4. Efficiency of Resource Allocation by Financial Intermediaries

Financial intermediaries can be evaluated not only in terms of their efficiency in mobilising resources but also on the basis of their efficiency in allocating resources. The majority of governments in the sample countries evidently believe that the financial intermediaries cannot and/or do not allocate resources efficiently. In the majority of the sample countries - the exceptions include Bahamas, Hong Kong, Maldives and Singapore - governments intervene by means of selective credit policies aimed at influencing deliberately the allocation of resources by the financial intermediaries.

Selective credit policies are designed to channel credit to priority sectors, groups and/or regions at subsidised rates of interest. The objectives are to stimulate investment in priority activities and, in many cases, to redistribute income and wealth. Selective credit policies can be implemented in five different ways.

Perhaps the most typical selective credit technique is differential rediscount rates. Financial intermediaries are compensated - partially, fully or even over-compensated - for lending at subsidised rates of interest to priority borrowers by rediscounting priority loans at the central bank or monetary authority on concessional terms, as, for example, in Barbados and Seychelles. Hence, all priority credit may actually be provided by the central bank or monetary authority. This method can and often does, e.g., in Korea and Turkey, jeopardise control over domestic credit expansion.

An extensive selective credit policy implemented through the rediscount mechanism is likely to be accompanied by high reserve ratio requirements designed

to reduce the commercial banks own funds available for discretionary, nonpriority
lending. Here, the central bank or monetary authority's assets will constitute a
relatively large proportion of the total assets of the financial sector as a whole.

The second method is direct budgetary subsidy. Negative differentials between
priority loan and deposit rates of interest may be financed by explicit budget ap-
propriations, as is the case in Fiji and the Solomon Islands.

Credit floors constitute a third device used to implement selective credit
policies. The monetary authorities set minimum proportions of total credit or
total deposits which must be lent by the banks to specific priority borrowers.
For example, commercial banks in Korea are obliged to extend a minimum of 30 per
cent of their total loans to small and medium size industry. They have also been
requested to hold a minimum percentage of their time deposits in the form of Nat-
ional Investment Fund (NIF) bonds. The NIF then lends to priority sectors at sub-
sidised interest rates [Bank of Korea (1978, p.15)]. In Malaysia, commercial banks
are required to lend a minimum of 20 per cent of any increase in aggregate loans
to the bumiputra community, 10 per cent for agricultural production, 25 per cent
to manufacturing industry, and 10 per cent for individual housing loans [Bank
Negara Malaysia (1979, p.133)]. The Nepalese commercial banks must use at least
7 per cent of their total deposit liabilities for lending to small scale industries.
And the commercial banks in Thailand have been directed to allocate a minimum of
13 per cent of total credit to agriculture. This requirement can be satisfied by
depositing the funds with the Bank for Agricultural Cooperatives. To date, this
method has not been employed formally in any of the sample countries. Informal
guidelines, however, have been promulgated in Papua New Guinea.

The fourth way of implementing selective credit policies is to set credit ceilings either on nonpriority lending or on the aggregate volume of loans, a technique also employed rather informally in Papua New Guinea. Overall credit ceilings are usually set in conjunction with exemptions for priority loans and/ or credit floors for priority sectors. In India and Indonesia, for example, the incentive for a commercial bank to extend subsidised credit springs, in the main, from the ceilings imposed on normal lending. A subsidised loan may be a more profitable asset than excess cash reserves. However, delinquency and default frequently plague priority lending operations [Brillembourg (1981)]. Priority lending, therefore, may yield negative nominal returns.

Finally, selective credit policies can be pursued through heavy reliance on specialised financial institutions, as in Barbados, Fiji, Papua New Guinea, St. Lucia, Seychelles, the Solomon Islands and Western Samoa. Funds are extracted from nonspecialised depository institutions through reserve requirements, etc., to be channelled to priority sectors on concessional terms by government-owned specialised financial institutions. Financial layering and market segmentation have been the main effects.

Selective credit policies use interest rate ceilings and subsidies in an attempt to direct investible funds, through a nonprice rationing system, into investments which the authorities believe might not be willingly undertaken at higher interest rates. For a selective credit policy to work at all, financial markets must be kept fragmented and segmented. Otherwise, financial channels would develop expressly for re-routing subsidised credit. Aggressive pursuit of selective credit policies or credit planning tends to produce an extensive degree of financial layering. Instead of raising funds from a common pool of loanable

funds, each specialised financial intermediary established to service a particular priority sector has its own special sources of funds earmarked for its own special uses [McKinnon (1980, pp.106-110)].

In India's agricultural sector, for example, there are some 123,000 active primary agricultural cooperative societies (PACSs) covering 40 million members. These PACSs borrow funds from central cooperative banks (CCBs), of which they are members. The CCBs obtain funds from deposits, investment earnings, and refinancing facilities of the state cooperative banks (SCBs). In turn, SCBs raise funds from deposits and refinancing facilities of the Agricultural Refinance and Development Corporation (ARDC). The ARDC is financed by the Reserve Bank of India, the World Bank, and the Indian government.

It turns out that all this layering decreases rather than increases the total real volume of funds available. This is because about 7 per cent of total available resources in India are absorbed in administrative costs [Datey (1978, p.ii)], despite the fact that each individual financial institution displays relatively low operating cost ratios [Bhatt (1978)]. The direct costs of institutional agricultural credit in India average about 19 per cent. Farmers pay about 12 per cent. Therefore, all administrative costs here are covered by direct government subsidies. Furthermore, the loans supplied by the government of India to the ARDC are provided on concessional terms in the first instance. Unfortunately, India provides an excellent example of inefficient financial intermediation caused, in the main, by government intervention.

The main purposes of financial layering are: (a) to direct credit to priority activities; (b) to reimburse the final lender at least partially for the subsidy. This supply-leading approach has two major drawbacks in addition to its

enormous resource costs. The first problem is that the mechanism works efficiently only to the extent that all bottom/base and middle-tier institutions possess identical lending capabilities. The refinancing mechanism comes into play only after a loan has been extended. First, however, expertise is required at the final stage or at the base of the pyramid to assist the borrower in formulating the project and preparing the loan application. The base institution also needs expertise in loan evaluation techniques. Clearly, such expertise will vary greatly from one institution to another and from one region of a country to another. Hence, credit is unlikely to be spread efficiently and equitably. Its allocation is dependent to a large extent on loan officers of differing abilities in the base institutions.

The other main problem is that there is no evidence that this expensive institutional structure has produced any benefits in terms of increased agricultural productivity. Datey (1978, p.25) poses the question as to whether agricultural productivity in India has risen despite rather than because of the system of agricultural credit. For most developing countries, Datey (1978, p.30) concludes:

> The presumed cost-benefit ratio for society as a whole must be negative in most cases, for it is rare to find a situation in which subsidies for agricultural credit have resulted in any significant increase in productivity.

One alternative to financial layering would be the adoption of more innovative financial instruments with which the base and/or middle-tier financial institutions could raise funds directly from financial markets. Indeed, it would appear to be the only way of increasing the aggregate real supply of loanable funds. This alternative, however, cannot be reconciled with the system of

real supply of credit and bias factor prices in favour of capital and against labour. As a result, the smaller volume of investment which can be financed may be less efficient.

The third inconsistency lies in the inversion of deposit and loan rates of interest. Under competitive conditions, financial intermediaries would never offer deposits with higher interest rates than their lowest loan rates of similar maturity. The fungibility of financial capital ensures that some borrowing can take place at priority loan rates for the express purpose of building up deposits yielding a higher return. Clearly, this thwarts completely the objective of the selective credit policy. It merely raises the resource costs of financial intermediation between savers and investors.

The fourth inconsistency of selective credit policies is that, if successful, they increase unemployment by distorting factor prices. The present (1981) negative loan rates of interest for priority borrowers found in all the sample countries, except Bahamas, Hong Kong, the Maldives and Singapore, give an extraordinary price signal to these entrepreneurs. The message conveyed is that this priority credit is not just a free good but actually has negative value like rubbish. The result is encouragement of highly capital-intensive production techniques for any given product, of products and processes which are necessarily capital-intensive, of investments with zero economic return, and of antisocial, i.e., unproductive, hoarding.

The fifth inconsistency is that the objectives of selective credit policies must discourage saving and so reduce the aggregate real supply of investible funds. Selective credit policies invariably keep both deposit and loan rates of interest below their market equilibrium levels. Hence, the aggregate real supply of investible funds is held below its equilibrium level.

If financial institutions are to remain solvent, a concomitant of high reserve requirements, binding quantitative ceilings on normal, higher interest rate loans, and/or binding loan rate ceilings (often differentiated for different categories of borrowers) is a lower average deposit rate of interest. The competitive solution would be lower deposit rates over the entire maturity spectrum. Consequently, aggregate real money demand would be reduced. A monopolised or cartelised banking system could, as already pointed out, lower the average deposit rate by increasing the tilt in the term structure of deposit rates. However, once the cost minimising monopoly solution is in place, an increase in either the reserve requirement or the proportion of unrediscounted low interest loans must be accompanied by a general reduction in deposit rates to maintain bank solvency. The resulting decline in aggregate real money demand will be matched by a fall in real domestic credit and/or net foreign assets.

Finally, selective credit policies provide precisely the wrong signals to private sector institutional lenders. Their incentive is to lend first at the normal rate, last at a subsidised rate. Even if compensation is provided through the rediscount mechanism, administrative costs and delays may well make such recourse unattractive, as, for example, seems to be the case in Seychelles.

Perhaps the most telling indictment of selective credit policies is their tendency to reduce the supply of credit to sectors of the economy believed to be of highest priority and in most need of financial assistance. Cheap but unavailable credit is no consolation. Furthermore, the cost of credit is rarely the main constraint to productive small-scale investments. In sum, it is far from "obvious" that "... selective credit policies should constitute an integral

part of the overall economic strategy for development" [Khatkhate and Villa-nueva (1978, p.980)]. Rather, they seem to be an ideal recipe for reducing both the quantity and quality of productive investment. In other words, they appear to reduce rather than increase the efficiency of resource allocation by financial intermediaries.

Selective credit policies tend to be based on two premises: (a) planners know best what investments should be undertaken; (b) credit allocation can ensure that those and only those investments are undertaken. The performance of several developing economies relying heavily on selective credit policies, e.g., India, over the past two decades throws strong doubt on the first assumption. The second is belied by the fact that financial capital is fungible. Overt relending is a well-documented phenomenon. Of greater significance, however, is the fact that the fungibility of financial capital can enable a farmer to take the subsidised credit for a pumpset, which he would have bought in any case, and to use his own resources thereby released to instal air-conditioning in his home. Since the air-conditioning would not have been purchased without the subsidised credit being available, it is difficult not to conclude that this loan has financed air-conditioning rather than the pumpset. It is somewhat ironic that, to the extent that this kind of fungibility is both possible and actually effected, the inefficiencies of selective credit policies outlined above are concomitantly mitigated.

The fungibility of financial capital is well illustrated by the long history of housing finance in the U.S. For many years, it has been government policy to encourage the production of housing by increasing the availability of mortgage credit. Availability is increased by government purchase of mortgages through

federal agencies. But availability is reduced back again through the bond financing of the mortgage purchases. By itself, this activity of draining funds from one part of the pond to pump back into another part has been futile [Jaffee and Rosen (1978, p.933)].

On the other hand, government action and initiative in spreading amortisation, lengthening terms, mortgage insurance and subsidies have had substantial impact on the mortgage market. "The most notable changes are growth in the number and size of specialized thrift institutions that buy mortgages and in the proportion of mortgages to total liabilities of financial institutions" [Meltzer (1974, p.764)]. However, this has had no affect on housing. The ratio of housing to total assets of non-farm households in the U.S. has remained virtually constant at 25 per cent throughout this century.

What has happened, however, is that the ratio of mortgage debt to housing has risen from about 10 to 40 per cent. The ratio of mortgage debt to total liabilities rose substantially too. Cheaper mortgage debt was substituted for more expensive (less subsidised) forms of borrowing. The conclusion which can be drawn here is that specific liabilities do not finance specific assets. Asset composition and "asset purchases are independent of the form in which credit is made available" [Meltzer (1974, p.769)].

Governments of the sample countries studied here may make more and cheaper funds available to rural areas. It is questionable, however, whether this alone would increase the stock of physical capital there. Much of the increase in mortgage debt in the U.S., for example, has actually been used to finance the purchase of securities.

The composition of spending is affected by relative prices of the goods and services being bought. Subsidised mortgages in no way affect the relative price of housing. They do, on the other hand, affect the relative costs of borrowing to buy a house vis-a-vis borrowing to buy something else or vis-a-vis a cash purchase of the house. They will, therefore, influence the way in which houses (and everything else) are financed. Subsidised mortgages will encourage people to finance a larger proportion of the purchase of a house and a smaller proportion of the purchase of other things on credit. Overall, subsidised mortgages will not affect the stock of houses or even the volume of construction, except in the short run. This is because: (a) the subsidy for one person must be a tax on someone else; (b) money channelled through one particular financial intermediary must come from another intermediary or market; (c) financial resources are fungible.

If the real concern is the distribution of income and wealth, credit subsidies are an inefficient remedy. Direct subsidy of people, not goods or finance, is the efficient solution.

Selective credit policies may not be the sole rationale behind the low interest rate policies pursued in several of the sample countries. Even the government of Singapore wishes, for budgetary reasons, to keep the cost of its borrowing low. It should be recognised, however, that the social cost of a government deficit is in no way related to the cost of servicing the national debt. The latter is simply a transfer payment. Cheap finance means that the holders - direct and indirect - of government bonds receive a lower return than they otherwise would. They will, therefore, have less incentive to hold willingly such debt. In order to make government debt relatively more attractive without

increasing its costs, measures have been introduced in a number of developing countries to make private debt less attractive.

The cost of all public sector expenditure is the opportunity cost of the scarce resources consumed. Clearly, this opportunity cost remains the same whether the expenditure is financed from tax revenue or borrowing. And if financed through borrowing, it cannot be reduced by lowering the interest rate on the loan. Again, the interest cost is a transfer payment. It does not use up scarce resources. Hence, the apparent advantage of cheap public sector borrowing is, for the most part, illusory.

A low interest rate policy can often be interpreted as part of a broader policy of financial restriction, a policy which encourages financial inter-mediaries and financial instruments from which the government can expropriate a large seigniorage and discourages all others. For example, money and the banking system are favoured and protected - reserve requirements and obligatory holdings of government bonds can be imposed to tap this source of saving at zero or low interest cost to the public sector. Private bond and equity markets are suppressed through transactions taxes, stamp duties, special tax rates on income from capital, an unconducive legal framework, etc., because seigniorage cannot be taken so easily from private bonds and equities. Interest rate ceilings are imposed to stifle competition. Foreign exchange controls, interest rate ceilings, high reserve and/or liquidity requirements, suppression or non-development of private capital markets, etc., can all increase the flow of domestic resources to the public sector without a concomitant rise in inflation or interest rates [Fry (1973)].

Successful financial restriction would extract a substantial proportion of domestic credit at low or zero rates of interest for the public sector. The initiation of effective financial restriction would have three effects on the demand for money illustrated in Figure 2 - a rightward shift in the curve, higher income and lower cost-elasticities. Income velocity of circulation would fall and then continue to decline. Taking a higher proportion of domestic credit, i.e., extracting more seigniorage, and manipulating money demand in these ways permit a greater public sector deficit to be financed at a given rate of inflation and a given, i.e., low, level of nominal interest rates. A selective credit policy fits well into the mechanism of financial restriction.

The following describes a typical case of financial restriction:

> To finance its deficit, the government [of Portugal] has largely pre-empted the supply of domestic savings by preserving a 'sheltered' market for its own bond issues. Recourse of the private sector to the domestic bond market was, moreover, effectively curtailed by maintaining the maximum interest rate for bond issues at 5 per cent.
> [Lundberg (1964, p.40)]

The ceiling on after-tax returns from private bonds in Portugal was lower than the rate offered on government bonds. Even with these interest rate ceilings on competitive financial instruments, returns on government securities were so low that virtually no voluntary purchases took place:

> In actual fact, the vast majority of the public debt bonds were taken up by the welfare institutions, the commercial banks, the Caixa Geral de Depositos and the insurance companies.
> [Banco de Portugal (1963, p.52)]

However, the seigniorage base in the form of the money supply was large and growing. Velocity of circulation in Portugal fell smoothly from 1.46 in 1962 to 1.09 in 1973.

FIGURE 2

### Demand for Money under Financial Restriction
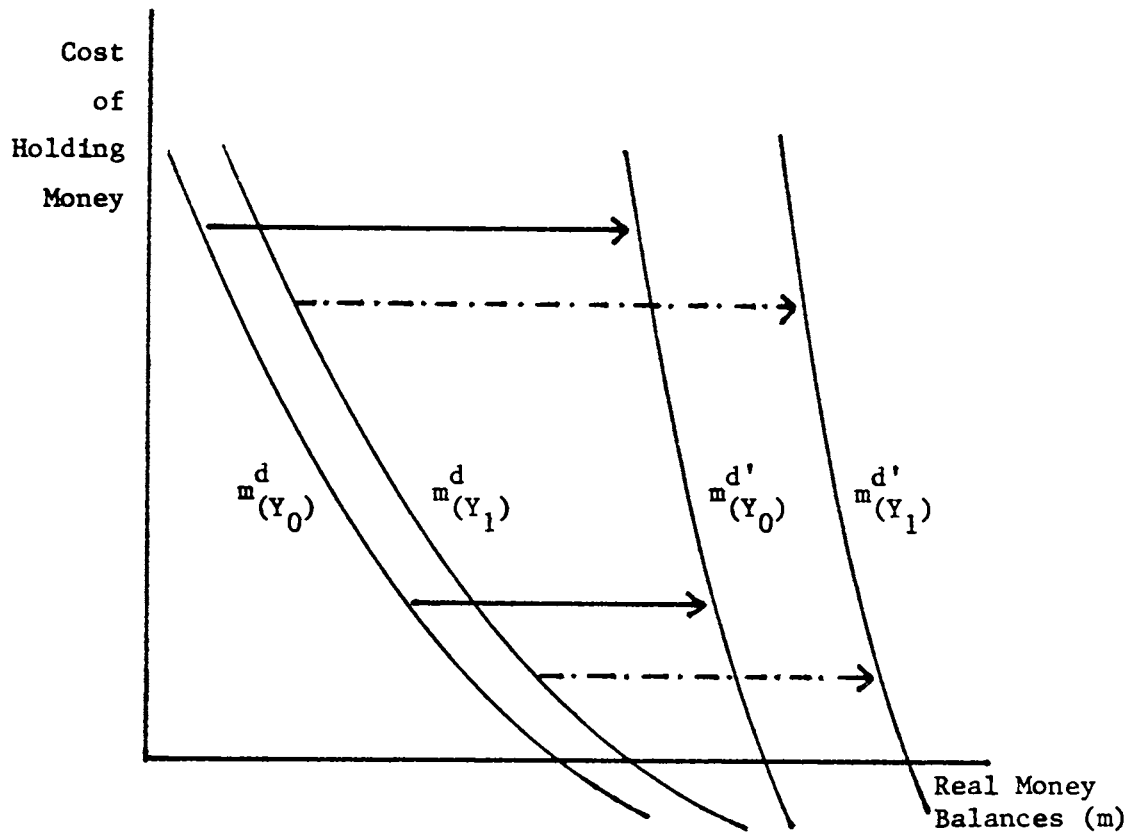
Successful financial restriction shifts the money demand function to the right at each level of income, reduces its cost-elasticity and increases its income-elasticity.

Nominal interest rate ceilings established to limit competition under policies of financial restriction can be disruptive in the face of inflationary shocks. Just as deposit rate ceilings in the U.S. and other industrial countries have been responsible for serious disintermediation when inflation and free market interest rates rose, so all-embracing interest rate ceilings in developing countries have caused violent portfolio shifts from financial to tangible assets when inflation accelerated [Shaw (1975)]. Clearly, such reaction magnifies the initial inflationary shock. It also turns financial restriction into financial repression, a situation in which the financial system contracts in real terms. Typically, financial repression is the unintended consequence of an inflexible interest rate system, established under financial restriction, selective credit policies and/or a bank cartel, in the face of accelerating inflation. All the sample countries, except Hong Kong and Singapore, were experiencing some degree of financial repression in 1981.

Analysis of financial repression in developing economies was pioneered by McKinnon (1973) and Shaw (1973). Shaw's central argument is that financial repression - indiscriminate "distortions of financial prices including interest rates and foreign-exchange rates" - reduces "the real rate of growth and the real size of the financial system relative to nonfinancial magnitudes. In all cases this strategy has stopped or gravely retarded the development process" [Shaw (1973, pp.3-4)].

The essential common elements of this model are illustrated in Figure 3. Saving, $S_{(g_0)}$, at a rate of economic growth g_0, is a function of the real rate of interest [McKinnon (1973, p.67); Shaw (1973, pp.73, 77-78)]. F represents financial repression, taken here to consist simply of an administratively

FIGURE 3

Saving and Investment under Interest Rate Ceilings
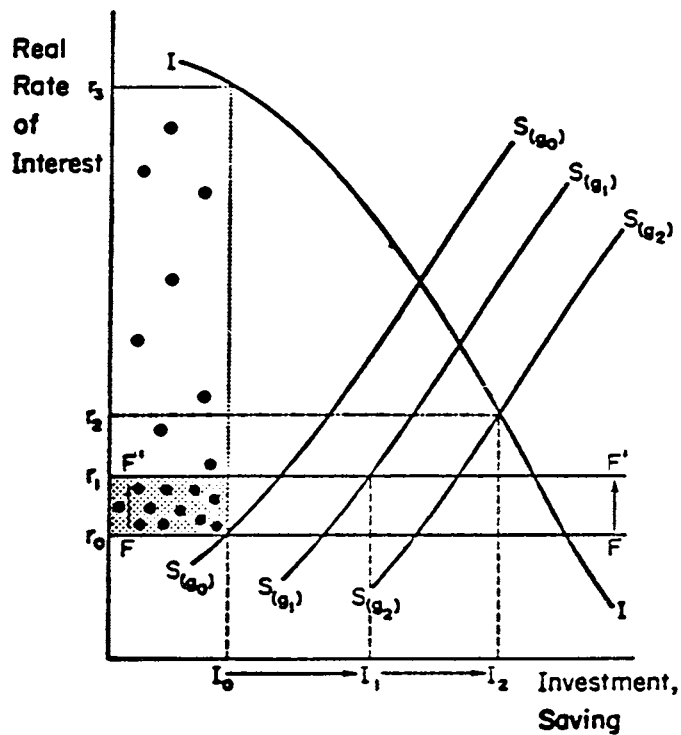
Saving and investment are both interest-elastic, but
the deposit rate of interest is set below its market
equilibrium level. The result is that the quantity
of investment is determined by the amount of saving
forthcoming at the fixed deposit rate of interest.
With below-equilibrium loan rate ceilings, investment
efficiency tends to be reduced too. Investments which
are undertaken under these conditions are represented
by the dots.

determined nominal interest rate, which holds the real rate r below its equi-
librium level [McKinnon (1973, pp.71-77); Shaw (1973, pp.81-87)]. Actual in-
vestment is limited to I_0, the amount of saving forthcoming at the real interest
rate r_0.

If the ceiling applied only to savers' interest rates, e.g., only to de-
posit but not loan rates of interest, the investor/borrower would face an in-
terest rate of r_3, the rate which clears the market. The spread $r_3 - r_0$ would
be spent by a regulated but competitive banking system on nonprice competition,
e.g., advertising and opening new bank branches. These nonprice services, as
already pointed out, are evidently not valued at par with interest payment - real
money demand always declines with a decrease in the explicit real deposit rate of
interest. Lee (1980, pp.26-27) suggests that, for the monobank case, monopoly
profits are paid out as transfer payments. The effects on money demand and cap-
ital accumulation are the same in either case.

In fact, there are loan rate ceilings as well as deposit rate ceilings in
almost all financially repressed economies. Although private commercial banks
evade the former through compensating balances, as is standard practice in Korea
and Turkey, for example, they are generally observed by state-owned banks and
for all public sector borrowing. To the extent that banks do observe loan rate
ceilings, nonprice rationing of loanable funds must occur. This typically takes
place on the basis of quality of collateral, political pressures, "name," loan
size, and covert benefits to the responsible loan officers. These criteria can
be counted on to discriminate inefficiently between investment opportunities.
Indeed, there will be a preference for traditional, low-yielding investments
because these appear safest, simplest and cheapest to finance. Loan rate

ceilings discourage risk-taking on the part of financial institutions; risk

premia cannot be charged when ceilings are binding and effective. This itself

rations out a large proportion of potentially high-yielding investments. There

is, therefore, a strong tendency for the investments which are financed to yield

returns barely above the ceiling rate r_0. These are shown in Figure 3 by the

dots lying just above FF in the shaded area.

Raising the interest rate ceiling from FF to F'F', i.e., from r_0 to r_1, in

Figure 3 increases saving and investment. It also rations out all those low-

yielding investments, illustrated by the dots in the shaded area, which were

financed before. They are no longer profitable at the higher interest rate r_1.

Hence, the average efficiency of investment increases. The rate of economic

growth is increased in this process and shifts the saving function to $S_{(g_1)}$.

Thus, the real rate of interest as the return to savers is the key to a

higher level of investment, and as a rationing device to greater investment

efficiency. The impacts on growth are multiplicative. Growth in the finan-

cially repressed economy is constrained by saving; investment opportunities

abound [McKinnon (1973, pp.59-61); Shaw (1973, p.81)]. A considerable body of

empirical evidence consistent with the McKinnon-Shaw model has been presented

in Fry (1978d; 1978e; 1979b; 1980a; 1981a; 1981b; 1981d; 1982) and Fry and

Mason (1981). In particular, investment efficiency as measured by incremental

output/capital ratios was found to be positively and significantly correlated

to the real deposit rate of interest. Quantitatively, economic growth seems to

be reduced through lower volume and efficiency of investment by about one half

of a percentage point for every percentage point by which the deposit rate is

set below its competitive, free market equilibrium level [Fry (1980a; 1981b)].

Obviously, the policy prescription is to raise institutional interest rates and/or to reduce the rate of inflation. Abolishing interest rate ceilings altogether produces the optimal result of maximising investment and raising still further investment's average efficiency. This is shown in Figure 3 by the equilibrium I_2, r_2, and a higher rate of growth, g_2. Clearly, changes in the real interest rate trace out the saving function.

Lower real deposit rates of interest can be expected to reduce real money demand as well as the saving rate. Indeed, the two are connected in that a large proportion of financial saving in the sample countries is embodied in money holding [Abe et al. (1975); Brillembourg (1978); McKinnon (1973)]. Ceteris paribus, a fall in real money demand causes a decline in the real supply of credit. In practice, a fall in real money demand also reduces net foreign assets, as anticipated by the monetary approach to the balance of payments. Nevertheless, some of the effect of declining real money demand seems to be a reduction in the real supply of domestic credit.

As inflation accelerates and real deposit rates of interest fall, an increasing proportion of the declining supply of real domestic credit may be expropriated by government to finance current expenditures [Aghevli and Khan (1977 and 1978); Dutton (1971); Ness (1972); Tanzi (1977); Uluatam (1973)]. Hence, funds for both working and fixed capital investment would be doubly squeezed [Kapur (1976)].

With the real supply of domestic credit determined in the main by the real demand for money, the real deposit rate of interest determines indirectly both investment and growth. A higher real deposit rate will increase the investment rate and growth (which, in turn, feeds back to raise saving and investment rates) through the credit availability mechanism. Regression results reported in Fry

(1978a; 1978b; 1978f; 1980b; 1981a; 1981b; 1982) are all consistent with the hypotheses that the ratio of domestic credit to nominal GNP and the ratio of private sector to total domestic credit are influenced positively by the real deposit rate of interest.

One of the most deleterious effects of loan rate ceilings is that they deter risk-taking by financial intermediaries. Loan rate ceilings, when binding, eliminate the possibility of charging differential risk premia. Hence, riskier borrowers and riskier projects are rationed out completely, as illustrated in Figure 4. Here, there are two classes of borrowers/projects - less risky and riskier. A loan rate ceiling at r_0 produces a supply curve of $S_{(B_0)}$ for less risky loans and $S_{(A_0)}$ for riskier loans. The supply of less risky loans is q_0, the supply of riskier loans zero.

The abolition of loan rate ceilings shifts both supply curves. The supply of less risky loans is reduced at each rate of interest because there is some substitution into riskier loans. The supply of riskier loans at each rate of interest is also reduced, since ceiling abolition produces a higher rate for less risky lending. The equilibrium result, however, is that the actual quantities of both less risky and riskier loans are increased from q_0 to q_1 for the former, and from zero to q_2 for the latter.

There is an alternative way of looking at this effect. Consider the following example. Ten small entrepreneurs face equal value, one-year investment opportunities for which each will have to borrow 62½ per cent of the required funds. The investments will yield a 100 or -50 per cent net return with 60 and 40 per cent probabilities, respectively. The latter outcome will enable them to repay only 80 per cent of their loan principals and no accrued interest.

44

FIGURE 4

Riskier and Less Risky Loan Markets

A

Less Risky Loans

B
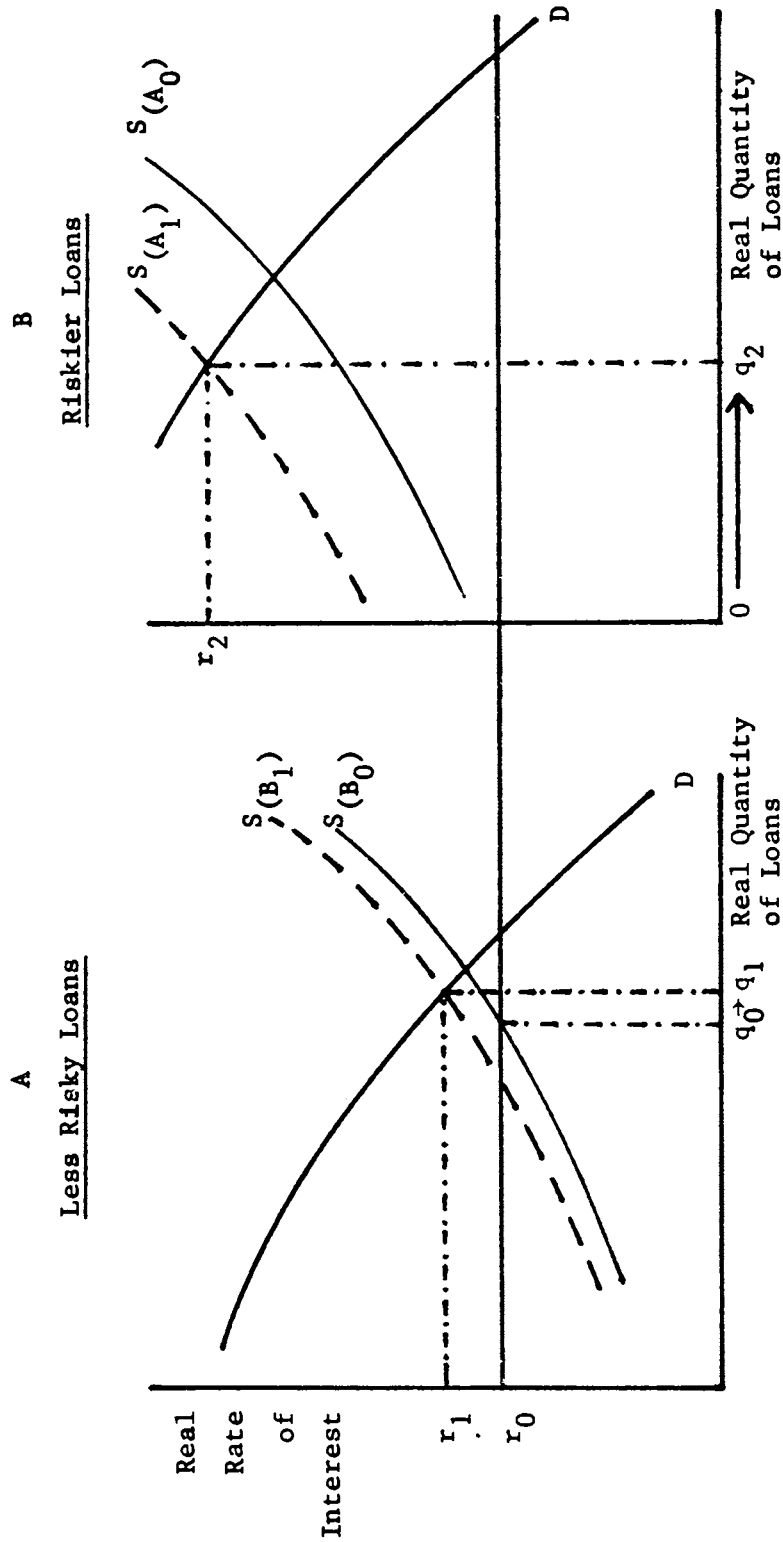
Riskier Loans

Panel A illustrates the market for less risky loans, panel B the market for riskier loans. A uniform loan rate ceiling at r_0 rations out completely all riskier borrowers — supply of riskier loans is zero at r_0. Abolishing the loan rate ceiling produces an equilibrium interest rate for less risky loans of r_1 and for riskier loans of r_2. The quantity of riskier loans supplied rises from zero to q_2.

Assume that the lender is risk-neutral and attempts to maximise profits. If he lends Rs 1 million at 30 per cent interest to each of these entrepreneurs, the expected net return is exactly 10 per cent; 30 per cent on Rs 6 million and -20 per cent on Rs 4 million. Hence, the lender would turn down all 10 loan applications if the loan rate ceiling were below 30 per cent, provided the alternative was riskless assets yielding 10 per cent. The critical loan rate ceiling is 13-1/3 per cent if the alternative were idle cash yielding nothing. Despite the fact that the 10 investment projects yield an average economic return of 40 per cent, i.e., in total are highly productive, they might all be rationed out with an interest rate ceiling of 13 per cent. A profit-maximising lender would rationally prefer to hold idle cash than to make these risky loans under such circumstances.

In fact, nationalised financial intermediaries are often directed to take risks and to extend small loans which are more expensive than larger loans to administer without regard to compensating returns. For example, the overall cost - including expected delinquency and default costs - of providing credit to small farmers in India averages 2¼ per cent more than the cost of providing credit to large farmers. Consequently, smaller farmers are subsidised to a greater extent than larger ones, even with a uniform loan rate.

The result of disregarding risk has been serious levels of delinquency and default in the loan portfolios of many public sector financial intermediaries. For example, about 50 per cent of India's land development banks' loans are delinquent. When the distinction between a loan and gift becomes blurred, collection of loans by other financial intermediaries is affected. Private money lending in rural areas of India has declined dramatically in recent years, due in

part to increasing collection difficulties. Similar problems of unacceptably high delinquency and default rates on priority loans extended by government-owned financial intermediaries exist elsewhere, e.g., in Indonesia, Korea, Nepal and Western Samoa. Half of the Development Bank of Western Samoa's agricultural loans have had to be rescheduled.

Ultimately, the costs of high delinquency and default rates are borne by depositors. Hence, they reduce the aggregate real supply of loanable funds. At the same time, delinquency and default rates of the magnitudes found, for example, in India, Indonesia, Korea, Nepal and Western Samoa reflect adversely on both the administrative and allocative efficiency of the public sector financial intermediaries. Of course, risks are an inherent part of the process of economic development. But performance criteria should promote profitable, productive risk-taking and deter mere indiscriminate lending.

Abolition of loan rate ceilings can increase the average efficiency of investment, because higher rates will reduce the demand for investible funds by those with relatively low-yielding investment projects. This frees resources for use by those who were previously rationed out of the market but who do have projects, albeit risky, with high expected returns. An increase in the incremental output/capital ratio and, hence, in the rate of economic growth can be anticipated.

Abolishing interest rate ceilings can stimulate competition not only among financial intermediaries but also between them and the bond markets, which can then be developed more effectively. Increased competition will help small and medium size enterprises in particular, because they are the first to be rationed out under noncompetitive conditions. With ceilings, bankers can live an easy, quiet life. They wait for customers, waste resources on elegant buildings, and

turn down applicants without "name," first-class credit standing, etc. Initiative

and new enterprise are suffocated. Since new ventures are invariably risky, they

tend to be doubly discriminated against by the inability of the banks to charge any

risk premium when loan rate ceilings are effective.

Interest rates can perform three basic functions [Chandavarkar (1971, p.50)].

First, the interest rate can mobilise saving. It is the price which influences

the choice between present and future consumption. Under the imperfect market con-

ditions found in almost all the sample countries, it can also be expected to have

a strong effect on the choice of assets in which savings are embodied. A rise in

institutional interest rates produces substitution from unproductive tangible

assets held as inflation hedges into financial claims. This substitution as well

as any increase in the saving rate frees resources for productive investment.

Second, the interest rate is an efficient rationing device for the allocation

of scarce resources between alternative investments. It is almost invariably

superior in this respect to rationing on the basis of decisions of a bureaucrat,

quality of collateral offered, political influence of the borrowers, "name," or

the personal preferences of individual loan officers. As a rationing device, the

interest rate maximises the average return of a given volume of investment.

Third, the interest rate can provide a social discount rate for decisions

both to save and to invest. In this role, it equates planned saving and invest-

ment. Here it acts as a market clearing device, influencing in an optimal manner

the choices of what to produce and how to produce it. The interest rate can dis-

courage the establishment of automobile or aircraft factories, economic activities

which are inherently capital intensive. The interest rate can also discourage

capital intensive techniques of production for a particular product in countries

where capital is limited. Where labour is plentiful and capital is scarce, the interest rate can direct entrepreneurial activities into simple things with simple technologies, but with high returns to capital.

The interest rate performs these three functions automatically when it is allowed, as it is in Singapore, to find its equilibrium market level through the free competitive interaction of the forces of supply and demand. It performs none of these functions effectively in most of the other sample countries because ceilings are imposed by fiat or cartel agreements on so many institutional interest rates. One suspects strongly that the low interest rate policy pursued by these countries, particularly since the 1960s, has reduced saving and investment and lowered the average efficiency of the investment which has taken place.

The optimal solution to loan rates is the abolition of ceilings and the abandonment of selective credit policies. If certain economic sectors are to be subsidised, subsidies could be given in fiscal form rather than through low interest rates. Ministries of finance object that this raises Budget expenditures. In fact, however, the cost of the fiscal subsidy can be identical to that of the interest rate subsidy. The tax which financed the interest rate subsidy, i.e., deposit rates held below their market equilibrium levels, can finance a direct fiscal subsidy or grant instead. Preferably, the tax system would be reformed at the same time so that the implicit deposit tax - a socially inefficient tax on saving - is dropped in favour of another tax which is not so inefficient. Fiscal subsidy has two other advantages: it can be confined more easily to the priority activity itself and it need not distort factor prices. Labour as well as capital can be subsidised.