.

An analysis of the sectoral allocation of bank credit gives some indication of the influence of asymmetric information on bank lending behaviour. Consistent with the arguments developed in the paper we expect that activities (sectors) about which banks have little information (and hence attach a high risk) and for which adequate collateral security are unavailable will be the most likely candidates for rationing of bank funds.

Table 5 indicates there has been a significant reduction in the share of commercial bank credit going to agriculture; from 11.5 percent for the period 1966-1970 to just 2.6 percent for the 1986-1990 period. When one considers that a significant proportion of the credit extended to agriculture is provided by the BNB through its Agricultural Division, we get a clear indication of the private banks' reluctance to provide agricultural loans. Banks identified a high level of risk in lending to non-sugar agriculture. These risks resulted from the
incidence of perishability of food crops, marketing problems and the higher administrative costs of small loans to farmers. Other factors accounting for the low priority accorded to agriculture by commercial banks include the failure of small farmers to maintain proper financial records and their inability, especially those involved in livestock production, to provide the type of collateral security requested by banks.

The Barbadian economy is characterised by a high degree of import dependence and openness. The ratio of retained imports to gross domestic product rose from 64.6 percent in 1960 to 79.6 percent in 1970, before falling to 42.4 percent in 1989. As a result the large domestic business is concentrated in distribution. Thus as Table 5 indicates the distribution sector about which banks have considerable knowledge has been a traditionally favoured sector for bank credit.

The Barbadian economy has become more diversified since the 1960s with manufacturing and tourism becoming important growth centres. The structural transformation of the economy is reflected in the increasing shares of credit to the manufacturing and tourism sectors, especially between 1976 and 1985 (Table 5). Much of the credit to these sectors is extended to firms which are partially owned by multinational companies or subsidiaries of distribution-based holding companies, that is, firms associated with large established companies which provide the banks with "big" business [Zephirin, 1990]. Conversely small-scale, more innovative and essentially riskier manufacturers are usually rationed in the private credit market.

An analysis of the sectoral distribution of credit also indicates that a sizable proportion of credit is extended to the personal sector. Personal loans, like loans to the distribution sector, are considered relatively safe loans and are secured by, for example, mainly real estate and mortgages, third party guarantees and the consumer durable for which credit is granted. However, despite the fact that short- and medium-term loans to the personal and distribution sectors are important categories for the profit-maximizing institutions, they may impose a constraint on the growth process especially since these sectors are large net users of foreign exchange. As Howard [1989: 112] notes "to the extent that the strong lending to consumers for the purchase of imported durables constituted a cost to the economy in terms of foreign exchange, we contend that this is one area in which banks can be accused of allocative inefficiency".

The model of credit rationing applicable to the Japanese banking market differs somewhat to the Barbadian case. Because one of the principal attributes of the "house" or "main" banks, which characterise the relationship between

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17 See Howard [1989].
18 Source: Central bank of Barbados, *Annual Statistical Digest*, various issues.
banks and firms in Japan, is their ability to acquire and provide superior information one would expect a reduction in the Stiglitz-Weiss type credit rationing. The fact that "main" banks lend considerable capital and, as discussed in Sheard [1989], are very supportive of firms in financial distress (and take an active role in organising rescues) suggests that a more appropriate model to analyze Japanese bank behaviour is one which emphasizes the banks' function in risk sharing. The "implicit contract" or "good customer relations" model is one such model.

The implicit contract model asserts that credit rationing exists as part of an equilibrium risk-sharing arrangement between a bank and its customers. Corbett [1987] considers a model in which Japanese banks agree to implicit contracts to underwrite the business risks of clients in exchange for longer term expected gains when business recovers.\footnote{For an empirical test of the implicit contract model in the Japanese loan market, see Osano and Tsutsui [1985].} In Corbett's model firms will be willing to pay prices which generate high returns (for the bank) in normal business conditions in order to be assured access to credit in periods of business downturns, while banks will be willing to charge lower (than market) rates when firms are in difficulty in order to hold on to good customers in normal business conditions. The result of this arrangement is that contracted loan rates will be smoothed over the firms' performance cycle compared with the short-term profit maximizing outcome, and banks will forego profits in business downturns but gain in normal business conditions.\footnote{Corbett [1987: 52] with added emphasis.} This dampening of the movements in interest rates opens up the possibility of non-price rationing [Fried and Howitt, 1980]. The "good customer relations" model offers a plausible explanation for the observation that banks have a tendency to ration least heavily those customers with the longest standing relationships.

V. CONCLUSION

This paper provided a description and assessment of the practices of Barbadian banks. Section II showed that bank finance in Barbados has been an important source of finance for investment by non-financial enterprises over the period 1984-1991. Sections III and IV of the paper considered the lending behaviour of Barbadian banks and suggested that, compared to the Japanese case, the inability of Barbadian banks to cope effectively with informational asymmetries in the credit market inhibits their capabilities to provide loans with favourable terms and for certain kinds of desirable investments. The analysis thus indicates that improved informational channels and staff training, and
acquiring the services of project appraisal and investment specialists are essential if Barbadian banks are to improve the terms of their loans and increase the volume of firm loans.

APPENDIX

How the Barbadian Banking System Operates

The primary purpose of the survey was not statistical, but rather, to ascertain a more practical knowledge of the practices of Barbadian banks.

The questionnaire and summary of responses not detailed in the text follow:

A. Questionnaire

Screening

1. What are the main sources of published information and to what extent are they used in the screening process?
2. Do you have an economic research or economic intelligence unit engaged in research of the firms’ markets and various investment prospects?
3. Are there standardized criteria of creditworthiness? If yes, could you give details of the manual used for credit assessment.
4. To what extent are you guided by government proposals and the policies pursued by government-related financial institutions, for example, the Barbados Development Bank?

Loans: Conditions and Decision Process

5. Who decides on the loans?
6. What percentage of loans are unsecured? For secured loans, what percentage are secured by (a) real estate and mortgages; (b) stocks and bonds; (c) third party guarantees; and (d) other assets?
7. How important are covenants and compensating balances in your approach to managing risk?
8. Do you consider the interest rate policy an effective way of controlling risk?
9. How are the terms of the loan agreed?
10. Discuss the decision process for revolving loans.
11. Explain the performance assessment of loan officers.
12. Could you provide information on: (a) Sectoral allocation of bank loans (b) Maturity structure of bank loans (c) Interest rate structure of bank loans (d) The percentage of loans provided as 'main bank' loans

Monitoring and Ongoing Bank-Customer Relationship

13. Discuss the monitoring activities of your bank.
14. What is the extent of your bank's involvement in company planning and decision making?

Reaction to Problem Loans

15. Explain the decision criteria for rescue operations.
16. Discuss the bank's role in rescue operations and the alternative actions.

B. Summary of Selected Responses

Screening

4. The decisions of private banks are not (significantly) influenced by the direction of government's economic policy or the policies pursued by government-related financial institutions. What is of primary importance is the internal standards of creditworthiness set by the banks and their knowledge of certain sectors/activities. The policies of the Barbados National Bank (BNB) and Barbados Development Bank (BDB), as expected, are strongly influenced by the direction of government's economic policy.

Loans: Conditions and Decision Process

12. The rates of interest on BDB loans are as follows: 11.5% for most projects; in the case of minibuses, hire cares and taxis the interest rate is 13%; special rates are in place for the Fisheries sector - 7.5% for day boats and 9.5% for ice boats; a special rate of 11% also applies to microbusiness.

Data on the price of commercial bank loans to different types of customers or projects are unavailable. However, the Table below shows the interest rate structure of total commercial bank loans.
TABLE 1. SOURCES OF FINANCE OF INVESTMENT SELECTED CORPORATIONS:1 1984-1991

<table>
<thead>
<tr>
<th>Year</th>
<th>Internal Financing</th>
<th>External Loans</th>
<th>Financing Share Issue</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984</td>
<td>45.8</td>
<td>53.6</td>
<td>0.6</td>
<td>54.2</td>
</tr>
<tr>
<td>1985</td>
<td>35.3</td>
<td>55.1</td>
<td>9.62</td>
<td>64.7</td>
</tr>
<tr>
<td>1986</td>
<td>70.5</td>
<td>29.2</td>
<td>0.3</td>
<td>29.5</td>
</tr>
<tr>
<td>1987</td>
<td>66.3</td>
<td>27.6</td>
<td>6.1</td>
<td>33.7</td>
</tr>
<tr>
<td>1988</td>
<td>66.4</td>
<td>33.2</td>
<td>0.4</td>
<td>33.6</td>
</tr>
<tr>
<td>1989</td>
<td>79.1</td>
<td>18.9</td>
<td>2.0</td>
<td>20.9</td>
</tr>
<tr>
<td>1990</td>
<td>57.1</td>
<td>42.5</td>
<td>0.4</td>
<td>42.9</td>
</tr>
<tr>
<td>1991</td>
<td>40.4</td>
<td>57.5</td>
<td>2.1</td>
<td>59.6</td>
</tr>
</tbody>
</table>

Notes: 1 Sample includes general trading, older manufacturing and processing companies, and public utilities.  
2 This figure mainly reflects a $36 million share issue by Barbados External Telecommunications (BET) when the company went public in 1985.  
Source: Ernst and Young, *Performance*, various issues.

TABLE 2. AUTHORITY STRUCTURE OF LOAN APPROVAL

<table>
<thead>
<tr>
<th>Limit (BDS$)</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 50,000</td>
<td>Department Manager</td>
</tr>
<tr>
<td>up to 75,000</td>
<td>Deputy General Manager</td>
</tr>
<tr>
<td>up to 150,000</td>
<td>Managing Director</td>
</tr>
<tr>
<td>over 150,000 to 300,000</td>
<td>Staff Loans Committee</td>
</tr>
<tr>
<td>over 300,000</td>
<td>Board</td>
</tr>
</tbody>
</table>

Note: All loans are ratified by the Staff Loans Committee (SLC) and the Board. The SLC comprises the managers of the various departments of the bank, and the Board comprises members appointed by the Minister of Finance.  
Source: Barbados Development Bank.
TABLE 3. MATURITY STRUCTURE OF BARBADIAN BANK LENDING

<table>
<thead>
<tr>
<th>Year</th>
<th>Short-term</th>
<th>Medium-term</th>
<th>Long-term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973</td>
<td>73.3</td>
<td>16.2</td>
<td>10.5</td>
</tr>
<tr>
<td>1974</td>
<td>71.6</td>
<td>15.9</td>
<td>12.5</td>
</tr>
<tr>
<td>1975</td>
<td>71.6</td>
<td>13.7</td>
<td>14.7</td>
</tr>
<tr>
<td>1976</td>
<td>67.5</td>
<td>16.6</td>
<td>15.9</td>
</tr>
<tr>
<td>1977</td>
<td>66.9</td>
<td>14.4</td>
<td>18.7</td>
</tr>
<tr>
<td>1978</td>
<td>69.0</td>
<td>11.0</td>
<td>20.0</td>
</tr>
<tr>
<td>1979</td>
<td>67.0</td>
<td>9.5</td>
<td>23.5</td>
</tr>
<tr>
<td>1980</td>
<td>66.1</td>
<td>9.1</td>
<td>24.8</td>
</tr>
<tr>
<td>1981</td>
<td>61.3</td>
<td>9.7</td>
<td>29.0</td>
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<tr>
<td>1982</td>
<td>58.0</td>
<td>10.1</td>
<td>31.9</td>
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<tr>
<td>1983</td>
<td>56.1</td>
<td>9.7</td>
<td>34.2</td>
</tr>
<tr>
<td>1984</td>
<td>53.0</td>
<td>9.9</td>
<td>37.1</td>
</tr>
<tr>
<td>1985</td>
<td>50.6</td>
<td>9.0</td>
<td>40.4</td>
</tr>
<tr>
<td>1986</td>
<td>51.9</td>
<td>8.8</td>
<td>39.3</td>
</tr>
<tr>
<td>1987</td>
<td>54.9</td>
<td>8.9</td>
<td>36.2</td>
</tr>
<tr>
<td>1988</td>
<td>55.7</td>
<td>10.3</td>
<td>33.9</td>
</tr>
<tr>
<td>1989</td>
<td>59.5</td>
<td>10.4</td>
<td>30.1</td>
</tr>
<tr>
<td>1990</td>
<td>59.8</td>
<td>9.4</td>
<td>30.8</td>
</tr>
</tbody>
</table>

Note: Short-term refers to loans with an original maturity of less than one year, medium-term to loans with an original maturity of between one and five years, and long-term to loans with an original maturity of more than five years.

Table 4

Maturity Structure of Commercial Bank Loan by Sectors

(percent)

<table>
<thead>
<tr>
<th></th>
<th>1973</th>
<th></th>
<th></th>
<th>1980</th>
<th></th>
<th></th>
<th>1990</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(i)</td>
<td>(ii)</td>
<td>(iii)</td>
<td>(i)</td>
<td>(ii)</td>
<td>(iii)</td>
<td>(i)</td>
<td>(ii)</td>
<td>(iii)</td>
</tr>
<tr>
<td>Agriculture</td>
<td>90.2</td>
<td>9.8</td>
<td>4.5</td>
<td>75.9</td>
<td>12.1</td>
<td>12.0</td>
<td>66.9</td>
<td>12.7</td>
<td>20.4</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>75.0</td>
<td>20.5</td>
<td>4.5</td>
<td>70.2</td>
<td>6.0</td>
<td>23.8</td>
<td>77.9</td>
<td>6.1</td>
<td>16.0</td>
</tr>
<tr>
<td>Distribution</td>
<td>84.4</td>
<td>7.0</td>
<td>8.6</td>
<td>87.4</td>
<td>6.1</td>
<td>6.5</td>
<td>73.8</td>
<td>7.1</td>
<td>19.1</td>
</tr>
<tr>
<td>Tourism</td>
<td>70.5</td>
<td>18.5</td>
<td>11.0</td>
<td>43.3</td>
<td>11.6</td>
<td>45.1</td>
<td>35.3</td>
<td>4.5</td>
<td>60.2</td>
</tr>
<tr>
<td>Public Utilities</td>
<td>100.0</td>
<td></td>
<td></td>
<td>89.3</td>
<td>10.7</td>
<td></td>
<td>60.1</td>
<td></td>
<td>39.9</td>
</tr>
<tr>
<td>Construction</td>
<td>40.4</td>
<td>33.5</td>
<td>26.1</td>
<td>76.9</td>
<td>15.7</td>
<td>8.4</td>
<td>68.6</td>
<td>16.3</td>
<td>15.1</td>
</tr>
<tr>
<td>Professional and Other Services</td>
<td>81.8</td>
<td>13.6</td>
<td>4.6</td>
<td>64.7</td>
<td>14.2</td>
<td>21.1</td>
<td>60.0</td>
<td>20.6</td>
<td>19.4</td>
</tr>
</tbody>
</table>

Note:  (i) refers to loans with an original maturity of less than one year
(ii) refers to loans with an original maturity of between one and five years; and
(iii) refers to loans with an original maturity of more than five years

TABLE 5. SECTORAL DISTRIBUTION OF COMMERCIAL BANK LOANS (percentages)

(Periodic Averages)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>11.5</td>
<td>5.3</td>
<td>3.9</td>
<td>4.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>9.0</td>
<td>8.8</td>
<td>12.0</td>
<td>15.4</td>
<td>12.8</td>
</tr>
<tr>
<td>Distribution</td>
<td>21.0</td>
<td>20.0</td>
<td>16.1</td>
<td>14.0</td>
<td>17.2</td>
</tr>
<tr>
<td>Tourism and Catering</td>
<td>11.7</td>
<td>11.7</td>
<td>12.7</td>
<td>15.1</td>
<td>9.8</td>
</tr>
<tr>
<td>Public</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilities</td>
<td>8.9</td>
<td>4.6</td>
<td>5.8</td>
<td>6.8</td>
<td>4.9</td>
</tr>
<tr>
<td>Construction</td>
<td>7.0</td>
<td>11.9</td>
<td>9.2</td>
<td>4.5</td>
<td>3.8</td>
</tr>
<tr>
<td>Government and Statutory Bodies</td>
<td>2.4</td>
<td>4.5</td>
<td>3.6</td>
<td>1.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Personal</td>
<td>15.6</td>
<td>22.5</td>
<td>26.3</td>
<td>20.1</td>
<td>24.3</td>
</tr>
<tr>
<td>Other</td>
<td>12.9</td>
<td>10.7</td>
<td>10.4</td>
<td>17.9</td>
<td>22.5</td>
</tr>
</tbody>
</table>

Note: The 'Other' sector includes Mining and Quarrying, Transportation, Financial Institutions, Professional and Other Services, and Fisheries.
### TABLE 6. LOAN DISTRIBUTION BY INTEREST RATE

<table>
<thead>
<tr>
<th>Year</th>
<th>&lt;6.75% (BDS $million)</th>
<th>6.75 - 9.75% (BDS $million)</th>
<th>9.75 - 12.75% (BDS $million)</th>
<th>&gt;12.75% (BDS $million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1973</td>
<td>3.5 (1.3)</td>
<td>16.4 (6.2)</td>
<td>162.2 (61.6)</td>
<td>81.3 (30.9)</td>
</tr>
<tr>
<td>1974</td>
<td>5.0 (1.8)</td>
<td>12.5 (4.6)</td>
<td>132.8 (48.5)</td>
<td>123.4 (45.1)</td>
</tr>
<tr>
<td>1975</td>
<td>6.3 (2.1)</td>
<td>57.0 (19.3)</td>
<td>168.9 (57.2)</td>
<td>63.1 (21.4)</td>
</tr>
<tr>
<td>1976</td>
<td>20.0 (6.1)</td>
<td>130.8 (39.7)</td>
<td>113.9 (34.5)</td>
<td>64.8 (19.7)</td>
</tr>
<tr>
<td>1977</td>
<td>19.6 (5.3)</td>
<td>178.0 (47.8)</td>
<td>124.7 (33.5)</td>
<td>49.9 (13.4)</td>
</tr>
<tr>
<td>1978</td>
<td>37.9 (9.6)</td>
<td>142.3 (36.0)</td>
<td>154.5 (39.0)</td>
<td>60.8 (15.4)</td>
</tr>
<tr>
<td>1979</td>
<td>50.2 (10.7)</td>
<td>156.9 (33.4)</td>
<td>184.1 (39.1)</td>
<td>79.1 (16.8)</td>
</tr>
<tr>
<td>1980</td>
<td>33.4 (6.1)</td>
<td>96.6 (17.7)</td>
<td>311.8 (57.0)</td>
<td>104.7 (19.2)</td>
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<td>1981</td>
<td>30.2 (4.7)</td>
<td>37.7 (5.8)</td>
<td>27.2 (4.2)</td>
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<td>1982</td>
<td>6.2 (5.2)</td>
<td>46.6 (6.8)</td>
<td>115.5 (16.7)</td>
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<tr>
<td>1983</td>
<td>34.0 (4.4)</td>
<td>67.2 (8.6)</td>
<td>571.9 (73.7)</td>
<td>103.3 (13.3)</td>
</tr>
<tr>
<td>1984</td>
<td>46.2 (5.7)</td>
<td>66.4 (8.2)</td>
<td>511.9 (63.5)</td>
<td>182.7 (22.6)</td>
</tr>
<tr>
<td>1985</td>
<td>51.7 (6.1)</td>
<td>264.3 (31.1)</td>
<td>496.8 (58.5)</td>
<td>36.2 (4.3)</td>
</tr>
<tr>
<td>1986</td>
<td>52.6 (6.0)</td>
<td>448.2 (50.9)</td>
<td>351.6 (40.0)</td>
<td>27.7 (3.1)</td>
</tr>
<tr>
<td>1987</td>
<td>116.2 (12.1)</td>
<td>406.7 (42.4)</td>
<td>413.9 (43.1)</td>
<td>23.2 (2.4)</td>
</tr>
<tr>
<td>1988</td>
<td>91.2 (8.7)</td>
<td>284.9 (27.2)</td>
<td>651.0 (62.1)</td>
<td>20.5 (2.0)</td>
</tr>
<tr>
<td>1989</td>
<td>54.9 (4.6)</td>
<td>126.7 (10.6)</td>
<td>555.4 (46.3)</td>
<td>461.0 (38.5)</td>
</tr>
<tr>
<td>1990</td>
<td>58.9 (4.7)</td>
<td>194.7 (15.6)</td>
<td>752.1 (60.3)</td>
<td>241.4 (19.4)</td>
</tr>
</tbody>
</table>


Ernst and Young. *Performance*, various issues.


