

**FINANCIAL INTERMEDIATION AND ECONOMIC DEVELOPMENT  
IN BARBADOS: 1946-1990**

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DEVELOPMENT IN BARBADOS: 1946 - 1990**

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**INTRODUCTION**

Recognition of the potential of financial intermediation in advanced economies has enabled new financial institutions to emerge and stimulate growth of the financial sector in excess of that in the real economy. However, in many lesser developed countries the sluggishness of the real economy has been paralleled by weak financial systems. Where formal financial sectors are not entrenched it is often the case that high inflation rates, government controls on the intermediation process and poor supervision of institutions have accounted for the low level of financial assets in the economy.

This paper examines the development of the financial sector in Barbados over the period 1946-1990. Since the end of the second world war, the financial system has undergone significant changes, resulting in increased accessibility to financial institutions and improved mobilization and allocation of resources. The size of the financial sector has expanded in relation to the real economy, while the dominance of commercial banks has receded with the emergence of new instruments and institutions. However, despite these gains in the intermediation process, the financial system remains unsophisticated by international standards. In particular, the stock and bond markets are still in the embryonic stage of development and offer only a limited range of investment opportunities.

The paper is divided into four sections, with Section I examining issues in the theoretical literature on the relationship between financial structure and economic development. Section II reviews the institutional development of the Barbadian financial sector while Section III provides empirical evidence on the interrelationship between real and financial sector development in Barbados and on the financial repression hypothesis. This section also discusses the current evidence on the causal relationship between financial and real development in Barbados. Concluding remarks are in the final section.

## II. FINANCIAL STRUCTURE AND ECONOMIC DEVELOPMENT

In his pioneering study Goldsmith (1969) identifies the financial structure and development as important influences on economic growth. However, Goldsmith's thesis has not been universally accepted, with some economists contending that the development of financial institutions is neither necessary nor sufficient for growth in developing economies. This negative view is associated with the studies of Gurley (1967a,b) who states his skepticism about the prominence attached to financial development as distinct from the other institutional choices a country makes to advance growth. In particular, Gurley argues that some countries have realized growth in the past through other methods including foreign savings, central planning and fiscal measures. However, while these alternative techniques may prove feasible in a country's comprehensive aggregate planning approach, Gurley (1967a) accepts that the development of financial institutions flourishes when there is a decentralization of decision-making, specialization of savings

and investment, and heavy emphasis on external rather than internal financing of investment.

The negative view of the contribution of financial institutions and markets may also be discussed in the context of "short-termism". That is, arguments which link the financial environment, or the structure of corporate finance to problems of long-term strategies comprise the following proportions: In market-based financial systems like the U.K. and U.S.A.: (1) managers must maximize the market value of shareholder's equity because of the power of shareholders to impose sanction (through the possibility of takeovers and/or the dismissal of managers); (2) the market puts too much weight on short-term profits and consistently undervalues investment with a longer-time horizon. The examples commonly cited are research and development spending and training, which, it is claimed, the market regards as reducing current profits; (3) therefore the need to focus on market value inhibits managers' ability to manage, and forces the manager into the pursuit of short-term profit gains at the expense of the longer-term. On the other hand, these concerns are contrasted with a model of Japan and, with modifications, of Germany) where it is observed that: (i) firms are highly leveraged and are particularly dependent on bank lending; (ii) shareholders have relatively little power and hostile takeovers do not occur; and (iii) managers can therefore ignore stock market values and are not forced to sacrifice long-term strategies in order to provide short-term

financial performance. See Corbett (1987), Cosh et al (1990) and Miles (1992) for details.

The more positive view - often described as the development hypothesis or neo-liberal view - of the role of the financial sector is traditionally associated with Schumpeter's (1949) analysis of the theory of economic development, more aptly termed the theory of capitalist economic development. Other proponents of the positive view of the role of the financial institutions include Gerschenkron (1962), Patrick (1966), Cameron (1972), McKinnon (1973), and (1973) and Diamond (1991) to name a few. However, the relative importance of the impact attributed to banks and other financial institutions differ among these authors.

The controversy over the role of financial institutions in economic development is thoroughly discussed in Patrick who delineates the view points as demand following and supply leading finance. When financial institutions are created before the demand for their assets and liabilities is evident, then the financial sector can be classified as taking the 'supply leading' financial development approach<sup>1</sup>. The properties of supply-leading finance are in many ways the exact opposite of those of passive, demand-following financial development. In addition to the few historical instances in which financial institutions have contributed to industrial expansion and economic development, there are theoretical justifications for supply leading finance. The positive growth inducing

aspects of supply-leading financial development are attributed to its allocative efficiency and its encouragement of enterprise. Supply-leading finance transfers resources from the traditional low growth sectors to the modern sectors of an economy with higher growth potential. Such a transfer of resources may be achieved by collecting the savings of the traditional sectors, or through forced savings via new bank credits. The success of resource transfer depends on the assumption that there is a class of entrepreneurs ready to invest in new production techniques, more efficient than the traditional methods of production replaced. Where the entrepreneurship response is not developed, financial institutions can stimulate it.

Supply-leading finance - however, may play a more direct role in the development of the entrepreneurial impulse by extending nonfinancial services to economic units. In some instances banks have directly participated in the promotion and control of industrial and other nonfinancial enterprises. The German banks, the epitome of mixed banking, offered industrial concerns both short-term operating funds and medium to long-term capital, as well as non-financial assistance. The bank managers were said to have participated in the major financial decisions as well as daily operations of industry (see Tilly (1986, 1989)). See also Sheard (1989), Aoki (1990) and Hoshi et al (1990) for a discussion of this aspect in the case of Japan.

Goldsmith (1969) and King and Levine (1992) have demonstrated this relationship using statistical methods but left the causality controversy unresolved. Atje and Jovanovic (1993) studied the correlation between growth and the trading volume of the stock market scaled by GDP and found a large effect on stock markets on subsequent development.<sup>2</sup> King and Levine (1993) used a range of indicators of financial development for 80 countries over the period 1960-1989 and found that the various measures of the level of financial development are strongly correlated with real per capita GDP growth, the rate of physical capital accumulation, and improvements in the efficiency with physical capital. They concluded that the data are consistent with the view that financial development can promote economic growth financial services stimulate economic growth by increasing the rate of capital accumulation and by improving the efficiency with which economies used that capital. Gupta (1984) and Jung (1986) in substantial but less exhaustive studies, used statistical techniques to investigate the direction of causality and found generally that the direction ran from financial to real development, thus suggesting an activist role for the financial sector. Odedokun (1992) findings suggest that supply leading and demand-following relationships occur with approximately the same frequency in the 35 LDCs studied. The causality study of St. Hill (1992) provided empirical evidence consistent with the "stage" theory of banking development which implies that there is a supply-leading pattern among LDCs at a relatively low level of financial development and then a shift to a demand-following once the banking sector has developed.

### IIA.1 : What Determines Financial Development?

If indeed financial intermediation causes growth one would like to know what determines financial development? In both Greenwood and Jovanoic (1990) and Saint Paul (1992)<sup>3</sup> financial intermediation entails real resource costs that are fixed or less than proportional to the volume of funds intermediated: as the economy grows, the individual incentive to participate in financial markets increases, as the benefits increase with the scale of the funds invested while costs rise less - or not at all<sup>4</sup>.

Financial development also depends on public policy. Roubini and Sali - Y - Martin (1992a, b) argue that government may pursue financial repression to raise tax revenues, even while they recognise its detrimental growth effects. Where collecting taxes is costly, the financial sector is a comparatively easy source of government revenue, especially via seignorage. So the government may optimally choose to hinder financial intermediation to raise the demand for money and thus increase the revenue from seignorage.

Public policy may also affect financial development more selectively. For instance, in many countries the markets for consumer credit and mortgage loans have been traditionally repressed in several ways (Japelli and Pagano (1992)). This probably

reflects a public concern to force households to save more and to direct credit towards industrial rather than residential investment.

## IIA.2: How does Financial Development Affects Economic Growth?

To capture the potential effects of financial development on growth the endogenous growth model of Pagano (1993) is utilised. It assumes that aggregate output  $Y_t$  is a linear function of the aggregate capital stock  $K_t$ :

$$Y_t = AK_t \quad (1)$$

For simplicity, assume that the population is stationary and that the economy produces a single good that can be invested or consumed - and, if invested, depreciates at the rate of  $\delta$  per period. Gross investment then equals

$$I_t = K_{t+1} - (1 - \delta) K_t \quad (2)$$

It is convenient to assume that a proportion  $1 - \phi$  of the flow of savings is "lost" in the process of financial intermediation:

$$\phi S_t = I_t \quad (3)$$

From (1), the growth rate at time  $t+1$  is  $g_{t+1} = (Y_{t+1}/Y_t) - 1 = K_{t+1}/K_t - 1$ . Substituting  $K_{t+1}$  from (2) into this last expression and rearranging using (1) gives the steady-state growth rate  $g = AI/Y - S$ . From the capital market equilibrium condition

$$g = A \frac{I}{Y} - \delta = A\phi s - \delta \quad (4)$$

where  $s = S/Y$ .

Equation (4) reveals succinctly how financial development can affect growth: it can raise  $\phi$ , the proportion of saving funnelled to investment; it may increase  $A$ , the social marginal productivity of capital; and it can influence  $s$ , the private saving rate.

a) Funnelling Saving to Firms

In the process of transforming saving into investment, financial intermediaries absorb resources. This lost fraction  $1-\phi$  in the case of banks reflects the spread between lending and borrowing rates, and for securities brokers and dealers represents commissions, and the like. This absorption of resources by the financial sector is primarily a reward for services supplied, but it may also reflect the X-inefficiency of the intermediaries and their market power. In addition, as noted by Roubini and Sala-Y-Martin (1991, 1992), their activity is often burdened by taxation (in the form of high reserve requirements, transaction taxes, etc.) and by restrictive regulations.

translating into higher unit margins.<sup>5</sup> If financial development reduces this leakage of resources, that is, raises  $\phi$  in equation (4), it also increases the growth rate  $g$ .

b) Improving the Allocation of Capital

A second key function of financial intermediation is the allocation of funds to those projects where the marginal product of capital is highest. In the framework of the above model, intermediaries increase the productivity of capital,  $A$ , thereby promoting growth, in two ways: (i) collecting information to evaluate alternative investment projects; (Greenwood and Javonovic (1990)); banks have a comparative advantage in screening and monitoring borrowers to avoid problems of adverse selection and moral hazard which arise in debt contracts (see Davis and Mayer (1992)); and (ii) inducing individuals to invest in riskier but more productive technologies by providing risk sharing (Levine (1991), Saint Paul (1992)).

c) Affecting the Saving Rate

The third way financial development can affect growth is by altering the savings rate  $s$ . In this instance the sign of the relationship is ambiguous, in that financial development may also reduce saving, and thereby growth. As capital markets develop, households gain better insurance against endowment shocks and better diversification of

rate-of-return risk, while consumer credit becomes more readily and cheaply available. Financial development also narrows the wedge between the interest rate paid by firms and that received by households. Each of these factors affects savings behaviour, but in each case the effect is ambiguous.

i) *Household borrowing.* Capital markets also channel funds from households that save to those that dissave, in the form of consumer credit and mortgage loans. If the loan supply falls short of demand, some households are liquidity-constrained: their consumption is limited by current resources, rather than by permanent income.

Using an overlapping generations model with three-period-lived households, Jappelli and Pagano (1992) show that binding liquidity constraints increase the saving rate, because young households cannot dissave as much as they would like. With the technology described by equation (1), this increase in the aggregate saving rate  $s$  translates into faster growth  $g$ . By the same token, liberalisation of the consumer credit or mortgage market leads to a reduction in saving and growth. Here we have another instance of financial market development tending to reduce growth.

Some argue that capital market imperfections, by reducing the availability of credit to certain sectors or segments of the population, namely the unemployed and those with

limited stocks of non-human wealth, may increase aggregate savings via the precautionary motive. (Koskela and Viren (1982,1984) and Deaton (1992)). Saving is increased basically because individuals want to avoid being caught with too low levels of consumption and high (in relative terms) marginal utility of consumption if rationing occurs in the future.

De Gregorio (1992) adds a potentially important qualifier. If households borrow to finance not only current consumption but also the accumulation of human capital, the effect of liquidity constraints on growth is ambiguous; they raise the saving rate  $s$ , but lower the productivity of investment  $A$ , insofar as this depends on the worker skills acquired by investment in education. The relevance of this qualifier depends on the extent to which human capital formation is self-financed by households. In many countries it is subsidised by government via public schooling, student grants and loans, and so on. Moreover, on-the-job training and learning-by-doing - generally regarded as no less important than schooling - may enable workers to acquire skills while bypassing borrowing constraints.<sup>6</sup>

ii) *Interest rate effect.* As noted above, financial repression and lack of competition widen the margins charged by financial intermediaries. Aside from the direct resource cost  $\phi$ , margins affect capital accumulation via their incentive effect on saving. Financial repression and imperfect competition keep the interest rate paid to savers below that

prevailing under perfect capital markets, i.e. the marginal product of capital net of depreciation,  $A - \delta$ .

If the saving rate rises with the rate of interest, then capital market imperfections lower growth by depressing saving. The early studies of McKinnon (1973) and Shaw (1973) argued that this was an important way in which financial repression depresses growth; conversely, financial development should raise saving and growth.<sup>7</sup> However, the impact of the real interest rate on saving has long been known to be ambiguous *a priori* (See Akyuz (1993)), and the relevant empirical studies are far from agreeing on its sign (Gonzalez - See Arrieta (1988)).

### III. INSTITUTIONAL DEVELOPMENT OF THE BARBADIAN FINANCIAL SECTOR

By developing country standards, the Barbadian economy has performed well over the past forty-five years. Size and a limited resource base have left the economy very open and vulnerable to adverse external influences. However, the economy has grown by an estimated 2% per annum, enabling a substantial rise in the standard of living. Initially, this growth was stimulated by foreign investment and a strong export drive in tourism and manufacturing but more recently there has been increased reliance on external borrowings to finance growth in the non-traded sectors (see Table 1).

The domestic financial system has played a significant role in both phases of economic activity. Most economic transactions are monetized and the system has proved to be a relatively efficient conduit of funds between savers and spenders. The institutional network, consisting of a Central Bank, several commercial banks, fledgling stock and bond markets, and a growing complement of non-banks'. These mobilizes adequate levels of resources for the provision of short, medium and long term finance. Financial instruments are of the more basic types found in developed country markets - such as various types of deposit accounts and consumer loans, interest bearing chequing accounts, mortgages, commercial and trade bills, letters of credit and so on which include insurance companies, finance companies, government owned development finance institutions and indigenous credit unions.

Unlike in many developing countries, the system is predominantly private sector owned as Government has limited its direct involvement in the financial sector to a few specialized institutions. In addition, there has been no apparent effort to localize the financial services sector and only in the insurance industry have dominant privately owned indigenous institutions been developed.

The current structure of the financial sector is in direct contrast to that of the pre-1950 period. Up until that time, the financial system, represented largely by foreign commercial banks, served mainly as a store of savings and a source of short term

working capital for the agricultural and mercantile community. Now there is a more varied institutional network providing more opportunities for investment and for capital accumulation outside of traditional sectors. Table 2 indicates this significant reduction in the share of commercial bank credit going to traditional sectors like agriculture over the period 1966-1990.

The transition from a small underdeveloped system to its current level of sophistication has been chronicled in several existing studies on institutional aspects of financial sector developments in Barbados. Of these, Worrell and Prescod (1983) and Haynes (1991) studies provide the most comprehensive review of trends in the sector. The authors present a broad view of the financial landscape by incorporating a discussion on the contribution of the emerging non-bank sector, a subject which, despite the pioneering work on non-bank intermediaries in the Caribbean by Odle (1972, 1974), has been generally ignored in writings on Barbados.

The other major surveys are provided by Wood (1992) and Howard (1989). However, while they recognize the growing importance of the non-bank sector, their subsequent analyses are conducted in terms of the role of commercial banks in mobilizing and allocating resources in the economy. The value of Howard's work lies in its pragmatic interpretation of the concept of social efficiency in Caribbean type economies. In particular, Howard's argument that lending to traditional sectors can be considered as

socially efficient represents an important departure from the previously held view defined by Thomas (1965) and McClean (1975) in their writings on Guyana and Barbados respectively in the pre-Central Bank era.

Part of the critique of the Thomas-McClean thesis is that commercial bank decisions were based on the Caribbean islands as profit centres. Howard (1981) and Howard and Haynes (1992), who examine this view directly by looking at the operating efficiency and profitability of commercial banks, found that foreign owned banks have been able to maintain relatively high profits despite rising operating costs and the regulatory influence of the Central Bank. These observations underscore the significant costs to the economy of financial intermediation under imperfect capital markets.

The remainder of this section provides a review of selected developments in the Barbadian financial sector.

#### i) Diversification of the Financial Sector

Tables 3 and 4 show that commercial banks still remain the dominant form of financial institutions, a reflection of their historic role in the financial system and the variety of services which they provide. At present there are seven banks operating a forty-three branch network (see Table 5). While banks remain the main institutions for

deposit funds, nonbanks are playing an increasingly larger role in the system. In addition to deposit sources, government has tapped the National Insurance Scheme and various domestic and external loans to finance the activities of the Barbados Development Bank (BDB) and the Barbados Mortgage Finance Company (BMFC). The low cost resources of the Central Bank have also been used to help finance the agricultural division of the BNB.

Although Financial institutions were established in Barbados in 1830s institutional diversification has only taken root in the last ten to fifteen years. The level of development of the economy and the distribution of wealth probably mitigated against faster expansion in the 1850-1960 period but as the economy took off in the 1960s, the financial system became more varied. The commercial banks extended their branch network while competition was heightened by the arrival of two American banks and the introduction of consumer instalment credit. New institutions providing mortgage finance and the government owned Barbados Development Bank also came on stream but did not make a significant impact during the period.

Initially, the financial sector became more concentrated as increased accessibility to commercial bank credit, particularly consumer installment loans, diminished the role of the Savings Bank. Its deposit base shrunk by almost 15% and its share of deposits fell from almost one third to less than 9% of overall deposits by the end of the decade. Of

note is that the structure of deposits at banks underwent significant change, with the share of demand deposits declining from almost 50% to 25% (see Table 6). McClean (1975) attributes this shift to successful marketing by commercial banks for household savings.

During the 1970s commercial banks continued to dominate the intermediation process, but there was an emerging role for the public and private non-bank institutions. The trust companies, which are extensions of the commercial banks began accepting medium term deposits which were orient for mortgages. This represented an important contribution to the intermediation process by improving the opportunities for diversifying the maturity structure of deposit holdings. The presence of the new National Insurance Scheme with resources to invest enhanced the potential of medium-term deposit mobilization. With the Barbados Mortgage Finance Company (BMFC) also making funds available for low and middle income housing, consumer debt began to take on a different profile to its early beginnings.

The 1980s was marked by the entrenchment of the nonbanks in the financial system. While there was no expansion in the range of institutions, non-banks more than doubled their share of deposits, reaching 25% in 1992 in comparison to just over 12% in 1980. Their contribution to loan supply was even more significant, accounting for 43% of all loans compared to 25.7% in 1980 (Table 4).

Several factors account for this expansion in non-bank activity. First, the weakness of the sugar industry finances raised demand for funds from the agricultural division of the Barbados National Bank (BNB-AD) which assumed responsibility for financing the industry, thus relieving commercial banks of the role they had performed in better times.

While the BNB-AD raised its own funds, especially from other government institutions, it relied heavily for additional financing from the Central Bank's discount scheme and its own commercial division. Secondly, the Barbados Development Bank pursued an aggressive lending policy in the early part of the 1980s which led to a quadrupling of its loan portfolio. Later it experienced high levels of delinquency as output in the manufacturing sector contracted. Thirdly, Central Bank regulations on the banking sector encouraged the growth of non-bank institutions providing consumer oriented lending. While finance companies were unable to significantly penetrate the market, in part because of the failure of one such institution, credit unions expanded rapidly in number, membership and assets. Their growth was facilitated by tax incentives which encouraged membership. In addition, with government allowing 100% interest deductibility, home ownership became more affordable and mortgage lending institutions, including insurance companies, substantially increased their lending.

#### Goldsmith Hypothesis

One of the major findings of Goldsmith (1969) in his comprehensive study on the theory of financial structure was that economic development is associated with a declining

share of banks and an increasing share of non-banking financial institutions in relation to both the assets of all financial institutions as well as total financial assets. In Barbados, the share of commercial banks in the total assets of the financial system declined steadily from 75% for the period 1969-1972 to 49% during the 1980s (Table 7). At the same time, the share of non-banking financial institutions increased from 9.9% in the period 1965-1968 to its highest level of 36% between 1985 and 1990. The share of insurance companies in the total assets of the financial system showed a decline during the early 1970s but rose steadily since 1976, reaching a level of 10.4% for the period 1985 - 1990 (Table 7).

The results are not altogether surprising since commercial banks, being the first most important branch of financial intermediation, would necessarily decline in relative importance as other intermediaries come into existence. Part of the commercial banks' decline is attributable to non-market forces, in particular, the growth of government intermediation.

The relative decline of commercial banks may have certain economic consequences. Firstly, monetary policy might be less effective because the medium through which it works, the commercial banking system, is decreasing relative to national income. For example, the fact that financial regulations do not extend to the operations of credit unions in Barbados has allowed their members to escape the hire purchase and credit

restrictions formerly imposed by the Central Bank particularly for the purchase of major consumer durables, with possible deleterious economic consequences. This situation, along with the desire to provide a level playing field for all financial institutions and avoid financial bankruptcies as happened in case of the finance company 'Trade Confirmers', prompted the Central Bank to consider including credit unions with other financial institutions under a new Financial Institutions Act (see Cherebin (1993)). Secondly, there may be a loss of flexibility in the financial system; that is, diminution of the ability of the system to channel available credit rapidly from one sector of the economy to another in response to changing credit needs.

To illustrate this point consider the following credit model taken from Wood (1992). Let  $D$  be the amount of money economic agents wish to hold as deposits, of which a fraction ( $b$ ) is held with commercial banks and a fraction  $(1-b)$  is held with non-banking financial institutions. We assume that the non-banking financial institutions keep reserves with commercial banks (to fill liquidity needs): If some fraction  $r_2$  of the non-bank deposits are kept with the commercial banks, then  $(1-r_2)(1-b)D$  is the amount of deposits the non-banking institutions have for on-lending. Thus commercial banks hold:  $bD + r_2(1-b)D$  deposits.

Now, assume, as in the case of Barbados, that there is a reserve requirement for banks, but none for non-banking institutions. If  $r_1$  is the required reserve ratio, then

$r_1[bD + r_2(1-b)D]$  is the amount of reserves held with the Central Bank and commercial banks have  $(1-r_1)[bD + r_2(1-b)D]$  for on-lending. Thus, the total amount for on-lending (of banks and non-banks) is  $(1-r_1)[bD + r_2(1-b)D] + (1-r_2)(1-b)D = mD$  where  $m$  is the credit multiplier. Manipulation of this last equation yields the following expression for the credit multiplier

$$M = \frac{1}{r_1[1-(1-r_2)(1-b)]} \quad (5)$$

If  $b = 1$ , that is, there are no deposits held with the non-banking financial institutions, then the credit multiplier reduces to the reciprocal of the required reserve ratio,  $1/r_1$ . However, if  $b < 1$ , the identified case of deposits held with non-banking institutions, then the multiplier increases. The results from the credit multiplier model indicate that if the non-bank financial institutions are not required to hold reserve with the Central Bank, then their reserves have a greater impact on the overall credit expansion process, with the consequential effect of thwarting monetary controls which are usually directed at the banking system.

The relative decline in the size of commercial banks in Barbados does not necessarily mean that they have declined in economic importance. Crude indicators of their economic importance are the ratio of their assets to national income and the ratio

of loans and advances to national income. The results presented in Table 7 indicate that commercial banks reached the highest level of economic importance during the period 1969 to 1972, a period of intense competition in the banking industry. The results also indicate a steady increase in economic importance of non-banking institutions; the ratio of non-banks' assets to gross domestic product increased from 24.9% for the period 1973-76 to 50.3% during the final period of analysis. Further, the ratio of the assets of insurance companies to national income increased during the last decade, reaching a level of 14.5% for the period 1985-1990.

#### ii) Role of Government

Although the financial sector is predominantly privately owned, Government has played an important role in financial sector developments. In the first instance, government institutions have been strategically established to enhance the role of supply oriented finance. Of these the most successful enterprise appears to have been the Insurance Corporation of Barbados, a general insurance company which has, despite increased competition, carved out a significant market share and remained profitable.

In contrast, government lending institutions have been less successful. The BDB was established to meet demand in areas and to persons who it was felt traditional banks would not lend. The rationale for this type of credit rationing is that such individuals lack

adequate collateral or that they are unable to evaluate the viability of non-traditional projects (see Zephirin (1990) and Wood (1993a) for a detailed discussion). However, many of the projects financed by the BDB have been undercapitalized and unable to withstand the shocks of the 1980s. The experience underscores the view that successful entrepreneurial development in non-traditional areas requires much more input than pure financial resources. Institutions like development banks can play a critical role but the chances of sustained growth depend critically on how they manage the high level of risk which they face. The monitoring role identified in our earlier discussion is particularly important where risks are high and portfolios are not adequately diversified. Moreover, as Wood (1993a) states "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".

The other major intervention of government was in its establishment of the Barbados National Bank (BNB) with its commercial, trust, and agricultural divisions. The BMFC is also a subsidiary of the BNB. The commercial division has played a significant role in financing government enterprises and in providing working capital for small manufacturing companies. While Coppin and Codrington (1988) suggests that the BNB's loans to these entities represent an important contribution to the development process, there is concern about the efficiency of the intermediary process when resources are

diverted to enterprises which contribute little to output or whose inefficiency places a contingent liability on the public purse.

Government's other major contribution to the financial system has been due to its supply of government paper as an alternative financial asset for the private sector. With three month treasury bills only coming on stream in the early 1960s and with limited issues of longer term debentures, there was few alternative investment opportunities prior to 1970. However, the establishment of the Central Bank in the 1970s saw a rise in these securities and, in fact, enabled the government to extract resources from the banking system and thus incur large fiscal deficits.

While the availability of non-deposit financial instruments is often associated with vibrant money and bond markets in more advanced economies, the market in Barbados remains relatively thin. A number of factors are responsible for this. First, while treasury bill rates are determined by auction, the mandatory requirement that commercial banks often maintain a large segment of treasury bills in their portfolio has often served to depress the rate. Secondly, longer term debentures may be seen as an alternative to mortgages by some institutions but they do not appear to rank high in institutional portfolios. Additionally, until recently there were no opportunities to trade government paper which, apart from the shorter treasury bills were of maturities exceeding ten years.

The introduction of three to five year treasury notes has helped diversify the menu but trading remains limited.

From their modest beginnings of approximately 10% of GDP in 1960, claims issued by government now account for 32% of GDP (Table 8). As indicated, a significant portion of these claims are held by commercial banks as part of their mandatory holdings, thus diverting funds that might have previously been onlent to the private sector. However, the high levels of excess liquidity which has been common in the banking system suggests that this constraint has not always been binding. The National Insurance Scheme (NIS) with its large accumulated surplus has also been a major purchaser of government paper.

Government has also set up the Securities Exchange of Barbados aimed to improve the efficiency in the trading of securities in order to stimulate growth of new ventures and to reduce reliance by the private sector on the banking system for long-term finance (Johnson (1991)). However, as Wood (1994a) notes the performance of the stock exchange established in 1987 has been lackluster. Trading activity has been low (Table 9), as indicated by the ratio of turnover to market capitalisation of less than 4%, and there has been little mobilisation of long-term capital (Table 9). Reasons for this slow growth include the unwillingness to dilute family or 'closed circle' ownership and control of business, desire to minimise the public availability of information about company

operations and performances, taxation bias in favour of debt finance, ready availability of relatively cheap commercial bank finance and the ability of some established firms to attract deposits from customers.

### iii) Monetary and Regulatory Control

The Central Bank stands at the apex of the financial system, directing monetary policy and regulating financial institutions. However, this was not always the case as the colonial monetary arrangements which existed before 1972 assigned no regulatory role to the monetary authority.

The Royal Charter which set up the first formal financial institution in 1837 vested the Colonial Bank with the authority to issue its own notes. Interestingly, the Barbados government did not issue its own currency until 1937 and then for a short period only, as the British Caribbean Currency Board (BCCB) was set up in 1951 to take over the currency issuing functions in the Eastern Caribbean. The BCCB and its successor the East Caribbean Currency Authority have been criticized by Thomas (1965) and McClean (1975) for their inflexible arrangements and the dominant role of foreign commercial banks<sup>8</sup>.

Thus the establishment of the Central Bank of Barbados (1972) and the issue of a local currency in 1973 represented principal financial developments during this period. Following on similar decisions in the post independence era by Jamaica, Trinidad & Tobago and Guyana, these innovations represented an attempt to facilitate greater autonomy over the domestic financial system.

The Bank is charged with devising a policy framework to keep the economy on track, and the role of the Central Bank was felt immediately as its establishment coincided with liquidity problems in the banking system, rising inflation and a weakening external position (see Haynes and Holder (1989) and Campbell (1993)). The Bank introduced reserve and securities requirements on banks to cut the supply of loans to the private sector and finance the growing size of fiscal deficits, manipulated interest rates and with the aid of selective credit controls attempted to regulate the flow of credit to consumption oriented sectors. In addition, the scope of exchange controls was extended to cover the sterling area and banks were mandated to seek Central Bank permission before borrowing to onlend in the domestic economy.

By the end of the 1970s, the Central Bank was diverting 25% of bank deposits away from lending to the private sector (Table 10). In addition, the Bank manipulated interest rates to curb domestic demand, support the balance of payments and reduce the opportunities for collusion by foreign banks. In real terms, interest rates were negative

during high inflation periods but a high interest rate strategy was ruled out on the grounds that it would destroy the productive sectors without mobilizing additional resources as suggested by the theoretical literature.

The interest rates issue (to be discussed in detail in the next section) has been reviewed by a number of researchers including Howard (1976), Zephirin (1983; 1984, 1990), Worrell and Prescod (1983), Haynes and Holder (1989), Craigwell (1990), Craigwell and Wood (1994), Ferreira (1993) and Campbell (1993). The consensus among these authors was that the regulation of interest rates did not impair the mobilization of savings nor the performance of the economy. Instead the view was held that high interest rates are inflationary (Downes (1985)) and contribute nothing to stabilization. However, there is emerging sentiment that wide differentials between foreign and domestic interest rates do constrain deposit mobilisation and contribute to a weakening of the balance of payments (see, for example, Haynes and Worrell 1989)). However, inadequate attention has been paid to the destabilizing effect of exchange rate speculation on deposit growth.

Although the new Financial Intermediaries Regulatory Act (FIR Act) gives the Central Bank increased regulatory and supervisory powers over commercial banks and allows for regulation and licensing of trust and finance companies, merchant banks and deposit taking commercial houses, the regulatory framework in general has not kept pace

with developments in the financial sector. In this context, the decision of the Bank not to set reserve requirements for non-banks represents a glaring example. This places undue burden on banks at a time when non-banks are assuming a greater role in the economy. In addition, some institutions may be registered under the Companies Act without regard to their capacity to serve as financial institutions. The credit union movement remains outside the regulatory control of the Bank even though it has greater potential than other regulated institutions to undermine the Bank's objectives. Supervision of credit unions and insurance companies are restricted to the submission and review of periodic returns. BDB is not supervised by any agency except so far as its audited accounts are submitted to Parliament. For the most of this review period, the Rate of Interest Act remains on the statute book for some institutions even though adherence to it would severely constrain competitive forces in the financial sector. A review of the FIR - Act is given in Cherebin (1993). Early attention on the state of prudential and supervisory aspects of the regulatory regime can be found in Johnson and Springer (1978) and Williams (1989, 1991).

#### **IV. EVIDENCE ON THE BARBADIAN EXPERIENCE**

This section examines the mobilization and allocation of resources and provides a review of the empirical evidence on the relationship between financial development and

real growth. The evidence on the all important hypothesis of financial repression is also quantitatively examined.

i) Savings Mobilization and Resource Allocation

The Barbadian financial system has traditionally been an effective mobilizer of resources. By 1950 the financial system was already attracting almost 61% of GDP in deposits (Table 3). This level of mobilization despite the traditional nature of the economy and the absence of a wide range of formal deposit taking institutions reflected an already impressive level of monetization in the agriculture based economy and a strong savings ethic. The low interest rates (Table 10) and the high portion of demand deposits in total savings (see Table 6) suggest deposits were used to facilitate transactions demand and as a store of value during this period. The Savings Bank could only pay 3% on deposits while commercial Banks also faced restrictions on the size of deposits on which interest could be paid, necessitating adjustments over the years to reflect the growth of savings.

Interestingly, the data suggests a very low level of currency holdings by the Barbadian public which, if true, would run counter to conventional thinking on the nature of financial savings during the primitive stages of economic development. However, it must be recalled that the common use of currencies between the islands almost certainly meant that the circulation was severely understated.

By the end of the decade (1950) the savings process had weakened, falling to just over 50% of GDP. Despite the decentralization of its operations by Barclays and the entry of the Bank of Nova Scotia in the second half of the decade, the ravages of Hurricane Janet and economic contraction in 1958 seemed to have stalled the institutional savings process. Commercial banks continued to account for about two-thirds of deposits during this period while the Savings Bank took up almost all of the remainder.

While deposit growth slowed after 1955, there was a marked shift in the extent of bank lending. In 1950, of the deposits mobilized within the domestic economy, only about 40% were loaned out domestically (see Table 4). Instead commercial banks and the Savings Bank invested their balances abroad. However, commercial banks' loan activity increased substantially in the second half of the 1950s when they were over 70% loaned up. After 1957 the Barbados Savings Bank also raised the local investments portion of its portfolio, reaching almost 30% in 1959 when government issued debentures to help finance its capital program.

In the 1960s deposits grew by 12.6% per annum and, perhaps even more critically, banks were by 1969 lending out 80% of their deposits. The booming tourism industry absorbed a significant share of the new lending but equally important was the introduction of consumer installment lending. This helped spur private consumption, deepen the intermediation process and quicken the pace of economic activity. In the 1970s,

economic activity strengthened but the rise in inflation rates may have had a negative impact on financial intermediation. In real terms, there was a decline in deposits, which fell to about 56% of GDP. In the inflationary environment, the currency-deposit ratio was in double digits for the entire period. In addition, the process of extending the branch network slowed and one bank had closed five of its branches by the end of the decade. One of the American banks also ceased operations but given that the other three American banks followed in the 1980s, this may simply reflect the difficulty faced by new banks in penetrating the market.

The high inflation rates continued to have some impact on deposit mobilization during the early 1970s. At the same time, loan demand accelerated to the extent that banks had to borrow to finance consumption. Loan-deposit ratios exceeded 100%, necessitating strong action by the Central Bank in its formative stages. The decline in deposit mobilization may also have been affected by exchange rate uncertainty, but as these fears dwindled and as inflation tapered off, deposit GDP ratio began to rise again. After the slowdown in lending in the mid-1970s the loans extended by the financial system as a share of deposits rose but this is partly attributable to the increasing share of non-banks including those which lend without raising their own deposits.

An important aspect of the financial sector developments is the shifting role of commercial bank lending. In 1970 the traded sectors and construction accounted for 36.6% of commercial bank lending, principally due to a 13% share going to tourism and 6.7% to agriculture (Table 2). However, the importance of the BNB-AD as financial institution of the sugar industry and the retirement of commercial bank debt by foreign based hotels have significantly reduced the share of commercial bank resources going to the sectors. The consumption oriented personal and distributive sectors which accounted for almost 45% of commercial bank credit in 1972 now absorb 39% but the growth of non-banks providing resources which banks used to provide and the fungibility of financial resources are largely responsible for these shifts in their shares. The growth of mortgages at non-bank institutions has rapidly increased the share of consumer debt in the overall loan portfolio of commercial banks.

ii) Relationship Between Economic Growth and Financial Development in Barbados

Does the causal relationship run from financial development to growth, the reverse, or both? If financial development causes growth some justification for the policy of establishing and promoting financial institutions in Barbados is necessary. Wood (1993b) using Hsiao(1979, 1981) version of Granger (1969) causality technique that the future cannot cause the past presents evidence on this causal relationship. He found evidence of a bi-directional causal relationship over the period 1946 - 1990. Wood's tests also

indicate a uni-directional causal flow from economic growth to financial development during the early stages of development (1946 - 1968). The absence of a supply-leading relation in this early period, suggests that the financial sector was not a statistically significant link in the saving-investment process. This observation corroborates the claim of regional commentators (for example, Thomas (1965) and McClean (1975)) that the structure and operation of financial entities in Barbados (and the wider Caribbean) did not promote economic growth during the colonial period.

The results for the second subsample indicate a supply-leading relation as well as a reverse causal relationship from economic growth to financial development. The latter suggests the importance of economic growth in stimulating the development of the Barbadian financial sector while the former indicates that the Barbadian financial sector constituted a leading sector in the transformation process, and confirms the recent finding of Codrington and Coppin (1989), attained through a casual inspection of the evidence, that "there were clear cases where the expansion of the financial sector served to improve the rate of economic growth".

Wood's (1993b) results thus provide no support for the hypothesis established by Patrick (1966) that the direction of causality between financial development and economic growth changes over the course of development. Recall, Patrick (1966) argues that financial development is able to induce real innovation-type investment before sustained

modern economic growth gets underway and "as modern economic growth occurs, the supply-leading impetus gradually becomes less important and the demand-following financial response become dominant".

In Wood's paper the importance of the organised money market is measured by the ratio of assets of all financial institutions to GDP (that is, broad money to GDP) as in Goldsmith (1969). A rise in this ratio (FIR) is an indication that the size of the financial sector has grown more rapidly than the real economy. The movements in the FIR over time are rather slow because the average usually amounts to a negligible percentage of the total value per year. In other words, FIR is a stock measure as it is the accumulation of assets over the years. In the short-run a much more sensitive measure is provided by the ratio of the change in the assets of financial institutions to GDP. This ratio can be taken to be equal to the new issue ratio (NIR) of financial institutions. It has been argued that this ratio is closely related to the extent to which economic activities and economic growth are financed internally and from external sources. The reasoning here is that as more business enterprises, governments and households are able to finance their capital expenditures out of their internal savings, the smaller will be the volume of new issues and hence the smaller the NIR, *ceteris paribus*. The degree of self-financing in turn is closely related to a country's economic and financial structure, especially the degree of separation of saving and investment which is measured by the difference

between the savings of individual economic units and their capital expenditure (Goldsmith (1969)).

The NIR is also used as a measure of the importance of financial institutions within the financial superstructure. Apart from financial institutions, other sectors such as government and private institutions also issue financial instruments. The higher the volume of new issues of financial instruments by institutions in relation to the issues by other sectors, the greater the relative importance of financial institutions in the financial process.

The results of the ratios computed (FIR and NIR) for the period 1946-1990 is summarized in Table 11. The FIR ratio has grown steadily over the period covered by the study.<sup>9</sup> The study thus confirmed that as the country grew, its financial sector has not been left behind. The trend in NIR has not been so predictable as to warrant any definite conclusion. However, the ratios are quite similar to those of other countries.<sup>10</sup> Undertaken the causality tests with NIR as the measure of the organised money markets revealed similar results to those when FIR was the proxy for financial development.

### Financial Repression

The result that financial development causes growth suggest the need to understand what determines financial growth. Foremost is the question of whether real positive deposit rates increase financial savings and consequently the quality and quantity of investment and growth. Dornbusch and Reynoso (1989), Taylor (1983), van Wijnbergen (1983), Craigwell (1993), and Zephirin (1990) have challenged the basic rationale of the hypothesis while empirical tests conducted by Agarwala (1983), Lim (1987), (Khatkhalte (1988) and Gonzalez-Arrieta (1988) have failed to level support to it. However, Lanyi and Saracoglu (1983, a,b), Fry (1988) and Galbis (1989) provide evidence that gives credence to the hypothesis.

In Barbados, characteristics of a financially repressed economy are present, that is, control of interest rates, selective credit controls, directed lending, high reserve requirements, and so on. However, in the last decade or so, the Barbados Government has been pursuing a financial liberalisation strategy. As Wood (1994b) points out the main reason for this change in policy stance is the belief, based on the notion that interventionist financial policies are detrimental to economic prosperity, that liberalisation would promote growth and stability, by stimulating savings and improving overall economic efficiency. This begs the question "Will financial liberalisation work in Barbados?" One of the important assumptions of the theory is that real interest rates have

a major impact on the level of savings. Recent empirical work on the determinants of real private savings in Barbados [Craigwell and Wood (1994)] indicates that, contrary to the basic tenants of financial liberalisation, real interest rates have a negative (and statistically insignificant) impact on savings in both the long run and the short run. In addition, Craigwell (1990), Wood (1990), Modeste (1993) and Ferreira (1993) found that real interest rates do not play an important role in determining financial savings in Barbados. These findings corroborate the earlier works of Worrell and Prescod (1983) Zephirin (1983, 1984), and Howard (1976).

Financial liberalisation theorists also contend that investment is positively related to the rate of interest. Their argument is premised on the hypothesis that higher interest rates attract higher levels of savings, and because profitable investment opportunities abound in less developed countries and financial institutions (especially banks) are in an informational advantageous position, the increase in savings will necessarily stimulate higher levels of investment activity (despite the fact that some low-yielding investment projects will be choked off). Boamah and Holder (1993) recent study found a negative and insignificant relationship between private investment and the real user cost of capital. See also Wood (1992) and Worrell (1993) who confirmed this latter result.

## V. CONCLUSION

This paper examined the development of the financial sector in Barbados. It was found that this sector has undergone significant changes since 1946 seen through the increased accessibility of the populace to new financial institutions and the improved mobilisation and allocation of resources. The financial sector in general has grown in line with gross domestic product and has borne little or no relationship to the high real positive interest rate policy of McKinnon (1973) and Shaw (1973). However, the dominance of commercial banks has receded with the advance of new instruments and non-bank institutions, the growth prompted by favourable government-regulatory and supervisory policies. We also found that by international standards, the stock and bond markets are still in the embryonic stage of development and suggests that more needs to be done to offer a more varied range of investment opportunities.

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**Table 1**

**Economic and Monetary Indicators**

	1950	1960	1970	1980	1990
Population ('000)	209.0	234.0	239.0	249.0	258.0
Per Capital GDP (US\$)	154.0	299.0	669.0	2,979.0	5,746.0
External Debt/GDP <sup>1</sup> (%)	-	10.9	8.3	14.9	31.5
Money/GDP (%) <sup>2</sup>	20.9	20.4	20.9	17.2	20.3

Sources: Barbados Statistical Service Abstract of Statistics 1969  
Central Bank of Barbados Annual Statistical Digest 1993  
World Bank World Tables 1991 edition

Notes: <sup>1</sup> Data excludes unguaranteed private sector debt. In 1990 this debt was approximately 5% of GDP.  
<sup>2</sup> Money is narrow money, that is, currency plus demand deposits

Expansion of Financial Institutions

	1950	1960	1970	1980	1990
Commercial Banks	4	4	6	7	7
Bank Branches	4	6	26	43	43
Non-Banks	3	3	9	11	12

In this Table, non-banks do not include insurance companies.

Source: Research Department, Central Bank of Barbados

Table 3

Sectoral Distribution of Commercial Bank loans (percentages)  
(Periodic Averages)

	1966-1970	1971-1975	1976-1980	1981-1985	1986-1990
Agriculture	11.5	5.3	3.9	4.4	2.6
Manufacturing	9.0	8.8	12.0	15.4	12.8
Distribution	21.0	20.0	16.1	14.0	17.2
Tourism & Catering	11.7	11.7	12.7	15.1	9.8
Public Utilities	8.9	4.6	5.8	6.8	4.9
Construction	7.0	11.9	9.2	4.5	3.8
Government & Statutory Bodies	2.4	4.5	3.6	1.8	2.1
Personal	15.6	22.5	26.3	20.1	24.3
Other	12.9	10.7	10.4	17.9	22.5

Source: The Central Bank of Barbados, Annual Statistical Digest

Note: The "Other" sector includes Mining and Quarrying, Transportation, Financial Institutions, Professional and Other Services, and Fisheries.

**Table 4**

**Monetary Liabilities in Barbados**  
**BDS\$ Million**

	Commercial banks	Friendly Societies/ Credit Unions <sup>1</sup>	Savings Bank	Trust Companies <sup>4</sup>	Finance Companies <sup>4</sup>	SIAB/ BNB-AD	Deposits	Currency	Deposits/GDP	Banks' Deposit Share	Currency/Deposits
1950	22.5	0.2	10.4	-	-	-	33.1	1.3	60.6	65.8	3.8
1955	38.6	0.2	14.7	-	-	-	53.5	4.6	66.9	66.4	7.9
1960	41.0	0.1	19.5	-	-	-	60.6	5.3	50.6	62.2	8.0
1965	71.5	0.4	17.6	-	-	-	89.5	9.1	67.8	72.5	9.2
1970	180.4	0.6	17.8	2.0	-	-	198.8	21.5	62.8	90.8	10.8
1975	359.9	1.4	25.7	19.8	-	-	406.8	39.6	55.6	91.5	10.6
1980	738.1	4.7	-	69.2	12.6	11.1	840.9	101.6	56.7	87.8	12.1
1985	1,090.1	32.0	-	148.2	22.8	39.1	1,332.2	123.5	60.8	81.8	9.3
1990	1,738.6	143.0	-	320.3	40.6	97.7	2,340.2	192.8	78.8	74.2	8.2

1. An insignificant level of double counting is captured in the data.
2. Exclude foreign currency deposits after 1975; before 1975 such balances are insignificant.
3. In the 1950s and 1960s friendly societies were the dominant informal deposit institutions; their deposits were subject to seasonality.
4. Small levels of deposits held on demand by these institutions are excluded.

Source: Statistical Service, Abstract of Statistics  
Central Bank of Barbados, Annual Statistical Digest

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**Table 5**

**Financial Institution Lending**  
**BDS\$ Million**

	Commercial banks	Barbados Development Bank	SIAB/ BNB-AD	Trust Companies	BMFC	Finance Companies	Credit Unions	Total Loans	Loans/Deposits
1950	12.6	-	0.1	-	-	-	-	12.7	38.4
1955	16.6	-	0.4	-	-	-	-	17.0	31.8
1960	39.7	-	0.7	-	-	-	-	40.4	66.7
1965	59.0	-	0.8	-	-	-	-	59.8	66.8
1970	170.0	0.8	1.2	-	1.5	-	0.3	173.8	87.4
1975	293.7	4.1	5.5	13.3	14.0	-	1.0	331.6	81.5
1980	536.1	23.2	40.7	71.5	33.3	12.0	4.1	720.9	85.7
1985	803.1	97.3	119.4	123.5	55.5	20.5	31.0	1,250.3	93.8
1990	1,145.5	94.6	180.7	330.1	90.1	38.1	142.0	2,011.0	85.9

- 1) After 1975 loans to financial institutions excluded to avoid double counting of flows.

Source: Statistical Service, Abstract of Statistics  
Central Bank of Barbados, Annual Statistical Digest

Table 6

Nature of Deposits at Commercial Banks  
(\$ Million)

Year	Demand	Time	Savings	Total
1946	10.3	0.3	7.9	18.5
1950	10.1	3.6	8.9	22.6
1955	14.6	13.7	10.4	38.7
1960	19.1	4.7	17.2	41.0
1965	24.3	16.2	31.1	71.5
1970	48.2	66.2	69.0	180.4
1975	72.1	184.7	123.7	360.6
1980	164.2	230.2	348.1	742.5
1985	253.3	355.8	512.3	1,120.3
1990	446.5	435.5	950.7	1,832.7

Source: Central Bank of Barbados, Annual Statistical Digest, 1993.

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Table 7

Assets of Financial Institutions

\$M

	Monetary Authorities	Commercial Banks	Barbados Savings Bank	Trust Companies	Finance Companies	BMFC	BDB	SIAB/BNB-AD	Local Assets Insurance Companies	NIS	Total
1946	1.5	20.3									21.8
1950	1.3	24.4									25.7
1955	4.6	40.3	14.2								59.1
1960	5.3	51.8	19.3								76.4
1965	12.2	81.1	19.4					1.9			112.7
1970	31.4	240.9	23.9			1.7	1.5	2.0		20.2	321.6
1975	121.0	450.9	36.3	22.5	-	14.7	13.8	6.4	50.7	74.4	789.8
1980	255.1	883.8		78.2	14.7	33.6	43.4	43.0	140.1	181.8	1,673.7
1985	498.9	1,410.2		167.9	34.1	57.3	106.4	126.5	300.8	362.5	3,064.0
1990	641.1	2,180.4		383.4	58.0	94.0	1113.8	177.3	511.0	513.2	4,672.2

Source: Abstract of Statistics, Barbados Statistical Service

Annual Statistical Digest, Central Bank of Barbados

**Table 8**

**Bonds Outstanding**

	Treasury Bills	Debentures/ Treasury Notes	Savings Bonds	Gov't Guaranteed	Total Claims	Claims/GDP
1960	n.a.	12.1	-	-	12.1	10.1
1965	1.5	16.0	-	-	17.5	13.3
1970	6.9	29.0	-	-	35.0	10.9
1975	56.9	82.4	-	-	139.3	19.9
1980	164.2	130.6	-	15.9	310.7	20.9
1985	405.0	154.7	6.9	67.9	634.5	28.6
1990	506.2	341.2	34.6	101.3	983.3	32.0

Source: Central Bank of Barbados, Annual Statistical Digest

**Table 9**

**STOCK MARKET ACTIVITY**  
Transactions Details: June 1987 - December 1992

Period	Number of Transactions	Volume ('000)		Value of All Transactions (BD\$'000)	Closing Index
		Ordinary Shares	Preference Shares		
Jun.-Dec. 1987	453	1,506	31	3,564	1,000.00
Jan.-Dec. 1988	385	1,466	14	4,167	n.a.
Jan.-Dec. 1989	441	2,111	9	6,425	1,268.75
Jan.-Dec. 1990	416	3,728	47	10,143	1,205.95
Jan.-Dec. 1991	634	7,199	8	18,272	1,319.25
Jan.-Dec. 1992	242	1,885	13	4,799	1,099.13

Source: Securities Exchange of Barbados

N.A. Not available

**Table 10**

Interest Rates, Inflation and Reserve Ratios

	1965	1970	1975	1980	1985	1990
Cash Reserve	-	-	6.0	8.0	8.0	8.0
Government Securities	-	-	9.0	17.0	19.0	22.0
Savings Deposit Rate	3.0	4.5	7.0	5.0	4.0	5.5
Bank Rate	-	-	7.5	7.0	13.0	13.5
Treasury Bill Rate	n.a.	7.1	4.0	6.2	4.6	8.1
Inflation	n.a.	7.8	20.3	14.4	3.9	3.1

Source: Central Bank of Barbados, Annual Statistical Digest

**Table 11**

FINANCIAL SECTOR INDICATORS 1947-90

	OBS	FIR	NIR
1947		0.47	-0.07
1950		0.47	0.12
1955		0.80	-0.08
1960		0.63	-0.05
1965		0.71	0.07
1970		1.17	0.08
1975		1.12	0.10
1980		1.12	-0.11
1985		1.40	0.04
1990		1.57	0.12

Source: Barbados Statistical Service, Abstract of Statistics

Barbados Central Bank, Statistical Digest

