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**THE IMPACT OF FINANCIAL MARKET  
POLICIES: A REVIEW OF THE LITERATURE  
AND THE EMPIRICAL EVIDENCE**

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The views and interpretations in this publication are those of the author and should not be attributed to the Agency for International Development or to any individual acting on its behalf.

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## EXECUTIVE SUMMARY

Policies affecting the functioning of financial markets rank among the key policy instruments used by governments in developing countries to achieve their economic objectives. Policy intervention in these markets typically results from perceived imperfections in the way the financial sector allocates resources to priority sectors. Such imperfections are deemed to come from alleged differences between the **private** benefits accrued to financial intermediaries in collecting and allocating financial resources on one hand, and the **economic** and **social** benefits of the financial intermediation process on the other. Yet other imperfections may be related to suboptimal conditions prevailing on the market, such as skewed interest rates resulting from lack of competition in the financial sector, unhealthy collusion between banks and influential firms, or threats to the entire financial sector stemming from a deteriorating financial condition of banks.

Financial market policies do not affect firms directly, but do so through the financial system. One can therefore not review the impact of specific policies on firms without also analyzing their effect on financial intermediaries, the behavior of which they are designed to influence or change. Since the impact of these policies on firms is mostly indirect, measuring such impact is arduous. Firms are affected by a host of other policies not directed to the financial sector as well as by the general economic environment, and isolating the firm-level impact of a specific policy such as credit targeting may at best be tentative.

There is little doubt, however, that the depth and performance of the financial sector are important determinants to overall economic performance. Although the direction of causality between the **deepening** of the financial system on one hand and overall growth on the other is uncertain, there is strong evidence that the adoption of policies that will improve the system's performance can have an impact at both the macro and the micro levels.

### Impact of Intervention on the Financial Sector

Past research indicates that commonly used policies such as credit targeting and regulation of interest rates generally have a **negative** impact on the financial sector:

- Credit targeting leads to fragmentation and layering of the financial sector between an array of specialized and nonspecialized financial institutions. This fragmentation thwarts competition among financial institutions and removes the incentive for innovation.
- Specific policies such as ceilings on the volume of credit and overreliance on refinancing facilities throttle competition for deposits. The creation of specialized financial institutions -- another type of intervention that is widely relied upon -- tends to produce a general increase in intermediation costs.

- Interest rate restrictions also stifle competition between banks, by reducing their incentive to compete for deposits and by encouraging the setting up of bank cartels to protect margins.

Overall, policy intervention thus reduces efficiency and tends to lead to further concentration in the financial sector. It has also eventually led to increased fragility in the financial sector related to institutional inefficiency and to the high default rates traditionally linked to credit targeting. This is particularly true of development banks and other specialized institutions: close to one quarter of those surveyed by the World Bank in 1985 had over 50 percent of their loan portfolios affected by arrearages.

Public development finance corporations (DFCs) have received the bulk of the financing directed to credit markets in developing countries. However, the performance of these DFCs has been very weak both in terms of resource mobilization and of resource allocation. Private DFCs have done only marginally better.

Governments have also intervened in credit markets by mandating the opening of branches in high-priority locations, particularly in rural areas. Such regulations have proven detrimental to banks, as these "mandated" branches have generally proven to be money losers.

### Impact at Enterprise Level

Financial regulation has generally tended to reduce the overall supply of credit. This is the case of credit allocation policies, as a consequence of the high reserve requirements imposed to extract resources from deposit banks and channel them to priority sectors, but also of interest rate regulation, because of reduced savings levels that such regulation entails.

Deposit and loan interest rate ceilings particularly deter term lending; these ceilings tend to flatten out rates, preventing banks from charging a premium for longer term loans. However, excessively high rates are now found in a number of countries, as governments failed to establish lower regulated rates to adjust to the falling inflation levels of the early 1980s. This has had a dampening effect on the demand for credit, which in turn encourages banks to turn down deposits they have no use for.

Notwithstanding the negative effects of such schemes on the financial sector, one would at least expect them to have a positive effect on the supply of credit to the priority groups targeted by these programs. But credit targeting was judged by the World Bank and others to have been only partially effective in channelling incremental resources to priority subsectors.

A major impediment of targeted credit programs is that credit gets diverted away from the intended target group. This is especially true in the case of programs involving an interest rate subsidy, to the extent that subsidized credit has been said to lead to credit rationing within the intended beneficiary group. Credit targeting also entails preferential treatment of politically influential entrepreneurs, even more so when credit control is implemented through nationalization of the banking sector.

Also, credit allocation schemes face institutional constraints that may severely limit their scope. Credit allocation can only work efficiently to the extent that final lenders acquire expertise in loan evaluation techniques. However, such expertise is found to vary greatly from one institution to another and from one region to another. Hence, credit cannot be spread efficiently and equitably. Analyzing the case of Bangladesh, Virmani has shown that **uniform** credit targets are ineffective, and that they should be tailored to the profile and operating mode of each individual bank. He further suggests that any element of forced lending should be limited to a short introductory period, designed to induce banks to collect information and establish connections with the neglected sector, a "forced learning by doing."

Development banks and other specialized financial institutions have shown very unequal performance in improving access to credit by their client groups. Although they have often been a unique source of credit for a class of borrowers with otherwise no access to formal credit, their effectiveness has been hampered by the same rigidities that preclude commercial banks from serving these higher-risk groups: collateral requirements are often just as stringent, as are other loan conditions such as completion by the bank and/or the borrower of a full-fledged feasibility analysis for the project under consideration.

One type of specialized financial institution that has shown some promise is that of the **lead bank**, which employs loan officers with little formal education but who are originally from the area where they lend, thereby giving them first-hand knowledge of their clients. The Syndicate Bank (India) and Grameen Bank (Bangladesh) are examples of successful lead banks. However, lead banks have by their very nature had only limited scope, and they have not been effectively replicated elsewhere.

The track record of **credit guarantee funds** is also poor. A World Bank review of five guarantee fund schemes around the world states that, "In the Philippines, commercial banks continued to insist on collateral, thus thwarting the main aim of the guarantee scheme to enable entrepreneurs with good projects but inadequate collateral to have access to loans. In all (five) countries, there was a reluctance of the banks to get involved with all the bureaucratic problems which they thought the guarantee would entail."

It is difficult to assess what would have been the level, quality and sectoral composition of industrial investment in a given country without lending by specialized institutions. Nevertheless, recent evidence suggests that, due to the fungible nature of money, directed lending has had only limited success in increasing sectoral investment.

It appears, however, that interest rate ceilings also have had negative effects on access to credit by beneficiary enterprises, partly because higher costs and higher risks usually are not offset by wider spreads available to lenders. The increase in institutional lending to agriculture and small industry together with an upward trend in term loans in the Philippines following the 1980-81 liberalization of deposit rates and the January 1983 lifting of remaining ceilings on short-term loans suggests, according to Fry, that the indictment of loan rate ceilings in repressing the supply of credit is valid. All in all, Jacob Levitsky (1986) concludes in his review of the impact of World Bank lending to small enterprises in 10 countries that "Using

subsidized finance to counteract the impact of policy induced distortions on SSEs has usually not been successful."

In analyzing the impact of financial policies on the supply of credit to small enterprises and other groups, one has to consider the possible impact of such policies on the supply of credit by informal lenders. Overall, it appears that the availability of informal credit will not increase merely to offset credit restrictions applicable to institutional credit. On the other hand, policies designed to limit the role of informal moneylenders may backfire by limiting the aggregate supply of formal and informal credit.

A strong argument behind financial regulation, including the imposition of low interest rates, is that it will bring about a **redistribution of income** from the richer to the poorer classes of society. There is, however, reason to doubt the existence of such beneficial distributive effects. Tybout determined that, in Colombia, selective credit policy favored large firms and prevented small firms from expanding. This allowed larger firms with access to cheap credit to purchase them, which eventually led to greater industrial concentration.

At the aggregate level, McKinnon claims that the discrimination against small proprietors resulting from repressive interest rate policies in turn has a limiting impact on choice of technology, as these firms will be compelled to select traditional, low-productivity production techniques as compared to more capital-intensive techniques.

### Implications for Policy Makers

Not surprisingly, the above shortcomings have resulted in subpar economic performance in developing countries that relied heavily on policy intervention in financial markets, particularly in countries where substantial amounts of credit were directed to the public sector.

Although there is a general recognition of the failure of the above interventions among researchers and policy makers alike, there is still considerable variance of opinion as to their primary causes. For instance, Fry appears to view credit allocation as counterproductive *per se*, while Virmani and other World Bank staff simply maintain that such policies should not be overabused but can still be helpful if wisely applied.

A review of the unwarranted effects of credit allocation policies indicates that the root cause of their failure often lies in a discrepancy between the stated objectives of these programs and the interests and **modus operandi** of individual implementing institutions. Although policy intent indeed tends to run counter to the normal market behavior of these institutions -- hence the need to "rectify" their behavior through a proper mix of carrots and sticks -- the problem often stems simply from the inappropriate context in which these programs are implemented. It will be found in the majority of cases that these institutions were not offered adequate incentives to act in symbiosis with program objectives, or that the environment in which they were operating was not conducive to success.

Specialized financial institutions are in many situations the only alternative available to fill the gaps left open by commercial banks. A careful review of the factors behind past success cases will provide useful lessons for the future. It will in particular help demonstrate that inefficiency and failure are not truly inherent to the very existence of DFCs, but are linked to specific constraints that can be removed through appropriate intervention. For instance, public-sector development banks are typically plagued by problems such as weak supervision by government-appointed directors, absence of accountability on the part of management, lack of incentive leading to absence of innovation and risk taking, appointment of political vs. professional managers, and confusion between government political objectives and imperatives of financial viability. Again, all of these problems may be addressed given appropriate will on the part of policy makers and the setting of a favorable operating environment.

### **Beyond Credit: Redefining the Need for Financial Services**

All the arguments and counterarguments analyzed thus far are based on the premise that credit is indeed a key constraint to enterprise growth. Although there is little doubt that availability of credit is important at least at some point in the life of individual firms, a broader view of the issue of the interaction of firms with the financial sector may be required.

Credit programs targeted to small-scale entrepreneurs may be misguided in assuming that credit -- particularly short-term, working capital credit -- is what they need most, when in fact their chief need for financial services may center around the availability of safe, readily accessible deposit facilities. When an entrepreneur takes on credit, it may not be because he has no resources, but because: (1) he needs liquidity; and (2) his savings are kept in illiquid form (land and other real estate, etc) for want of convenient and reliable cash deposit facilities.

Thus, it may well be that many, if not most, small entrepreneurs need deposit services more than they need credit. Given appropriate conditions of safety and yield (positive return on their savings), these entrepreneurs may choose to invest idle resources from their business as well as their household in liquid form instead of the inflation hedges that they traditionally use. By improving the liquidity of their resources, they will then be in a stronger position to finance the needs of their businesses from their own savings as the need arises, instead of relying on more risky and hard-to-get institutional credit.

Also, a shift of emphasis toward the provision of safe deposit facilities in areas where small entrepreneurs tend to operate will present two types of advantages for financial institutions:

- It will provide them with additional resources, thereby hopefully reducing their dependency on government-financed credit schemes.
- It will allow them to have a two-way relationship with small-scale entrepreneurs, at the deposit as well as at the lending end.

Finally, the financial system as a whole would benefit from such a shift. For one, the mobilization of additional domestic savings would reduce the need for externally funded specialized credit programs. Secondly, financial institutions would revert back to a more traditional, and sounder, approach to banking, which is to take deposits from the many and lend to the few.

## INTRODUCTION

The Agency for International Development's centrally funded Employment and Enterprise Policy Analysis (EEPA) Project aims at providing policy makers in developing countries with a better understanding of the effect of public policies on economic performance and employment, with particular emphasis on the impact of these policies at the enterprise level. This report attempts to summarize economic theory and past research relating to the effects of financial market policies adopted by governments in developing countries on enterprise performance and growth. This review of the state-of-the-art represents a first step in analyzing these linkages, feeding into EEPA's overall research over the five-year life span of the project.

Two key points should be made with respect to analysis of the impact of financial market policies on enterprises. The first is that numerous factors affect a firm's environment, which makes identifying and isolating the impact of a specific intervention in financial markets -- say, the lifting of interest rate ceilings on loans -- arduous and in some instances impossible. Secondly, policies typically affect firms dealing in formal financial markets through financial institutions instead of directly; it is therefore the process of financial intermediation as a whole that will be affected by specific policies, which will make it essential to analyze the impact of these policies on intermediary financial institutions as well as on enterprises themselves.

The analysis of the effects of public financial policies is further complicated by informal "curb" markets that smaller firms tend to rely on predominantly to address their financial requirements. Unfortunately, little data is available on these markets, which operate outside of traditional institutional and regulatory boundaries. EEPA research will need to analyze the role played by informal moneylenders and other noninstitutional players in specific countries, since they often tend to fill a void created by inappropriate public policies in the financial sector.

This paper therefore analyzes the impact of key financial market policies at both the macro (financial markets) and micro (firm) levels. In so doing, it focuses on two policy instruments that are commonly used to promote enterprise development -- credit allocation, on the one hand, and interest rate regulation, on the other. Chapter One provides a summary review of the importance of financial markets in the overall development process. Chapter Two examines the impact of financial market policies on intermediary financial institutions, and Chapter Three looks at the purported impact at firm level. Chapter Four analyzes correlations between specific interventions in financial markets and overall economic performance. Finally, Chapter Five draws lessons of past experience for policy makers and proposes an agenda for the future.

## CHAPTER ONE

### FINANCIAL MARKETS AND THE DEVELOPMENT PROCESS

#### KEY ISSUES RELATED TO FINANCIAL INTERMEDIATION

It is generally recognized that financial markets play a critically important role in the development process. The following summary review of the role and functioning of financial markets will provide the necessary backdrop to policy interventions designed to correct perceived imperfections in the functioning of these markets. Particular attention will be paid to access to financial services by enterprises of various sizes, including a review of the differential impact of financial policies on small firms.

#### Financial Depth and its Impact on Growth

The concept of financial depth -- which is typically used as a proxy to measure the level of development of financial markets -- is useful in analyzing the complex and often unclear relationship between growth in the financial sector and overall economic growth.<sup>1</sup>

Table 1 provides ratios of financial depth in selected developed and less-developed countries. Although the relative importance of the money supply tends to be roughly similar in both developed and developing countries (the ratio of  $M_1$ /GNP in the U.S. was actually slightly lower than in Kenya in 1981), broad money supply, as measured by  $M_2$ , tends to be substantially lower in developing countries -- the ratio of assets in deposit banks (essentially  $M_2$ ) to GNP was more than 50 percent higher in the U.S. than in Kenya. This reflects weak savings rates and low disposable income in developing countries, as well as the preference of investors in

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<sup>1</sup> Financial deepening occurs when financial assets are being accumulated at a faster rate than nonfinancial wealth. The ratio most commonly used to measure financial depth is that of  $M_2$  to GDP ( $M_2$  is the sum of  $M_1$  -- currency in circulation and demand deposits -- plus quasi-money, i.e., savings and time deposits).

TABLE 1  
 FINANCIAL DEPTH: SELECTED RATIOS, 1981  
 (Percentage of GNP)

Country	Money (M <sub>1</sub> )	Assets in deposit banks	Securities	Total <sup>a/</sup> financial assets	Per capita income (US\$)
<u>Industrial</u>					
Germany	16	110	49	159	13,563
Japan	29	161	105	266	10,217
Spain	26	90	34	124	5,764
United Kingdom	15	93	80	173	8,956
United States	15	87	120	207	12,513
<u>Middle Income</u>					
Argentina	7	36	7	43	2,380
Brazil	7	38	18	56	2,210
Korea	9	96	16	112	1,719
Mexico	10	34	9	43	2,070
Portugal	44	132	6	138	2,530
<u>Lower Income</u>					
Bolivia	19	21	-	21	600
Indonesia	11	24	-	24	520
Kenya	18	56	19	75	430
Nigeria	22	50	13	63	870
Thailand	9	51	14	66	770

Source: M<sub>1</sub> is taken from the IMF's "International Financial Statistics," May 1983; the remainder from Capital Markets Department, "Selected Indicators of Financial System Depth," March 1983. For notes and definitions, see original.

a/ Defined as assets in deposit banks, plus securities outstanding.

Source: *Review of Financial Sector Work*, The World Bank (October 1983).

those countries for savings of a nonfinancial nature that will provide better protection against uncertain economic conditions.<sup>2</sup>

Yet other ratios may be used to measure the use of more sophisticated financial instruments in advanced economies. This may include the ratio of financial securities (which in Table 1 represent the nominal value of bonds and the market value of outstanding shares) to GNP. Again, comparing the U.S. and Kenya, this ratio stands at 120 percent and 19 percent, respectively, and clearly reflects the far greater use of these other financial instruments in a more developed (and more affluent) economy. One may also look at the ratio of **Total Financial Assets to GDP** as a yet wider measure of financial development, a ratio that ends up being close to three times higher in the U.S. than in Kenya. However, some of these more sophisticated ratios are of dubious value. For instance, the capital of a family-owned company will not be considered a financial security, whereas the shares of a similar company will be taken into account if they are owned by outside shareholders; the economic import of these investments may yet be identical.

The concept of financial depth is useful because it allows for an easy and relatively straightforward measure of the level of development of the financial sector in a given country. It will in particular allow to measure the impact over time of specific financial policies introduced by the government. Also, in "shallow" financial markets characteristic of many developing countries, financial institutions have limited access to the resources required to extend credit to potentially viable projects. If credit is limited, small firms with typically little or no collateral to put up against a loan will be the first left out. Access by smaller firms to key financial services will conceivably be at least marginally improved if higher levels of financial depth are achieved, i.e., if more resources are available to banks and other financial intermediaries.

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<sup>2</sup> Financial depth ratios should be used with caution, as they do not always reflect accurately the functioning of the financial sector. Professor Cole (Harvard University) provides the example of Indonesia, where a large share of credit and other transactions conducted by private firms are carried out through overseas transactions in Singapore and Hong Kong and are thus not captured in standard financial depth ratios.

### Is Financial Development Supply Leading or Demand Following?

Using the financial depth concept, researchers have attempted to understand as well as measure the direction of causality between increased financial depth and overall economic growth. A key question is whether economic growth induces a demand for financial services that in turn leads to an expansion of the financial sector (a demand following process for the financial system), or, on the contrary, whether an expansion of the financial system precedes and promotes investment and growth (a supply leading function of the financial system).

The answer to this question is important to both theoreticians and practitioners, because it has a direct bearing on policymakers' approach to policy intervention in the financial sector. In either case, the financial system must be allowed to expand to support economic growth. However, if the provision of financial services is supply leading, specific policies should be instituted to promote the development of the financial system *per se*. If on the contrary it is demand following, such policies may be more passive, and essentially seek to create a favorable environment for the financial sector to play its supportive role unencumbered.

Patrick (1966) suggested that development of the financial sector will precede economic growth through the initial stages of development, although at later stages economic growth will itself create an additional demand for financial assets and thus lead to further financial deepening. Through analysis of the currency and broad money aggregates in over 60 developed and developing countries throughout the 1960s and 1970s, Jung (1986) provided only weak evidence, however, that financial deepening indeed leads economic growth in developing countries -- a causal direction running from financial development to economic growth was observed in 20 such countries and the reverse relationship in 15 countries.<sup>3</sup>

Fry (1988) provides the strongest empirical evidence in support of the hypothesis that the strengthening of financial markets is a determinant factor in the acceleration of economic growth in developing countries. Based on research of South

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<sup>3</sup> Jung adopted the currency ratio (currency/ $M_1$ ) as a proxy for financial depth.

Asian and Southeast Asian countries, Fry determined that, "Financial conditions exert a modest impact on the overall level of saving (but) a considerable effect on the efficiency with which both national and foreign saving are allocated among alternative investment projects. Hence financial conditions do seem to affect the rate of economic growth."

### **The Impact of the Economic Environment on Financial Development**

The record of the past 30 years also sheds light on the importance of economic stability in the strengthening and expansion of the financial sector in developing countries. In the late 1960s and early 1970s, exchange rates, interest rates, international commodity prices and domestic prices were relatively stable. Excluding Argentina, Brazil, Chile, Indonesia, and Uruguay, countries that experienced double-digit inflation during that period, the average yearly inflation rate from 1965 to 1973 for a group of 30 countries sampled by the World Bank was only 7 percent. Conditions of financial stability, low inflation and reasonable interest rates made the holding of financial assets attractive to savers. As a result, the ratio of  $M_2$  to GDP rose from an average of 24 percent to 29 percent in the 35 countries sampled by the World Bank (including the 5 high-inflation countries) and, in the 30 low-inflation countries from 25 to 31 percent (see Table 2).<sup>4</sup> Also, most countries depended primarily on their own resources during that period to finance their investment programs, as national savings amounted to about 80 percent of total investment.

In contrast, the instability and accelerating inflation of the 1974 to 1984 period had a dampening effect on financial sector development. Although inflation in the 35 countries sampled averaged 19 percent from 1974 to 1980, the average ratio of  $M_2$  to GDP crept up barely 2 percentage points to 31 percent, and rose only to 34 percent in 1983 (meanwhile, foreign debt increased from 24 to 48 percent of GNP between 1974 and 1983, demonstrating the increasing inability of local financial markets to generate domestic resources). Low inflation and overall economic stability are thus key to the strengthening and growth of financial markets.

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<sup>4</sup> These figures do not take into account the wider range of financial assets offered by nonbank intermediaries, which in many countries grew faster than bank deposits.

TABLE 2  
RATIO OF M<sub>2</sub> TO GDP IN SELECTED DEVELOPING COUNTRIES 1965-83

	(%)						Average
	1965	1973	1980	1981	1982	1983	1965-83
Algeria	n.a.	64.2	53.3	53.8	n.a.	n.a.	54.3
Argentina	20.7	20.4	23.1	23.1	20.6	n.a.	21.3
Brazil	16.9	16.7	8.8	7.8	7.7	7.0	13.9
Chile	15.8	19.5	17.9	22.9	30.3	n.a.	16.6
Colombia	15.2	18.0	16.3	18.5	19.1	19.2	17.4
Ecuador	15.3	20.6	20.2	19.7	20.5	18.3	19.1
Egypt	36.7	38.3	53.0	64.8	74.1	85.9	45.9
Ghana	9.0	20.2	17.2	12.8	15.0	10.5	17.4
India	23.6	25.9	37.3	38.2	39.1	39.0	29.3
Indonesia	n.a.	13.4	15.9	17.4	19.6	19.5	13.9
Ivory Coast	21.3	23.9	25.8	25.8	25.4	25.1	25.1
Jamaica	25.8	33.0	32.9	36.1	43.5	47.2	32.5
Kenya	n.a.	29.7	30.8	28.6	28.7	27.6	28.0
Korea	10.0	32.6	29.7	30.1	34.3	36.1	27.0
Malawi	n.a.	21.5	19.2	20.2	19.9	19.1	18.7
Malaysia	26.6	36.2	49.2	53.2	56.7	58.9	39.6
Mexico	n.a.	33.2	21.9	22.9	22.5	23.6	28.4
Morocco	29.3	34.3	40.8	41.8	41.3	n.a.	34.8
Nigeria	12.8	15.2	28.1	32.7	34.6	n.a.	19.4
Pakistan	33.7	44.7	38.7	36.5	37.2	40.6	37.7
Peru	22.3	23.2	20.6	19.7	20.2	21.0	20.6
Philippines	19.5	18.3	18.7	19.1	21.1	22.3	19.4
Portugal	77.6	95.3	80.7	87.4	85.3	81.9	84.8
Senegal	15.6	17.5	27.9	27.4	n.a.	n.a.	20.1
Sierra Leone	12.3	17.2	21.2	20.2	22.1	30.3	17.0
Sri Lanka	26.8	20.8	26.2	26.8	29.0	27.9	23.8
Tanzania	n.a.	25.2	38.4	41.9	47.8	n.a.	27.8
Thailand	24.3	31.6	33.7	34.9	39.1	44.6	32.1
Tunisia	29.1	33.6	37.1	39.4	39.4	40.3	34.8
Turkey	21.2	27.3	16.2	19.6	23.7	24.0	23.2
Uruguay	28.0	17.1	31.3	38.9	52.2	44.8	25.9
Venezuela	19.3	23.8	31.6	32.2	37.0	43.7	27.3
Yugoslavia	43.4	62.8	70.3	64.8	65.0	n.a.	61.3
Zaire	23.0	22.8	17.5	18.8	22.6	n.a.	22.7
Zambia	n.a.	24.3	29.0	27.1	32.1	32.3	26.1
Average	24.1	29.2	30.9	32.1	34.1	34.3	
Average 1965-73	26.5;	Average 1974-80	29.8;	Average 1981-83	33.4		

Note: All annual asset data were derived from averaged quarterly figures.

Source : Financial Intermediation Policy Paper Industry Department  
World Bank, 1985.

### Term Credit and the Issue of Term Transformation

Firms of all sizes depend on the capacity of the financial sector to provide resources of appropriate maturity -- permanent capital, or medium- and long-term credit -- to cover their investment needs. However, access to term resources is limited in most developing countries, because of the preponderance of short-term deposits in the mix of resources held by banks. A key function played by the financial system is that of **term transformation**, which characterizes the capacity of the system to use resources of short maturities (such as bank demand deposits) and apply them to investments carrying longer terms.

Although term transformation is an important function of financial intermediaries, it also carries inherent risks for the institutions involved. In addition to the normal repayment risk banks face in making any loan, term transformation entails two particular kinds of risk for the intermediary: (1) a **liquidity risk**; and (2) an interest rate risk.

The **liquidity risk** stems from the fact that the institution may not be in a position to secure new funding at existing levels as short-term deposits are withdrawn and/or short-term borrowings fall due. Since these short-term obligations will mature before the longer-term loans are collected, the institution may find itself short of cash to honor such obligations. **Disintermediation** describes the situation of a financial institution that suffers from such a potentially damaging discrepancy between the respective terms of its resources and its income-generating assets.

The **interest rate risk** results from the danger that, in an environment of rising interest rates, the cost of the intermediary's resources will gradually increase as existing deposits and borrowings mature and are replaced by costlier resources. At the same time, since term loans do not normally allow for easy upward rate adjustments, the yield on the longer-term loan portfolio will remain relatively stable. This combination will eventually expose the institution to an erosion of spread or possibly a **negative spread** between the average yield on assets and its cost of funds.

The liquidity and interest rate risks associated with term transformation usually apply to banks' medium- and long-term lending activity. Sound banking practice

prescribes banks to "cover" their position by securing resources of roughly similar terms as those of the loans made. In doing so, the institution would normally sacrifice some of the spread on term loans, since term resources are typically costlier than resources of shorter duration that would otherwise be used. Therefore, banks will still choose to finance long-term loans with short-term resources; in doing so, they bolster their short-term earnings, but may as pointed out be dangerously exposed in case of a sharp increase in market interest rates. Such short-sighted strategies have caused the demise of a score of financial institutions in both developed and developing countries.

Such transformation constraints related to the provision of term credit may be addressed in three ways by financial institutions: (1) they may offer interest-rate and other incentives to attract longer-term resources; (2) they may borrow or refinance their term portfolio through discount programs or by turning to public and/or private institutions that specialize in providing term resources to financial institutions; and (3) in more sophisticated financial markets where securities and bonds are traded and a secondary market is present, they may resell some of their longer-term assets to outside investors.

Government policy may have a direct bearing in this respect, particularly through interest rate policy (point 1) and credit allocation (point 2), respectively.<sup>5</sup> In particular, lack of access to term resources has justified the creation of special credit programs and discount windows designed to provide financial institutions with resources of longer maturities to finance term loans to the industrial sector. The effectiveness of such programs are reviewed in Chapters Two and Three.

### **The Role of the Informal Financial Sector**

A review of the impact of financial policy on the industrial sector cannot ignore the significant role played by informal markets in the provision of credit and other services to firms of all sizes, many of which do not have access to formal financial institutions. Because they are unregulated, informal markets are not

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<sup>5</sup> Policy intervention may also be instrumental in the development of secondary markets for the dealing of financial instruments, although such interventions are likely to be of lesser effectiveness in developing economies.

directly affected by government policy. However, their existence stems at least in part from constraints and inefficiencies in the formal financial sector. Hence, government intervention in the formal sector is likely to have at least an indirect effect on these "curb" markets.

Interest rates charged by informal lenders are usually higher, often substantially so, than those applicable in the formal market (see Table 3). This has led to the perception that these lenders charge extortionary rates generally out of proportion with those applicable to institutional credit. Although this may be true, one should consider such high rates as reflecting the much higher cost of doing business, including the higher risk associated with the particular class of borrowers (whom, after all, institutional lenders are unwilling to serve), and the higher cost of capital to the lender, who often has access to funds at rates equal to or higher than the formal market rate.

Informal lenders typically exhibit the following characteristics:

- They operate in either rural or urban areas, but rarely in both.
- They may be the source of both commercial and consumer credit, with, however, a general preponderance for the latter.
- They are generally very specialized, targeting specific segments that have been ignored, or cannot be economically reached, by the formal lenders.
- They normally deal with a limited number of clients, usually 10 to 30.

Formal credit institutions have much to learn from the *modus operandi* of informal moneylenders, who have an intricate understanding of the segment of the market they operate in. Daily contact with clients, precise knowledge of the commercial activity of the borrower, in addition to an awareness of their clients' other activities and sources of income allows them to respond faster than formal lenders to the needs of their clients, as well as to keep default rates at a minimum. Reliance on the credit history of the client, rather than on the creditworthiness of the project, is also a key factor in the informal lenders' responsiveness to the needs of their segment of the market. Additionally, transaction costs are reduced for both

Table 3

Formal and Informal Nominal and Real  
Interest Rates in Selected Economies

	Informal Rates (%)		Formal Rates (%)	
	<u>Nominal</u>	<u>Real<sup>d</sup></u>	<u>Nominal</u>	<u>Real<sup>d</sup></u>
<u>Africa</u>				
Ethiopia <sup>a</sup>	70	66	12	8
Ghana <sup>a</sup>	70	64	6	0
Ivory Coast <sup>a</sup>	150	145	10	6
Nigeria <sup>a</sup>	200	192	6	-2
Sudan <sup>a</sup>	120	120	7	7
Sierra Leone <sup>b</sup>	75	60	12	-3
<u>Asia</u>				
Afghanistan <sup>a</sup>	33	NA	9	NA
India <sup>b</sup>	25	15	9	-1
Indonesia <sup>a</sup>	40	29	14	3
Jordan <sup>a</sup>	20	15	7	2
Malaysia <sup>a</sup>	60	58	18	16
Pakistan <sup>a</sup>	30	27	7	4
Philippines	30	24	12	6
Republic of Korea <sup>a</sup>	60	49	6	5
Sri Lanka <sup>c</sup>	26	20	5	-1
Thailand <sup>b</sup>	29	27	9	7
Vietnam <sup>a</sup>	48	20	30	2
<u>Latin America</u>				
Bolivia <sup>a</sup>	100	96	9	5
Brazil <sup>a</sup>	60	38	15	-7
Chile <sup>a</sup>	82	52	14	-16
Colombia <sup>b</sup>	48	40	24	16
Costa Rica <sup>a</sup>	24	20	8	4
El Salvador <sup>a</sup>	25	23	10	8
Haiti <sup>b</sup>	140	122	15	-3
Honduras <sup>a</sup>	40	37	9	6
Mexico <sup>a</sup>	60	57	10	7

Sources: <sup>a</sup>World Bank, 1975. Formal rates are average of those charged on various types of loans by agricultural credit institutions. Informal rates are from various credit studies in the reporting countries. Both sets of figures cover the period from 1967-1970.

<sup>b</sup>Chuta and Liedholm, 1979. Data are from the period 1970-1975.

<sup>c</sup>Wai, 1977.

<sup>d</sup>Real rates were obtained by subtracting from nominal rates the average annual rate of increase in the consumer price index for 1967-1970 for World Bank countries or 1972-1975 for Liedholm-Chuta countries.

the borrower and the moneylender, since a formal credit application and detailed project analysis are not required.<sup>6</sup>

The informal financial sector can play an important role in developing countries. In India, it accounts for as much as 20 percent of all commercial credit. However, the credit extended is primarily for working capital purposes and typically carries terms of less than one year. Informal lenders are cautious and rarely make loans to start-up operations with no credit rating -- no loans to new ventures were found by Timberg and Aiyar (1984) in their study of informal urban credit markets in India. Nevertheless, the working capital loans extended by informal moneylenders are often critical for the operation and growth of small companies, which rely the most on such credit.

In their study, Timberg and Aiyar identified three principal actors in the informal market: full service bankers, who collect deposits from and make loans to local money lenders; commercial financiers, who lend their own money; and brokers, who serve as intermediaries between potential lenders and investors. The formal market is the principal source of funds for many informal lenders: Garrido-Leccan and Gerald T. O'Mara (1974) found that 60 percent of informal credit in Peru's urban informal markets originated in the formal market. Hence, public sector policies affecting institutional credit also have a bearing on informal markets.

The BKK program in Indonesia provides another example of the indirect impact of credit policy on informal lenders. Since the program reaches a large number of small traders and entrepreneurs that are normally excluded from formal credit markets, informal lenders are left to lend to yet riskier clients, and this in turn limits their capacity and interest to expand their activities.

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<sup>6</sup> This does not mean that transaction costs are always lower for informal than for institutional lenders. Zia Ahmed found them to be higher in Bangladesh. In his theoretical model of informal credit markets, Bottomley (1975) also argues that formal credit institutions benefit from economies of scale compared to informal lenders, and that their transaction costs tend to be lower.

## **The Interaction of Firms with the Financial System**

Since productivity gains and growth occur at the firm level, one needs to examine the interaction of firms with the financial system to fully understand the effect of financial policies on economic growth. Generally, the growth and viability of firms are contingent upon a wide array of factors. Some of these factors are internal, such as management capacity, entrepreneurship, motivation and drive, adaptability, organizational skills, and technical knowledge, although others are related to the firm's external environment. The latter include the overall economic climate, availability of skilled workers, access to markets, appropriate technology and raw materials, opportunities to network with other firms under subcontracting and other arrangements, and last but not least, access to formal credit and other sources of capital such as personal savings, credit from the informal sector, retained earnings, loans from family and friends, and credit from suppliers or customers.

Investment capital requirements are usually greatest during the start-up phase of an enterprise. New capital investment is also required for established enterprises, to replace worn-out or inefficient equipment, or for the purchase of additional fixed assets to expand operations. Capital requirements vary by industry and economic sector, and within a given industry, capital requirements will also depend on the type of technology adopted by the firm. Inversely, access (or the lack of access) to capital for fixed investment may dictate the choice of technology used, and this in turn affects the capital-intensity of the firm. Access to investment capital, whether from personal savings or through financial intermediaries, is a key factor both for individual enterprises and for overall economic growth.

The need for working capital is, however, continuous throughout the life of an enterprise in addition to the start-up phase. In his study of small-scale enterprises in Korea, Ho (1980) concluded that working capital represents a major portion of firms' total initial financing needs. Kilby et al. (1984) outline seven principal determinants of the demand for working capital. Some of these determinants have a direct (positive) correlation with working capital requirements (for example, increased volume of sales entailing greater working capital needs), while others show an inverse relation (for instance, as capital intensity of production increases, relative working capital needs decrease). These determinants are: 1) volume of sales (direct

relation); 2) degree of uncertainty of market demand for products and flow of inputs (direct relation); 3) capital intensity of production (inverse relation); 4) length of production and marketing cycles (direct relation); 5) economies of scale in procuring raw materials (direct relation); 6) managerial efficiency (inverse relation); and 7) the cost of borrowing (inverse relation). The above determinants can also be usefully separated into endogenous and exogenous factors. Points 1, 3, 4, and 6 are firm-related and are subject to internal or industry-specific decisions and innovations. Points 2, 5, and 7 refer to factors related more directly to the surrounding environment. Although the above classification was based on a review of only small enterprises, these determinants apply to enterprises of all sizes, and are generally consistent within distinct industry groups.

## THE IMPLICATIONS OF FIRM SIZE

### Background

It is recognized that small- and medium-sized enterprises (SMEs) play an important role in developing countries, especially by providing productive employment to large numbers of the population. A Michigan State University study presents empirical evidence to support the hypothesis that "small-scale industries generate more employment per unit of scarce capital than their larger-scale counterparts" (Liedholm and Mead, 1986), hence making them particularly relevant for developing economies.<sup>7</sup>

Assuming that small-scale, labor-intensive firms indeed offer unique contributions to economic growth, it then becomes important to analyze their specific capital needs as well as the constraints under which they operate in accessing institutional capital.

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<sup>7</sup> Others, nevertheless, will argue that only a small number of "progressive" SMEs effectively contribute to productivity growth and employment (see Biggs et al., 1987).

### **The Capital Requirements of Smaller Firms**

Use of capital by small firms is vastly different from that of larger units. Formal credit is rarely available, and thus does **not** play a major role in small- and micro-enterprise growth. This forces small-scale entrepreneurs to rely on capital either internally generated or received from family and friends. A key question is whether this severely limits the performance of dynamic, growth-oriented small firms?

Access to institutional credit by smaller firms raises specific issues:

- It has been argued that very small or start-up operations do not actually require access to formal sector credit, because these enterprises often seem to do well without access to such credit.
- One may also argue that the pressure of having mostly one's own money on the line may represent a needed incentive for budding entrepreneurs to improve their firm's efficiency; access to formal external credit may remove that incentive.
- Credit might encourage capital intensity, thus limiting small firms' main social contribution of creating jobs at low investment cost.
- Finally, it may be argued that the need for formal sector credit is obviated by access to an informal credit market that although more expensive, may also be more efficient and responsive to client needs (greater capacity to pick winners, better enforcement of loan collection, easier and more timely access to funds for the borrower, etc.).

The greatest perceived need for small firms appears to be not for investment capital but for external **working capital** (Liedholm and Mead, 1986). Table 4 shows that small-scale enterprises in Jamaica, Honduras, and Sierra Leone operate at inventory levels well below similar firms in the U.S., conceivably because of lack of means to finance such inventories. Daily working capital is generally limited to what can be generated internally.

Interestingly, Liedholm and Mead have also found that SMEs typically have between 10 percent and 35 percent excess production capacity. Assuming that subcapacity production does not stem from lack of market, this excess capacity could

Table 4

Sales/Inventory Ratios for Major Small Scale Enterprise  
Categories in Selected Countries -- all sampled firms

	US <sup>1</sup>	Jamaica	Honduras	Sierra Leone
<u>Enterprise type</u>				
<u>Clothing:</u>				
Upper quartile	21	33	50	100
Median	8	16	20	33
Lower quartile	3	11	7	25
<u>Furniture</u>				
Upper quartile	13	25	50	33
Median	6	13	20	10
Lower quartile	4	10	10	7
<u>Metal Products</u>				
Upper quartile	48	33	50	100
Median	15	17	33	33
Lower quartile	7	11	14	14
<u>Bread</u>				
Upper quartile	28	100	150	150
Median	17	50	100	100
Lower quartile	9	33	50	50

Source.: Small Scale Enterprise Credit Schemes by Carl Liedholm,  
Working Paper No. 25, 1985, Department of Agricultural  
Economics, Michigan State University.

Note: <sup>1</sup>US data for firms with assets below \$1 million; enterprise categories chosen were as follows: women's dresses (SIC 2335) for clothing; wood furniture (SIC 2511) for carpentry; machine shops (SIC 3599) for metal products; and bread (SIC 2051) for bread.

conceivably be put to use with an appropriate increase in working capital financing. Access to such financing would then become a key factor in allowing firms to expand output without new fixed investment.<sup>8</sup>

Despite its importance to small firms, access to credit and other sources of capital should not be considered in isolation from other factors. A detailed review of the linkages between the development of small and medium enterprises and the environment was undertaken by Cortes, Berry, and Ishaq (1986). Their research on metal working and food processing industries in Colombia emphasized the importance of a healthy Colombian economy to the development of a dynamic SME sector in the 1970s, which in turn contributed actively to increasing employment and production in Colombia during that period. The study went on to state that "an interesting hypothesis for future research would be the notion that public policies to encourage entrepreneurship, to improve access to capital, to provide more information on technology and so on is of limited importance to the success of SMEs under conditions of healthy demand growth, but that these types of assistance become much more important if demand is sluggish." However, the authors still recognize the important role played by improved access to credit for SME expansion and growth even under favorable economic conditions. They conclude that steadily increasing access to formal credit through the 1970s (as a result of liberalized financial policies by the Colombian government) was a key factor in the dynamic performance of the SME sector during that time.

Two successive evaluations of AID-sponsored credit programs in Peru shed additional light on the impact of credit on the performance and growth of SMEs under sharply differing economic conditions. In early 1982, as the economy was expanding, loans granted under the **Rural Development Fund** were used mostly to purchase equipment, and resulted in a healthy rise in employment, output, and overall

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<sup>8</sup> Whether access to working capital through credit actually is the solution to growth of SMEs needs to be analyzed on a case-by-case basis. Increased working capital needs could be the symptoms of other problems. Kilby et al have suggested that poor management of existing resources or inefficient delivery systems may force working capital needs to higher levels than needed. Resolving these problems may often be the real solution, eliminating the need for much of the perceived demand for additional credit.

firm performance. In 1985, by contrast, at a time of recession and accelerating inflation, credit granted under the **Urban Development Fund** was used primarily to build up inventories of price-controlled, and other goods, and to speculate on foreign currency and other inflation hedges (see Goldmark, Deschamps et al., 1982 and 1985, respectively).

### **Effect of Firm Size on Access to Capital**

Size is an important determinant of the way a firm copes with its environment. As the smallest actor, a small firm is individually powerless to exert much influence on its environment, and is therefore particularly vulnerable to its vagaries. A larger firm, on the other hand, is usually better able to control the environment in which it operates.

Access to different sources of credit varies substantially with firm size. Aside from having a healthy cushion of accumulated retained earnings and often benefitting from favorable payment terms from suppliers, **larger firms** also have greater access to the formal financial system. In most cases, they can provide the lender with adequate collateral, they have an established credit history, and, since they usually require larger loans, they provide the lender with the opportunity to lower loan evaluation and transactions costs per unit of currency lent. Since larger firms are usually better known to lending institutions, the perceived risk is also lower. Thus, larger firms have continued access to capital resources required for continued growth and expansion, even though they may **not** be the most efficient or appropriate users of available capital.

These same factors often result in the exclusion -- or discrimination -- of small firms in formal credit markets. Smaller firms are generally rationed out of credit and other key financial services as a result of factors inherent in the policies of financial institutions, and has led to the coining of the term "bank rationing" to define the phenomenon.<sup>9</sup>

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<sup>9</sup> This type of rationing on the part of financial institutions is by nature quite different from the rationing that results from selective government credit policies that limit the supply of credit at a given interest rate (this is analyzed separately in Chapter Three).

This rationing out is often attributed to the higher transaction costs to the lending institution, linked, among other factors, to information gathering. Intermediaries rely on their knowledge of investment opportunities to allocate available resources throughout the economy. In lesser-developed countries, market information is often sketchy and costly to gather, and the transaction cost differential in the case of small enterprise lending is simply seen as too high to overcome by simply raising interest rates (assuming that were possible). In this respect, Stiglitz and Weiss (1981) present theoretical evidence that there is an optimal interest rate above which financial institutions will not supply credit to firms offering "imperfect" information, even if this rate is below the rate which would equate supply and demand. They argue that, at those higher rates, low-risk borrowers will be deterred from borrowing, leaving only high-risk borrowers that may offer projects with higher returns but also with higher risk. Raising interest rates would thus tend to select the worst borrowers from the viewpoint of institutional lenders.

Both Anderson (1981), in his survey of the Philippines, and Bhatt, in the case of India, argue that the large differential in transaction costs incurred by financial institutions between lending to unknown small enterprises and large well-known companies is a major cause of the fragmentation of financial markets between these two groups. These and other constraints thus result in a rather drastic (and detrimental) distribution of firms in two separate categories -- a small number of investors that have access to institutional sources of capital, and a vast majority that are excluded.

Small firms are also limited by factors such as lack of collateral to offer as security against loans, poor communications between savers and investors, prejudices of banks toward classes of borrowers (the uneducated entrepreneur, the rural dweller, etc.) so that they will not extend them credit regardless of the circumstances, and a general lack of understanding of bank procedures by uneducated investors. Also, domination of the financial system by oligopolistic commercial banks -- a widespread occurrence in developing countries -- will often cause preferential allocation of funds. Banks may in some cases be allied to specific industrial groups to whom they will give preferential treatment in loan allocation. More generally, lack of

competition in the financial sector gives banks no incentive to develop new, innovative financial instruments that could help ease capital rationing.

As shown by Lieqholm and Mead, Ho, Anderson and others, smaller firms are thus required to rely to a higher degree than are larger firms on their own resources (savings, family, retained earnings) and/or on the informal sector to gain access to capital required for their investments and day-to-day operating needs. It has been estimated that formal credit represents less than 1 percent of the initial investment capital of small enterprises in least-developed countries, and that about 95 percent of small enterprises do not even apply to formal lenders for credit (see Table 5).

### Closing the Gap

Assuming that access to capital is an important determinant of enterprise growth, the ability of the financial system to make capital available to firms of differing sizes becomes a critical factor in helping to determine the shape and structure of industry. Efficient financial markets will ideally allocate credit according to firm performance and potential for growth, irrespective of firm size. This would, however, require lenders to lower their internal transaction costs to a point where they can lend profitably to successful small enterprises. It would also require them to extend credit to geographical areas where firms in a particular sector can produce efficiently but where bank branching costs may be higher.

Proponents of improved access to credit by under-served groups argue that as banks experiment with new types of lending, their understanding of small enterprises and other unreached target groups will improve; in the process, more firms will acquire a reliable credit history, and perceptions of risk will change. This may also lead to a reduction in transaction costs, as lenders adapt their loan evaluation and monitoring criteria to these new groups. **Financial innovation** is the process by which new financial instruments and novel loan procedures are adopted by financial intermediaries to reduce internal transaction costs and risk in lending to marginal groups.

Table 5

Sources of Finance for Initial Investment by Small Enterprise  
in Selected Countries

[Percentage by Source]

Source	Bangladesh 11 Thanas 1980	Nigeria 3 States 1970	Sierra Leone Entire Country 1976	Tanzania Rural Towns 1968	Haiti Port-au- Prince 1979
Own Savings	73	94	60	70	72
Relatives	2	4	20	15	9
Banks	**	1	1	1	1
Government	**	**	**	1	**
Money Lenders	1	**	1	**	1
Other*	23	**	18	6	16

Source : Small Scale Industries in Developing Countries: Empirical Evidence and Policy Implications by Carl Liedholm and Donald Mead, Paper No. 9, 1987, Department of Agricultural Economics, Michigan State University.

Notes: \* includes nonresponses

\*\* less than 1 percent

In attempting to close the gap that still limits access to credit by small firms, one should however take a discriminating look at firms with no access to financing. Policy makers and lenders should perhaps learn to focus on smaller firms that are well managed and that operate in an environment conducive to growth. It is thus important to carefully analyze the characteristics of smaller firms in developing countries, then find ways to promote those with the strongest potential as clients of the formal financial sector.

Liedholm and Mead have identified the following typical characteristics of economically viable small enterprises, which may also be considered as useful criteria by institutional lenders: (1) they use hired workers; (2) they operate in workshops located away from the home; (3) they operate in localities with more than 2,000 inhabitants; and (4) they are involved in product lines with strong economic prospects (for example, tile, furniture, baking, and repair activities). These criteria may, however, be difficult to apply in varying economic environments, and sectors with strong potential in one country may not offer the same opportunities elsewhere. Don Snodgrass (HIID) suggests that, "The only practical method is to let small firms identify themselves by their actions . . . . Lending to small enterprises should probably be done incrementally, as in the KUPEDDES program in Indonesia: make someone a small loan, then give him a larger one next time if he pays it back."

### SUMMARY

Financial institutions in developing countries are limited in their capacity to serve the productive sector by a general shallowness of the financial sector, and particularly by a lack of medium- and long-term resources in the system to finance productive investments. As compared to larger enterprises, small firms are further discriminated against in accessing credit and other institutional sources of capital, because of higher transaction costs and higher perceived risk on the part of institutional lenders.

Policy makers perceive the rationing out of smaller firms and other priority groups as market imperfections to be dealt with through direct policy intervention in

the financial sector.<sup>10</sup> Therefore, the identification of public policies that have proven successful in promoting enterprise growth in the developing world is required. Chapters Two and Three review evidence on the effect of policy intervention on the financial sector and on individual enterprises, respectively, with an emphasis on the two most widely used policy tools designed to remove these perceived market imperfections: credit allocation policies, on the one hand, and interest rate regulation, on the other hand.

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<sup>10</sup> Appendix I provides a theoretical discussion of such market imperfections.

## CHAPTER TWO

### THE IMPACT OF POLICY ON THE FINANCIAL SYSTEM

#### TYPES OF INTERVENTION

##### Overview

Perceived imperfections in financial markets are seen as preventing the efficient allocation of funds throughout the economy, and are often used by governments to justify their intervention in these markets. As described further in Appendix 1, these imperfections stem from alleged differences between the social value and financial value of projects, entailing the financing of projects with a suboptimal social value to the country as a whole.<sup>1</sup>

Governments have a variety of financial policy instruments at their disposal to channel financial resources to economic operators in accordance with specific objectives. Such instruments include monetary policy, other mechanisms such as reserve requirements that affect overall liquidity in the system, policies that affect the functioning of securities markets, as well as policies with an indirect but still material effect on the financial system such as fiscal policy or interventions affecting the transfer of external capital in and out of the system. This review of past experience in developing countries will focus on two types of policies that are most commonly used to channel financial resources to priority sectors, particularly to small and medium-sized firms -- credit allocation policies, on the one hand, and interest rate regulation, on the other.<sup>2</sup>

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<sup>1</sup> Governments may also consider that imperfections in other factor markets prevent the efficient allocation of resources in the financial sector. Such imperfections may include trade policies that provide protection for domestic products through tariffs, labor policies that distort the cost of labor, or exchange rate policies that affect the real price of imported inputs or the value of exports. These indirect effects will not be analyzed as part of this report.

<sup>2</sup> This will not preclude research on the impact of other types of interventions in financial markets to be undertaken under EEPA during the remainder of the project.

## **Credit Allocation**

Credit allocation policies -- also referred to as **credit targeting** -- are basically intended to direct credit to priority sectors of the economy that do not have access (or have insufficient access) to such credit. They may include: (1) discount and other refinancing mechanisms available to financial institutions; (2) credit floors on priority lending; (3) credit ceilings applying to nonpriority lending; and (4) use of specialized financial institutions to serve priority groups. In addition to the above, reserve requirements should also be considered as a form of credit allocation, since aside from serving to control overall credit to the economy they are also used to redirect frozen deposits toward priority sectors, particularly parastatals and the public sector. Loan guarantee programs constitute yet another form of credit allocation, since they are designed to entice financial institutions to allocate part of their resources according to set priorities.

Credit targeting has been used extensively in developing countries, to the extent that it often has a major impact on the functioning of the financial system. Typical examples of intervention through credit targeting include:

- Extensive use of rediscount programs in Honduras, which represented as much as 61 percent of the net increase in credit to the private sector in 1984;
- Obligations imposed on commercial banks in Korea to extend a minimum of 30 percent of their total loan portfolio to small and medium-sized industry;
- A "development finance ratio" that until 1986 forced Tunisian banks to allocate at least 43 percent of their total deposits in the form of medium- and long-term loans or government bonds; and
- Regulations forcing commercial banks in Thailand to direct a minimum of 13 percent of their total lending to agriculture, or alternatively have an equivalent amount on deposit at the Bank for Agriculture and Agricultural Cooperatives.

## **Interest Rate Regulation**

**Interest rate regulation** has four objectives: (1) the efficient allocation of resources intermediated by financial institutions, (2) effective domestic resource

mobilization, (3) subsidized financing for the government sector, and (4) macroeconomic stability.

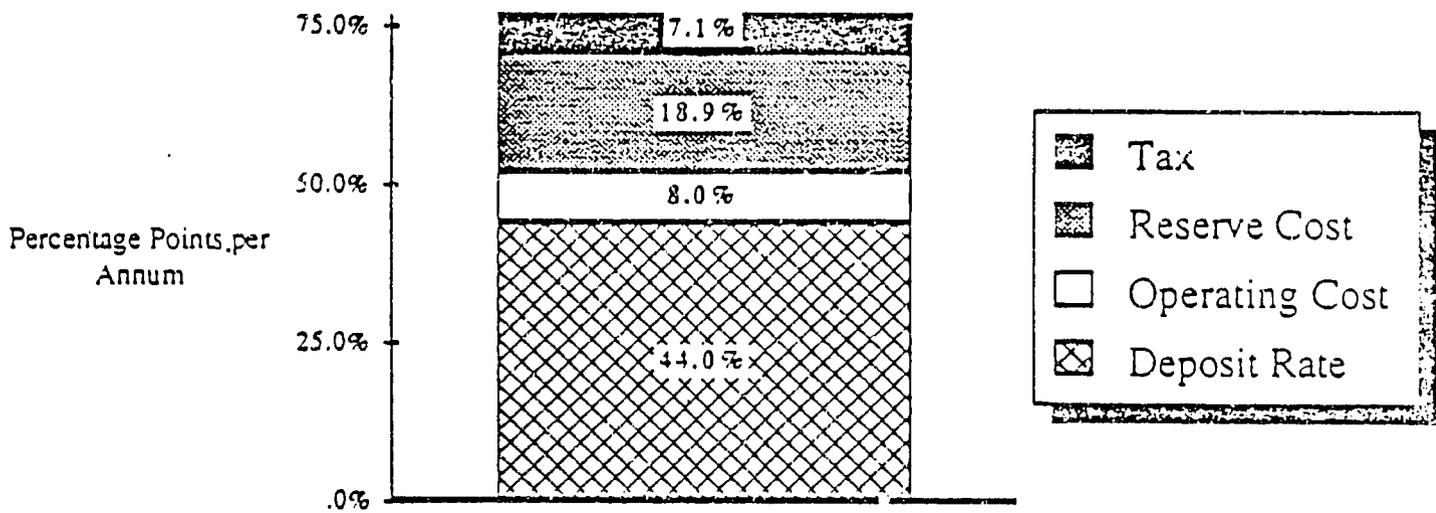
As stated by Fry (1986), "There is perhaps no set of prices over which governments throughout the world have exerted more direct or indirect control than institutional interest rates." As a case in point, when India increased interest rate ceilings on loans in September 1979, as much as 60 percent of all bank loans were found to be exempt from such ceilings because of their privileged status (35 percent were channeled to priority sectors, 8 percent for exports, 6 percent to sick industries, while 11 percent represented term loans).

Interest rate policy usually involves one of the following strategies:

- Ceilings on lending rates, either throughout the system or for selected borrowers only;
- Caps on deposit interest rates;
- Floors on deposit rates; and, although less customary,
- Floors on lending rates.

Explicit and implicit taxes on bank operations also have an effect on interest rates, by forcing banks to increase their spread over the cost of funds. Explicit taxes include taxes on loan interest, value added taxes, licensing fees, withholding taxes, as well as general income taxes. Implicit taxes include reserve requirements, and forced lending to priority sectors -- including the public sector -- at fixed (below market) rates. All these policies either remove bank resources from circulation or increase the cost of intermediation, requiring affected banks to increase interest rates on loans extended. In the case of Honduras, reserve requirements of 32 percent increase the real cost of funds to banks from 10 to 11.2 percent (Goldmark, Deschamps et al., 1987). In his analysis of Turkey, Hanson (1986) shows that 26 out of the 75 percentage points charged to borrowers by Turkish banks are due to taxes and reserve costs (see Figure 1).

FIGURE 1  
 COMPONENTS OF THE LENDING RATE  
 TURKEY 1983



Source: High Interest Rates, Spreads, and the Costs of Intermediation. James Hanson and Roberto de Rezende Rocha, The World Bank, 1986.

Past experience has shown that in pursuit of their macroeconomic and/or sector-specific objectives, governments in developing countries have usually tended to opt for the imposition of caps on lending rates, often hand-in-hand with the channeling of subsidized credit to priority target groups. Alternatively, low or negative real interest rates have often been applied to deposits, under the assumption that banks would use those low-cost resources to extend cheap credit, again in support of a "subsidized credit" policy. One should point out that whether deposit rates are or are not controlled, the imposition of interest rate caps on loans represents a *de facto* capping of deposit interest rates, since financial institutions will strive to maintain a minimum spread between one and the other. Since interest rate caps on loans and/or deposits have been by far the most pervasive, the review of past experience will focus on the impact of these caps, mostly leaving aside the effect of interest rate floors and other policies.

## IMPACT ON COMPETITION AND EFFICIENCY IN THE FINANCIAL SECTOR

### Credit Targeting

The first consequence of credit targeting is generally increased fragmentation and layering in the financial sector. **Fragmentation** is to be expected in cases where governments decree the creation of specialized financial institutions. It also occurs when governments direct specific financial institutions to extend a substantial portion of their resources to priority sectors. In fact, Fry (1986) claims in his AID-financed research on financial markets that for selective credit policies to work at all, financial markets must be kept fragmented and segmented; otherwise, financial channels will expressly develop to re-rout credit to the nonpriority sectors preferred by banks. This is most likely to occur when this targeted credit is subsidized.

Fragmentation of the financial sector can prove counterproductive. A 1983 World Bank report on Thailand states that the segmentation of the market between specialized, regulated institutions has led to "some loss of economic and often operational efficiency, distorted pricing of financial services, and increased concentration, particularly in commercial banking." Market fragmentation can also prove cumbersome to individual clients. This is the case in India, where long- and

short-term lending to agriculture are segmented from one another: land development banks extend long-term credit to farmers, while the cooperatives provide them with short- and medium-term loans. A farmer wishing to undertake a long-term investment may thus be forced to apply to two separate institutions for his term credit and working capital requirements, respectively.

The second effect of credit targeting is financial **layering**, which occurs when funds are channeled to beneficiaries through two or more institutional "layers," typically via a "wholesale" financial institution and on to the retail lender. In Honduras, the National Industrial Development Fund (FONDEI) is a wholesale finance unit attached to the Central Bank, responsible for the channeling of funds to priority sectors through the banking system. A similar role is played by COFIDE in Peru. Brazil has also operated under a two-tier financial structure, with three federal institutions passing on funds to a host of commercial, investment and development banks.

Fragmentation and layering have not had the desired effects on the performance of the financial sector -- nor, as outlined in Chapter Three, have they led to substantially improved access to credit by the beneficiary groups targeted by specific credit allocation policies. In particular, fragmentation resulting from credit targeting policies tends to thwart competition, thus removing the incentive for financial innovation on the part of financial institutions.<sup>3</sup>

In cases where credit ceilings are imposed across the board, all banks are limited equally, including those with strongest lending performance or that have attracted the most dynamic entrepreneurs as their clients. Such policies thus tend to protect less-than-efficient institutions, allowing them to maintain market share.

Fry asserts that credit ceilings also throttle competition for deposits: once the ceiling is reached, extra deposits represent unwanted idle cash reserves. This appears to have been the case in Thailand, after the Bank of Thailand set in January 1984 a yearly limit of 18 percent on domestic credit expansion, and imposed

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<sup>3</sup> In the case of Brazil (1984), the World Bank has found that financial segmentation and layering were a consequence of lack of competition -- many banks are linked to industrial conglomerates -- that eventually worsened resource allocation.

additional restrictions on credit for consumer goods, speculative stock piling, construction, and imports. Reduced competition for deposits also results from an environment where banks have easy access to **rediscount facilities** and other government-sponsored credit programs.

Use of **specialized financial institutions**, often poorly managed and dependent on government resources, has usually caused a sharp increase in financial intermediation costs. This is particularly the case of development banks, the creation of which has often entailed huge start-up costs. The record of the past 30 years also suggests that while these banks have attracted foreign resources effectively, they have failed to mobilize domestic resources. In general, their track record in participating in the development of financial markets has been disappointing (Gordon, 1983).

Another inconsistency of credit allocation policies is that they usually produce a downward sloping term structure of loan rates. With neutral inflationary expectations, free markets would normally produce a rising loan rate term structure, reflecting time and liquidity preferences and risk aversion on the part of savers -- the standard asymmetry exploited by financial intermediaries. However, selective credit policies tend to entail the setting of low interest rates on longer-term loans to encourage enterprises to take risks in the form of long-term investments. In so doing, they remove lenders' inducement to extend such loans.

The setting of such low term loan rates also tends to produce an inversion of deposit and loan rates of interest. In fact, Fry has found evidence in Indonesia, Korea, and Pakistan that some borrowing at priority rates occurred for the express purpose of depositing the borrowed funds in higher-yielding deposits, thereby thwarting the very purpose of selective credit policies in those countries. The end result is a higher cost of financial intermediation between savers and investors.

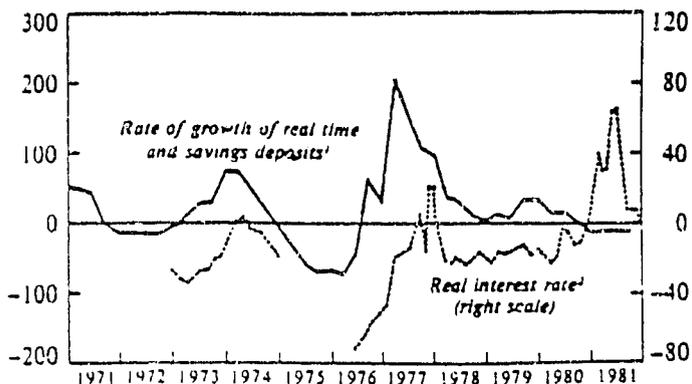
### **Interest Rate Regulation**

The correlation between real rates of interest and money demand -- bank deposits and other forms of monetary savings -- is well documented. Figure 2 provides a striking representation of that correlation in Argentina, Korea, and Turkey over the 1971-1981 time frame; in Korea for instance, the growth of savings

FIGURE 2

REAL INTEREST RATE AND GROWTH OF TIME AND SAVINGS DEPOSITS, 1971-1981  
(in percent)

ARGENTINA



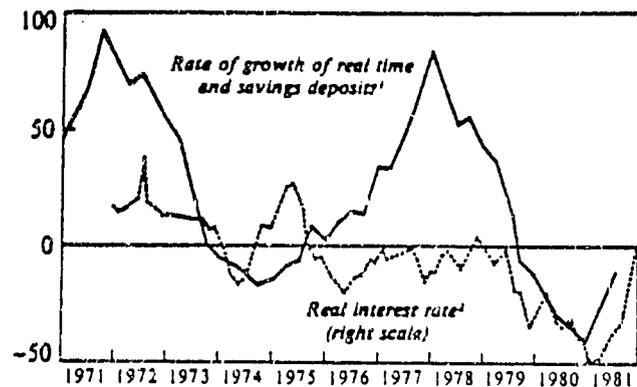
Sources: International Monetary Fund, *International Financial Statistics*, and Fund staff estimates.

<sup>1</sup>Nominal deposits, corrected for changes in the consumer price index (CPI).

<sup>2</sup>For 1973 and 1974, the 45-90 day deposit rate is shown. From June 1976 to May 1977, the rate on 30-day treasury bills is shown; subsequently, it is the commercial bank rate on 30-day deposits. For 1971, 1972, 1975, and from January to June 1976, no comparable rates are available. All rates are corrected for changes in the CPI.

<sup>3</sup>Measured as the sum of monetary and quasi-monetary deposits with the banking sector.

BRAZIL



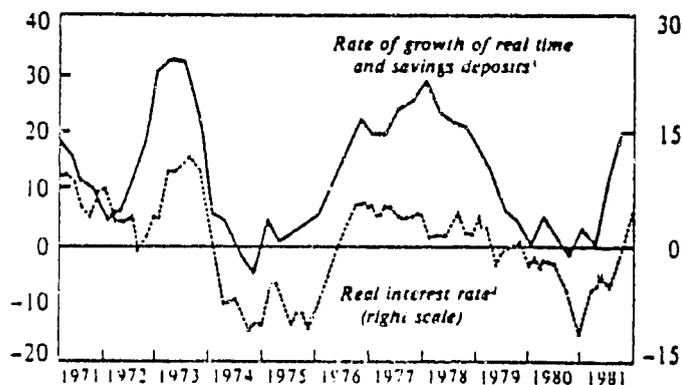
Sources: International Monetary Fund, *International Financial Statistics*, and Fund staff estimates.

<sup>1</sup>Nominal deposits, corrected for changes in the consumer price index (CPI).

<sup>2</sup>Rate of return on treasury bonds, corrected for changes in the value of these bonds is subject to an officially determined rate of monetary correction, which is added to an annual interest rate that averages 3.5 percent. This rate of return is approximately the same as that for savings deposits during the same quarter and changes in rate parallel changes in rates on time deposits. Data on rates for deposits are not available.

<sup>3</sup>Measured as the sum of monetary and quasi-monetary deposits with the banking sector.

KOREA



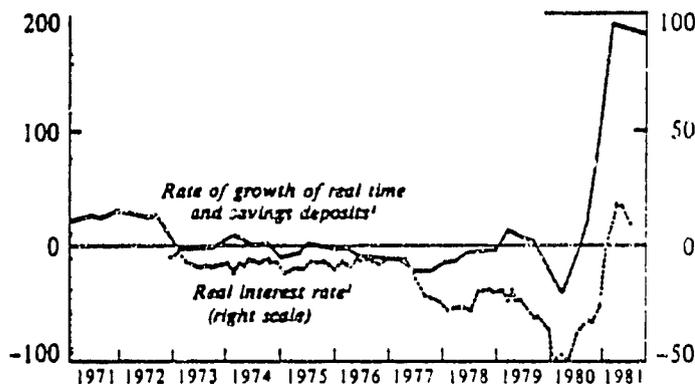
Sources: International Monetary Fund, *International Financial Statistics*, and Fund staff estimates.

<sup>1</sup>Nominal deposits, corrected for changes in the consumer price index (CPI).

<sup>2</sup>Twelve-month deposit rate, corrected for changes in the CPI.

<sup>3</sup>Measured as the sum of monetary and quasi-monetary deposits with the banking sector.

TURKEY



Sources: International Monetary Fund, *International Financial Statistics*; Central Bank of Turkey, *Quarterly Bulletin*; and Fund staff estimates.

<sup>1</sup>Nominal deposits, corrected for changes in the consumer price index (CPI).

<sup>2</sup>Twelve-month deposit rate, corrected for changes in the CPI.

<sup>3</sup>Measured as the sum of monetary and quasi-monetary deposits with the banking sector.

and time deposits was sharply reduced during the two periods when real interest rates fell (1973-74 and 1979-80).

The inverse correlation -- negative real interest rates leading to reduced savings levels -- is similarly strong, as best seen in two extreme examples provided by the International Monetary Fund (IMF) (1983):

- During the 1976-80 period, deposit interest rates in Ghana never exceeded 13 percent, although inflation was at or near triple-digit levels. These strongly negative real rates caused a precipitous flight from banking deposits, which fell to 30.9 percent of their 1975 level in real terms.
- In 1978 alone, real savings rates of minus 29 percent in Jamaica led to a 22 percent fall in deposits in real terms.<sup>4</sup>

Interest rate restrictions such as caps on loan and/or deposit rates also tend to stifle competition in the financial sector. In particular, they encourage the setting up of bank cartels allowing banks to "protect" their lending margins. Such cartels appear to have colluded to set interest rates in Hong Kong and the Philippines among others. Similar cartels in Turkey resulted in higher operating costs, and thus in lower efficiency in the financial sector (Fry, 1986).

The effect of negative real interest rates on **rural** financial markets has been clearly borne out by the AID-funded research undertaken by Dale Adams at Ohio State University. Reviewing the rationale for subsidized loan rates and cheap credit to the agricultural sector, Dale Adams concludes that "cheap credit policies are a major reason for the poor performance of rural financial markets in low-income countries. They destroy the incentives for rural households to save in financial form

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<sup>4</sup> High real interest rates have not always, however, led to higher domestic savings, as exemplified by the case of Chile in 1977-1982. Although real rates of interest were extraordinarily high during that period (30 percent above the level of inflation for most of that period), domestic savings remained flat, and stood at one of the lowest levels in history. One explanation put forward was the fact that much of the private savings were absorbed during that period by the purchase of privatized state enterprises -- thereby not feeding into the banking system -- while the government used up what should have been net savings from these privatizations to cover current expenditures.

and seriously distort the way lenders allocate loans" (Adams, Graham, and Von Pischke, 1984).

The repressive interest rate policies representative of the 1960s and early 1970s have generally led to increased shallowness of the financial system, which eventually contributed to financial dependency of many developing countries. The World Bank (1985) concludes that "if domestic savers had been paid as much in real terms as countries paid to foreign lenders and the expansion of credit kept in check -- in particular loans to public enterprises -- more resources could have been mobilized domestically and needs for foreign funding would have grown more in line with the debt servicing capacity of the countries."

#### **Overall Effects on Efficiency in the Financial Sector**

The 1984 World Bank financial sector report on Morocco provides a summary of the typical effects of unwarranted government intervention in the functioning of financial markets: "Financial sector development in Morocco is hampered by the limited competition among banks and public financial institutions. These limitations result not only from the high degree of concentration within the sector, but also from government regulations concerning interest rates and lending ceilings, the specialized role of certain institutions, and the very high level of obligatory placement requirements imposed on the banks. Limited competition has a number of adverse implications for sector efficiency: intermediation spreads that contribute to a wide gap between the average cost of credit and the average interest paid on deposits; fragmentation of the financial market and distortions in the use of resources; and lack of aggressiveness in mobilizing private financial savings, particularly time deposits."

#### **CONSEQUENCES ON THE PERFORMANCE OF FINANCIAL INSTITUTIONS**

In most cases, intervention in credit markets has eventually led to increased fragility in the financial sector, related mainly to institutional inefficiency and high default rates. In general, financial institutions -- including commercial banks -- have had to incur higher risks when forced by their government to lend (or when "talked" into lending) to priority groups that they were not ready and/or geared to

serve.<sup>5</sup> The problem has often been compounded by the fact that spreads were squeezed by restrictive interest rate caps applicable either across the board or to that particularly type of lending.

Where development banks were created, they very rarely became self-supporting, autonomous financial institutions capable of mobilizing resources on commercial terms.<sup>5</sup> About one-third of development banks are now in serious financial difficulty, due primarily to a large percentage of nonperforming assets. As per the World Bank (1985), almost half of the development finance corporations (DFCs) in developing countries had more than 25 percent of their loans affected by arrears by the end of 1983, and close to one quarter (21.4 percent) had over 50 percent of their portfolio similarly affected (see Table 6). Table 7 shows that the performance of DFCs set up specifically to serve small enterprises was slightly worse than that of all DFCs in the sample.

Although the World Bank's original model was to develop private DFCs with appropriate internal project appraisal capability, the tendency in the past two decades has been toward the creation of government-owned DFCs. The record of the latter has been worse than for privately held institutions in terms of both domestic resource mobilization and allocation (Gordon, 1983), because of greater political intervention in allocation of resources. According to the World Bank (1985), "The DFCs were in the 1970's increasingly viewed and acted as tools of development policy, channeling resources to publicly promoted or owned enterprises and to priority sectors which commercial lenders were unwilling to finance. The managements of development finance institutions that were heavily dependent on government resources and operated in highly regulated financial markets were unable to make lending decisions based on independent assessments of business risks and profits. In addition, the intermediaries' spreads did not reflect the true costs and risks involved in long-term lending to higher risk projects."

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<sup>5</sup> Again, this was due in part to the fact that these banks were often required to make loans at low rates of interest, frequently negative in real terms.

TABLE 6

FREQUENCY DISTRIBUTION OF FINANCIAL INDICATORS  
OF BANK GROUP SUPPORTED DFIs, 1981-1983  
(All figures in percentage terms unless otherwise stated)

	% of DFIs in each class			
	1981	1982	1983	1981-83
<u>TOTAL ARREARS/TOTAL LOANS OUTSTANDING</u>				
0 - 10	69.8	52.0	52.7	57.3
10 - 15	9.3	14.0	12.3	12.0
15 - 20	11.6	14.0	5.3	10.0
Above 20	9.3	20.0	29.8	20.7
<u>TOTAL LOANS AFFECTED BY ARREARS/</u>				
<u>Total Loans Outstanding</u>				
0 - 10	25.0	21.2	19.6	21.7
10 - 20	22.7	26.9	23.2	24.3
20 - 30	13.6	15.4	21.4	17.1
30 - 40	13.6	13.5	7.1	11.2
40 - 50	6.8	7.7	7.1	7.2
Above 50	18.2	15.4	21.4	18.4
<u>Net Income/Total Assets</u>				
Below 0	14.5	15.2	14.3	14.6
0 - 1	34.8	42.4	45.7	41.0
1 - 2	30.4	25.8	27.1	27.8
2 - 5	17.4	12.1	11.4	13.7
5 - 10	2.9	4.5	0	2.5
Above 10	0	0	1.4	0.5
<u>Net Income/Net Worth</u>				
Below 0	13.2	14.7	10.3	12.7
0 - 5	25.0	25.0	38.2	29.4
5 - 10	16.2	19.1	14.7	16.7
10 - 15	20.6	20.6	14.7	18.6
15 - 20	10.3	7.4	7.4	8.3
Above 20	14.7	13.2	14.7	14.2
<u>TOTAL LIABILITIES/NET WORTH*</u>				
0 - 3	28.7	21.6	21.9	24.1
3 - 5	11.0	16.2	13.7	13.6
5 - 10	30.1	28.3	28.8	29.1
10 - 15	15.1	17.6	17.3	16.8
Above 15	15.1	16.2	17.8	16.4

\* Figures refer to the actual ratio.

Source: Financial Intermediation Policy Paper, World Bank, 1985.

TABLE 7  
FINANCIAL INDICATORS OF BANK GROUP SUPPORTED DFIs, 1981-1983  
(in percentage terms)

	Total Arrears				Total Loans Affected by Arrears				Net Income				Net Income			
	Total Loans Outstanding				Total Loans Outstanding				Total Assets				Net Worth			
	1981	1982	1983	1981-83	1981	1982	1983	1981-83	1981	1982	1983	1981-83	1981	1982	1983	1981-83
East Africa	20.3	18.5	17.6	18.5	49.7	37.3	41.2	42.0	0.11	0.21	0.29	0.20	1.3	1.1	2.8	1.7
West Africa	15.4*	30.5*	26.1	26.4	N.A.	53.9*	42.6	45.8	0.11	0.80*	-0.20	0.13	1.4	4.7	-1.8	1.2
East Asia	4.5	4.3	6.1	5.0	11.5	12.9	12.7	11.5	1.65	1.14	1.57	1.45	12.5	4.9	4.6	7.1
South Asia	18.5	21.1	24.9*	21.3	57.3*	50.3	60.2*	55.1	2.68	1.14	1.28*	1.79	9.9	10.6	10.5*	10.3
EMENA	8.0	10.0	12.2	10.1	32.8	29.0	30.2	30.7	1.05	1.40	1.32	1.25	11.0	17.0	18.5	15.7
LAC	4.7	12.2	8.3	8.7	14.8	18.1	21.1	18.2	1.10	1.26	0.31	0.88	12.8	5.5	6.6	15.7
All DFIs	10.7	13.1	13.7	12.5	28.4	26.7	29.2	28.1	1.04	0.99	0.76	0.93	8.6	6.8	7.0	7.5
DFIs lending Primarily to SSEs	12.9	13.9	14.6	13.9	27.1	26.6	27.9	27.2	1.12	0.88	1.37	1.13	2.8	2.8	4.3	3.3
Other DFIs	8.8	12.6	13.3	11.8	28.9	26.8	30.8	28.8	1.00	1.04	0.47	0.67	11.6	9.0	8.4	9.7

\* There were less than 5 observations in the sample.

Notes: EMENA = Europe, Middle East, and North Africa

DFI = Development Finance Institution

Source: Financial Intermediation Policy Paper, World Bank, 1985.

Governments in developing countries have also tried to influence the supply and distribution of credit through regulation of **branch networking** throughout the country. For instance, Bangladesh imposed in the mid-1970s a ratio of two rural branches for each new urban branch licensed to a given bank, in the hope that banks would cross-subsidize their rural network through their more profitable urban branches. Virmani (1984) has found that as a consequence of these policies the average administrative costs of a rural branch (excluding the ones in the initial stages of operation) was 9.2 percent of loan activity for Sonali Bank (the country's largest), vs. a 3.2 percent average for all branches. Based on an average cost of funds of 4.4 percent and an average yield on loan portfolio of 12 percent, rural branches were actually losing 1.6 percent on all loans vs. a 4.2 percent profit for urban branches. Despite regulations, the ratio of rural to urban branches began to decline after 1978, and commercial banks offered to actually transfer their unprofitable rural branches to BKB, the agricultural development bank.

## CHAPTER THREE

### THE IMPACT OF FINANCIAL POLICIES AT ENTERPRISE LEVEL

#### IMPACT ON PRICE STABILITY

Policy intervention in financial markets is generally aimed at improving not only the availability of capital for investment but also the prevailing market conditions under which specific investments are undertaken. In order to maximize economic benefits, productive investments require stable investment conditions, including expanding markets, the existence of disposable income by consumers, low inflation, and general economic stability.

Past experience shows, however, that regulation of financial markets tends to hamper rather than improve the general investment climate. In particular, both credit targeting (at least in some of its forms) and interest rate regulation tend to result in higher inflation levels:

- The creation of discount funds and other refinancing mechanisms designed to benefit priority groups usually leads to accelerated growth of the money supply, thus creating inflationary pressures on the economy.<sup>1</sup>
- Negative real deposit rates that result from the imposition of caps on institutional rates depress real savings in the formal financial sector, also pushing governments to adopt expansionary monetary policies designed to boost investment beyond voluntary savings levels. The ensuing inflation in turn will push real interest rates further down -- since governments tend to lag in adjusting them to changing inflation levels -- further feeding into the inflation spiral.

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<sup>1</sup> This is because these mechanisms are typically financed through budgetary allocations, i.e., through the printing of money without "real" counterpart. This may be avoided through tight monetary and fiscal discipline, as in the case of Korea where, although the use of rediscount mechanisms prior to the reform of the 1980s did at times cause excessive monetary expansion, government finance was well managed and there was no pressure to finance large and continuous government deficits.

Higher levels of inflation are particularly detrimental to long-term investment, since relative prices of inputs and outputs are less stable under inflationary conditions than otherwise. Additionally, inflation will encourage the stockpiling of inventory and other capital goods, at the expense of productive investment.<sup>2</sup>

### IMPACT ON THE OVERALL SUPPLY OF CREDIT

Financial regulation tends to result in reduced overall supply of credit. As already pointed out, credit allocation schemes -- particularly **refinancing** -- are often correlated to high reserve requirements imposed to extract resources from deposit banks and channel them to priority sectors on concessional terms. In India, Korea, and the Philippines, higher reserve requirements appear to have reduced the total supply of loanable funds (Fry, 1986). In cases where refinancing is simply covered by a corresponding increase in the money supply, the additional resources created by the program are, as mentioned above, likely to be more than offset by the erosion of total credit supply through the inflationary effect of that same program.

Similarly, interest rate **subsidization** is normally associated with high reserve requirements designed to reorient the subsidized credit to priority target groups. Unless banks are free to increase their lending rates, these reserve requirements will force banks to lower deposit rates of interest if they are to remain profitable. This, as discussed earlier, will in turn lower institutional savings levels and thus the supply of available credit. Interest rate caps on savings will in most cases have the same negative effects on the overall supply of credit in the financial system. Rather than provide more efficient allocation of resources to priority sectors and increased productive output, cheap credit policies and other interest rate controls have simply led to a reduction in total available funds for lending.

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<sup>2</sup> As demonstrated by the case of Brazil over the past 15 years, higher inflation does not necessarily entail stagnation and disinvestment. However, it tends to create grave distortions in the intermediation of financial resources, and further complicates the analysis of optimal credit allocation for policy makers.

**Credit ceilings** applied to nonpriority credit can also have detrimental effects on credit availability. Fry mentions the case of India, where credit ceilings on the total volume of nonpriority loans were tightened in September 1979. Although loan rates on such nonpriority credit were raised, nonpriority borrowers ended up being totally rationed out of the market.

Interest rate regulation may also have distortionary effects on the demand for credit. Using the examples of the Philippines, where institutional interest rates were held below their competitive equilibrium levels over most of the 1960-1984 period, and Thailand, where below-equilibrium interest rates were particularly prevalent during the 1970s, Fry claims that such disequilibria have led to excess demand for institutional credit. Such excess demand is often synonymous with inefficient allocation or misuse of borrowed resources. Yet another consequence is the reinforcement of dualism in the financial sector, with the "rationed" institutional credit going to larger, influential firms, and with smaller firms being confined to the higher-priced informal loans.

Deposit and loan interest rate ceilings have a yet stronger negative impact on term lending, as found by Fry in the cases of Thailand after 1983 and the Philippines. In a growing or potentially growing economy, particularly, the basic objective of accelerated economic growth would necessitate positive real long-term time deposit rates to maximize the real supply of domestic credit. Also, the interest rate curve should be rising as loan terms increase to compensate for lack of liquidity and higher risk, i.e., the longer the maturity of the deposit the higher the rate. However, interest rate repression tends to flatten out rates, preventing banks from charging higher rates for longer maturities. Secondly, as stated by Fry, negative real rates will affect the volume of long-term deposits to a higher degree than the volume of current and short-term time deposits, since closer substitutes exist for the former than the latter. Thirdly, banks often charge loan initiation fees that exceed costs, as a way to circumvent interest rate ceilings; this results in a strong preference by banks for high turnover, short-term lending that allows them to charge these fees each time a new loan is disbursed (World Bank, 1980).

The administrative setting of interest rates has led to a different type of problem in many developing countries that have experienced a lowering of inflation in the 1980s. As inflation fell, governments failed to adjust interest rates downward, thus leading to excessively high rates of interest in real terms. EEPA research has shown real interest rates to be unduly high in Belize, where treasury bills yielded 12 percent in 1986, i.e., the same rate as the interest rate floor on loans, and where the average commercial bank loan rate stood at 14.7 percent, although domestic inflation that year was only 1 percent. High deposit rates resulted in strong levels of savings and high liquidity in the banking system, but banks chose to invest an inordinate portion of their resources in treasury bills rather than to extend loans for productive purposes (Deschamps and Camacho, 1987).

The excessively high loan rates stemming from the above will normally result in weaker demand for credit. Small enterprises are likely to be most affected, since the interest rate premium they would have to pay over and above the high rates charged to prime customers tends to price their investments out of the market. While the literature has examined the problems caused by government regulation of interest rates at the artificially low rates that were widely prevalent in the 1970s, the implications of excessively high rates that now apply in a number of countries have not been seriously analyzed (see Chapter Four for a review of the consequences of such distortions).

## **IMPACT ON THE SUPPLY OF CREDIT TO PRIORITY FIRMS**

### **Credit Targeting**

As already pointed out, the magnitude of credit allocation schemes is often substantial, affecting in some cases over 50 percent of total credit. Notwithstanding the negative effects of such schemes on the financial sector, one would at least expect them to have a positive effect on the supply of credit to the priority groups targeted by these programs.

Little empirical evidence is available to determine with reasonable certainty whether this has actually been the case. The scant analysis found in the literature

as well as the experience of the authors is, however, that the track record in developing countries has been at best mixed. In, for example, Brazil, Colombia, and Indonesia, credit targeting was judged to have been only partially effective in channelling incremental resources to priority subsectors (World Bank, 1985). In a case typical of developing countries, small entrepreneurs in Sri Lanka widely complain that they still had little or no access to institutional credit, despite the existence of as many as 31 different refinancing and discount programs at the Central Bank designed to encourage lending to that and other priority groups (Deschamps et al., 1988).

A major impediment of targeted credit programs is that credit gets diverted away from the intended target group. As pointed out in the work carried out by Dale Adams on rural financial markets, targeted credit programs generally fail to reach their intended clientele, and credit often ends up being diverted by banks to their preferred client group. This is particularly true in the case of programs involving an interest rate subsidy, to the extent that subsidized credit has been said to lead to credit rationing within the intended beneficiary group. This phenomenon applies similarly to the nonrural financial sector.

Credit targeting also entails preferential treatment of politically influential entrepreneurs, particularly when credit control is implemented through nationalization of the banking sector. Recognizing the almost inevitable temptation for political interference in the disbursement of concessionary loans, the Korean government finally reprivatized commercial banks in the early 1980s.

Also, credit allocation schemes face institutional constraints that may severely limit their scope. Fry claims that the financial layering that results from credit allocation can work efficiently only if final lenders acquire expertise in loan evaluation techniques. However, such expertise is found to vary greatly from one institution to another and from one region to another. Hence, credit cannot be spread efficiently and equitably. Analyzing the case of Bangladesh, Virmani has shown that uniform credit targets are ineffective, and that they should be tailored to the profile and operating mode of each individual bank. In the mid-1970s, the Bangladesh government instituted minimum lending ratios to the nationalized

commercial banks for loans to small businesses as well as to housing and transport. However, there were wide variations in the banks' performance in achieving these goals. Sonali Bank, the country's largest, was successful in the area of small loans but unsuccessful in the other two categories. Agrani Bank, by contrast, successfully served the transport sector but mostly failed in small loans and housing, while Janata Bank was successful in both small loans and transport.

Virmani believes that such uneven performance is linked to each bank's special orientation and expertise, and to its information links to particular sectors. He goes on to suggest that any element of forced lending should be limited to a short introductory period, designed to induce banks to collect information and establish connections with the neglected sector, a "forced learning by doing." Three to four years should be enough time for this learning process to take place, at which time forced lending criteria should be removed. Virmani also claims that forced lending will not necessarily benefit the poorest, unless the policy also involves a relaxation of collateral requirements. Unfortunately, lending institutions involved in directed credit programs have in most cases failed to relax such requirements.

Similar institutional constraints are found in the case of targeted lending to agriculture. In the case of India, land development banks provide only long-term credit and the cooperatives short- and medium-term loans. Although the cooperatives tend to know their borrowers better than the land development banks, they lack experience and well-trained staff.

Development banks and other specialized financial institutions have shown unequal performance in improving access to credit by their client groups. Although they have often been a unique source of credit for a class of borrowers with otherwise no access to formal credit, their effectiveness has been hampered by the same rigidities that preclude commercial banks from serving these higher-risk groups -- collateral requirements are often just as stringent, as are other loan conditions such as completion by the bank and/or the borrower of a full-fledged feasibility analysis for the project under consideration.

A specialized financial institution that has shown some promise is the lead bank. It has been pioneered in South Asia, and is an innovative type of institution designed to improve coverage of specific sectors in limited geographical areas. These banks employ loan officers with little formal education but who are originally from the areas where they lend. Similarly to informal lenders, they tend to have first-hand knowledge of their clients, either from personal experience or through references. One financial institution will serve as the lead bank in a sector (agriculture, for example), providing better service at a lower cost. The Syndicate Bank (India) and Grameen Bank (Bangladesh) are examples of successful lead banks. However, lead banks have by their very nature had only limited scope, and have not been effectively replicated elsewhere. Also, their success is often because of the presence of an especially dynamic or visionary manager, such as in the case of Grameen Bank.

In summary, it is difficult to assess what would have been the level, quality, and sectoral composition of industrial investment in a given country without lending by specialized institutions. Nevertheless, recent evidence suggests that, due to the fungible nature of money, directed lending has had only limited success in increasing sectoral investment (Financial Intermediation Policy Paper, World Bank, 1985).

### **Guarantee Programs**

Guarantee programs can be assimilated to credit targeting, since their purpose is to provide an incentive to banks to lend to a class of borrowers they would not otherwise lend to.<sup>3</sup> The idea is that participating banks will in the process strengthen their internal loan evaluation procedures with respect to the target group, and gain a better understanding of its specificity and requirements. In so doing, loan administration costs will decrease and confidence will be gained by each bank in its capacity to achieve low default rates with that particular class of borrower, providing further encouragement to these banks to expand use of their own resources to other borrowers in the target group. Anderson recommends the use of credit

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<sup>3</sup> Liquidity guarantees, particularly guarantees covering deposits in financial institutions, will not be addressed in this report.

guarantee funds to provide a partial (less than 100 percent) coverage of the lending institution's risk in lending to SMEs. He recommends a careful evaluation of the sharing of risk, since risk coverage should be high enough to entice qualified banks to aggressively lend to the target group, but low enough to ensure good loan monitoring and collection performance by participating banks.

Unfortunately, the track record of credit guarantee funds is unfortunately poor. Virmani asserts the effect of guarantee programs on collateral requirements by participating financial institutions is ambiguous, thus limiting the relative benefit to the less wealthy. For instance, the Bangladesh Special Agricultural Program prohibits the taking of collateral by banks, but the restriction was found instead to induce these banks to lower loan amounts and to raise interest rates to borrowers. A World Bank review of five guarantee fund schemes around the world states that, "In the Philippines, commercial banks continued to insist on collateral, thus thwarting the main aim of the guarantee scheme to enable entrepreneurs with good projects but inadequate collateral to have access to loans. In all (five) countries, there was a reluctance of the banks to get involved with all the bureaucratic problems which they thought the guarantee would entail" (Review of World Bank Lending to Small Enterprises, World Bank, 1985).

An AID project design team recommended against the use of a guarantee scheme in Peru in 1985, because of the perceived danger that the guarantee fund would cause banks to become more lax in their selection of clients, or reduce their incentive to enforce repayment. The fund would also have introduced a level of complexity in the project and unavoidably created hidden transaction costs for the banks and eventually for subborrowers, such as delayed disbursements if prior approval by the fund was required, post-audit of banks' portfolios if it was not, duplicate monitoring of SME portfolios at the level of the banks and the fund, re-registration of liens and other loan guarantees in the name of the fund in case of default, etc. (Deschamps, Goldmark, and Quiros, 1985). Also, managers of guarantee funds have often been found to be suspicious of banks' efforts in collecting loans that benefitted from a guarantee. Examples abound of guarantee funds that have not honored a single claim for compensation, which in turn makes banks reluctant to participate in these schemes.

### **Interest Rate Regulation**

As was the case for credit targeting, little empirical research has been undertaken on the impact of interest rate regulation at firm level. It appears, however, that interest rate ceilings also have had negative effects on access to credit by beneficiary enterprises, partly because higher costs and higher risks are usually not offset by wider spreads available to lenders. Before 1981, the Philippines Central Bank set maximum deposit, loan, discount, and money market rates, as well as loan rate ceilings ranging from 14 to 21 percent depending on the nature and maturity of the loan; these lower loan rate ceilings deterred lending to small-scale enterprises and to agriculture due to higher per unit administrative costs and higher risks generally associated with these types of loans (Patrick and Moreno, 1982). In the case of Bangladesh, Virmani reports that a decrease in the interest rate ceiling led to a sharp reduction in the proportion of smaller loans to the agricultural sector (less than TK 1,000), from 37 percent to 29 percent between June 1977 and June 1978. Jacob Levitsky (1986) concludes in his review of the impact of World Bank lending to small enterprises in 10 countries that, "Using subsidized finance to counteract the impact of policy induced distortions on SSEs has usually not been successful."

Conversely, liberalization of interest rates appears to have had positive effects at enterprise level. Cho (1988) analyzed the average cost of borrowed funds for 68 manufacturing enterprises in Korea, comparing in particular these costs between large and small firms. Analyzing the effects of the 1980 deregulation of financial markets, he detected a significant reduction in the dispersion costs since that date, which he concludes implies a significant improvement in the efficiency of credit allocation. This conclusion is drawn from the fact that such efficiency will be maximized when marginal returns are equated across all investments, i.e., when the dispersion in marginal borrowing costs is reduced. In the Philippines, the increase in institutional lending to agriculture and small industry together with an upward trend in term loans following the 1980-1981 liberalization of deposit rates and the January 1983 lifting of remaining ceilings on short-term loans suggests, according to Fry, that the indictment of loan rate ceilings in repressing the supply of credit is valid.

## IMPACT ON CREDIT SUPPLY FROM INFORMAL SOURCES

In analyzing the impact of financial policies on the supply of credit to small enterprises and other groups, one has to consider the possible impact of such policies on the supply of credit by informal lenders. In particular, it is important to know whether expansion or contraction in the supply of institutional credit tends to be offset by opposite changes in credit supply in the informal market.<sup>4</sup>

In their 1983 article "Informal Credit Markets and Black Money -- Do They Frustrate Monetary Policy?", Acharya and Madhur used financial data over a 25-year period in India to test these correlations. They conclude that "official monetary-credit policy has substantial effects on the informal credit market." When formal credit was restricted by the Indian government, informal moneylenders did not respond with an increase in credit supplied. Instead, they raised their interest rates to reflect the new restrictions applicable to formal credit (inversely, Acharya and Madhur did not find any empirical evidence, in the Indian context, of a limiting role played by the informal sector on formal market policies).

In their analysis of Peru, Garrido-Lecca and O'Mara contend that flourishing informal credit markets result largely from segmentation of financial markets caused by repressive financial policy. These policies raised the differential cost of credit between the formal and informal sectors, providing monopoly profits to moneylenders: "The residual 8-13 rate points represents (the) estimate of the monopoly profit that the contrived scarcity of formal market credit has created for informal lenders." Again, no evidence was found that the supply of credit increased in the informal sector to offset credit restrictions in the formal sector.

Timberg and Aiyar (1984) used the case of India to review the impact of government policy aimed at dampening noninstitutional (informal) credit because it did not allocate resources according to the national plan. They concluded that, "The

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<sup>4</sup> The existence of an important informal credit market, however, may dilute or render impotent the impact of government policies on institutional lenders.

(Indian) government policy aimed partially at channeling funds into the regulated financial sector -- and partially at protecting savers and borrowers (adoption of legislation protecting borrowers from moneylenders) -- has led to measures of repression which have disaggregated this informal market from the regulated one." The result is that, "The increases in transaction costs occasioned by artificially channeling funds into the formal market may cause a net decrease in available funds, and retard economic activity."

Overall, it thus appears that the availability of informal credit will not increase merely to offset credit restrictions applicable to institutional credit, and that policies designed to limit the role of informal moneylenders may backfire by limiting credit supply overall.

#### FINANCIAL REGULATION AND INCOME DISTRIBUTION

A strong argument behind financial regulation, including the imposition of low interest rates, is that it will bring about a redistribution of income from the richer to the poorer classes of society. There is, however, reason to doubt the beneficial distributive effects of repressed interest rates.

The effects of financial regulation on income distribution and equity in nonrural areas have been supported by research by Tybout (1983), Cho (1984), and Brown (1973). Brown focuses on the experience in Korea, while Cho compares income distribution and equity issues in Korea and Taiwan, respectively. Both Brown and Cho point out that directed, subsidized credit policies in Korea have favored a few large companies, leading to industrial concentration. These subsidized rates caused a transfer of resources from small investors to a few large borrowers, favoring the choice of capital-intensive technology and lowering the demand for labor (Cho). By contrast, Taiwan has limited the scope of its selected credit programs while maintaining positive institutional interest rates. Taiwan's credit distribution was much more evenly spread among firms, with a smaller percentage going to the largest ones. This eventually contributed to a more even distribution of income in Taiwan than in Korea.

Based on his analysis of Colombia, Tybout also concludes that selective credit policy favored large firms over small firms. Without access to credit, the small firms were unable to expand, allowing larger firms with access to cheap credit to purchase them and eventually leading to yet greater industrial concentration. \*

Similar conclusions have been drawn from analyses of the agricultural sector. Evidence is that in countries where large agricultural units coexist with small farmers, the former group will get the lion's share of the subsidized credit, leaving small farmers with no choice but to rely on informal (and higher-priced) credit markets to finance their needs. Indeed, despite the existence of numerous programs directed to small farmers, it has been estimated by Dale Adams that, overall, 1 percent of farmers in developing countries have access to 80 percent of the institutional credit, while another 15 percent have access to the remaining 20 percent.

In the same vein, Gonzalez-Vega argues that interest rate ceilings tend to "redistribute loan portfolios of formal financial institutions in favor of nonrationed borrowers (in most cases the largest and most influential producers) and modify the access to credit by different producer classes" (Adams, Graham and Von Pischke, 1984). Interest rate restrictions thus lead to the acquisition by nonrationed borrowers of a bigger share of the credit "pie," thus strengthening their earning potential and further skewing income distribution.

Vogel analyzed data from the Central Bank of Costa Rica to demonstrate that the majority of subsidized agricultural credit went to the larger farmers, with the same negative effects on income distribution. Furthermore, larger farmers with access to the subsidized credit tend to substitute capital for labor, reducing their demand for agricultural laborers and further skewing income distribution in rural areas. Vogel believes that the removal of the subsidies would allow greater access to bank credit by small farmers, thus allowing small farmers to share in the new wealth created through these programs.

## IMPACT OF CREDIT

Another important yet partially unanswered question relates to the impact of the credit that actually reaches target enterprises on the performance and profitability of these enterprises.

The fact that credit targeting often provides easy access to credit for priority groups of borrowers has been cited as a strong deterrent to firm-level efficiency, taking away incentives to perform that the entrepreneur would have were only his own funds on the line. In Bangladesh, qualified firms can borrow up to 70 percent of the cost of an industrial project from a bank, and eventually obtain an additional 15 percent from other sources. If they find a way to inflate the cost of imported machinery, they will end up with very limited direct equity and thus little incentive in seeing the project through.<sup>5</sup>

Also, credit allocation schemes are, as already noted, plagued by the diversion of loans from their original purpose by the beneficiary himself, either through relending or through use of loan proceeds for consumption instead of for productive purposes. Little can be done by banks to overcome this problem, which is linked to the basic fungibility of money. Supervised agricultural credit programs, for example, have attempted to offset these constraints by monitoring closely the use of credit by beneficiary farmers. However, even such close supervision is powerless to overcome the problem, and worldwide evidence indicates that supervised agricultural credit programs do not always yield stronger economic benefits or produce higher repayment rates than nonsupervised programs. In Haiti, the institution (BCA) that provided nonsupervised credit to small farmers in fact achieved in the early 1980s repayment rates substantially higher than the other public institution (BNDAI), which provided strictly supervised credit to mostly larger projects.

At the aggregate level, McKinnon (1973) claims that the discrimination against small proprietors resulting from repressive interest rate policies has a limiting impact on choice of technology, as these firms will be compelled to select traditional,

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<sup>5</sup> This also often results in poor repayment performance.

low-productivity production techniques as compared to more capital-intensive techniques. This leads to dualism between firms using such traditional techniques and those that gained access to more modern techniques through credit.<sup>6</sup>

One may relate the above to a study by Banerji (1978) claiming that industries in middle- and low-income countries have less homogeneous production processes than industrialized countries, with greater technological contrast among firms in a specific industry. Although Banerji does not test these findings against the level of financial depth, one can hypothesize that the above is at least partially due to unequal access to credit by firms in given industries, thus leading to the adaptation of different technologies, each entailing different levels of productivity.

Further empirical evidence to support McKinnon's hypothesis on the correlation between discrimination of small-scale entrepreneurs in credit markets and technology selection was provided by Richard Sines (1979) in his study of the food processing industry in Venezuela. Sines concluded that such discrimination not only led to lower capital intensity of small firms as compared to larger firms, but also resulted in lower total factor productivity for firms that were denied access to institutional credit.

The fact that refinancing programs are highly susceptible to changes in overall economic imperatives from one year to the next constitutes yet another limitation to their overall impact at firm level. As stated by Virmani, the use of refinancing mechanisms to supply credit to a specific sector such as small enterprises is often dependent on global monetary policy. These programs are thus prone to brutal reductions or outright cancellation when monetary policy shifts from being expansionary to being restrictive. This is particularly true in times of high government deficits leading to internal and external pressures to reduce inflation.

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<sup>6</sup> This argument is somewhat contradictory, however, with the reasoning that credit should go to smaller firms precisely because they tend to use highly labor-intensive techniques better able to use the oversupply of labor in most developing countries. A discussion of the desirability of labor-intensive techniques in such settings is beyond the scope of this paper but is still of direct relevance to a broader analysis of policy intervention affecting financial as well as other markets.

These brutal shifts may have unsettling consequences for sectors of the economy that had been traditionally reliant upon such refinancing for investment financing or working-capital requirements. This constraint can be overcome by increasing reserve requirements as warranted, in which case it will, as already pointed out, affect the overall supply of credit to the economy.

## CHAPTER FOUR

### CONSEQUENCES ON ECONOMIC PERFORMANCE

#### OVERALL EFFECT OF CREDIT ALLOCATION

As already pointed out, the rationale behind **credit allocation** is that private and social returns related to credit and other capital transfers vary, and that targeting credit to specific sectors or groups of borrowers can encourage investments with high social returns whereas private returns to the financial intermediary may be low. A key question is whether policy intervention in the financial sector has actually yielded the anticipated benefits at the **aggregate** level, i.e., whether it has led to improved economic performance overall. A basic assumption behind the use of these selective credit policies is that public sector planners will be able to select investments with higher potential economic and/or social returns than those that would be financed by market participants in the absence of any intervention in credit markets.

Based on past experience, it is not clear whether planners have been successful in this respect. In fact, it appears that development plans in most developing countries have tended to favor investments with relatively low social returns as well as high domestic costs. A World Bank report on Korea expresses doubt that in an increasingly complex economy the government will be able to appropriately select the sectors that should receive more credit than would otherwise be allocated to them by the financial sector. Similarly, the modest performance of several Asian countries that rely heavily on public sector investment (Bangladesh, Burma, India, Nepal, and Sri Lanka) over the past two decades throws serious doubt on the capacity of planners to pick "winners."

Neither is there any convincing evidence that selective credit policies and the expensive institutional structure established to implement them has led to increased productivity. Fry contends that, "The rate of economic growth in Indonesia actually declined in 1973-79 compared to 1968-73, despite the proliferation of specialized

financial institutions that led to a substantial increase in the investment rate. As several observers have concluded, Indonesia's economic problem is not an insufficiency but rather a misallocation of resources. Financial layering<sup>1</sup> has failed to improve matters."

Virmani believes that the poor performance of countries that have instituted tight credit controls stems from the fact that ceilings on loan amounts to producers are likely to be more effective against established, more visible and successful borrowers, mainly because they are easier for the government to police. Thus they are likely to have perverse welfare effects within a set of borrowers by channeling loans away from current borrowers to new, less-productive borrowers. Overall, efficiency in the use of credit will deteriorate.

Another familiar characteristic of credit targeting is the high percentage of credit going to the public sector. In a study focusing on credit allocation in 17 countries of Africa and East Asia over the 1962-1982 period, Marsden (1986) found a strong correlation between economic growth and the supply of domestic credit to the private sector. Regression analysis showed that a 1 percent increase in the real rate of growth of private credit was associated with an increase in growth of GNP per head of 0.34 percent (the estimate is significant to the 99 percent confidence level). His analysis suggests that the private sector uses financial resources more efficiently than the public sector, hardly a surprising finding. The share of credit going to the private sector was also correlated to healthy performance in mobilizing domestic savings. To the contrary, savings ratios dropped sharply wherever governments came to dominate the demand for domestic credit.

Table 8 summarizes Marsden's findings. It shows that in those countries classified as high growth over the period 1962-1982 (average annual growth of GNP per head at 4.5 percent), private sector share of domestic credit increased from 65 to 85 percent. For medium-growth countries, it fell from 92 to 65 percent, and it fell even more dramatically for low-growth and negative-growth countries (from 89 to 31 percent, and from 68 to 26 percent, respectively). Similarly, private domestic

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<sup>1</sup> See definition in Chapter Three.

TABLE 8  
CREDIT AND GROWTH

<u>Countries</u>	<u>Average Annual</u> <u>Growth of GNP</u> <u>Per Head (%)</u>	<u>Share of Private</u> <u>Sector in Domestic</u> <u>Credit (%)</u>		<u>Private Domestic</u> <u>Credit (% of GNP)</u>		<u>External Public</u> <u>Debt (% of GNP)</u>	
	<u>1962-82</u>	<u>1962</u>	<u>1982</u>	<u>1962</u>	<u>1982</u>	<u>1970</u>	<u>1982</u>
High Growth	4.5	65	85	13	41	14	22
Medium Growth	2.3	92	65	13	28	22	46
Low Growth	0.9	89	31	13	16	29	47
Negative Growth	-0.9	68	26	8	13	22	51

Source: IMF International Financial Statistics Yearbook, 1984 and Supplement on Output Statistics, No. 8, 1984; World Bank, World Development Report, 1984.

credit, which as a percentage of GNP was fairly similar among the various groups in 1962, had grown to a high 41 percent of GNP in high-growth countries, against 28 percent, 16 percent and 13 percent in medium-, low- and negative-growth countries, respectively.<sup>2</sup> One can safely conclude from evidence provided by Marsden and others that the existence of a large credit demand in the public sector is generally detrimental to economic performance and growth.

### INTEREST RATE REGULATION AND ECONOMIC PERFORMANCE

One may also draw interesting lessons from an analysis of the interest rate policies adopted by countries with high-growth and low-growth performance, respectively. Such an analysis was undertaken by Fry, who examined 14 Asian developing countries over the 1961-1983 period. This analysis showed that the four countries with real deposit rates averaging more than 1 per cent over the period were Malaysia (3.5 percent average real rate), Singapore (2.8 percent), Taiwan (3.7 percent), and Thailand (3.0 percent). These countries also represent three of the four fastest growing countries in his sample (Korea is missing) as well as the fastest growing medium-growth country. Lowest average deposit rates were, however, recorded by India (-0.9 percent), Indonesia (-35.1 percent), and Pakistan (-0.7 percent). In real GNP growth ranking, these countries hold seventh, eighth, twelfth, and fourteenth place in the sample of fourteen countries. A similar conclusion is reached by Bilson (1984), who claims, "The outstanding recent success stories in the national economic sweepstakes -- Hong Kong, Korea, and Singapore, for example -- have all experienced very high savings rates (resulting from high real deposit rates) in comparison with other countries."

An IMF review of 21 countries over the 1971-1980 period confirms the above findings. As shown in Table 9, the six countries with positive real interest rates

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<sup>2</sup> The study found that economic performance was not significantly correlated with financial flows from abroad. Foreign lending to African countries was generally substantially higher in relation to GNP than for their East Asian counterparts, but in most cases failed to boost growth. In fact, the level of external public debt had a negative relationship with economic growth.

during the period had an average annual GDP growth of 6.4 percent. Meanwhile, the ten countries with moderately negative rates achieved GDP growth of 4.7 percent and the five countries with severely negative rates achieved GDP growth of only 1.6 percent. Regression analysis in the sample of countries demonstrates "that covariation between growth rates of real financial assets and output can be explained substantially in terms of differences in interest rate policies. The data supports the argument that positive interest rate policies stimulate output growth, and that this stimulus is transmitted mainly through the intermediation of financial asset accumulation" (IMF, 1983). Figure 3 provides a visual representation of the distribution of countries as per real interest rate levels, growth in real financial assets, and GDP growth as per the IMF's analysis.

TABLE 9

SELECTED DEVELOPING COUNTRIES:  
GROWTH OF REAL FINANCIAL ASSETS<sup>1</sup>  
AND REAL GDP BY GROUPS DISTINGUISHED BY  
INTEREST RATE POLICY, 1971-1980

(Compound growth rates, percent per annum)

	Financial Assets	GDP
A. Countries with Positive Real Interest Rates		
Malaysia	13.8	8.0
Korea	11.1	8.6
Sri Lanka	10.1	4.7
Nepal	9.6	2.0
Singapore	7.6	9.1
Philippines	5.6	6.2
B. Countries with Moderately Negative Real Interest Rates		
Pakistan <sup>2</sup>	9.9	5.4
Thailand	8.5	6.9
Morocco	8.2	5.5
Colombia	5.5	5.8
Greece	5.4	4.7
South Africa	4.3	3.7
Kenya	3.6	5.7
Burma	3.5	4.3
Portugal	1.8	4.7
Zambia	-1.1	0.8
C. Countries with Severely Negative Real Interest Rates		
Peru	3.2	3.4
Turkey	2.2	5.1
Jamaica	-1.9	-0.7
Zaire	-6.8	0.1
Ghana	-7.6	-0.1

Sources: International Monetary Fund, *International Financial Statistics*, and Fund staff estimates.

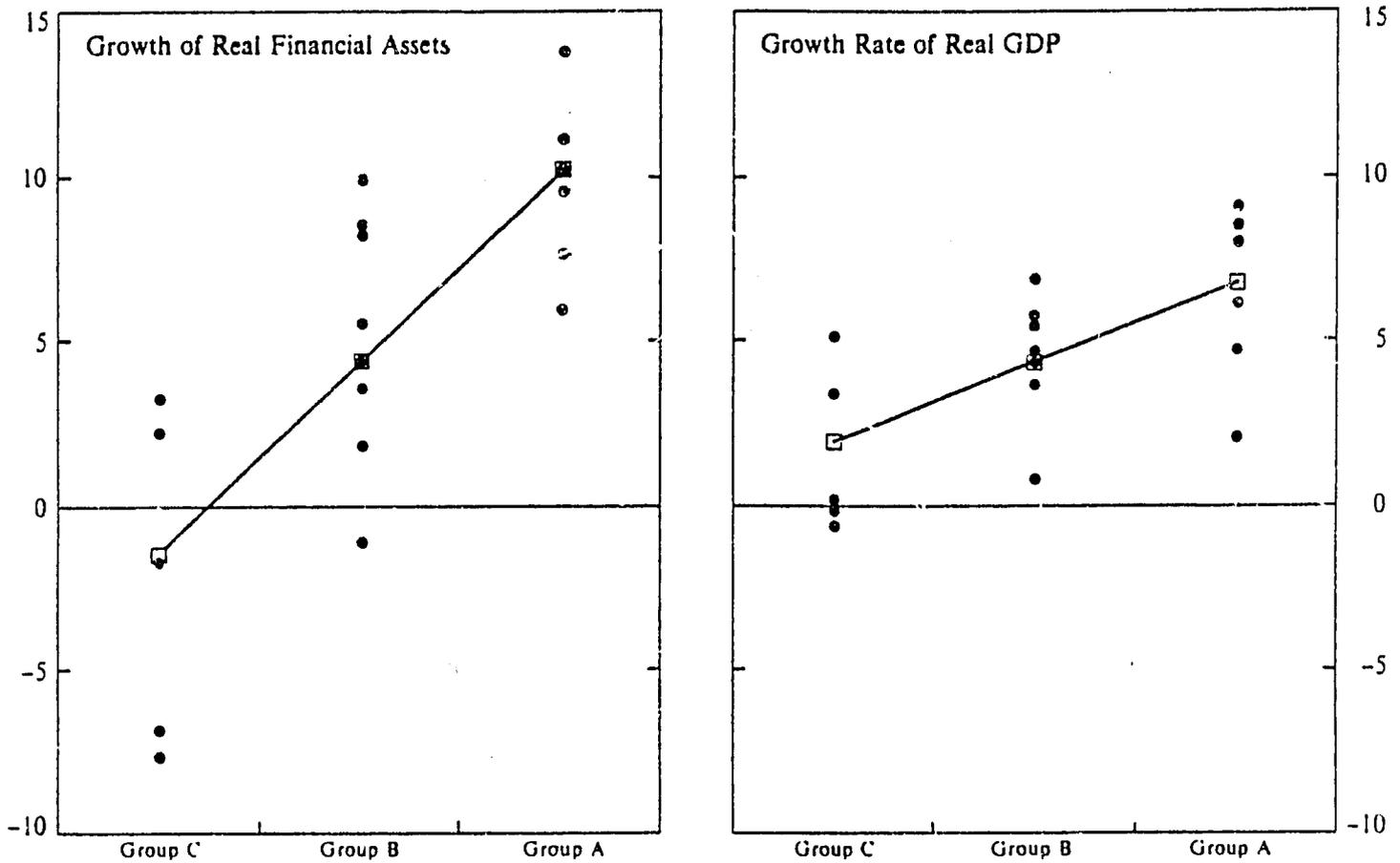
<sup>1</sup>Measured as the sum of monetary and quasi-monetary deposits with the banking sector, corrected for changes in the consumer price index.

<sup>2</sup>The period of coverage is 1974-80.

Source: Interest Rate Policies in Developing Countries, International Monetary Fund, 1983.

FIGURE 3.

SELECTED DEVELOPING COUNTRIES: GROWTH OF REAL FINANCIAL ASSETS<sup>1</sup>  
AND REAL GDP BY GROUPS DISTINGUISHED BY  
INTEREST RATE POLICY,<sup>2</sup> 1971-1980



<sup>1</sup>As defined in Table 3.

<sup>2</sup>See Table 3 for specification of these groups.

Source: Interest Rate Policies in Developing Countries  
International Monetary Fund, 1983.

## CHAPTER FIVE

### IMPLICATIONS FOR POLICY MAKERS

#### IS FAILURE INHERENT TO POLICY INTERVENTION

It is clear from the evidence cited in previous chapters that commonly used financial policies such as credit targeting and interest rate regulation have: (1) tended to stifle the performance of the financial sector; and (2) failed to produce a surge in productive investment at the enterprise level. Consequently, they have not had the anticipated effects on productivity and growth, and have had a negative impact on income distribution. More surprising is the fact they have been unsuccessful in reversing -- or at least reducing -- discrimination in financial markets against priority groups that these policies were intended to assist, and have had a disappointing performance in assisting small and medium-sized firms.

Although researchers and practitioners alike recognize these failures, there is still considerable variance of opinion as to their primary causes. For instance, Fry appears to view credit allocation as counterproductive *per se*, while Virmani and other World Bank staff simply maintain that such policies should not be overabused but can still be helpful if wisely applied.

A key -- yet unanswered -- question in this respect is whether the ineffectiveness of policy interventions in financial markets is *inherent* to such interventions, or whether the problem lies chiefly in a combination of exogenous factors including improper selection of policies for the given environment, faulty implementation, or outright mismanagement or manipulation of the system by influential officials.

Part of the confusion surrounding these issues stems from the fact that policies such as credit targeting and interest rate "repression" have often been applied together, producing an unwarranted mix of distortions, some of which may be inherent to the type of intervention and others not. A summary review of the intrinsic nature of these distortions is thus required.

## Credit Targeting

A review of the unwarranted effects of credit allocation policies indicates that the root cause of their failure often lies in a discrepancy between the stated objectives of these programs and the interests and *modus operandi* of individual implementing institutions. Although policy intent indeed tends to run counter to the normal market behavior of these institutions -- hence the need to "rectify" their behavior through a proper mix of carrots and sticks -- the problem often stems simply from the inappropriate context in which these programs are implemented. It will be found in the majority of cases that these institutions were not offered adequate incentives to act in symbiosis with program objectives, or that the environment in which they were operating was not conducive to success.

Proof that credit targeting is not inherently doomed to failure lies in those success stories, which although relatively rare deserve closer attention on the part of researchers. As a case in point, refinancing and discount programs have proven successful where strong political will was present to counteract the tendency for overusing and abusing the system, and they still have an important role to play in both developed and developing countries in channeling funds to priority sectors. However, major attitudinal changes on the part of public authorities are required to make them effective and economically feasible. This implies choosing sectors and beneficiary groups targeted by these programs on the basis of objective economic criteria rather than political motivation, as is too often the case. Also, clear targets should be set and abided to avoid the ridiculous overreliance on schemes that governments too easily fall prey to.

The same applies to the use of specialized financial institutions to achieve developmental objectives. Available evidence shows that a number of such institutions have been successful -- some of them highly so -- at providing financial services to priority groups with no previous access to the formal financial system. The government-owned Grameen Bank in Bangladesh and the BKK network of rural banks in Indonesia are proof that specialized financial institutions can be profitable when operating under a clear mandate and when capably managed and supervised.

Specialized financial institutions are in many situations the only alternative available to fill the gaps left open by commercial banks. A careful review of the factors behind such success cases will provide policy makers with useful lessons for the future. It will in particular help demonstrate that inefficiency and failure are not inherent to DFCs, but are linked to specific constraints that can be removed through appropriate intervention. For instance, public-sector development banks are typically plagued by problems such as weak supervision by government-appointed directors, absence of accountability on the part of management, lack of incentive leading to absence of innovation and risk-taking, appointment of political vs. professional managers, and confusion between government political objectives and imperatives of financial viability. Again, all of these problems may be addressed given appropriate will on the part of policy makers and the setting of a favorable operating environment.

### **Interest Rate Regulation**

Based on the evidence provided in previous chapters, it is clear, however, that interest rate "repression," most commonly applied through the subsidization of interest rates on credit programs directed to specific target groups, is inherently counterproductive.

The strongest argument in favor of low interest rates in developing countries is that high levels of investment are needed and that low interest rates will increase investment. It is conversely argued that a rise in interest rates will reduce the level of desired investment by raising the cost of financing certain investments above their expected rate of return. As pointed out by the IMF (1983), the argument: (1) ignores the crucial distinction between desired and actual levels of investment, and (2) assumes that at lower rates the additional resources for investment will somehow be obtained.

Notwithstanding the neo-Keynesian models arguing for low interest rates to promote investment, recent research as well as empirical evidence from the past 20 years strongly suggest that interest rate regulation (ceilings) have a strong negative impact on domestic resource mobilization, on supply of credit -- including credit to

priority groups -- and eventually on growth. They also induce beneficiaries to become more capital intensive, to expand beyond the economic or social optimum, to substitute credit for the internal savings they may otherwise have accumulated, to use the funds carelessly, to neglect improvements in internal efficiency, and to spend too much time and effort in the rent-seeking activity of gaining access to the cheap credit. The combination of cheapness of credit and lender's laxness in enforcing repayment -- a typical feature of subsidized credit programs -- will result in loose borrower discipline, and over time in the breakdown of the entire system; in turn, loan losses of specialized financial institutions will involve a continuous fiscal drain on the government.

### THE PITFALLS OF DEREGULATION

The above strongly suggests that governments in developing countries should be encouraged to dismantle the web of interest rate and other controls that hamper the functioning of the financial sector. Ironically, however, reduced competitiveness and efficiency in the financial sector may also result from poorly conceived or hastily implemented financial liberalization.

For instance, Corbo, de Melo, and Tybout (1986) showed in their 1986 analysis of the consequences of Chile's sweeping financial reforms of 1974 that firms allied with banks were able to avoid the very high cost of local peso borrowings resulting from those reforms by borrowing the cheap foreign funds available to these banks. "The average financial cost to (bank)-affiliated firms was accordingly considerably below that of independent producers." This affected overall economic performance, since these firms had little incentive to improve productivity and were often not as efficient as these independent producers. They conclude that closer supervision of financial activity that would prohibit or limit such detrimental policies is essential when financial systems that have been highly regulated for a long time are liberalized.

Peru provides another example of detrimental results produced by poorly conceived financial liberalization. In 1978, the Peruvian government introduced reforms in the financial sector that included liberalizing interest rates, reducing reserve requirements, opening up capital markets to foreign investors, and allowing

dollar-denominated financial transactions. This resulted in a substantial dollarization of the economy fed by legal, and also, to a large extent illegal (coca trade), foreign trade. By early 1985, however, interest rates on sol deposits and loans were not allowed to rise fast enough to reflect accelerating inflation, while those on dollar-denominated deposits remained positive in real terms. Since a healthy, virtually risk-free return could be earned by borrowing soles and placing them in dollar deposit accounts, soles were borrowed for the sole purpose of purchasing dollar instruments and other investment hedges. Meanwhile, actual investment in plants and equipment declined. The Garcia government, which took office in the summer of 1985, maintained negative interest rates on loans but restricted the convertibility of the sol, which, coupled with policies to increase domestic demand (raised wages, frozen prices), led to a short-term surge in demand for credit and investment.

To counteract the dangers of financial liberalization, the World Bank cautions that, especially in countries where both financial intermediaries and the final borrowers are in shaky financial condition, the pace of interest rate reform should be moderate. In those countries that continue to set interest rates, these should be adjusted frequently and in small increments to reflect changes in the cost of funds and differential movements in inflation and exchange rates. In countries experiencing rapid inflation, it often will be more feasible to adopt variable interest rates, based on an agreed index. But, "while these reforms are desirable to introduce greater flexibility in the financial system, they obviously are not substitutes for reforms in macroeconomic policy aimed at removing the root causes of high inflation" (World Bank, 1985).

The broader issue of policy intervention in the allocation of credit requires, however, a more discriminate analysis. Although still representing the exception in developing countries, past successes at the level of either individual institutions or of the economy as a whole will provide useful clues as to the project features as well as the macroeconomic conditions required to make intervention in financial markets successful. Dismissing credit targeting as inherently counterproductive would as already mentioned be too simplistic, and will not help resolve inefficiencies in the allocation of credit throughout the economy. Indeed, targeted credit remains the most readily available (and possibly the only potentially effective) tool to correct the

traditional discrimination of smaller enterprises and other priority groups in formal credit markets.

In dealing with these broader issues, the writers of the 1985 World Bank Financial Intermediation Policy Paper proposed the following agenda for the future:

"In the past, the (World Bank) emphasis has been on channeling resources to priority sectors and on developing individual intermediaries providing credit; in the future, the Bank will need to emphasize financial policy and broader institutional reforms and expand both the array of its lending instruments and the variety of institutions to which it provides assistance. Two fundamental reasons lie behind the recommended shift in Bank objectives and strategy. First, past experience has highlighted that the performance and long-term viability of individual financial institutions is intertwined with the performance of the entire financial system. The Bank's efforts in supporting individual financial institutions are likely to succeed only if conceived in the context of the overall financial sector and supported by necessary policy and institutional reforms. Second, it is increasingly evident that a well-developed and well-functioning financial sector is important to economic development in its own right.

Accordingly, in most countries Bank support to the financial sector should aim to: (a) enhance domestic resource mobilization; (b) encourage development of more resilient and robust financial structures, both at the level of the enterprise and the financial system; (c) improve resource allocation by reducing fragmentation and removing distortions in credit markets; (d) improve efficiency by reducing the cost of intermediation; and (e) improve the transparency of financial transactions and increase trust in the system by upgrading financial information and strengthening the legal and regulatory environment. Experience suggests that the agenda for financial sector operations should include such issues as directed credit programs; interest rate policies; reserve ratios; development of new financial instruments and services; competitive environment; capital adequacy of financial institutions; accounting, auditing and regulation of financial institutions and markets; staff and management upgrading; taxation of capital; longer term development of securities and equities markets; and institutional reforms necessary to improve the efficiency of the financial sector."

The report concludes that, "Many of the difficulties currently faced by financial intermediaries arose not only because of weaknesses in financial policies and financial institutions, but because of problems in macroeconomic and industrial policies as well." Thus, "Financial reforms will yield full benefits provided parallel changes are made in industrial and trade policies."

What is therefore suggested is not an outright dismantling of the web of policies imposed on the financial sector over the years. Rather, a critical analysis is required to identify the specific constraints that have prevented policy interventions from yielding the anticipated benefits. Also, one has to recognize that it is highly unlikely that governments in developing countries and international agencies will suddenly give up their activism and agree to cancel outright the vast array of instruments used to control and orient the intermediation of resources in the financial sector. Since, if only for political imperatives, many of the instruments will still be used for years to come, one should seek ways to make them more effective than they have been to date. The World Bank policy approach summarized above provides pointers in that respect.

#### **AGENDA FOR FUTURE RESEARCH**

Much research has been undertaken on the impact of financial policies on the financial sector, but little is known on the impact of these same policies on individual firms. In particular, very little empirical data is available on the differential impact of financial policies such as credit targeting and interest rate regulation on enterprises of various sizes, including their impact on small and medium-sized firms that are of particular interest to the EEPA Project.

Although this lack of data may be partially due to the fact that enterprise-level surveys are expensive and arduous, it is also a consequence of the methodological difficulties in trying to isolate the impact of a specific type of policy from the score of other factors influencing the performance of an individual firm. The fact that financial policy does not affect firms directly but through the intervention of financial institutions only complicates the issue. It may, for instance, be difficult to determine whether a given entrepreneur did not participate in a targeted credit program because of lack of initiative on his part, in which case policy intervention will have little bearing on his fate, or whether he was "selected out" by the implementing bank, in which case new interventions may be devised to encourage the bank to better serve the class of clients he or she belongs to.

Understanding the impact of financial policy on enterprises of various types and size is, however, a necessary complement to what is already known at the aggregate level. If promotion of small enterprises is a priority in a given country, then policy makers need to know the extent to which interest rate regulation or the existence of subsidized credit programs tends to ration rather than improve access to credit by that group.

Since no comprehensive enterprise surveys are undertaken under EEPA, an indirect approach to the issue is required, involving analysis of macro-level and secondary data collected in the field. The proposed methodology will involve collecting and analyzing data on the following:

1. **Overall data on economic performance and industrial concentration:** if the proponents of financial liberalization (deregulation) are correct, the existence of interest rate controls and other restrictions on the functioning of financial markets will lead to lower higher industrial concentration and uneven income distribution, which will eventually have a negative effect on total factor productivity and employment. Fry suggests that useful lessons will thus be learnt from analyzing these and other variables as proxies for the performance of firms according to size, product line, and sector. Data should be collected over an extended period of time and then correlated to specific changes in financial policy. Positive changes would of course be expected in countries that have deregulated their financial markets.<sup>1</sup>

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<sup>1</sup> In cases where financial markets have been liberalized, such as in Sri Lanka, Fry also proposes to analyze the average return on capital over time, according to the methodology developed by Harberger (1978). The McKinnon-Shaw model predicts that an increase in the real rate of interest will produce improved access to credit by small enterprises and a concurrent increase in the average rate of return to the capital stock. When financial markets are fragmented and interest rates are negative in real terms, resources are used to finance inefficient, capital-intensive investments undertaken by large firms with privileged access to institutional credit. If overall return to capital is found to be higher than before in "liberalized" countries, one could thus infer that access to institutional credit was improved for SMEs. If this is not the case, other factors that prevented a rise in the return on capital to occur need to be investigated, such as continued oligopolistic practices in the banking sector.

2. **Firm-level data collected from the central bank and/or intermediary financial institutions, including commercial banks:** specific data to be collected on a time-series basis from banks should include at the very least a distribution of loans by size (loan size being used as a proxy for enterprise size) and by term of the loan, as well as information on interest rate dispersion and default rates.

Data on the distribution of loans by loan size should provide key indications as to access to credit by small firms. If such data is also available for a period preceding a major shift in financial policy (say prior to financial deregulation), then an analysis of the impact of such a policy shift will be possible. The data on dispersion of loan rates needs to be carefully analyzed in the context of past and present government policies. Increased dispersion may result from a number of factors. If, on the one hand, it results from the existence of subsidized credit programs, or from an increased tendency by banks to engage in monopolistic price discrimination, impact on small firms is unlikely to be positive. If, on the other hand, it results from increased competition for new, smaller clients combined with improved ability on the part of the banks to charge for the extra risk involved, then impact on employment and productivity are likely to be greater. Data on loan arrears and defaults will, among other issues, also help provide an answer to the question above, i.e., whether the dispersion in interest rates can be attributed to increased dispersion in borrower characteristics or, alternatively, to increased freedom to engage in monopolistic price discrimination.

3. **Interest rate structure:** the existence of an inverse (or flat) maturity structure of deposit interest rates is typically linked to an oligopolistic banking system. As appears to be the case in Sri Lanka, the existence of such a system often prevents radical changes in financial policies to have the desired effect on credit availability to small and medium-sized firms. Tilts in deposit rate structure thus need to be analyzed over time to determine their distortionary effects on the financial system as a whole.
4. **Performance and operating procedures of financial institutions:** other data required to fully understand the relationship between small firms in a given

environment and the financial sector include information on banks' operating costs, their spreads, operating profits, and other performance indicators. Also needed is data on loan terms and conditions, collateral requirements, steps required to apply for a loan, average time required to process a loan application, and other "hidden" transaction costs incurred by borrowers.

It is anticipated that such analyses will be carried out in at least two countries in 1989.

### BEYOND CREDIT: REDEFINING FINANCIAL NEEDS

All the arguments and counterarguments analyzed thus far are based on the premise that credit is indeed a key constraint to enterprise growth. Although there is little doubt that availability of credit is important at least at some point in the life of individual firms, a broader view of the issue of the interaction of firms with the financial sector may be required.

Useful lessons may be drawn in this respect from an analysis of the "new view" applied to the subject of rural credit. This new view argues that credit programs targeted to small farmers are misguided in assuming that credit -- particularly seasonal credit -- is what they need most, when in fact their chief need for financial services centers around the availability of safe, readily accessible deposit facilities. When a small farmer takes on credit, it is usually not because he has no resources, but because: (1) he needs liquidity; and (2) his savings are kept in illiquid form (land, cattle, etc.) for want of convenient and reliable cash deposit facilities.<sup>2</sup>

In the same vein, it may well be that many, if not most, small entrepreneurs need deposit services more than they need credit. Given appropriate conditions of safety and yield (positive return on their savings), these entrepreneurs may choose to invest idle resources from their businesses as well as their households in liquid form instead of the inflation hedges that they traditionally use. By improving the

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<sup>2</sup> There are of course many totally destitute small farmers with no capacity for monetary or nonmonetary savings. However, those farmers normally do not have access to institutional credit, even that provided under traditional agricultural/rural credit schemes.

liquidity of their resources, they will then be in a stronger position to finance the needs of their businesses from their own savings as the need arises, instead of relying on more risky and hard-to-get institutional credit.

Also, a shift of emphasis toward the provision of safe deposit facilities in areas where small entrepreneurs tend to operate will present two types of advantages for financial institutions:

- It will provide them with additional resources, thereby hopefully reducing their dependency on government-financed credit schemes.
- It will allow them to have a two-way relationship with small entrepreneurs, at the deposit as well as at the lending end.

Finally, the financial system as a whole would benefit from such a shift. For one, the mobilization of additional domestic savings would reduce the need for externally funded specialized credit programs. Secondly, financial institutions would revert back to a more traditional, and sounder, approach to banking, which is to take deposits from the many and lend to the few.<sup>3</sup>

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<sup>3</sup> This "traditional" approach to banking has been clearly skewed by targeted credit programs, which led banks to borrow from the few (international agencies), and lend to the many (scores of small entrepreneurs, farmers, etc.).

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**APPENDIX ONE**

**FINANCIAL MARKET IMPERFECTIONS:  
THE RATIONALE FOR GOVERNMENT INTERVENTION**

## APPENDIX ONE

### FINANCIAL MARKET IMPERFECTIONS: THE RATIONALE FOR GOVERNMENT INTERVENTION

Policy interventions in the financial sector are usually based on a perception by public authorities and/or development economists that financial markets do not operate optimally from a social or economic viewpoint. Thus, policy regulation is required to influence the behavior of individual actors in the market. This analysis of the rationale behind policy intervention will be followed by a review of the various models that provided the theoretical background behind many policy initiatives implemented in developing countries over the past decades.

#### THEORETICAL MODELS OF MARKET IMPERFECTION

Market imperfection may result from discrepancies between the social and financial optimums as applied to the financial intermediation process. An efficiently functioning financial system will allocate funds to investments offering the highest financial yield. This does not however take into consideration social considerations such as employment created through a specific investment, training provided, and development of infrastructure. All of these secondary benefits can lead to greater future benefits for the country even though they cannot be financially quantified. The following models will provide a theoretical background to the discussion of imperfections in the functioning of financial markets.

#### The Simplest Case: Perfect All Around

When markets are perfect, the process of capital allocation throughout the economy is fully efficient. The market (see Figure 4) produces a price/quantity combination ( $r_e$ ,  $Q_e$ ) that is both in equilibrium (supply equals demand) and optimal (the sum of the net gain to borrowers,  $DEr_e$ , and the net gain to lenders,  $r_eES$ , is maximized).

Figure 4 reflects a case in which savings transfer is costless. When intermediation costs incurred by the intermediary institution are taken into account, the supply curve of funds facing the borrowers ( $S^b$   $S^{b'}$  in Figure 5) lies above the supply curve of funds from the lenders ( $S^s$   $S^{s'}$ ). The equilibrium quantity of lending is  $Q_e$ , defined by the intersection of  $DD'$  and  $S^b$   $S^{b'}$  at point F. The equilibrium interest rate to borrowers is  $r^b$ , while that for savers is  $r^s$ . The difference ( $r^b - r^s$ ) is the price of the intermediation service, expressed as a percent of the funds transferred. This outcome is socially optimal when there is perfect competition in the financial intermediation sector.

Figures 4 and 5 assume that the private marginal cost of funds coincides with the value that society places on a marginal unit of savings, and that the same is true on the demand side. Under such assumptions, the policy of allowing an essentially unregulated private sector to allocate funds throughout the economy is justified. Intervention in the market by the public sector becomes an issue when private marginal costs and benefits are thought to diverge from social marginal costs and benefits. The determination of social costs and benefits referred to above will depend in particular on one's perception of how central an efficiently functioning financial market is to development and whether it can contribute more by "leading" or "following" other aspects of the development process.

Should governments need to worry about, intervene in, or try to structure financial markets? How can inopportune involvement backfire? Theory provides no absolute answers, only hypotheses and useful ways of conceptualizing the issues to identify the information required. Some of the factors that could justify government intervention are: risk aversion by lenders and/or borrowers, lack of competition in financial markets, imperfections in other markets, and the assumption that the level of savings achieved voluntarily is less than the socially optimal level. The effects of these imperfections can be illustrated by integrating new variables in the simpler models described in Figures 4 and 5.

FIGURE 4

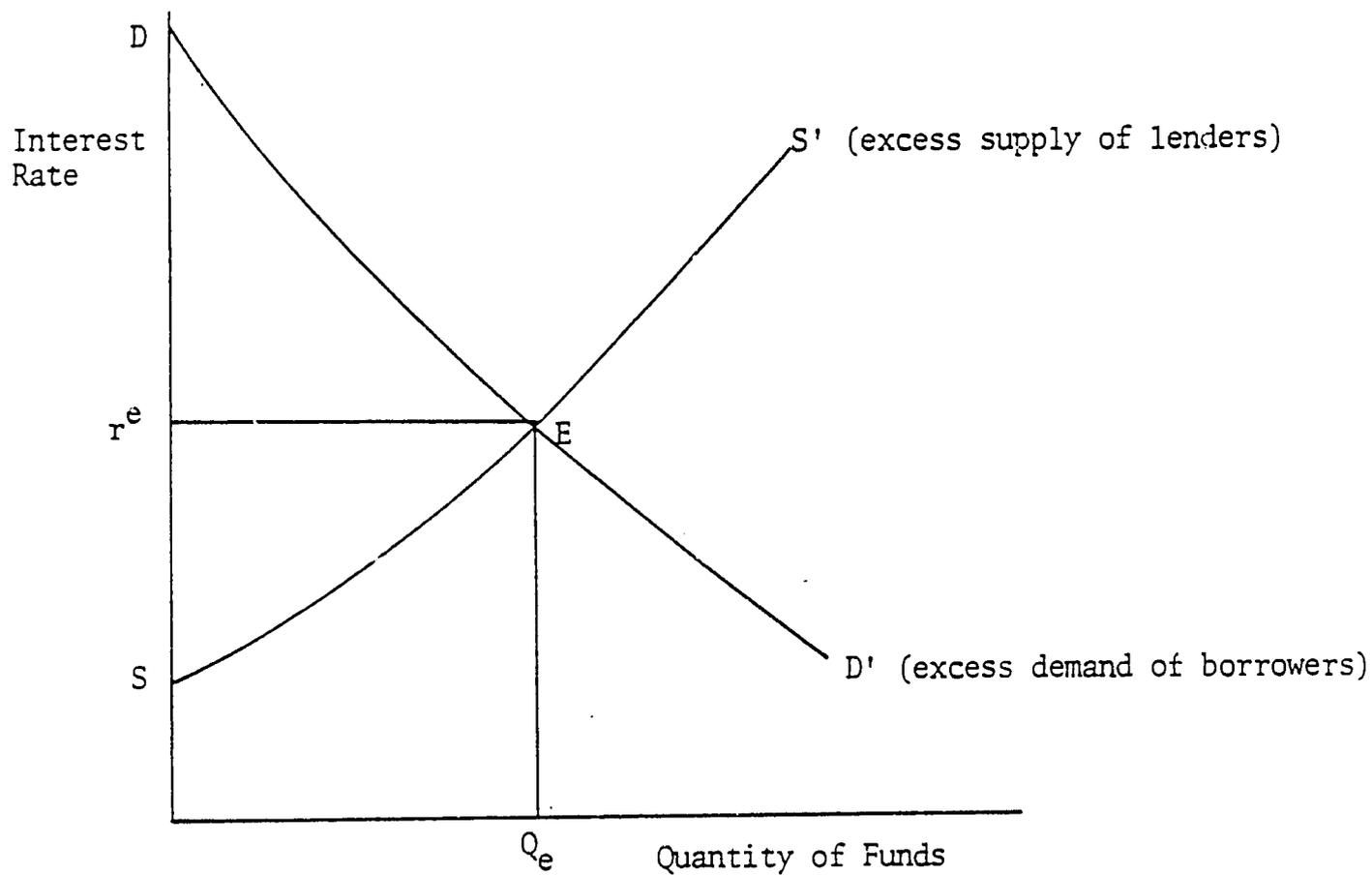
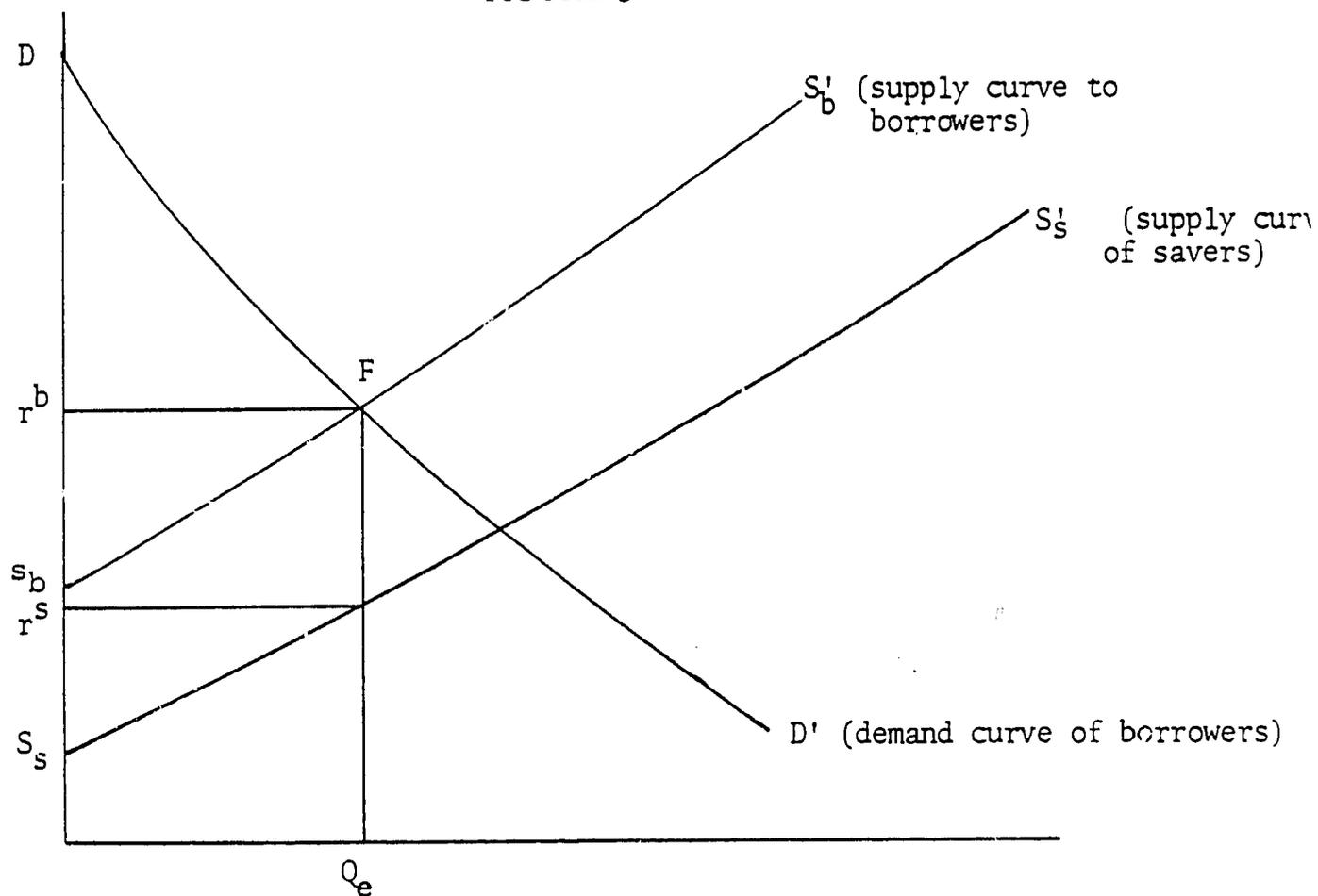


FIGURE 5



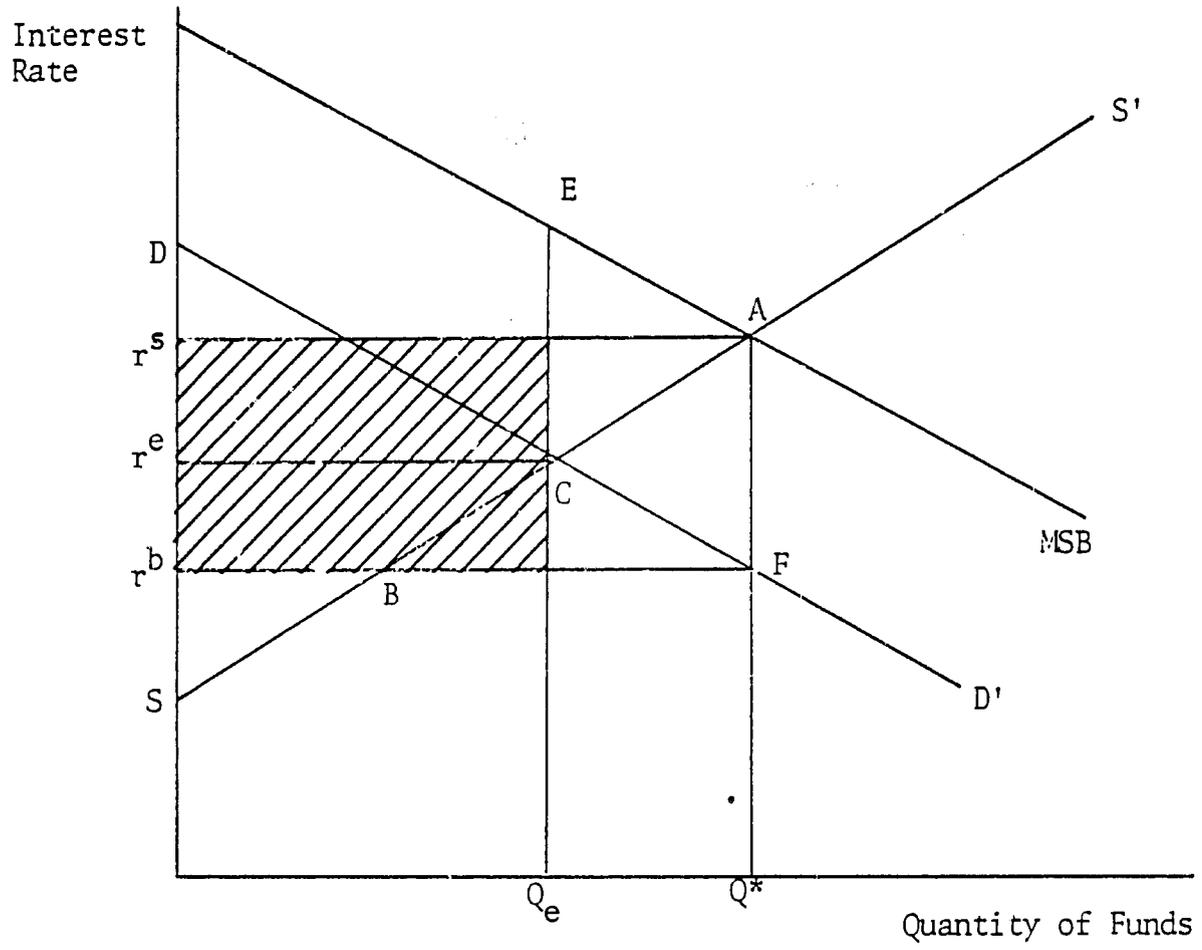
### Investment Below the Socially Optimal Level

In this scenario, the marginal social benefits from borrowed funds for investment exceed the price, or interest rate, borrowers are willing to pay. The appropriate policy then becomes to subsidize borrowers. Ignoring the cost to the government of transferring funds from the public (via taxes, including in principle the inflation tax) to these borrowers, and assuming it is not possible to discriminate among borrowers (not all of whom need the subsidy to be induced to borrow and invest), the appropriate rate of subsidy can be expressed, as in Figure 6, as an interest rebate of  $r^a - r^b$  per dollar lent. As in Figure 4,  $r^e$  and  $Q^e$  are the equilibrium interest rate and amount of funds transferred, respectively.

The fact that the return on investment of borrowed funds exceeds the interest rate borrowers are willing to pay (given by the height of the demand curve) is reflected in the marginal social benefit curve (MSB) lying above the demand curve. The socially-optimal transfer of funds from savers to borrowers is  $Q^*$ , where MSB intersects  $SS'$ . To supply that amount, savers must be paid  $r^a$ , whereas the borrowers will take up this amount of credit only if the rate charged them is  $r^b$ . The appropriate interest subsidy needed to bring about this optimum is  $r^a - r^b$ , and the fiscal cost of the subsidy is  $r^a A F r^b$ .

If the subsidy is applied, there is a net gain to society equal to the area EAC--the "welfare gain triangle". This triangle represents the gains to borrowers corresponding to the additional funds lent, added to the benefits that lenders derive from being induced to lend these funds. Borrowers and lenders have also benefitted from lower charges and higher yields, respectively, on transactions they were already making (as shown by the shaded rectangles in Figure 6), but economic theory treats this gain purely as a transfer -- in this case, from taxpayers to agents in financial markets. Based on this assumption, the net gain is reflected in the triangle (the practical questions of whether this transfer is desirable, and whether it can be performed efficiently are not addressed here).

FIGURE 6



### **Variation of the Ratio of Social Benefits to Demand Price of Capital across Sectors or Groups of Firms**

This scenario covers cases where risk aversion varies across firms so that the ratio of expected private benefits to demand price of capital varies, or where the ratio of marginal social benefit to marginal private benefit varies, e.g., additional investment in some sectors is privately profitable but not socially profitable. In either case the market will not allocate resources optimally.

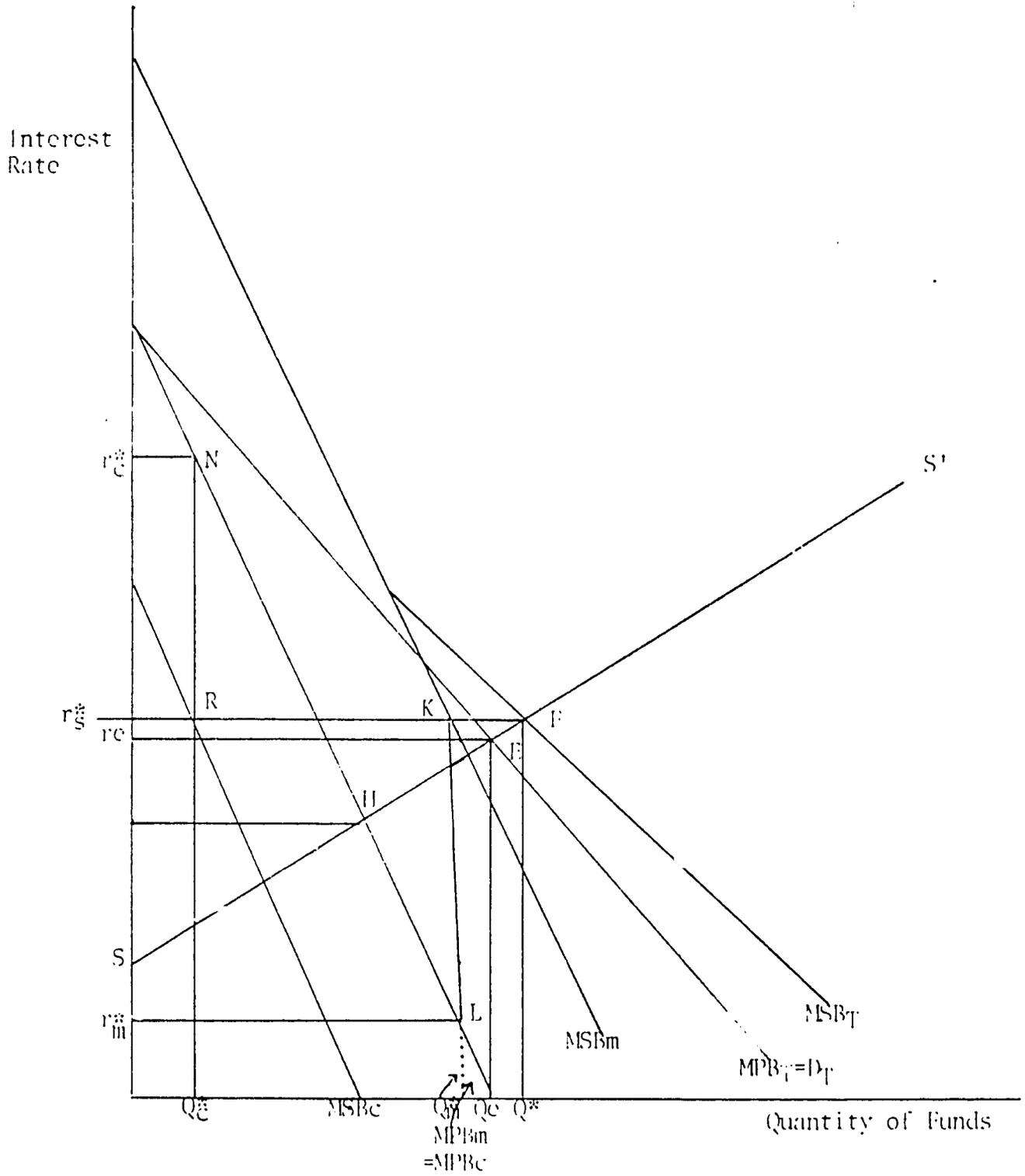
Let us assume the marginal social benefit (MSB) exceeds the marginal private benefit (MPB) for manufacturing, but falls short of it in commerce, to take a traditional and fairly plausible view adopted by many economists. The total demand for funds in Figure 4 is  $D^T(=MPB^T)$ ; the equilibrium interest rate is  $r^e$  and the equilibrium transfer of funds is  $Q^e$ , with each sector having equal access to credit, but with this equilibrium not providing an optimal allocation of credit. The optimal allocation, which requires that marginal social benefits from the use of another dollar of funds be equal in each industry, would involve  $Q^{*c}$  for commerce at an interest rate of  $r^{*c}$ , and  $Q^{*m}$  for manufacturing at an interest rate of  $r^{*m}$ . The interest charged to manufacturing  $r^{*m}$ , would be below the rate charged to savers,  $r^{*s}$ , and that charged to commerce,  $r^{*c}$ .

#### **Achieving a Neutral Net Fiscal Effect of Intervention**

The above case established that the optimal allocation of credit may require different prices to different sectors or groups of firms. An optimal transfer could imply either an overall subsidy or an overall tax, depending on the various MSB/MPB ratios. But what if one assumes that on the aggregate the transfer process is neither subsidized nor taxed? Then the best achievable outcome is unchanged as long as the unconstrained optimum involves no subsidy. If it does involve a subsidy, the new optimum is reached by diminishing the transfer until the subsidy is eliminated.

This case is also portrayed in Figure 7. Addressing the optimal flows of credit to the two sectors under consideration would involve a subsidy to manufacturing of

FIGURE 7



$r^{**} KLr^{*m}$  (the difference between the cost of savings and the charge to the borrowers) and a tax totalling  $r^{*c} NRr^{*s}$  on the credit flowing to commerce. The net subsidy (cost to government) would be the difference between these two amounts. To eliminate the subsidy, the total flow of credit would have to be reduced (and with it the interest rate to savers), so that the net subsidy to manufacturing-sector borrowers would be just offset by the net tax to borrowers from commerce. In the perhaps extreme case shown here, this would involve totally cutting off credit to commerce and reducing that to manufacturing to the level implicit in point H, where the SS'curve intersects the demand curve of manufacturing-sector borrowers. Although fewer resources are transferred than without intervention, the economic gains from the transfer are greater (demonstrable by looking at gain and loss areas in the diagram).

#### **Intervention through Rationing (or "Targeting")**

Finally, an even more realistic case may be that in which no interest-rate discrimination is possible across firms, but rationing across industries is possible. Then the optimal (constrained) outcome is likely to involve interest rate ceilings, forcing the interest rate below the free market equilibrium rate. However, at this lower rate, there will be excess demand for credit, which must be rationed by government fiat. The appropriate guidelines for rationing involve lowering the interest rate, which induces the manufacturing sector to take up more credit, while at the same time restricting the total credit available for commercial loans. As in the previous examples, the marginal social benefit of an additional dollar loaned to manufacturing exceeds the benefit of a dollar loaned for commerce, and therefore there is a net gain to society from following this policy.

This policy has the effect of transferring funds away from socially less desirable short-term commercial activity into long-term manufacturing investments.<sup>1</sup> The net economic gains from the lower interest rate together with rationing consists of: (i) a reallocation gain as funds to the tune of BR are shifted from commerce to manufacturing; this gain amounts to ML SQ if QS is drawn with the same slope but a positive sign as HQ, so TQ=QS; and (ii) gain from the decrease in savings whose opportunity cost was above the marginal social benefits from their use in commerce. In Figure 8, where JU is parallel to HQ by the assumption used, this gain is GUN.

A generalization of this case is when the MSB/MPB ratio varies across firms (i.e., it is characterized by a continuous frequency distribution instead of a distribution across a limited number of levels), and when financial intermediaries are charged with the task of exercising discretion among potential borrowers. Although no simple diagrammatic representation is possible (one could think of each point on the demand curve for credit having a corresponding MSB point that could be any distance above or below the demand curve), it is demonstrable that whenever some of those funds, whose demand price is in the neighborhood of the equilibrium interest rate, have MSB greater than demand price, then the optimal interest rate under perfectly efficient rationing is below the equilibrium rate.

## IMPLICATIONS OF THEORETICAL MODELS FOR POLICY MAKERS

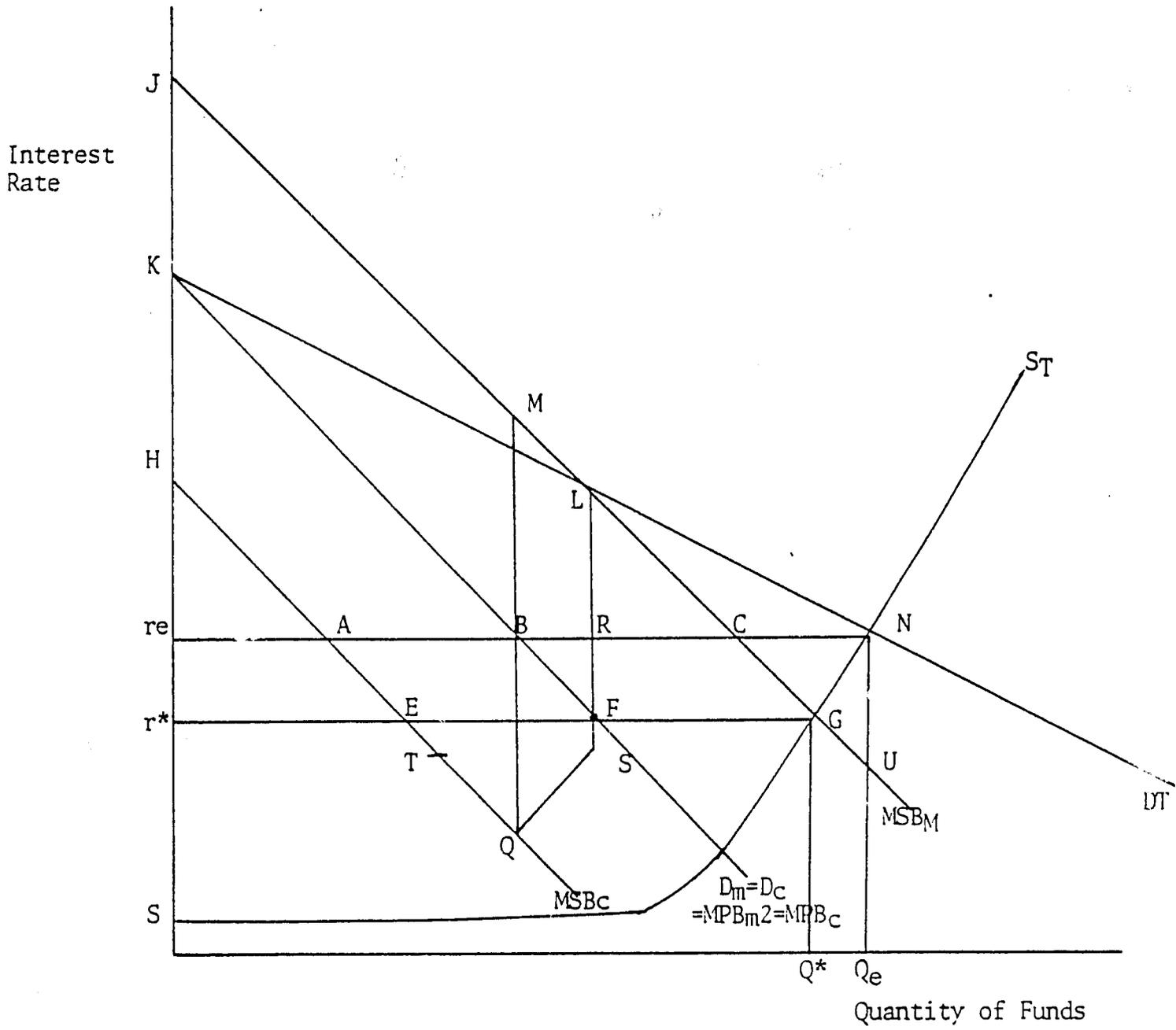
### Maximizing the Savings and Investments Functions

If one assumes that the aggregate savings and investment ratios are about right from a social point of view, policy makers will only need to ensure the efficient allocation of funds in the system, and make the cost of the intermediation process as cheap as possible. Many governments however aim at higher savings rates than their

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<sup>1</sup> Under the assumptions built into the curves in Figure 5, there would be an excess supply of funds. At some lower interest rate, here  $r^*$ , the sum of the appropriate loans to commerce ( $r^*E$ ) plus those to manufacturing ( $r^*F$ ) would just equal the supply ( $r^*G$ ). The economic gains from the transfer of funds would be  $HEr^*$  (to commerce) plus  $JLFr^*$  (to manufacturing) plus  $r^*GS$  (to the savers). With the equilibrium interest rate  $r^e$  and no rationing, the gains would be  $HAr^e$  (to commerce) plus  $JMBr^e$  (to manufacturing) plus  $r^eNS$  (to savers).

FIGURE 8



countries achieve. Looking at the saver's side of the transaction, a transfer of funds effected in financial markets (i.e., purchase of a financial asset like bonds) may be desirable if the individual's alternative wealth-holding options are less attractive. However, if the transfer replaces a particularly productive investment in physical assets (e.g., a small business), it could have a net negative effect.<sup>2</sup> The same could result if the transfer decreases money holdings, without increasing total savings in the system; in the latter case, the social advantage of wealth held in the form of money by the original saver is that the transfer to an investor can be effected inside by the government's printing and spending (or loaning) more money and the transactions costs are likely to be less than when the transfer occurs through a financial intermediary.

Looking at the borrower's side of the transaction, the effects of the transaction are likely to be beneficial if: (i) instead of substituting for the borrower's own savings it encourages more such savings (i.e., via a threshold effect), (ii) the borrower uses the funds for socially-productive investments (not, for example, for purchase of real estate), and (iii) the borrower is in an industry where increased investment is not counterbalanced by a decrease elsewhere.

One cannot ignore other factors affecting the credit needs of firms. Clearly, the amount of capital needed to start a business depends on the nature of the business. In the case of manufacturing, that amount also depends on the conditions on the capital goods market, especially for second-hand goods, and on the country's level of development, which is likely to determine the range of technologies and capital-labor ratios that are likely to be competitive. All these arguments require empirical support, but few tests have as yet been undertaken. One has to conclude that their validity will vary with the country's level of development, the size of firms considered and the environment in which they operate.

### **Taking Labor Issues into Account**

Another key factor to be considered in analyzing the efficient distribution of credit and capital goods is the functioning of the labor market, often described as dualistic in developing countries. Imperfections in this market are a matter of

degree, but there is clear evidence that a combination of factors including the effects of minimum-wage legislation and of labor unions make labor costs somewhat higher for larger establishments. From this viewpoint, lower labor costs but reduced access to credit by smaller firms may have two types of effects on economic efficiency:

- With higher-cost credit and cheaper labor (both defined in relation to the equilibrium price of the two factors in an economy without imperfections), the smaller firms will tend to be excessively-labor intensive; with the opposite set of conditions, large firms will be excessively capital-intensive. This variance in factor proportions may imply a substantially lower overall efficiency than would have been possible in the case of identical access to labor and capital.
- The cheaper capital of large firms may provide a rough offset to the small firm's comparatively cheaper labor, so that neither type of firm winds up with a bigger share of inputs and outputs than desirable from an efficiency point of view.

Thus the unequal access to capital by firms of differing size may simultaneously lower economic efficiency due to point (i) and raise it as per point (ii). Determining which effect actually predominates is a difficult empirical question, and of course all the other considerations cited above remain pertinent.

#### Use of Internal versus Outside Funds

Discussions of segmented factor markets often model these as being affected by different prices (e.g., of capital) for different groups of firms. As discussed above, capital is typically assumed to be cheaper for larger, better-connected firms, and labor to be cheaper for smaller ones. While sometimes an adequate way to conceptualize these markets, such a view is at other times a misleading oversimplification. The potential supply of new capital resources to a firm may involve use of internal savings as well as use of transferred funds. The availability of internal savings for a given investment depends on the opportunity cost of such savings and on a preference to forego alternative forms of real or financial investment. The supply curve of internal funds for the firm's use is then almost certain to slope up as the potential return on investment increases. That of

transferred resources is also likely to slope up, though it could take the form of a horizontal and a vertical segment as different investments are being considered.

In any case, the concept that a firm is faced with a given price of capital may be a serious oversimplification. And, depending on the firm's needs for additional resources, the average and marginal cost of capital to the firm may be mainly determined by the alternative uses for its own capital as well as by the cost of transferred resources.

### **The Crowding Out Effect**

The issue of intervention in financial markets is further complicated by the need of many LDC governments to finance large public sector deficits through borrowings from the financial system. Financial institutions are often mandated to allocate credit to government entities -- particularly parastatal enterprises -- on a priority basis, thus resulting in a crowding out of the private sector. Alternatively, governments may impose higher reserve requirements than are normally required as an interest-free way to finance public expenditures. An increase in reserve requirements will not only reduce liquidity in the system and funds available for lending, but will also force an increase in the loan rate of interest charged by financial intermediaries, as they are in effect subsidizing the government (see Chapter Three for an analysis of the effects of high reserve requirements).

There is a general recognition that although inevitable in the face of large fiscal deficits, such interventions are clearly detrimental and should be reduced to a manageable level -- particularly when credit to parastatals and other public entities is subsidized.

## **MODELS OF FINANCIAL DEVELOPMENT**

Sources of investment financing vary greatly depending on the sophistication of the financial system. At the very bottom would be countries where the system is not fully developed and where institutional capital is scarce, making a high percentage of projects -- particularly the smaller ones -- dependent on the

availability of owner financing. Since entrepreneurs normally cannot finance their investments alone, many high-yielding projects will never materialize, and scarce institutional capital may end up being used to finance suboptimal projects from promoters that happen to offer the guarantees normally requested by lending institutions.

In developing countries with adequate levels of monetization, outside funding may be more readily available to investors from family and friends than in those where most transactions are still effected on a nonmonetary basis. Barriers to such outside funding may also be overcome with the advent of informal lenders. Meanwhile, formal institutions -- banks, other nonbank financial institutions and eventually traders dealing on securities markets -- become involved in the accumulation and lending of money. Consolidation of financial intermediaries normally occurs in the process, resulting in a lessening of the fragmentation of financial markets between numerous individual sources of formal and informal financing.

As the amount of capital mobilized by the system concurrently increases, financial institutions are able to finance additional investments. Since economies of scale allow financial institutions to gather relevant data on new investment opportunities more efficiently than individuals, the intermediation process assumably increases the efficiency of individual investments through better investment selection. The system develops the ability to allocate the accumulated capital over a large array of projects -- using risk and yield as selection criteria -- thereby spurring economic growth.

Early theory, led by Keynes and Tobin, has argued that when people are faced with a choice of how to allocate their resources between money and productive assets, there is a strong bias toward the liquidity of holding money. Keynes describes a liquidity trap, whereby desired levels of liquidity lead to lower levels of investment, which eventually disrupt a growing economy. As funds for investment become scarce, interest rates will rise, providing further disincentive to invest in productive capital. Keynes suggests that interest rates need to be kept low enough to reduce the relative attractiveness of holding money in lieu of productive capital.

Fry (1986) notes that Keynes, though arguing for interest rate ceilings, does not indicate how they will actually increase investment. In his 1965 monetary growth model, Tobin has much the same premise as does Keynes -- as more wealth is allocated to productive assets, the rate of economic growth will accelerate. His model suggests that one should prevent the allocation of too much wealth to money, which can only be done by discouraging people from oversaving instead of investing. Since deposit rates of interest are one of the major factors inducing saving rather than investment, they should be kept at a reasonable level.

The Keynes and Tobin models develop a savings-versus-investment type argument, rather than seeing savings as a means of mobilizing the capital necessary for investment. They also argue for intentional distortions of interest rates and other financial prices. The models developed by McKinnon (Money and Capital in Economic Development) and Shaw (Financial Deepening in Economic Development) contend the reverse: that liberalized, higher interest rates are required to stimulate savings, which will in turn constitute the source of credit required for investment. They argue that many developing economies suffer from financial repression, defined as "distortions of financial prices including interest rates and foreign-exchange rates" (Shaw 1973, p. 3). Financial repression will eventually lead to a reduction in "the real rate of growth and the real size of the financial system relative to nonfinancial magnitudes" (Shaw 1973, p. 4), which in turn can affect the overall development process.

In support of the McKinnon and Shaw theory favoring liberalized interest rates and other financial prices, Kapur, Mathieson, Galbis and Fry have developed their own models of economic growth. The Kapur (1976) and Mathieson (1980) models are based on surplus labor economies where GNP can be described as a function of total capital and of the capital to output ratio. They make a similar assumption about a constant efficiency of investment (fixed capital to output ratio). Kapur assumes that there is unused fixed capital in the economy and that working capital is the binding constraint to increased investment and economic growth, while Mathieson assumes that all fixed capital is fully used and both working capital and investment capital are constraints. Both assume that additional capital needs may be supplied through bank credit. Therefore, changes in the supply of such credit will affect investment

levels, which will in turn affect the rate of economic growth. Also, both models identify the interest rate on deposits as the key variable affecting the supply of credit.

The Galbis model breaks away from the Mathieson-Kapur models by assuming that there are two sectors in the economy, one traditional and one modern, with different capital to output ratios, and different sources of financing. The traditional sectors are assumed to be self-financing (not having access to financial institutions) and to offer low return to invested capital, while the modern sector is assumed to have access to bank financing and to provide high return on investment. This is consistent with McKinnon's hypothesis on dualism, which claims that repressive financial policies worsen differences between the traditional and modern sectors of the economy. Galbis eventually concludes that a higher real deposit rate will improve investment efficiency, allowing financial intermediaries to transfer surplus funds from the less capital intensive traditional sector to the more capital intensive modern sector, as well as between firms in a given sector.

Fry has been an outspoken writer on the subject of financial repression. The models he developed between 1977 and 1986 were designed for empirical testing, allowing the impact of interest rates to be practically measured in many different sectors of the economy. His models aim at demonstrating the effects of real deposit rates on the "rate of economic growth through saving, investment, and the average efficiency of investment. Real institutional rates also affect inflation through money demand and short-run growth through credit availability" (Fry 1986, p. II 26). Fry concludes that "an increase in the nominal deposit rate that raises the real deposit rate toward its competitive free-market equilibrium level may increase the saving rate, raise the average efficiency of the greater volume of investment that can then be undertaken, reduce the inflation rate, and, thus raise the real deposit rate some more" (Fry, 1986, p. II-40).

The Fry, Kapur and Mathieson models take into consideration the dynamic reality of open economies and include appropriate adjustment mechanisms to attempt to adjust for it. These mechanisms include the interest rate, as in the stable economy, but also the exchange rate regime and the impact of trade liberalization

policies. Fry also reemphasizes the importance of sound reserve requirement policy: unreasonably high reserve requirements may induce commercial banks to transfer funds abroad, which will reduce the local supply of credit.

In contrast to the McKinnon-Shaw theory of financial repression that argues for liberalized deposit rates to stimulate growth, the neo-structuralists, led by Taylor and van Wijnbergen argue that higher interest rates will increase inflation and subsequently reduce the amount of credit, in real terms, which is available for investment. They use Tobin's portfolio framework of allocation of wealth between savings and investment in productive assets, adding in curb market loans as a new variable: they argue that the curb market serves as a major source of working capital in developing countries, and that a rise in institutional interest rates will likely draw money out of the curb market. Given the reserve requirements applied to banks, this will eventually have a restricting effect on the supply of credit to firms. Thus, they argue that financial liberalization is likely to reduce the overall supply of credit and lower the rate of economic growth.

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