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## Some Microeconomic Implications of Domestic Financial Liberalization in Emerging Markets

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### Introduction

Liberalization of the financial sector, in the form of removal of regulatory interventions, was first advocated for Less Developed Countries (LDCs) by McKinnon (1973) and Shaw (1973). It had a major impact on the financial policies of the seventies and eighties in Latin America but was viewed with scepticism by the Central Bank of Barbados. Initially, the focus of the financial liberalization literature was macroeconomic - the concern was with the effects on financial savings of the removal of controls on interest rates and credit. The Bank argued that this transmission depended on a number of assumptions whose empirical validity could be questioned (see Zephirin (1981)). Under these assumptions, domestic financial liberalization would ensure deposit rates reflecting the marginal cost of funds, a positive relationship between deposit supply and deposit rates, and banks' incentives and ability to supply credit to the most productive investment. This paper discusses the validity of these assumptions in light of more recent literature.

The prescription of financial liberalization is an appeal to the power of the market. As such it depends on a diagnosis that extensive government intervention is the only illness in the economy which, once removed, will leave markets to work well. But, relative to the environment of the microeconomic models which describe the conditions under which markets will work well, markets in emerging economies like those of the Caribbean suffer from a number of imperfections other than government intervention. Markets in LDCs are small, major decisions are made by a small number of firms, individuals and institutions which have limited

information about each other, and the set-up costs of an investment may be very high relative to the available resources of an entrepreneur or enterprise contemplating the investment.

As McKinnon and Shaw argued, some of these problems can be overcome by the financial sector. For example, where large amounts of capital are required, banks can pool the deposits of many small savers to on-lend to entrepreneurs about whom they have acquired information. However, while financial institutions have found ways of coping with poor information, their methods often imply that, for reasons unrelated to the expected return on the activity being funded, certain individuals or groups may be unable to obtain financing. In addition, the specialized knowledge of banks may enable them to acquire market power, the absence of which is a prerequisite of a well-functioning market.

It is this type of analysis that justifies and explains the emphasis which the Bank placed on the internal behaviour of the banking sector itself. For example, Governor Blackman (1985) argued: "In developed countries the market mechanism can be relied upon to allocate resources in a satisfactory manner in the vast majority of cases. In developing countries the existence of monopoly, oligopoly or other market rigidities will frequently cause the market to operate in a perverse manner. It does not help to behave as if markets are efficient when in fact they are not. For example, there are only eight commercial banks in my country, seven of which are foreign banks and hold 81% of banking deposits. They cannot be left to fix interest rates among themselves."

This emphasis was unusual in the context of the financial liberalization debate of the eighties. His view, that the market may be less efficacious than usually assumed because of noncompetitive behaviour, has since received both theoretical and empirical support. This paper will describe several ways in which the internal workings of banks<sup>1</sup> can be expected to affect the outcome of deregulation. It argues that removal of repressive measures such as interest rate and credit controls may prove less growth-stimulating than originally assumed because their success relies on the reaction of the financial sector. The implication of such models, and of an extensive abstract microeconomic literature which analyses markets with imperfections, is that government intervention may improve social welfare. Such intervention can theoretically include the very price controls whose removal is recommended by the financial liberalization prescription, but certain caveats should be issued. First, many of the original controls imposed by

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<sup>1</sup>"Bank" is used here to denote a financial institution which intermediates between saver and investor.

governments deviate from those suggested by the literature, which tends to argue for intervention by tax or subsidy, rather than direct control. Second, the regulatory and policy environment may be an accretion of controls imposed at different times for different purposes, whose combined impact is unclear. Third, financial institutions do correct or compensate for a number of imperfections and have usually proved more effective than government in allocating credit and recovering debt. Interventions should therefore aim at correcting the undesirable outcomes of the financial sector's actions or at providing its institutions with the appropriate incentives, not at replacing or foiling their arrangements. This, it is suggested, is the lesson that should be drawn from McKinnon and Shaw. The design of regulations may then be very difficult since working with the market probably requires more information than the authorities tend to have, but the difficulty of design does not appear sufficient to justify the abandonment of regulation.

Section 1 describes the work of McKinnon and Shaw, while Section 2 describes the sequencing recommendations that followed on their original books and the experiences of some countries where financial liberalization, or policy that was thought to imply liberalization, was implemented. Section 3 examines microeconomic models of the financial sector which consider McKinnon's and Shaw's assumptions and gives some econometric results for Barbados. Section 4 takes a brief look at a wider institutional framework. Section 5 concludes by summarizing areas in which the financial liberalization thesis has been over-optimistic and drawing some policy implications.

## 1. McKinnon's and Shaw's Theses

The importance of McKinnon's and Shaw's analyses lies in their views of financial intermediaries as institutions which help the exchange of information about economic opportunities and economic decisions. In their independent analyses McKinnon and Shaw focus on the microeconomic behaviour they attribute to the financial sector in emerging markets. However, these behavioural concerns were not taken up in the original examinations of the thesis because the results expected from financial liberalization are usually analyzed from a macroeconomic viewpoint. Outcomes are assessed in terms of how total financial assets or the money/GDP ratio is increased, or aggregate saving and investment are affected, in response to financial liberalization. Increasingly, however, the effect of liberalization (or repression) on the behaviour of financial institutions, the interaction with policy and the implications for industry are being considered (see Park (1993)).

There are differences in the analyses of McKinnon and Shaw. McKinnon argued that money and capital are complementary, not substitutes. The monetary sector reduces the problems encountered in the working of a market when there are large differences among people and goods, sizeable sums are required for investment, and potential investors have limited information on whether a particular investment is feasible. Money allows financial intermediaries to pool the many small deposits of savers and allocate these to different investments with high returns. He described markets in LDCs as particularly subject to uncertainty and a lack of information among people in the economy about the value of each other's abilities and projects. As a result, those with projects which require a large capital input may be unable to find funding. Such difficulty in finding funding arises because of two factors. First, while a single individual may be willing to risk a small sum in a venture whose chances of success are unknown, it is very costly to obtain the synchronized cooperation of the large number of individuals required for a large investment. Second, a single rich investor may be unwilling to risk the large proportion of his wealth that may be required.

One can hypothesize that LDCs have more problems in mobilizing funds both because their financial systems are undeveloped, and/or frustrated by government interference, and because the kinds of investments it may be worthwhile to undertake are either new to the particular economy or unusual. For example, an entrepreneur may have an idea about processing sugarcane products. Processing sugar into alcohol for fuel would be new to the Caribbean, while processing sugarcane trash into board would involve non-traditional technology. In either case, if the entrepreneur is to be able to attract the large capital sum required to establish the appropriate factory, buy machines, train labour and market the product, he must convince others both of the value of the idea and of his ability to carry it out. Since a businessman with no track record in the area is unlikely to be convincing, his ability to make the necessary investment will depend on his personal wealth, which is unlikely to be sufficient. Financial intermediaries become important because it is presumed that they gather the information required to assess alternative investments, can learn whether a particular entrepreneur has the ability required for a proposed project and have a large pool of funds available through deposits.

Governments reacted to historical finance constraints by circumventing the domestic capital market through measures such as cheap credit and tariff protection. However, placing ceilings on interest rates in order to make credit cheaper for investors may reduce the incentive to save in monetary form and prevent banks from charging higher interest rates to those with the new, riskier investments. Full liberalization permits banks to attract savings and channel

funds to all investors who can earn a high return, thus breaking the confines of self-finance. Furthermore, in order to extend credit, banks' loan officers must acquire information and the acquisition costs must also be covered by loan rates.

Shaw's description of the lagging economy placed greater explicit stress on the informational role of prices and the place of financial intermediaries in facilitating market transactions. Under repressed finance with ceilings on interest rates, the low deposit rates do not signal that capital is scarce. As a result, banks attract a lower volume of deposits than is required by the available investment opportunities attracted into banks. This forces the banks to ration available funds and allocate them only to non-risky enterprises. Shaw contrasted the LDC world with that of a textbook-perfect economy: in LDCs, where there may be formal and informal sectors, entrepreneurs in the informal sector may have poor knowledge about the richer formal sector and the procedures required to obtain funds there, while financiers in the formal sector may be poorly informed about opportunities in the informal sector. In other words, the poor flow of information between different sectors of the same economy could imply that funds available in one sector may not be available to another. We can see that if there are investment opportunities in the informal sector but a lack of savings,<sup>2</sup> interest rates in the informal sector may be very high but there may be no funds available to them from the richer sector where the cost of borrowing is lower. Financial intermediaries may be able to compensate for these "imperfections" by using deposits obtained throughout the economy to lend wherever the returns are higher.

Both McKinnon and Shaw described economies where the market does not work well because information differs among people and is costly to obtain<sup>3</sup>, the information about one project may not help in the evaluation of another project, requiring yet more research, and the institutional arrangements needed to transfer resources between sectors and people are limited. They argued that if interest rate controls are removed, deposit rates would rise to levels which reflect the scarcity of capital, attract savings into banks and provide the high loan rates and returns which banks require to fund information-gathering. That information is needed to ensure that loans are allocated to areas of activity where the available real returns are highest. Investment in such activities provides the best prospects for

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<sup>2</sup>Lower savings are expected because people in the informal sector have lower incomes.

<sup>3</sup> For example, a project evaluation to decide on feasibility and the viability of a loan requires the employment of skilled analysts.

high economic growth. The removal of credit controls would permit banks to use the information gathered and their expertise in project evaluation to themselves select projects and borrowers to which to allocate credit.

## 2. Application of the McKinnon and Shaw Theses

Financial liberalization became popular because of its appeal to market-based behaviour and an early belief that the high growth rates of countries like South Korea illustrated the successful implementation of financial liberalization policy. But the empirical record provides very little, if any, unqualified support for the financial liberalization hypothesis. At one extreme is South Korea whose high interest rates during the late sixties did induce rapid financial sector growth which was accompanied by high real rates of output growth. In retrospect, however, the credit allocation decisions during this period have been attributed to government (see Harris (1985), Cho (1989), Park (1993) and Tseng and Corker (1991)) rather than banks, raising questions as to whether there might not be a role for government intervention in credit markets (see Gibson and Tsakalotos (1994)).

At the other extreme is Chile, together with other countries in the Southern Cone of South America, which in the late seventies liberalized its internal finance by privatizing and deregulating its banking sector and, to a limited extent, its external sector. For a period, like Korea, Chile was also taken as a success case - it exhibited falling inflation, an expanding capital market and economic growth. In the early eighties, however, there were widespread bank failures, the exchange rate collapsed, inflation resumed and growth slumped (see McKinnon (1989) and Velasco (1991)).

These problems have been largely attributed to a failure to take account of the macroeconomic environment, the rate and order of liberalization and appropriate prudential supervision of the banking sector (see Corbo, de Melo and Tybout (1986)). Correct sequencing is now considered a prerequisite of successful liberalization. Sequencing concerns the order in which sectors of an economy should be liberalized (see McKinnon (1982) and Gibson and Tsakalotos (1994)). The order usually assumed to be optimal is first, domestic real sector, second, domestic financial, third, the external trade sector and finally, the external capital market. Domestic finance liberalization should follow real domestic sector liberalization in order that the liberalized financial sector has an efficient real sector to which to channel financing. Trade liberalization should follow domestic financial liberalization in order to facilitate the country's ability to compete on the world market; Gibson and Tsakalotos also note that this order could allow the

domestic financial sector to (mis)allocate finance to a distorted trade sector. Liberalization of the external capital sector after the domestic has been stressed in order to avoid capital outflows in response to higher rates abroad. But, it is usually argued, macroeconomic stabilization should precede financial liberalization.<sup>4</sup>

While inappropriate sequencing may help explain the Southern Cone experience, it does not account for South Korea's. Furthermore, Velasco (1991) questions whether the Chilean debacle was due to macroeconomic effects on the financial system. He argues that the financial sector itself may have contributed to instability in the overall economy because reforms were implemented with "little or no regard for possible market imperfections" so that "the Chilean financial problem had perverse *micro* dynamics of its own" (Velasco's emphasis). Oligopolistic pricing by banks and their loans to related companies encouraged banks to engage in unstable credit expansion while the expansion in financial assets was characterized by a shift from money towards short-term interest-bearing assets - a boom in financial intermediation in comparison with which domestic savings performance was relatively poor. The micro problems were permitted by a government approach that assumed that the banks' ownership structure, lending patterns and portfolio allocation required little supervision.

In the Caribbean, Jamaica has had the longest experience with financial liberalization, which it began in 1985. However, the results are difficult to evaluate because, not only were liberalization and stabilization implemented simultaneously, but, as a result, liberalization has proceeded in a hesitant fashion, with policy reversals when stabilization faltered. For example, selective credit controls were removed in 1986, reimposed in 1989 and eliminated in 1991. The savings rate was not deregulated until 1990, although it was determined in line with the banks' term deposit rates from 1986 to 1988. The difficulties in making a judgement are reflected in the macroeconomic data. While the usual macroeconomic measures of increased intermediation, such as money supply to GDP, increased between 1986 and 1989, their increase has not been sustained (see Peart (1995)). There has also been a large increase in the number of financial institutions but, while competitive forces have increased, the growth in institutions has frequently taken place through subsidiaries created to take advantage of lower

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<sup>4</sup>Basically, this is because liberalization often reduces the effectiveness of traditional methods of money supply control, and effective monetary policy is required for stabilization. In addition, liberalization removes a captive form of government financing which can be foregone if the government budget is under control.

reserve requirements. Furthermore, recent closures suggest that the resulting linkages among financial institutions, and between financial and non-financial firms, should be carefully monitored.

The Korean and Chilean cases suggest that government intervention is not always disastrous and may be very successful, and that full liberalization, in the sense of an unfettered market, may fail. Is there a way of reconciling these apparent contradictions in a way that may be useful to policymakers in the Caribbean? The next section describes several models of individual and bank behaviour which suggest how both a vibrant financial sector and a well-designed regulatory framework may be useful. Sequencing does not change the role assigned to money and finance by the liberalization hypotheses. Nor do discussions of sequencing go any further than the original McKinnon and Shaw work in investigating precisely how banks acquire information and make their pricing decisions, nor how they are able to pool savings efficiently.

### 3. Microeconomic Examinations of Liberalization

The attraction of the McKinnon and Shaw hypotheses was its appeal to the use of market-determined prices and resource allocation. Economists' preference for market-based solutions is rooted in a body of work which considers, in very elegant but abstract models, how the various sectors which produce and exchange goods in an economy can manage to operate in harmony without any explicit instructions being provided to the producers, wholesalers, retailers and consumers. This theory<sup>5</sup> provides the conditions under which such harmony is possible and government interventions serve no purpose and may be harmful. These conditions are rigorous and unrealistic. While some general equilibrium models have begun to incorporate more realistic features, they do not yet incorporate a banking sector which is usually analyzed by partial equilibrium models. This section begins by considering briefly the general equilibrium model because it provides the only rational economic justification of full liberalization.

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<sup>5</sup>This body of theory can be summarized as the competitive general equilibrium model, where "general" captures the idea that the economy is considered as a whole, and "equilibrium" refers to the fact that the economist is looking for an outcome to which economic events are likely to lead, a balance which satisfies all parties to an exchange.



### 3.1 *Oligopolistic Markets and Interest Rates*

The competitive general equilibrium model, developed in the context of large economies, demonstrates that under certain, very precise conditions government intervention is never useful and can be harmful. Under these conditions everyone has similar information and there is the absence of large fixed costs.<sup>6</sup> When events are uncertain, people in the economy are able to buy a wide enough range of goods or securities to take account of virtually all the uncertain events that may arise, thus insuring themselves against the risk of uncertain events. Under such conditions, perfect competitive behaviour is assured and the market on its own will produce optimal resource allocations.<sup>7</sup>

It is clear that these conditions rarely, if ever, obtain and are even less likely to describe the environments of small, emerging economies where the financial sector provides a very limited range of securities. Several models which consider only certain sectors or actors in the economy explicitly assume that these ideal conditions do not obtain, and attempt to assess the implications of liberalization in their absence.

Zephirin (1990) considers the financial liberalization hypothesis largely by examining how banks are likely to behave without regulatory restrictions in an environment where, not only do banks have poor information about their customers and the market, but customers, in their turn, may have poor information about banks. In a financial market where banks offer deposits in conjunction with other services, depositors are interested both in the interest rate offered and in the quality of service they will receive (see Zephirin (1994)). Such services can take several forms and differ between banks. A retail bank may offer interest on chequing accounts and cheque guarantee cards; the number of branches differs between banks, as do the queue lengths at those branches and the banks' network of Automatic Teller Machines (ATMs); banks' penalties for overdrawing a chequing account, and the efficiency of their transactions can differ, etc. An important dimension of service is the extent to which a particular depositor expects to be able to receive loans from the bank in the future.

Customers only learn whether a particular bank will meet their service requirements when they have been with the bank for a period, especially since the

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<sup>6</sup>If there are no large fixed costs, investment does not require a large capital input.

<sup>7</sup>Zephirin (1993) provides a more detailed, albeit still informal, discussion of these issues.

service offered by the bank is itself a function of the bank's assessment of the customer - banks assess whether a customer will make prudent use of a cheque guarantee or credit card, and whether the customer can manage a loan, when they have come to know the customer. Therefore, the customer expects service at his bank to improve over time once he has built a reputation for reliability with that bank. Once this reputation is established, the customer becomes reluctant to leave the bank since switching to another bank will require that the customer again invest in building reputation. This effect would be expected to be greater where, as in LDCs, there are no, or only limited, credit rating services for firms or consumers, so that customers cannot easily carry their reputation from one bank to another. But if customers tend to stay with a bank for improved service in the future, it becomes difficult for other banks to attract them with higher deposit rates - customers acquire costs of switching between banks or establish an enduring bank-customer relationship. In an established market all potential bank customers will have established such relationships and a bank wishing to attract customers from other banks must offer deposit rates of interest high enough to compensate the customer for switching costs. Banks will not compete for customers who do not have switching costs because these are the customers judged incapable of handling better service, such as loans.

The importance of this phenomenon lies in its implications for competitive behaviour. In order for firms or banks to be truly competitive in their pricing, one must assume that customers will respond easily and rapidly to price changes. Thus, in a competitive banking market, any bank trying to offer too low a deposit rate would lose customers because a competing bank, by offering even a very small increase in deposit rates, would attract all the customers of the low-rate bank. All banks would compete by offering small rate increases if their costs of operation allow them to do so. Deposit rates overall in the market would then be forced to rise to the level which reflects the opportunity cost of deposit funds - the competitive rate. The bank-customer relationship or switching costs means that if a bank maintains low deposit rates it is unlikely to lose customers because a large positive differential in rates is required to compensate customers for their switching costs.

Banks' special knowledge of some customers, and the favourable treatment the customers receive as a result, has often been commented on in the Caribbean banking literature (see Barnett (1982), Bourne (1988) and Worrell (1985)). Collusive behaviour among banks is also assumed (see the three previous references and Ramsaran (1984)). Collusion among industrial and commercial firms is usually difficult to sustain because they find it difficult to agree on how prices should be set and have no incentive to adhere to any agreed-on formula

because a small decrease in price would attract all customers.<sup>8</sup> Furthermore, small decreases which break an agreement are difficult to detect. With switching costs, however, each firm can individually maximize profits by pricing as if it is the only firm in a market consisting of its own market share, in other words, by behaving like a monopoly. No firm has an incentive to change price by a small amount because this would attract no customers and price changes can be easily monitored (see Klemperer (1987a)). Since the market is segmented, a firm losing customers will be able to tell that the agreement has been broken. Since each firm can simply behave like a monopolist, collusive prices, which are the same as monopoly prices, are easy to set and maintain in an oligopolistic situation. Zephirin used Klemperer's model (op. cit.) to show that a similar analysis can be applied to long-established banking markets, such as those in the Caribbean, with switching costs derived as discussed above. A theoretical explanation of the collusive phenomenon discussed in the Caribbean is thus provided and it is suggested that the pricing behaviour in a liberalized market with a small number of banks and other financial institutions and loyal customers may be less than optimal.

However, monopoly pricing in a market would be expected to attract other firms who are not party to a tacit agreement among those already in the market. For example, Shaw (1973) refers to the importance of "charter policy" for fostering competition in the banking market of LDCs - if the authorities impose regulations that restrict the entry of new banks this would allow existing banks to behave oligopolistically. But regulations are not the only barrier to entry. Purely market features, such as switching costs, also do so. Klemperer (1987b) demonstrates that firms may be reluctant to enter a market if it has very high or very low switching costs. Consider how this may apply in a banking market. If each bank which is already in the market has a very large customer base, a bank thinking about establishing a branch in that market knows that, in order to attract customers once it has entered the market, it will have to pay substantially higher deposit rates to cover the depositors' switching costs. Since the bank knows that, in addition to the setup costs of opening a new bank, it will take some time to find profitable loan customers, entering the market could entail a loss. The risk of poor profits after entry may therefore appear too great, deterring entry. On the other hand, in a market where demand is growing, or new customers are entering, so that banks have small customer bases and switching costs are low, each bank contemplating entry will expect the incumbent banks to fight to maintain their

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<sup>8</sup>In a financial market, this price would be interest rates.

market share. Fighting for market share - which implies raising the deposit rates, lowering loan rates and offering expensive services in a banking market - will be costly and unattractive for the entrant. Again, the risk of poor profits after entry may persuade a potential competitor to stay out, leaving a small number of banks to dominate the market.

With the exception of Trinidad and Tobago, which pursued a policy of bank localization in the early seventies, charter policy has not been a deterrent to bank entry in the Caribbean. In fact, the authorities have tended to welcome new banks as promoters of competition and/or increasing international financial links and there has, rather, been substantial entry. For a period in the seventies and eighties, the phenomenon of extensive entry followed by exit was observed in the Barbados market. In a market with four long-established banks (Barclays, the Royal Bank of Canada, the Canadian Imperial Bank of Commerce and the Bank of Nova Scotia), four American banks entered in a wave of global banking expansion - Citibank in 1968, the Bank of America in 1969, Chase Manhattan in 1971 and the First Bank of Chicago in 1974. None of these banks remained in the market very long. The major factor in their decisions to leave appears to have been their failure to attract a sufficient market share, especially of large customers, to make their operations viable. Chase Manhattan did have some success in doing so and stayed the longest, leaving in 1986. The Bank of America and the Bank of Chicago both left in 1978 (their assets were taken over by the Barbados National Bank). Citibank left in 1984, its assets being purchased by the newly-formed Caribbean Commercial Bank (CCB), which was started by a regional insurance company. Later, CCB also bought Chase Manhattan's assets. In 1983 the Bank of Credit and Commerce (BCCI) entered and was later closed for reasons unconnected with local conditions. The Mutual Bank (again with local ownership) entered in 1992, taking over the portfolio of BCCI. Having inherited their small but established customer bases, the last two entrants remain in the market.

Zephirin (1990) argues that this exit phenomenon can also be explained by switching costs, formulating a model to demonstrate how this could occur. New banks entering a market are unable to attract a large section of the market share of established banks. These new entrants are therefore highly dependent on small new customers. Such customers have small or no switching costs and are therefore easy for banks to attract, but their business is not very lucrative. For example, one would expect large business firms to provide additional business to banks in areas like foreign exchange transactions and import financing or, in more developed markets, fee income. Small customers in the consumer market would not provide such business and the overall account relationship with them would be less lucrative. If the value of business provided cannot cover the fixed costs of

establishment, the new banks find the market to be unprofitable and exit. These fixed costs are likely to be especially high for banks from outside of the region who have to learn about customers and customs in a small market where the return may be low relative to learning costs. Thus, CCB and the Mutual may have been able to remain in the market because they have not had to build up a new clientele, and already had market knowledge or lower setup costs.

What is the overall message of these models? If banks acting on their own have the incentive, and they will always have such an incentive since monopoly profits are always higher than profits in a competitive market, and the ability provided by the existence of switching costs to price oligopolistically, they will do so. Regulatory restrictions are not the only factors that are likely to keep deposit rates low. If banks do not conform to the competitive behaviour which McKinnon and Shaw postulated, financial liberalization will not have the results they postulated. Far from banks operating as profit-maximizing competitive institutions who raise rates of interest to levels which will attract as large a volume of deposits as possible,<sup>9</sup> banks become free to operate as profit-maximizing oligopolistic institutions keeping their deposit rates down and maintaining the largest rate spreads that the market can bear.

### 3.2 *Savings and Interest Rates*

In continuing to point out the flaws ascribed to financial liberalization policy, a generic form of the liberalization argument, treating it as a series of steps reflecting financial institutions' actions and the resulting market responses, may be useful. Deposit rates are raised by liberalized banks, attracting funds into the banks. Banks use their specialized knowledge and gather information about investment opportunities and entrepreneurs in order to search out and identify the most profitable investment opportunities in the economy. There will be many of these, in view of the number of unexploited economic activities in poor economies. The large volume of deposits can then be lent out by the banks to the identified enterprises at high rates which compensate the banks for the investment in information and specialization they have made; the enterprises in their turn are able to pay high loan rates because their returns are very high, again reflecting the many unexploited opportunities. The financing of these opportunities will then produce the high growth rates promised in the liberalization literature.

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<sup>9</sup>This would permit banks to lend deposit funds out at high rates which reflect the high returns available in LDCs.

We have suggested that the first of these steps, higher deposit rates, may be thwarted by banks' oligopolistic behaviour. Apart from the informal Caribbean observations of collusive behaviour, the oligopolistic pricing which followed liberalization in Chile (see Section 2 and Velasco, *op. cit.*) suggests that the results of the model may be a reasonable description of reality. The second step, the response of deposits to high rates, was questioned early in the financial liberalization debate. Economics does not unambiguously predict that higher interest rates will increase individual overall savings because an increase in the rates has two opposing effects: the substitution effect and the income effect. The substitution effect refers to the fact that the return on saving is higher at a higher rate of interest, making savings more attractive relative to consumption, and encouraging the individual to substitute savings for consumption. The income effect, on the other hand, induces greater expenditure because higher deposit rates imply that income is now higher and higher income stimulates consumption. It is only if the substitution effect dominates, that increased rates will induce higher financial and national savings. It has also been argued that, rather than increasing overall savings, the increase in interest rates attracts savings from the informal market into the formal banking market (see van Wijnbergen (1983)). Since such savings may be productively employed in the informal market where informal lenders may also have a better understanding of small productive opportunities than banks, their move into the formal sector, where they are subject to reserve requirements, may result in less productive use and an apparent increase in funds which can be productively loaned out would then be illusory.

The question of whether higher interest rates induce increased savings cannot be settled on the basis of theoretical reasoning, however, but is an empirical question whose answer may differ from country to country. It is tested for Barbados by Craigwell and Wood who model real private savings during 1968 to 1991 as depending on income, interest rates, foreign and government savings (all in real terms) and unemployment (see Wood (1994)). They find that, in both the long run and the short run, the effect of the rate of interest on savings is statistically insignificant. During that period, therefore, interest rates appear to have had little, if any, effect on private savings.

### 3.3 *Credit Allocation*

In other words, financial liberalization in Barbados may not only fail to increase deposit rates, the first stage in the transmission mechanism, but even if it did, such increases may have little or no effect on real savings, at the second stage. The third stage relates to banks' use of information to allocate credit. Let

us therefore presume for the sake of argument that the first and second stages have been achieved and consider the third. Since McKinnon and Shaw wrote in the early seventies, there has been a vast literature on the effects of poor information on the behaviour of financial institutions, how they cope with it and their special role in producing information. McKinnon and Shaw thus anticipated much of the later formal literature in their focus on the informational role of banks but, without the benefit of the insights provided by formal explicit models, they did not appreciate that banks' production and use of information may not only require complex arrangements, but can give rise to problems on the market which appear very similar to those they attributed to intervention.

Credit rationing is perhaps the best example of this. The financial liberalization argument assumed that credit rationing arose largely because of government - controlled interest rates which limited funds available to the banking sector or mandated lending which reduced banks' flexibility. Jaffee and Russell (1976) and, in a seminal article, Stiglitz and Weiss (1981) demonstrated that credit rationing could arise simply as a result of a natural market phenomenon - information that cannot be credibly shared between lenders and borrowers. The Stiglitz and Weiss model considered a case where the interest rate that would ensure that the demand for credit equals the supply is above the profit-maximizing rate of interest. Banks therefore prefer to maintain the lower profit-maximizing loan rate and ration credit in the face of resulting excess demand. The difference between the profit-maximizing loan rate and the rate equating demand and supply arises because of adverse selection and moral hazard.

The term 'moral hazard' is taken from the insurance industry. An individual with high insurance against hurricane damage, for example, may be less careful about the hurricane precautions that he takes, since he knows that he will be reimbursed for loss by the insurance company. Adverse selection refers to people being 'selected', or coming forward, in a manner that has adverse consequences for the other side of the transaction.

Later analysts objected to the conclusions of the credit rationing models, arguing that banks have ways of gleaning information about their customers (compare McKinnon and Shaw) and of controlling project choice, albeit indirectly. Thus collateral acts to overcome credit rationing because it helps to change incentives (see Bester (1985)). If banks allow potential borrowers to choose among collateral levels, those who know their projects to be relatively low risk will choose the highest collateral if it reduces the rate of interest they are charged, because they know that their chances of keeping the collateral are good. Further, the risk of collateral loss induces the borrowers to be careful in execution of their projects (avoids moral hazard). With loan contracts that require collateral, banks

are thus able to distinguish among borrowers: the low risk customers are those choosing the highest collateral. But there is no necessary correlation between the collateral available to a firm or individual and either the risk or return on their project. In other words, collateral is related to wealth and may exclude potentially profitable customers who lack the necessary collateral.

Craigwell (1993) examines three "hypotheses pertaining to the debate on financial liberalization," using an options valuation<sup>10</sup> framework which considers only the borrower investment and borrowing decisions and assumes credit rationing by banks. The three hypotheses considered are, from the financial liberalization viewpoint,

- (i) that high real rates stimulate capital accumulation, in contrast to the view that low loan rates will stimulate investment;
- (ii) that bank loans are mainly channelled into capital accumulation; and
- (iii) that collateral requirements reduce capital accumulation.

These variations suggest that, how and the extent to which, interest rates, collateral and loan size influence capital investment depends on the probability the borrower attaches to default because it influences whether he expects the capital investment he undertakes to have a positive effect on his own consumption. Further, the stronger the effects of interest rates (positive) and collateral (negative) on the probability of default, the more likely does Craigwell find the case against McKinnon's and Shaw's hypotheses.

Collateral is often observed on the market but it has been pointed out that loan size could play a similar role (see Milde and Riley (1988) and the other references in Zephirin (1990)). High risk borrowers wish a larger loan. Low risk borrowers, who may have projects with the highest overall expected return, are willing to reveal themselves through smaller loan size because they thus obtain a lower rate of interest. This implies that higher productivity projects may not be

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<sup>10</sup>"An option is a security which gives the right to buy or sell an asset, subject to certain conditions, within a specified period of time" (Black and Scholes (1973)). Black and Scholes showed that, under certain conditions, a loan to a firm can be considered as an option held on the assets of the firm by the firm's owners. The creditor is viewed as having taken ownership since, if there is loan default, the creditor has first claim on firm assets. The owners then have the option of repaying the loan and regaining ownership of the firm by repayment.



financed and that the overall risk of enterprises financed is greater than desirable, since high risk borrowers receive their requested loan size. In order to protect their own profits, banks allocate credit on the basis of what they know about a customer, rather than on the basis of expected return. Zephirin (1990) also shows that government action may help ameliorate this situation. If a subsidy on the higher loan rate induces high risk borrowers to choose a higher loan size this permits the loan sizes of all types on the market to increase, reducing the rationing by loan size implied by the market solution.

Despite banks' information-generating behaviour, a form of rationing continues to exist - some receive a loan smaller than they would wish. The conclusion therefore is that banks' lending behaviour may differ from that postulated at the third stage of the transmission mechanism of the financial liberalization hypothesis because the very need to acquire information constrains banks' lending. Velasco points out that the liberalized banks which encountered problems in Chile tended to lend to their own subsidiaries, an extreme case of lending to known customers.<sup>11</sup>

Every stage of the liberalization process can therefore pose problems. Further, intervention can help alleviate the situation. A subsidy can help in alleviating apparent loan size rationing. Similarly, the classic solution to monopoly pricing is price controls - in the deposit market model, a floor would keep the deposit rate above its collusive or monopoly level. Of course, interventionist solutions are not without their own problems. In the case of a deposit rate floor, a floor set at too high a level may cause excess supply or losses to banks, and at too low a level, would serve no purpose. The loan rate subsidy is specific to the particular model. Depending on the parameters of the model, a tax on interest rates, rather than a subsidy, may be the appropriate response. In other words, the appropriate intervention may be difficult to identify and inappropriate regulation can be harmful. In any case, it would be advantageous to use the information generated by bank arrangements. Unless banks use such means to try to learn the repayment propensities of their customers, they are likely to make losses. One of the features of the model is that the subsidy does not, for example, force the bank to give larger loans but adjusts price to give the borrower an incentive to take out a larger loan. More recent considerations of liberalization appear to have in part adopted this stance by arguing that prudential regulations (subsidies would

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<sup>11</sup>It also illustrates moral hazard among banks themselves. If left to their own, poorly-regulated devices, banks may use borrowed funds (deposits, that is) to lend for high-risk purposes, especially if they believe that the Government will not allow them to fail. They, or their subsidiaries, benefit if successful, and depositors, or Government, lose, if not.

not be considered prudential) are required. The next section goes on to consider wider policy dimensions.

#### **4. Institutions and Financial Liberalization**

McKinnon and Shaw and, so far, this essay, have focused on banks as the financial institutions which provide financing for risky enterprise. There is a good reason for this - the markets of most LDCs are heavily dominated by commercial banks. Commercial banks also dominate the financial sectors of the Caribbean. At the end of 1994, in Barbados they held 73.4% of financial deposits (including those at credit unions), while their sister institutions, the trust companies, held 11%; in Jamaica, they held 67.4%, and in Trinidad and Tobago 79.7% (see Central Bank of Barbados (1995), Bank of Jamaica (1996) and Central Bank of Trinidad and Tobago (1996)). This of course indicates the extent of their market power and suggests that they control most of the funds available for investment financing. Intermediaries other than commercial banks may operate in a switching cost environment similar to that described here. However, on the credit side, non-bank intermediaries can have several advantages over commercial banks. Traditional commercial banks are usually concerned with making short-term loans to consumers and well-established firms, not with lending for risky investment purposes. This is not unreasonable - deposits, the vast majority of which are the savings of many individuals who do not wish to assume undue risk, are meant to be safe assets. Furthermore, longer-term loans are almost invariably riskier because funds are being committed for a period over which forecasting will become increasingly imprecise.

Investment banks are traditionally that segment of the financial market which undertakes long-term lending and helps firms to do the analysis and arrangements required to obtain longer term finance through the issue of securities or the syndication of loans. Investment banks carry out extensive analyses of the firms they finance, or help find financing for. In their underwriting function, investment banks may play both a monitoring and marketing role, helping to price the security being offered and facilitating the accumulation of large funds. Jamaica is the only Caribbean country with several investment or merchant banks but there such banks have tended to emerge in reaction to high reserve requirements imposed on commercial banks, rather than to profit from the opportunities available in fee-based long-term investment financing. It seems likely that investment banks are able to undertake riskier long-term lending for several reasons. The funds they obtain are obtained on the understanding that they will be so used, they may even locate the funding needed for particular projects from

financiers they know to be knowledgeable or favourably inclined towards the project, they carry out more research into firm and industry prospects when financing a business, in part because they need to be able to sell the idea to potential investors, and they monitor the outcome more closely when a business is financed. There is one regional investment bank in Barbados which is successful, though small, but it is not a deposit-taking institution. There is some evidence that commercial banks in the Caribbean are willing, for particular large companies, to underwrite issues and, as international commercial banks widen their spheres of operation, those operating in the Caribbean may do the same. However, outside of these possibilities, a market like Barbados has few institutions suitable for fostering long-term investment of the type that financial liberalization assumes will be fostered by deregulation.

Venture capital companies operate at the riskiest end of the investment bank business, compensating for the risk by becoming closely involved in the management of the company being financed, and obtaining the financing from individual investors, or investing syndicates, who not only have the funds, but are willing to take particularly large risks for the prospect of particularly large returns. There have been unsuccessful attempts at venture capital company formation in Barbados but the investment company mentioned earlier is currently operating a venture fund that remains viable.

Caribbean stock markets have insufficient trading volume to encourage savers to shift out of the banking sector into securities. If they switch, savers risk being unable to obtain funds when needed because of the difficulties in selling securities at a fair price when there are few buyers. There is a poor supply of securities because firm owners are reluctant to lose control to a varied group of shareholders, and perceive that the prices offered on a market with limited volume do not correctly reflect their earning potential. In any case, stock market financing is most suitable for established firms whose track records are well known, permitting appropriate pricing. Further, the extent to which stock markets have financed investment expenditure by firms even in the large industrialized markets has been questioned by Mayer (1988) who finds that most investment in private enterprises is funded from retained earnings. Internal finance has also been found to be important in the Caribbean: a survey in Trinidad and Tobago indicated that 35% of businesses financed over eighty per cent of their investment with internal funds, with larger or more well-established firms being more likely to do so (see Clarke et al (1995)). Stock markets are important as facilitators of finance, however, because liquid markets provide what has become known as a means of exit for investors, that is, a financier can capitalize on the success of his investment if he can sell shares on the market once the firm has become successful. The

availability of such an exit acts as an incentive to financiers, and its absence may inhibit their willingness to risk funds.

Development banks have been the solution put forward by several governments, but the closure of several of these institutions throughout the region indicates that they have not been a sustainable solution. Several factors account for their failure: an emphasis on loan disbursement, rather than a portfolio of sustainable loans, undue political influence on their credit decisions, and the lack of the discipline that would be imposed by the need to attract funds from suppliers concerned with recuperating and profiting from their investment. Most development banks obtained their funding from official sources.

In general, the lack of information about small firms' processes and management impede financing for the small, possibly innovative, firms that may be most likely to undertake high return investment. The financing of small or micro enterprise has become an area of finance considered on its own because a number of special arrangements have been found to be more suitable to the lack of collateral and the small loan size required (see Von Pischke (1991)). These special arrangements, such as group lending, are aimed both at exploiting available information about the borrower and at enforcing his good conduct.

Where does this leave us? Commercial banks are almost the only institutions we have available and their current *modus operandi* and likely post-regulation behaviour are not likely to produce the hoped-for results. At the same time, we recognize that government-allocated credit is likely to be poorly-allocated credit and that the authorities are probably best at monitoring and limiting the excesses of the private bankers, and not at attempting to determine prices themselves,<sup>12</sup> so liberalization or the dismantling of many interventions is desirable. As Wood (op. cit.) suggests, there may be ways of fostering the appropriate institutions through tax policy. This is one means of promoting private sector institutions which do provide long-term, risky finance; in addition, private initiatives to expand the number, range and type of financial institutions and instruments should be encouraged, although appropriate regulations or self-policing rules should be developed simultaneously. Improved public information would help improve liquidity by increasing the public's willingness to invest in securities. Better information would also limit non-competitive behaviour, and the opening of the Caribbean financial markets to each other would foster competition, increase the range of financial institutions

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<sup>12</sup>No model describing this has been examined here, but since very many empirical cases illustrate the problems that arise, we assume it to be "self-evident".

and securities and improve liquidity. There has been official action in some of these directions - the venture capital fund administered by the regional investment bank is largely officially funded, and a project to harmonize Caribbean capital markets is in the process of implementation.

Direct institutional intervention has been an approach adopted in Trinidad and Tobago and, more recently, the Eastern Caribbean. The Unit Trust Corporation (UTC) and the Trinidad and Tobago Home Mortgage Bank (HMB) were government initiatives in Trinidad and Tobago, taken in 1982 and 1985, respectively, to provide alternative saving and residential finance channels. Both institutions appear to have had some success in fostering competition and improving liquidity. In addition, the UTC has probably increased the returns available on financial savings, and the HMB has held down the cost of mortgages and may have reduced the variability in credit availability.

## 5. Conclusion

It has been argued that while the benefits of liberalization in terms of removing poor government price determination and credit allocation may be obvious, the benefits in terms of socially-beneficial bank behaviour are less so. Perfectly competitive banks operating in economies with near-perfect common information can be relied upon for universally beneficial behaviour, but perfectly competitive banks do not exist in small economies or economies subject to poor information flows. The financial liberalization literature hypothesized that market-determined interest rates would change to reflect the marginal costs of funds. However, oligopolistic pricing in a liberalized market can produce a divergence between the opportunity cost of funds and the interest rates set by banks. Further, the credit policy of even perfectly competitive banks is constrained by the need to obtain information about potential borrowers. Liberalized financial institutions may not extend credit to those with the highest economic return, but to those who appear most likely to repay them. In emerging markets, such credit is often for consumption, rather than investment, purposes. A number of models that suggest that the predictions of the financial liberalization hypothesis are inaccurate have been described and empirical examples that illustrate the case have been cited. It has even been argued that official, though carefully-designed, regulation will remain a necessary part of a well-functioning financial market.

Our analysis concludes that governments should work with their markets, not frustrate them. This is a far more difficult task than the original advocacy of financial liberalization suggested. It requires forecasting market behaviour and

gathering extensive information, rather than simply leaving financial institutions to get on with their fund-gathering and lending operations. It may involve working with the private sector to create or expand institutions and the role of such institutions has to be clearly analyzed in the first place. Liberalization should not be taken to mean the indiscriminate removal of all regulations, but the formulation of incentives which encourage institutions and the market to fund production, for example, and the maintenance of prudential rules, including entry rules to dissuade or prevent those with too little experience or scruples from entering the market. Diagnosis is likely to find several interrelated illnesses and the single item prescription will no longer be available. Financial liberalization cannot be the only medicine but can be part of a more complex dosage, cautiously administered, that should vary by patient and may have to vary over time.

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