

PN-ABM-158

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THE ROLE OF FINANCIAL MARKETS
IN PROVIDING HOUSING FINANCE
IN SRI LANKA

by

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U.I. Project 3753-1

March 1988

Prepared under Contract for
The Office of Housing and Urban Programs
U.S. Agency for International Development

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CHAPTER 1
INTRODUCTION

This report investigates the use of market-determined interest rates in the allocation of funds to the housing sector in Sri Lanka. It is hoped that the analysis presented here will help policy makers in designing programs to meet the housing needs in the years ahead.

Background

The country's population was estimated at 16.1 million¹ in 1986, which, given the Gross Domestic Product (GDP) of Rs. 183 billion, results in a per capita GDP of approximately Rs. 11,380 per year. The distribution of this income is quite skewed, however, with the lowest 20 percent of the population earning only 5.7 percent of total income, while the upper 20 percent, earned 54 percent. On average, therefore, an individual in the lowest 20 percent of the distribution earns about Rs. 3,250 per year. With respect to households, the poorest 40 percent received 15.3 percent of total income in 1982. This share indicated a continuation of the worsening trend in income distribution started in 1973. The deterioration has slowed since 1979, however, and that which has occurred recently is attributable entirely to the deterioration

1. The Registrar General's Department estimates that 56 percent of the population is under 25 years old.

- 1 -

EXECUTIVE SUMMARY

This study is a derivative effort of earlier works on developing housing finance strategies for Sri Lanka. Policy makers, apart from making estimates of the housing needs of the future, are also required to put in place procedures for reaching these goals. Such procedures should be as efficient and well-targeted as possible. Practically speaking, it is one thing to announce a Million Houses Program aimed at improving the housing conditions of a large number of people, and yet another matter to establish an operational framework in which these goals can reasonably be expected to be attained. The discussion presented here is intended to further our understanding of financial markets in Sri Lanka, how housing finance fits into the interactions among these institutions, and how, in the future, the resources allocated to housing might be enlarged.

All the while, keeping an eye on the concern for affordability. In a country where incomes are low and household financial resources uncertain, no single "ideal" framework can reasonably meet the diverse needs and abilities of the disparate income groups. Therefore, we accept the premise that distinct programs are required, which operate independently and serve different categories of households.

The recommendations presented below are reasonable goals in the context of the success to date. The government has made real progress in its efforts to advance privatization of the financial sector.

Achievements to Date and the Current Environment

Much has already been accomplished in the process of deregulating the environment of financial intermediation. Both the National Savings Bank (NSB) and the Employee's Provident Fund (EPF) are permitted to hold a substantial proportion of their assets in investments other than government securities. The Employee's Trust Fund (ETF), though not as large, has already diversified into other investments, with housing being just one alternative.

These institutions, and the advent of private insurance companies, provide a truly remarkable potential source of capital in a deregulated market. If the National Savings Bank achieves in 1988 its goal of shifting Rs. 200 million into investments that are not government securities, this would be an impressive mobilization of funds for nongovernment use. The Employee's Provident Fund (EPF) is even larger. If these institutions are successful in diversifying out of government securities into viable investments, the potential redirection of capital is substantial. With respect to housing, the medium- to long-term investment horizons for the NSB, EPF and ETF fit well with the funding needs of housing finance institutions.

Yet, deregulation still has farther to go. Credit allocations assigned to commercial banks still have a stifling effect on competition and the housing finance institutions are still dependent on government loans at subsidized rates.

We take it for granted that all financial market participants support the attempts to control the government deficit. In the past, the Central Bank of Sri Lanka (CBSL) was constrained in its ability to control the money supply because of the overriding concern to fund the deficit. It has followed a policy of monetizing the deficit, in effect printing money to pay for public expenditures. If the money supply were not allowed to grow, interest rates would have risen and private investment would have been "crowded out". The effect of this monetization was a fairly high rate of inflation over the period 1980-84. This, in turn, was reflected in the high nominal interest rates.

Over the past three years, however, interest rates have trended downward as the rate of inflation was lowered. Inflation in 1986 and 1987 was approximately 8 percent per year. In that a high rate of inflation undermines the real value of financial assets and introduces greater uncertainty in the process of financial intermediation, all market participants should support efforts to control inflation.

Another significant success in the movement to a more free-market orientation has been the rapid growth in the auction market for Treasury bills since 1987. The proportion of bills held by the Central Bank decreased from 92 percent at the end of 1985, to 84 percent at the end of 1986, and then to 74 percent at yearend 1987. With twenty-five or more participants at the larger auctions, this market can evolve to the point where it can serve as an accurate gauge of the direction of monetary policy. As we will recommend below, it is probably the best single indicator of short-term market rates.

In our discussions at financial institutions, we left with the strong impression that the policy makers were keenly aware of the effect of subsidized lending on the workings of a market and the cost to the government. Everyone agrees that these programs should be well-targeted and monitored to see that they are cost effective. This is important because, if the resources of commercial banks, the NSB, the provident funds, and insurance companies have been freed of prior constraints, they will need investment opportunities that pay a market rate of return. If borrowers already have access to subsidized loans, neither the borrowers or potential lenders will have an incentive to seek each other's business.

Now that interest rates have fallen -- and in some instances subsidized lending rates have risen -- housing, agricultural, or commercial borrowers should not require subsidies as large as they once were in order to obtain funds and be viable. The NSB has a successful pilot project of making agricultural loans at rates from 10.5 to 15 percent, and have experienced high recovery rates.

Given these successes and the current economic environment, the recommendations described below will help to move housing finance into an environment of a more market-determined allocation.

Recommendations

I. Funds Mobilization

- A. Encourage the NSB, EPF and ETF to provide funds to the SMIB and HDFC. The State Mortgage and Investment Bank (SMIB) and the Housing Development Financial Corporation (HDFC) have raised their lending rates in the past year, such that the returns on their portfolio of loans is very nearly sufficient to reach the target returns for the diversified investment objectives of the NSB, the EPF and the ETF. If needed, rates could be raised further to make them competitive in attracting funds. Both the HDFC and the SMIB have high recovery rates on their loans, which are predominantly in the Colombo area. In the near term, just as the Thrift and Credit Cooperative Societies (TCCS) appear to be the preferred originator and servicer of mortgages in the rural areas, so too do the SMIB and HDFC have a comparative advantage over the NSB, the EPF and the ETF as originators and servicers in the Colombo vicinity.
- B. The Treasury bill auction market as an index for establishing rates. Chapter 2 describes in greater detail the improvements over the past year of the Treasury bill auction yield as an indicator of short-term market interest rates. Other changes are under review by the CBSL to establish an auction market in government debt of more than 91-days maturity. This would provide financial institutions a more complete term structure of interest rates. For the time being, the rupee loan program, or the differential paid on short- versus medium-term deposits, can be used to estimate the slope of the yield curve. Currently, this rate would be on the order of one percentage point more than the yield on Treasury bills.
- C. No need for a secondary market in mortgages or mortgage-backed securities. In the U.S., the secondary mortgage market initially met the need of shifting funds from areas with a surplus of loanable funds to areas with a shortage. This need arose because individual institutions are precluded from crossing geographical boundaries. This constraint does not apply in Sri Lanka; the NSB, EPF and ETF collect funds from throughout the country. In Colombo, the SMIB and HDFC are available to originate and service loans. In rural areas, the TCCS have shown great promise in undertaking these functions. Large investors, therefore, do not need an active market in the buying and selling of packages of loans. Rather, they can usefully provide funds for housing indirectly, by funding the specialized mortgage institutions. As long as the specialized institutions have greater expertise in mortgage underwriting and servicing, and if there is no

need to shift the risk of mortgage underwriting away from these institutions, then an appropriate role of institutional investors is to provide the medium- to long-term funding used by the specialized institutions.

In a very real sense, large institutions are investing just as much in housing -- and are displaying just as much social responsibility -- by providing funds indirectly. Offering competitively priced funding for 3 to 5 years to the specialized housing finance institutions is functionally equivalent to making loans directly. Clearly, loans can not be made without funding. The specialized housing institutions have a comparative advantage in loan origination and servicing, while the large investors have a comparative advantage in raising funds. The former should not get into the business of deposit-taking, the latter is not well-suited for loan origination and servicing. Yet both can be equal participants in the provision of housing finance.

- D. Study the asset/liability management techniques of the housing finance institutions. In an environment of market-determined interest rates, there will be periods when rates display greater volatility. When deposit rates rose to 20 percent in 1984, if housing finance institutions had borrowed short-term, while lending long-term, they would have been squeezed. Yet, if institutions borrow long-term in order to lend long-term, then if interest rates fall substantially, borrowers refinance their mortgage to obtain the current lower cost of lending. But, the housing finance institution will still have the long-term debt, which was issued when rates were high. If the institution can not "call" the debenture, it will be subject to interest rate risk, regardless of the direction of the movement in rates.

Therefore, if the housing market moves to a more market-determined rate for funding and lending, then it would be worthwhile to investigate the interest rate sensitivity of these institutions. Since the early 1980s, much has been written on the measurement -- and management -- of interest rate risk when markets become more volatile.

II. Loan Origination and Servicing

- A. Maintain TCCS model for loan origination and servicing in the rural subprogramme. The data on recovery rates in the rural subprogramme of the Million Houses Programme shows the comparative advantage of the Thrift and Credit Cooperative Societies in keeping loans current. As a small financial intermediary, they are closer to their borrowers, and have not resorted to foreclosures to keep loan recoveries high.
- B. Have the TCCS fund a small proportion of each loan. Though the TCCS have been effective in raising the rate of loan recoveries, some districts are substantially lower than others. Currently, the TCCS are only servicers of

loans that are 100 percent owned by the provider of funds to the thrifts, the National Housing Development Authority (NHDA). They receive 2 percentage points of the interest paid by their borrower, and their subsequent allocation of funds is dependent on their recovery rate. Since losses are predominantly borne by the holder of the mortgage, the TCCS would have a greater incentive to be diligent in maintaining recoveries if they also had, for example, a 10 percent equity interest in each mortgage. If so, losses from less-than-100 percent recoveries would be shared with the thrift in proportion to their funding contribution. Thrifts would likely screen potential borrowers more carefully.

This requirement might be made only of TCCS that have poor recovery rates on loans. It would likely change the composition of the assets of the TCCS to a larger proportion of housing assets than they now hold, which might crowd out other forms of lending that they otherwise undertake.

- C. SMIB and HDFC can use TCCS as agents for loans to moderate and higher income households. This would dramatically expand the opportunity for formal housing loans throughout the country.
- D. Find a proxy for the TCCS in the urban subprogramme. The successes of the Rural Housing Subprogramme should be emulated in the low-income component of the Urban Subprogramme. Some means to create community-based origination, servicing and funding should be devised. The Thrift and Credit Cooperative Societies Expansion Programme is a step in this direction. Perhaps the Colombo-based SMIB and HDFC could be used as servicers.
- E. Rely on the SMIB and HDFC for middle-income lending in urban areas.
- F. The NSB, EPF, and ETF should not become loan originators. These three institutions should not be encouraged to enter mortgage lending as direct lenders, who originate, service and hold mortgages. The NSB, with its large network of deposit-accepting post offices, and the public provident funds, with their automatic contributions, are not well-placed to "turn around" and make loans back to their constituents. Currently, they should provide funding as purchasers of the debentures of the SMIB and the HDFC, and perhaps also provide funding at the district level of the TCCS.

III. Mortgage Terms

- A. Treasury bills as the best available indicator of market rates. The following are offered as possible indexes for current funding and lending rates in the housing sector:

Treasury bill yield
1-year +
funding = 1% maturity differential
+
1/4 to 1/2% risk premium

Treasury bill yield
3- to +
5-year = 2 to 3% maturity differential
funding +
1/4 to 1/2% risk premium

The funding rates apply an additional one percent for each increment in the maturity beyond 91 days, plus the institution's risk premium. The maturity differential would vary as the yield curve changed over time. These indexes are explained more fully in Chapter 4.

- B. Mortgage rate set at funding cost plus 2 to 3 percentage points. Based on the available data on overhead expenses, we would recommend that the mortgage rate be set at a level 2.5 to 3 percentage points over the interest rate on debentures. Depending on the maturity of the debenture, the funding costs might range from 12.5 to 14.5 percent. Add to this the range of overhead expense and the mortgage rate would be estimated to fall between 15 and 17.5 percent. If servicing expenses and loss experiences are higher than the 2.5 to 3.0 percent range, the higher costs would be reflected in a higher margin.
- C. Separate grant and market-rate segments of mortgage loans to make subsidies more visible and to leverage GSL appropriations. We believe that blending the subsidy portion of housing programs with a system of lending introduces significant difficulties in measuring performance and targeting benefits. A lending program, which forgives the loans to those borrowers who do not pay, while at the same time accepting payments from other borrowers in the same income category, is destined to evolve into a program with low recoveries. The incentives are not present for borrowers to keep their loans current, and other borrowers will learn of the absence of sanctions against non-payers. The framework presented below will assume a separation of a budget for outright grants and a budget for loanable funds.
- Borrowers, however, need not see the separation, since the grant portion can be used to "buy down" the monthly payment. That is, though borrowers might be asked to pay Rs. 100 per month for 15 years to retire a mortgage of

Rs. 10,000, they would not have to be concerned with the fact that, at a "market-determined" mortgage rate of 15 percent, their Rs. 100 payment only has a present value of roughly Rs. 7,145. The remaining Rs. 2,855 that is "loaned" is accounted for as a grant, since it is never repaid under these terms of the loan.

We emphasize, however, that the primary goal should be to access private sources of funds, which in turn, can be leveraged by NHDA funds. That is, the NSB, ETF and EPF can provide funding on terms that are at market rates to SMIB and HDFC. These funds can be lent to the homeowner at subsidized rates, by having the NHDA use its annual appropriation to make payments to the SMIB and HFDC in the amount of the subsidy. (See Chapter 4 for details.)

- D. Lessen the cross-subsidization of mortgage interest rates. The SMIB and HDFC currently lend at more than one rate, depending on the size and use of the loan. Differential loan rates are justified on the basis of ability to pay and the lower after-tax cost of borrowing for high-income households. The SMIB, for example, charges 20 percent per year on a loan of Rs. 750,000. Presumably, the income of such a large borrower would be high enough to be subject to a marginal tax rate of 40 percent. Thus, the effective range is not as great as the quoted rates imply.

We feel this is a cumbersome way to measure and manage interest rate subsidies. The government does not have data on the mortgage deductions of large borrowers, and thus, the amount of lost revenues. In a more free marketplace, large borrowers will seek funding from sources at rates that are not above the market rate. Lenders will find it increasingly difficult to lend funds at above-market rates, and their ability to subsidize other loans will diminish. Allocating the limited supply of subsidized loans then becomes more difficult.

- E. Reduce preferential tax treatment. The tax deductibility of mortgage interest is a "tax expenditure" that benefits only households in the upper 10 percent of the income distribution. The social benefits of subsidizing the housing purchases of this group should be evaluated. The foregone tax revenue -- once estimated at Rs. 500 million per year -- could be targeted to lower income groups.

IV. Improve Ability of Lower Income Households to Qualify for Mortgage Loans

- A. Provide innovative mortgage instruments. Without question, affordability is of paramount importance in the design of a housing finance strategy. Any policy that can lessen the payment burden and assist the borrower to qualify for a larger loan should be examined. In this regard, Graduated Payment Mortgages (GPMs) and variants of

Adjustable Rate Mortgages (ARMs) are useful instruments. A GPM shifts a portion of the principal repayment into the middle and later years of the mortgage, away from the early years. It does so under the assumption that the borrower's income will increase over time, and therefore, the ability to meet the higher payments will be available.

If there is not a reasonable expectation of either higher real wages or an inflation-induced increase in earnings, then the GPM would be inappropriate. Also, these instruments require a greater understanding by the borrower of the characteristics of the loan. Thus, GPMs need to be conservatively structured (i.e., with "shallow steps") and, at origination, the borrower given a "payments book" along with the thorough explanation of the mortgage's features.

An ARM essentially lends to the borrower at sequential short-term rates, since the mortgage interest rate is adjusted -- usually yearly. As such, the mortgage payment varies with movements in short-term rates, with limits typically imposed on the maximum amount of the change in the monthly payment. When the interest rate for 15-year funding is higher than the rate for 1-year funding, over its life, an ARM can have a lower overall interest rate, such that the borrower would ultimately pay less interest.

One form of an ARM is a variable rate mortgage in which the monthly payment does not change, but instead, the term to maturity varies. If the mortgage rate were to rise, the higher interest is capitalized into the mortgage principal, such that a few additional payments are needed beyond the originally scheduled 15 years. If the interest rate were to fall, the life of the mortgage is shortened. This mortgage has the same feature of the standard ARM, since there is the potential for a lower interest component over its life. But this mortgage maintains the security of a known monthly payment.

Arms could be difficult to implement in Sri Lanka because of the lack of experience within housing finance intermediaries in managing interest rate risk. The valuation of the adjustable rate feature of an ARM depends on the nature of the interest rate risk of a mortgage without an adjustable rate.

- B. Require a demonstrated ability to make contractual payments. Potential borrowers -- both subsidized and unsubsidized -- could be asked to demonstrate, in advance, that they will be able to fulfill their monthly payment obligation. For example, they could be asked to create a balance over a 6- or 12-month period, where they would make monthly deposits to a savings account in the amount of the anticipated mortgage payment. Beyond demonstrating an ability to meet the contractual obligation, this requirement would have two other beneficial effects. It

would create a equity position by forming a down payment, which would increase the borrower's commitment. Creating a balance would also lower the amount of financing required for unsubsidized borrowers, thereby lessening the monthly payment.

- C. Improve procedures for clear title. With regard to land title, we should consider the universal motivation to improve the lives of one's heirs as a powerful incentive in saving. Providing clear title to the borrower would make certain their reward for being diligent in making payments. The 45-year lease, which has been used in other housing programs, is not as strong an incentive; the borrower is essentially entering into a long-term rental contract. Full and clear title would increase their commitment.

V. Other

- A. Eliminate the Business Turnover Tax (BTT). A major factor inhibiting money market development is the existence of a 5 percent BTT on transactions between banks. Currently, there is so little interbank activity, that to remove it would have little effect on revenues. This tax is a substantial impediment to the process of free-flowing financial intermediation.

in income distribution in the urban sector.¹ With such diversity in the financial resources of different income categories, an effective housing policy will have to address the needs of each, as well as incorporate their relative strengths.

The urban sector encompasses 22 percent of the population, with 72 percent and 6 percent, respectively, for the rural and estate sectors. In 1982, unemployment was highest in the urban sector at 14 percent, compared to a 12 percent rate in the rural sector.

The 1977 Liberalization

With the change in government in 1977, Sri Lanka changed its policies of economic management. Annex A describes how housing policies have evolved since 1977. New policies moved to limit the role of the state in the economy and to expand the role of market forces in the allocation of resources. Some of the changes made were: eliminating price controls, removing import and foreign exchange restrictions, lifting entry barriers to some industries, and encouraging foreign investment. With respect to the purposes of this study, the most important change was the rapid upward shift in the level of interest rates and the gradual opening of the financial system to new participants. Since 1979, foreign-owned commercial banking institutions have been allowed to operate with relatively little government supervision. At one point, there

1. The income estimates for 1986 were provided by the World Bank, South Asia Programs Department. The income distribution figures, however, are from the Consumer Finance Surveys, Central Bank of Ceylon. They were published in "Sri Lanka: The Social Impact of Economic Policies During the Last Decade", UNICEF-Colombo, June, 1985.

were 21 foreign bank branches; though currently, there are 19.¹

In addition to the influx of commercial banks, the growth of deposit-taking finance companies is an example of how a market can evolve quickly. These institution grew at a rate of 54 percent between 1980 and 1984. In 1985 and 1986, their deposits grew 45 percent and 23 percent, respectively, while the total deposits of commercial banks only grew by 17 percent in 1985 and 6 percent in 1986. Therefore, they are becoming a larger proportion of the financial market², though their deposits were only 10 percent of the deposits of commercial banks at yearend 1986. Like finance companies elsewhere, these institutions compete in a market in which they must offer higher rates in order to raise funds, and likewise lend at higher rates to compensate for the higher risk of their loans. They make hire-purchase loans, bridging finance, and loans to "unbankable" clients who do not have acceptable collateral. Annex B describes in greater detail the funding and lending procedures of one of the largest finance companies.

These policy changes have resulted in some remarkable successes, which are shown in Table 1.1. The rate of growth of real GDP averaged 5.6 percent from 1978 to 1986, compared to 3 percent for the period 1970 to 1977. Real GNP per capita averaged 3.2 percent growth from 1982 to 1986. Investment rose from an average of 16 percent of GDP, during 1970 to 1977, to 27

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1. As part of its worldwide reorganization, the Bank of America closed its branch. Also, two Middle East banks merged their branches.
 2. The CBSL has instituted a more formal examination procedure, which implements new legislation that provides for greater oversight of finance companies.

Table 1.1
Macroeconomic Trends 1977 to 1986

	(In percent)				
	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Real GDP Growth	5.1	5.0	5.1	5.0	4.3
Prices					
GDP Deflator	10.2	16.1	19.4	1.7	9.9
Colombo Cost of Living Index ¹	10.8	14.0	16.7	1.4	8.0
Central Bank Cost of Living Index	11.0	11.3	16.8	-1.2	n/a
Wholesale Price Index	5.5	25.0	25.4	-15.2	-5.5
	<u>(As a percent of GDP)</u>				
Investment	30.6	28.8	25.8	24.9	23.6
Overall Government Deficit	15.9	12.0	6.0	13.4	n/a
Financing of Deficit					
Foreign Financing	8.1	8.0	6.4	7.0	r/a
Domestic Financing	7.8	4.0	-0.4	6.4	n/a
EPF and NSB	3.8	3.1	2.6	2.8	n/a
Central Bank	4.1	1.4	-3.4	4.4	n/a
Other	0.1	-0.5	0.4	-0.8	n/a
	<u>Rupees per U.S. Dollar</u>				
Exchange Rate	21.32	25.00	26.28	27.41	28.52

Macroeconomic Trends 1977 to 1986 (cont.)

	(In percent)				
	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>
Real GDP Growth	4.2	8.2	6.3	5.8	5.8
Prices					
GDP Deflator	17.9	7.8	15.8	18.2	20.6
Colombo Cost of Living Index	1.2	12.2	10.8	26.1	18.0
Central Bank Cost of Living Index	n/a	8.8	19.0	37.8	23.7
Wholesale Price Index	n/a	15.8	9.5	33.7	17.0
	<u>(As a percent of GDP)</u>				
Investment	n/a	20.0	25.8	33.8	27.8
Overall Government Deficit	n/a	11.7	14.8	22.6	14.9
Financing of Deficit					
Foreign Financing	n/a	9.0	7.1	9.2	8.9
Domestic Financing	n/a	2.7	7.7	13.4	6.0
EPF and NSB	n/a	2.8	3.7	2.7	1.7
Central Bank	n/a	0.1	4.2	11.3	3.5
Other	n/a	-0.2	-0.2	-0.6	0.8
	<u>Rupees per U.S. Dollar</u>				
Exchange Rate (yearend)	15.56	15.51	15.45	18.00	20.55

1. The figure for 1987 is 7.7 percent.

Source: The Central Bank of Sri Lanka.

percent from 1978 to 1986. Also, as a result of a very ambitious program of public investment, the budget deficit quickly grew. The capital expenditure account of the Treasury grew at a compounded rate of 24 percent per year between 1978 and 1985, while revenues rose at 19 percent.

As Table 1.1 indicates, the budget deficit rose from 11.7 percent of GDP in 1978 to 22.6 percent in 1980. Revenues increased significantly in 1983 and 1984, causing the deficit to fall to only 6.0 percent of GDP in 1984, but it has since risen. The 1984 figure was attributable to favorable world tea prices. But with the fall in prices in 1985, and the consequence for revenues, together with the increase in defense expenditures, the deficit rose again to over 13 percent of GDP in 1985. The estimated deficit in 1986 was 9.4 percent larger than in 1985, while GDP also rose roughly 10 percent. Therefore the deficit as a proportion of GDP remained at 13 percent.

Over the last decade, foreign financing of the deficit, as a percent of GDP ranged from 7.0 to 9.2 percent, while domestic financing varied between -0.4 and 13.4 percent of GDP. The data indicate that a large proportion of domestic financing comes from the EPF and the NSB. They account for 47 percent of the domestically held debt. Table 1.2 below shows the distribution of the public debt in September 1987 by holder, with detail for the domestically held debt. Commercial banks hold relatively little of the debt, with People's Bank holding the largest share among this group at 5 percent. Both People's Bank and the Bank of Ceylon are state-owned.

Table 1.2

Ownership of Public Debt
(millions of rupees, 31st September 1987)

		<u>% of Total Domestically Held Debt</u>
Domestic Owned (Banking)	30,006	39%
Central Bank	24,666	32
Commercial Banks	5,340	7
Bank of Ceylon	594	1
People's Bank	4,192	5
Other	554	1
Non-Bank Sector	46,496	61
Captive Sources ¹	40,091	52
NSB	15,035	20
EPF	20,424	27
Other	4,632	6
Non-Captive Sources	6,405	8
Trust Provident Funds	2,297	3
Insurance & Finance Companies	52	-
State Corporations	3,529	5
Other	527	1
Total Domestically Held Public Debt (Gross)	<u>76,660</u>	<u>100</u>
Less Sinking Fund	5,337	7
Total Domestically Held Public Debt (Net)	71,323	93
Foreign Owned Public Debt	99,215	129

1. Includes sinking funds.

Source: Central Bank of Sri Lanka

19
Again referring to Table 1.1, these data indicate that the real exchange rate appreciated from 1978 to mid-1985, which worsened the trade imbalance by making Sri Lanka exports relatively more expensive, and thus, held back the growth of the export sector. The managed float brought about a 15 percent depreciation in 1986.

The inflation rate, as measured by the Colombo Cost of Living Index rose from 12 percent in 1978 to 26 percent in 1980. The rate of inflation then fell to 11 percent in 1982, rose to 17 percent in 1984, and fell sharply in 1985 to 1 percent. For 1986 and 1987, the Colombo Index has increased 8 percent and 7 percent, respectively. Of the four price indices shown in Table 1.1, the Wholesale Price Index does not track as closely as the other three. It did not register an increase in inflation in 1984 and was already at a level 10 percentage points higher than the others.

The overall volatility of each of the series is cause for concern in using them to calculate a real interest rate by subtracting the measured inflation rate from an observed nominal market rate. Fortunately, the discussion here can be couched in terms of nominal rates. In examining alternative gauges of market interest rates to serve as a benchmark for housing loans, the issue of the "true" rate of inflation is not crucial, since it is the relative level of rates among lenders that will elicit the borrowers choice of lending institution. Still, an accurate indicator of the rate of price inflation is very important in order to anticipate the effect of monetary policy on the economy.

Table 1.3 on the following page shows the approximate distribution of financial assets by institution. As in previous

Table 1.3

Distribution of Assets in the Financial System
(1986, millions of rupees)

<u>Institution</u>	<u>Assets on December 31, 1986</u>	<u>% of Total Financial Assets</u>
Central Bank of Sri Lanka	43,164	23%
Commercial banks	66,320	36
Foreign Currency Banking Units	19,619	11
National Savings Bank	15,096	8
Finance companies (5,531 in 1985)	7,003	4
National Development Bank	2,564	1
National Housing Development Auth.	5,582	3
Housing Development Finance Corp. ¹	109	-
Development Finance Corporation ¹	1,485	1
State Mortgage and Investment Bank	1,395	1
Insurance Corporation of Sri Lanka	3,662	2
Employees' Provident Fund	18,710	10
Employees' Trust Fund	1,965	1

1. Financial statement year-end of 31, March 1987.

Source: Central Bank of Sri Lanka and the institutions.

years, the Central Bank, commercial banks (of which the largest are wholly government-owned), the NSB and the EPF are the largest participants. They combine to encompass 77 percent of financial assets. 21

Recent Developments

In addition to the introduction and rapid growth of finance companies in the last 10 years, which grew 27 percent in 1986, other changes took place in 1987 that should have a positive effect on the housing sector. First, rent controls were eased. Rent control can lead to underinvestment in the housing stock if potential investors expected to earn less-than-normal cash flows on a housing unit. Easing rent restrictions will result in a higher return on rental properties and should increase investment in rental properties. Additionally, limitations on the number of housing units that any one person may own were eased in 1987, allowing those who were at the ceiling to bring more capital into housing. Another beneficial change for housing was the registration of private insurance companies, which commenced operations in January 1988. These companies will not be constrained by the government in the types of investments that they may undertake. Insurance companies are frequent providers of funds for long-term lending. Because of their predictable amortization schedules and strong collateral, mortgages often fit the cash flow needs of insurance companies.

Characteristics of Housing Stock

. 22

Current estimates of the housing stock characteristics in Sri Lanka are derived from the 1981 census. The most useful and complete presentations of this data, which will only be briefly summarized below, are Struyk, Van Order and O'Neal¹ and the Marga Institute².

In 1981, there were 3.1 million households and an occupied housing stock of 2.8 million housing units, such that there was about 10 percent overcrowding. Table 1.4 below shows the distribution of the characteristics of the housing stock for the three sectors surveyed; the urban, rural and estate sectors. The urban sector accounted for 20 percent of the population in 1981, the rural sector 74 percent, and the estate sector 8 percent. We note that housing is provided to the estate and plantation workers as part of their compensation, and as such, the housing finance issues of this report will not address the estate sector.

The table shows the building materials of the housing stock in 1981. There are three broad categories that are defined by the materials used to construct the floor, walls and roof.³ At 68

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1. R. Struyk, R. Van Order, and K. O'Neal, Developing a Housing Finance Strategy for Sri Lanka, (Washington, D.C.: Urban Institute Report to USAID Office of Housing and Urban Programs, 1986).
 2. Housing Development in Sri Lanka: 1971-1981, Marga Institute, Sri Lanka Centre for Development Studies, 1986.
 3. If the floor is wooden or cement, the walls made of cement or clay brick, or cabook stone or wattle and daub walls, and the roof is tile, asbestos or sheet metal, then the house is placed in the permanent category. Less substantial materials, such as mud floors or palm-thatched walls and roofs comprise the other two categories.

Table 1.4

Characteristics of the Housing Stock
(1981 percentages)

	Sector			
	Total	Urban	Rural	Estate
Location	100%	18%	74%	8%
Classification of Building Material:				
Permanent	42	68	37	23
Semi-permanent	52	24	56	76
Improvised	6	8	7	1
Source of Drinking Water:				
Piped water (within)	8	24	2	29
Piped water (outside)	9	22	3	37
Protected well	52	44	58	17
Unprotected well	21	5	26	4
River, tank, or other	7	1	8	6
Not reported	3	4	2	8
Type of Toilet Facility:				
Flush toilet	5	16	2	5
Water sealed	22	39	18	25
Pit	38	17	42	32
Bucket type	2	9	0	2
None	31	16	35	28
Not reported	2	3	2	8
Owner/Renter Status:				
Owner occupied	69	57	80	1
Rented or leased	10	29	6	1
Occupied rent free	12	8	6	79
Other	5	3	5	6
Not reported	4	4	3	13

Source: Census of Population and Housing, Sri Lanka-1981: Housing Tables (Colombo: Dept. of Census and Statistics, Preliminary Release No. 3, 1982).

percent, the highest proportion of permanent structures is in the urban sector, followed by the rural sector at 37 percent, with the estate sector having only 23 percent permanent. Though the data for 1971 are not presented here, both the urban and rural sectors had a roughly 6 percentage point increase in the proportion of permanent structures over the decade. - 24.

The second and third portions of Table 1.4 describe access to drinking water and the classification of toilet facility. The large majority of homes in all three sectors have access to piped or protected well water, with piped water being less available in the rural sector. The majority of urban dwellings have flush of water sealed toilets. In rural areas, 20 percent have flush toilets, with pit latrines and "none" accounting for 42 percent and 35 percent, respectively.

The fourth section of the table shows the ownership status of the unit. Here, the rural sector, at 80 percent, had the highest proportion of owner-occupied units, while 57 percent of urban units were owned.

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CHAPTER 2

FINANCIAL MARKETS, GOVERNMENT DEBT AND THE DETERMINATION OF INTEREST RATES

Since all countries have finite resources, an allocation of a portion of these resources to housing necessarily precludes their use for some other purpose. As such, for every allocation of resources to one use, there is an implied opportunity cost. The opportunity cost is the benefit that the country would have derived from the next best alternative use. It is through the mechanism of the financial markets that the Sri Lankan economy allocates the resources available to it. These markets are not free from government interference, however.

Financial Markets

These markets may be either formalized through the well-organized buying and selling of funds on a large scale, i.e., the borrowing and lending activities of a credit market, or informal, where a small number of individuals interact on a personal basis with small sums involved.¹ Both of these types of

1. For additional information on informal markets, see F. J. A. Bouman, "Savings and Credit Arrangements in the Informal Financial Market of Developing Countries: Observations from Sri Lanka", Colloquium on Rural Finance, Economic Development Institute, World Bank, Washington D.C.; The Informal Sector of Colombo City (Sri Lanka), Marga Institute, 61, Isipathana Mawatha, Colombo 5, Sri Lanka; and Nimal Sanderatne, "A Profile of the Informal Rural Credit Market in the Mid-Seventies", Staff Study of the Economic Research Department of the Central Bank of Ceylon, Vol. 11, Nos. 1 & 2, April/September, 1981.

markets serve the role of raising funds and allocating them to alternative uses. It is the goal of policy makers to see that the country's resources flow to the uses that are of the highest value to society. The term "efficient" is used to describe an allocation in which there exists no highly valued use that is denied capital because a less-highly valued use was chosen. If a particular use is not highly valued and, for whatever reason, too many resources flow to that use, then we say that a "distortion" from the optimal allocation has occurred.

Clearly, unwanted distortions are to be avoided. The goal of efficiency is at the heart of the issue of whether or not to move to a more market-based allocation of capital. While no one can reasonably argue that a particular system will be perfectly efficient, most of the recent work on housing finance in Sri Lanka has noted the conventional wisdom that "the market" is a means of pursuing allocative efficiency and avoiding distortions. Analysts recognize that a fluid capital market is a very powerful mechanism for mobilizing funds and allocating this capital to highly valued uses. And housing is one of the many highly valued alternative uses of the available capital. But there are some qualifications to the unconstrained workings of the market mechanism.

First, policy makers are not concerned solely with the efficiency of the economy's capital market, but rather, they want to improve the quality of the lives of the people. Not surprisingly, there are instances where the market mechanism fails. For example, when individuals are impoverished and unable to obtain adequate housing, the society, through its government,

assumes the responsibility of assisting. A subsidy to a low-income household is a market distortion, but is one that also improves the total well-being of the country. It can take the form of grants, or subsidized lending at below-market rates.

A second example of a so-called market failure is the existence of third party effects, which are frequently referred to as externalities. These are instances in which the market does not include some benefits that are derived from a particular use, and therefore, too few resources are allocated unless steps are taken to allocate in a way that accounts for these otherwise ignored benefits. For example, a market allocation of resources to housing might ignore the benefits to the community of having a significant portion of the households as homeowners, rather than renters. Owners often view themselves as having a greater stake in, and are more committed to, the future of the community. Improved housing can also improve the health and productivity of the members of the household. These are benefits to society that a lender would ignore. The lender is primarily concerned with the prospect for timely repayment of the loan.

This chapter will investigate mechanisms to improve the efficiency of the market allocation process, while at the same time recognizing the needs of those households for whom subsidies are the only path to acceptable shelter. To this end, the introduction of a distortion, such as a subsidy, should be monitored and targeted to those who will benefit most from the assistance.

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We will first describe briefly the current structure for financing the government deficit, because it is this market that offers the most promise for insight into incorporating market interest rates into housing finance. In Annex A, a more detailed description of the participants in the financial markets is presented.

The Current Structure of Government Debt

Table 2.1 below shows the composition of the domestically held government debt by maturity. At the end of 1986, 56 percent of domestic government debt was medium and long-term. The remaining debt was primarily short-term Treasury bills and Central Bank advances. Overall, the domestically held debt increased by 11 percent in 1986, while through September 1987, it had increased another 9 percent.

Table 2.1
Composition of Government Debt

	<u>1986</u>	<u>Sept. 1987</u>
Domestic debt	70,084	76,660
Medium and long-term	39,277	43,236
Short-term	30,807	33,424

Medium and long-term debt is in the form of rupee loans. The EPF is by far the largest purchaser of these loans, having purchased two-thirds of the total issues in 1986. The NSB purchased 30 percent of the issues in 1986, with the remaining 7 percent purchased by other pension and provident funds and other sources.

The Emerging Market in Government Securities

As we have already seen in Chapter 1 with reference to the holdings of the stock of government debt, there is a sufficient variety of institutions to describe Sri Lankan financial markets as being fairly complete. But in the parlance of finance, these markets are not very deep; that is, there are relatively few participants in the markets and the markets are subject to the overriding control of the government through the operations of the Central Bank and a few very large state-owned institutions. So, while all the components of a complete financial system are present -- commercial banks, thrifts, pension funds, insurance companies, an equity market and finance and leasing companies -- the actual workings of these markets are dominated by one participant, the government.

In spite of the dominance of the state in the conduct of financial institutions, and therefore, the determination of lending and borrowing rates, there was in 1987 significant growth in participation in the primary Treasury bill market by the banking system and the non-banking public. This weekly auction was started in November 1986 in order to provide a short-term money market instrument to the public. Under the program, a weekly auction of Rs. 250 million is undertaken, apparently without the Central Bank being expected to purchase any excess. But in fact, the staff of the Central Bank conceded there are bid prices that are below the "acceptable" threshold. Auctions typically have between 25 and 50

bidders for the larger issues. Participants include commercial banks, finance companies, private provident funds, the Electricity Board, and even a few individuals. The minimum bid amount is only Rs. 1,000, with securities available in multiples of that amount, yet the staff could not recall any instances of such a small bid amount. Table 2.2 on the following page shows the results of some recent Treasury bill auctions.

Overall, the proportion of the government debt that is held by the Central Bank has been falling. By January 1988, the Central Bank held 71 percent of the outstanding debt that was maturing in that month. At the end of 1986, the Central Bank held 84 percent, while at the end of 1985, the figure was 92 percent¹. The first three columns of the table show the amount of the debt that is maturing. Over the last 5 months, the lowest amount to mature was Rs. 8.55 billion in September, while the largest amount was Rs. 10.3 billion in October.

The fourth through sixth columns show the results of the auctions. The fourth column is the amount offered for competitive bidding. This offered amount is typically an amount that is related to and is larger than the amount that is maturing, and is not held by the Central Bank.

1. These data are different from the data in Table 1.2, where the proportions of ownership of the entire stock of government debt are shown. Here, we are referring to the Central Bank's ownership of only that amount which is maturing in a given period.

Table 2.2

Recent Transactions in the Treasury Bill Market
(millions of rupees)

Date	Amount Maturing			Am't Offer	Am't Bid	Bids Accept	Am't to Reg. Off.	Amount Issued to CBSL	Total Am't of Issue
	Held by CBSL	Held by Others	Total						
1987:									
Sept.									
11th	500	250	750	350	757	334	16	1,400	1,750
18th	2,568	1,682	4,250	1,700	2,576	1,690	11	2,300	4,000
25th	2,157	1,393	3,550	2,200	1,992	1,518	11	1,471	3,000
Oct.									
2	1,908	342	2,250	500	1,144	834	-	1,416	2,250
9	2,781	1,269	4,050	1,800	1,466	1,465	22	2,563	4,050
16	1,700	50	1,750	500	165	153	-	2,092	2,245
23	1,196	304	1,500	800	445	389	8	1,103	1,500
29	529	221	750	400	309	309	2	440	750
Nov.									
4	3,135	1,617	4,750	2,200	1,472	1,472	30	2,499	4,000
12	248	503	750	500	362	362	36	352	750
19	2,645	605	3,250	750	40	40	28	3,182	3,250
26	300	250	550	550	232	226	1	323	550
Dec.									
3	-	250	250	250	30	28	36	187	250
10	1,400	350	1,750	250	246	30	25	1,695	1,750
18	2,300	1,700	4,000	2,000	811	750	20	1,980	2,750
24	2,471	1,529	3,000	1,200	1,397	1,117	1	3,383	4,500
1988:									
Jan.									
1	1,416	834	2,250	1,000	602	590	-	911	1,500
8	2,554	1,487	4,050	1,500	1,092	1,052	32	2,966	4,050
14	2,092	158	2,250	500	657	607	10	1,633	2,250
22	1,103	397	1,500	1,200	637	637	8	856	1,500
Monthly Totals:									
1987									
Sept.	5,225	3,325	8,550	4,250	5,325	3,542	38	5,171	8,750
Oct.	8,114	2,186	10,300	4,000	3,528	3,150	32	7,614	10,795
Nov.	6,328	2,975	9,300	4,000	2,106	2,101	95	6,356	8,550
Dec.	6,171	3,829	9,000	3,700	2,484	1,925	82	7,245	9,250
1988									
Jan.	7,165	2,876	10,050	4,200	2,988	2,886	50	6,366	9,300

Source: The Central Bank of Sri Lanka.

The fifth column shows the amount of securities for which bids were received. Generally, bids are received on an amount that is larger than the amount that is maturing in the hands of the public. Yet, for auctions between November 4th to January 8th, the amount of bids was less than the amount of bills outside the Central Bank that were maturing. In our discussions with the staff of the Central Bank, they expressed concern over the volatility of commercial bank participation in the auctions. In periods of tightened liquidity, the banking system does not participate, which means that they are restructuring their assets by lowering the proportion of Treasury bills.

The next column shows the amount of bids that were accepted. The greater the demand for government securities, the larger will be the amount of bids received, the higher the price bid for those securities, and the larger the proportion of those bids that will be acceptable to the Central Bank. Therefore, the accepted bids as a proportion of the offered amount is an indication of how aggressively the buyers bid for the securities. Also, the ratio of accepted bids to the total amount of securities issued will indicate the relative importance of the auction participants in determining rates. Table 2.3 below shows these ratios.

The next column of Table 2.2 shows the amount of the issue that was allocated to the regional offices of the Central Bank. This is a means to sell Treasury bills to private investors not situated in Colombo. The auction takes place in Colombo on Thursday, with the securities being issued for a 91-day maturity on Friday. From Friday until Thursday of the following week, investors may buy the

bills from the regional offices.¹ These investors include the Regional Rural Development Banks and some commercial bank branches, such as the regional offices of the Peoples Bank. The larger the amount allotted to the regional offices of the Central Bank, the more diverse the holding of the outstanding stock of Treasury bills. The amount allocated to the regional offices was larger in November and December, just as the bids were becoming smaller.

The next column is the amount issued to the Central Bank. The sum of the bids accepted, the amount allocated to the regional offices and the amount issued to the Central Bank is the total amount issued.

Table 2.3 on the next page shows the ratio of the amount of bids accepted to the amount offered, and the ratio to the total amount of the debt issue. The larger is the accepted bids component of the amount issued, the better will be the Treasury bill auction market as an indication of the direction of overall interest rates.

The data in Table 2.3 suggest a fair amount of volatility in the bidding component of the auction process. In two of the auctions, bids exceeded the amount advertised, while at the other extreme, during late November and early December, accepted bids were a very low proportion of the advertised amounts. With regard to the accepted bids as a proportion of the amount finally issued, the ratio has fallen from a high of 40.5 percent in September, to a low of 20.8 percent in December. The ratio rose in January of this

1. Since these securities are purchased at a discount from their face value, as each day passes in this 5-day period of availability, the price would increase in order to incorporate the accrual of interest.

Table 2.3

Accepted Bids as a Proportion of Offered and Total Issues
(percent)

Ratio of the Amount of Bids Accepted to:

<u>Date</u>	<u>Amount of T-bills Advertised</u>	<u>Total Amount of T-bills Issued</u>
1987:		
Sept.		
11	95.4%	19.1%
18	99.4	42.2
25	69.0	50.6
Oct.		
2	166.7	37.1
9	81.4	36.2
16	30.1	6.8
23	48.7	26.0
29	77.2	41.2
Nov.		
4	66.9	36.8
12	72.3	48.2
19	5.4	1.2
26	41.2	41.2
Dec.		
3	11.0	11.0
10	12.1	1.7
18	37.5	27.3
24	93.1	24.8
1988:		
Jan.		
1	59.0	39.0
8	70.2	26.0
14	121.3	27.0
22	53.1	42.4
Monthly Totals		
1987		
Sept.	83.3	40.5
Oct.	78.8	29.2
Nov.	52.5	24.6
Dec.	52.0	20.8
1988		
Jan.	68.7	31.0

Source: The Central Bank of Sri Lanka.

year to 31 percent.

It is clear that the Central Bank stands ready to "soak up" the excess Treasury bills if there is a shortfall in acceptable bids. That a significant proportion of bids are not accepted indicates that the price of Treasury bills will not be allowed to fall beyond an imposed limit. This is the same thing as not allowing the rate of interest on the bills to rise above a given threshold, since as the bid price falls, the yield to the investor rises. Table 2.4 shows the yield of the Treasury bills purchased by the Central Bank over the past year. The rates fall within the range of yields earned by other investors in Treasury bills, so it provides an indication of the trend in rates. Yields started 1986 in the 11 percent range and trended upward slightly, peaking in June and July at 12 percent. Yields then fell through October to 10.3 percent and rebounded again to 10.9 percent at the last auction for which data are available, November 27, 1987.

The purchasers outside the Central Bank whose bids are accepted often have very high offer prices, since some of the yields are substantially lower than the yield earned by the other accepted offers. October and November are most pronounced in the disparity among investors, where the range of yields spans 310 basis points, from 8.00 percent to 11.10 percent. In discussions with the staff of the Central Bank they conveyed to us their impression that a few participants were not sophisticated in making their bids. They were uninformed as to the bids that were accepted the prior week, and as such, offer unnecessarily high prices. The staff suggested that, although these low yields are reported, they

Table 2.4
 Treasury Bill Yields¹ in 1987
 (percent)

<u>Date</u>	<u>Central Bank</u>	<u>Other Purchasers</u>	<u>Date</u>	<u>Central Bank</u>	<u>Other Purchasers</u>
Jan.			Aug.		
1	11.00%	11.00%	3	11.21%	11.00%- 12.00
8	11.00	11.00	5	11.56	11.30 - 12.00
9	11.00	11.00 - 12.52	19	11.45	10.60 - 11.52
15	11.00	11.00 - 12.52	Sept.		
16	12.07	11.00 - 12.52	11	10.99	10.00 - 11.00
22	11.00	11.00 - 12.00	18	10.76	10.00 - 10.80
28	10.92	10.00 - 11.76	25	10.70	10.00 - 10.90
Feb.			Oct.		
3	11.00	10.48 - 12.70	2	10.62	10.00 - 10.80
18	11.60	11.52 - 12.00	9	10.58	8.00 - 10.80
20	11.90	11.00 - 12.00	16	10.70	10.00 - 10.92
Mar.			23	10.30	9.00 - 10.88
18	11.25	11.00 - 12.00	30	10.58	8.00 - 10.96
27	11.50	11.20 - 11.60	Nov.		
Apr.			6	10.60	10.40 - 11.00
3	11.60	11.50 - 11.70	13	10.70	10.40 - 11.00
8	11.00	11.00 - 12.00	20	10.90	8.00 - 11.10
22	12.00	11.20 - 12.00			
28	11.40	11.00 - 12.00			
May					
6	11.17	11.00 - 12.00			
21	11.80	11.50 - 12.00			
June					
19	11.67	11.20 - 12.00			
26	11.88	11.75 - 12.00			
July					
3	12.00	12.00			
9	11.53	11.52 - 12.00			
24	12.00	12.00			

1. Data for selected larger auctions.

account for a very small proportion of accepted bids, probably well under 5 percent.

Currently, we can find no better alternative to the Treasury bill market for use as an indicator of the direction of market interest rates. Of course, the Treasury bill rate is a short-term rate and would have to be adjusted to arrive at a 15-year mortgage lending rate. Also, there are steps that have been recommended by the IMF to improve the Treasury securities as a viable indicator of market interest rates.¹ Their recommendations that we concur with are described below.

First, there are very large reissues of Treasury bills that mature within a day or so of the day of the tender offer. The first three months of 1987 saw three times the volume of bills flow through the reissue mechanism than through the weekly tender offers. By channeling the reissues into the weekly auctions, the size of the auction will increase substantially.

Second, the size of the weekly issues should be made more equal. The minimum has been Rs. 250 million, but issues that are ten times this size are not infrequent. If the reissue process were stopped and the pattern of maturing bills smoothed, the pattern of weekly auctions would be more stable. On September 31, 1987 the stock of Treasury bills held by domestic institutions other than the Central Bank was Rs. 8.626 billion. On average, this would result in an weekly tender offer of Rs. 664 million over the 13-week period.

1. "Sri Lanka: Recommendations for the Development of the Treasury Bill Tendering System, an Operational Framework for Open Market Operations, and the Money Market," Central Banking Department, International Monetary Fund, May 1987.

We next want to review two other indicators of market interest rates. The first is the Average Weighted Prime Rate, which is currently being used by the World Bank. The second is the rate of interest paid on deposits at large commercial banks and the NSB.

The Average Weighted Prime Rate

In U.S. financial markets, the so-called "prime rate" is a short-term lending rate that is announced by commercial banks. It is the rate at which funding will be provided to the bank's highest quality borrower, one with little risk of default. The terms of lending for other borrowers are often quoted as a markup over the prime rate. For example, medium-term, variable-rate, collateralized lending contracts might be indexed to "prime plus five", that is, five percentage points over the bank's current prime rate. The prime rate varies very little across the largest banks and the prime also follows the rate in other short-term markets, such as Treasury bills. Strictly speaking, however, it is not a market-determined rate, since the setting of the prime is administered by each bank individually. In our discussions with Central Bank officials, they expressed reservations about the accuracy of the reported prime rate. They suggested that there may be substantial lags in movements in the rate, as well as inaccurate reporting and a wide variance in the reported rates that comprise the weighted average.

In Sri Lanka, the Average Weighted Prime Rate (AWPR) is currently used as the reference point for determining market interest rates for IDA projects. World Bank documentation

for the Small and Medium Industry (SMI-3) program notes, however, that the rapid growth in the Treasury bill market provides a viable alternative to the AWPR and it will be considered when the interest rate mechanism is reviewed with the government. As the Treasury bill market matures and the proportion of the debt that is held outside the Central Bank rises, then increasingly, the case for the use of the Treasury bill rate as an index for housing loans will be strengthened. We believe that the Treasury bill market is the better of the two measures of the short-term low-risk rate of interest and that the SMI-3 program should likewise change to using this rate.

An Index of Deposit Rates

An alternative to either the Treasury bill rate or the Average Weighted Prime Rate is the cost of deposits to lending institutions. The case for such an index is the following. If the goal is to induce other major participants in the financial markets to invest in mortgages directly, or to buy the debt of institutions that specialize in mortgage finance, then these sources of new funds must be assured of earning a reasonable spread over the cost of their deposits. If the rate of return on housing assets is not sufficient to cover the cost of the deposit which funds the loan -- including perhaps, some administrative costs -- then these institutions will not invest in mortgages either directly or indirectly.

Table 2.5 below shows the deposit rates of the National Savings Bank and the rate on savings certificates.

Table 2.5

Deposit Rates of the National Savings Bank
(percent)

<u>Date</u>	<u>Savings Deposits</u>	<u>6- and 12- Month Deposits</u>
1980	12.0%	15%- 20%
1981	12.0	15 - 22
1982	12.0	15 - 22
1983 2nd to 4th qtr	12.0	14 - 18
1984 1st to 2nd qtr	12.0	15 - 20
3rd qtr	12.0	14 - 20
4th qtr	12.0	14 - 18
1985 1st to 3rd qtr	12.0	13 - 16
4th qtr	12.0	13 - 15
1986	12.0	12 - 13
1987	12.0	12 - 13

The savings deposit rate of the NSB has remained unchanged since 1980, at 12 percent. The rates on 6- and 12-month deposits have fallen gradually, from the 15 to 20 percent range, to 12 to 13 percent in September 1987.

In September 1987, these rates on 6- and 12-month deposits were only 1 to 1.25 percentage points higher than the auction yield on Treasury bills. If the trend to lower deposit rates continues, which closes the gap between the Treasury bill rate and rates available for deposits, then a mortgage rate tied to the cost of funds might be workable¹.

1. In the U.S., an insured deposit would generally pay between 50 and 100 basis points over the rate on a Treasury security of the same maturity.

Interestingly, though they do not benefit from the preferential tax treatment of their interest payments, the Bank of Ceylon and the People's Bank pay only 9.5 percent and 10 percent, respectively, for 1-year deposits. The Bank of Ceylon lowered its rate in December. They are now 3 percentage points less than the rate paid by the NSB¹. Historically, the differential has been only 2 percentage points. It remains to be seen whether the NSB will follow the lead of the large commercial banks and lower their 1-year deposit rate to 12 percent. The relatively infrequent and administered movements in the deposit rates suggest that they are not yet a timely indicator of the direction in the movement of market rates.

Deriving a Medium- to Long-Term Interest Rate

If any of the three short-term rates described above were selected as the index for deriving a mortgage lending rate, there is still the question of whether or not the lender should add a additional component to compensate for the longer maturity of the mortgage. Generally, the longer the duration of the borrowing, the higher the fixed rate of interest. In the U.S., a 30-year fixed-rate mortgage typically carries a higher rate of interest

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1. Unfortunately, this relatively low marginal cost of funds is offset by the comparatively high overhead expenses of the large commercial banks, something on the order of 4 to 5 percent on assets. They have substantial personnel expenses, 10 percent of which is allocated to security. In September 1987, commercial banks also held almost 2 percent of their total assets in currency, which is not an earning asset, since it is held to service depositors. This burden of vault cash would be lessened if the Central Bank allowed it to be counted as part of a bank's required reserve position.

than a 15-year fixed-rate mortgage. For 30-year adjustable rate mortgages, which reset the interest rate each year according to a short-term index, the rate is sometimes more than 2 percentage points less than that on a 30-year fixed-rate instrument.

Finance theory offers alternative explanations for higher rates on long-term loans. The most simple perhaps is the argument that borrowers and lenders have different "preferred habitats"; that is, lenders would prefer access to their funds after a short period of investment, while borrowers would like the funds over a longer planning horizon. Thus, the borrower compensates the lender for giving up access for the longer period.

Another explanation, which is related to the first, is that the borrower must pay a risk premium to the lender to compensate for the possibility that all interest rates will rise during the term of the loan. For example, if both short- and long-term rates are 10 percent, a lender who makes a 15-year loan, rather than a 1-year loan, is vulnerable to an increase in rates during the term of the loan. If rates in fact rise to 12 percent, then the long-term lender incurs an opportunity cost of 2 percentage points on the funds that could now be lent at 12 percent, but have already been committed at 10 percent. To compensate the long-term lender for this risk that arises from changes in rates, a so-called liquidity premium is required.¹

1. Of course, if rates fall by 2 percentage points, the long-term lender benefits from having already committed the funds at the higher rate. However, it is then likely that at some point the borrower will find it worthwhile to refinance the mortgage with a new loan at the lower interest rate and prepay the original mortgage. This would deny the lender the gains when rates fall, while still bearing the risk of losses when rates rise.

A third explanation for a structure of interest rates is the "expectations theory". In simple terms, this theory describes how financial markets form expectations of the level of short-term rates that will exist both today and in the future. Mathematically, this theory suggests that if today's long-term rates are higher than short-term rates, then the market has formed an expectation that short-term rates are likely to rise in the future. By symmetry, if short-term rates are universally expected to fall in the future, then long-term rates will be lower than short-term rates. This theory is consistent with the casual empiricism that, when rates are "low" the yield curve is upward sloping. That is, short-term interest rates are lower than long-term rates. When interest rates are very high, it is not uncommon to see long-term rates lower than short-term rates.

In the context of Sri Lankan financial markets, the experience of generally high and volatile inflation rates has caused both a high level of nominal interest rates and uncertain expectations of future trends. Fortunately, in the last few years, the inflation rate has been lowered and short-term rates have fallen. The rupee loan program to finance the government's medium-term debt of 6 to 8 years maturity is successfully conducted at an interest rate of 11 percent. This is an administered rate, however, and we can not be confident that it is relatively close to what a true market rate for risk-free debt would be. If the current rate in fact is close to what the market would require, then the current environment is one of a relatively flat yield curve. That is, medium-term rates do not currently appear to have a substantial risk premium or an expectations component embedded in them.

CHAPTER 3

THE EFFECT OF MONETARY AND FISCAL POLICIES
ON CREDIT ALLOCATION AND HOME OWNERSHIP

Once reasonable lending rates for both short- and long-term housing loans are derived, the next step is to design innovative mortgage products that are both affordable to the homeowner and operationally workable for the lender.

Affordability

The first characteristic of affordability is the cost of house construction and improvement. Table 3.1 below shows the changes in the cost index for housing construction through 1986. The average over the past 5 years has been roughly 7 percent, which is less than the average rate of change in the Colombo cost of living index, which was 10 percent. The Labour Department and the Central Bank report that nominal wages for workers in agricultural, industry and commerce and services have risen at an average annual

Table 3.1

Rate of Change in the Housing Construction Cost Index
(percent)

<u>Year</u>	<u>Change in Index</u>
1980	50%
1981	19
1982	5
1983	7
1984	12
1985	8
1986	1

Source: Ministry of Local Government Housing and Construction.

rate of 11 percent over the same 5-year period. Apart from the cost of land, rising incomes appear to have kept pace with the rising labour and materials costs of construction.

The other component to the affordability issue is the cost of credit, in particular, the effect of high nominal interest rates on the monthly mortgage payment. We can construct an example of a household with a monthly income of Rs. 5,000 that would like to purchase a house with a market value of Rs. 150,000. In other countries, underwriting standards might allow the ratio of the mortgage payment to income to be 33 percent, or Rs. 1,650 per month. If the lending rate were 14 percent per year, then this payment would support a mortgage of Rs. 123,874, which is 83 percent of the market value. The remaining Rs. 26,126 of the purchase price and any loan origination fees (roughly 2 percent of the loan amount) would have to be paid from accumulated savings.

At a lending rate of 16 percent, the 33 percent payment to income ratio allows a mortgage of only Rs. 112,344, which is only 75 percent of the purchase price. The downpayment would increase by Rs. 11,530, which is more than two months household income. Table 3.2 on the following page shows the size of the mortgage for different interest rates that the 33 percent payment to income ratio would support for a household income of Rs. 5,000 per month.

In this example, at a 15 percent original lending rate, an increase of 1 percentage point reduces the mortgage amount by roughly Rs. 5,500, while a reduction of 1 percentage point increases the maximum loan amount by Rs. 6,000.

Table 3.2

Mortgage Amounts as Lending Rates Vary¹

<u>Lending Rate</u>	<u>Mortgage Amount</u>
8%	Rs. 172,657
9	162,679
10	153,545
11	145,170
12	137,481
13	130,410
14	123,898
15	117,892
16	112,344
18	102,458
20	93,948
22	86,580
24	80,164

-
1. For a fixed-rate 15-year mortgage, with a mortgage payment to income ratio of 33 percent and a household monthly income of Rs. 5,000. The mortgage amount is calculated using the following formula, where:

r = monthly interest rate (lending rate / 12),

n = term of loan measured in months (180 months),

P = maximum allowable monthly payment (Rs. 1,650), and

M = mortgage amount.

Then,

$$M = \frac{P}{r} \left[1 - \frac{1}{(1+r)^n} \right]$$

Preferential Tax Treatment

These estimates of the interest rate burden of the mortgage is based on the assumption that the interest payment is fully paid by the borrower. In fact, mortgage interest payments and the repayment of principal are accorded preferential tax treatment. Mortgage interest is a deduction from assessable income in calculating taxes owed and, in some instances, the repayment of principal is also treated as a deduction. This would imply that the after-tax rate of interest would be much less and the household would not feel the entire burden of high interest rates.

An earlier study proposed the following estimate¹. Since roughly 3 percent of workers pay taxes, the value of the deduction is certainly limited to a small group of high-income households. The highest marginal tax rate was 55 percent at the time, though it is now 40 percent. Then assume that this 3 percent of the households that pay income taxes are also the highest paid 3 percent of income earners. Data on income distribution indicate that 40 percent of all income is earned by the highest paid 10 percent of households. This would imply that 15 percent is not an unreasonable estimate of the proportion of all income that is earned by the top 3 percent of households. If the group spends 15 percent of its income on housing and they are in the 40 percent marginal tax rate bracket, then the subsidy would be:

1. Struyk, et al.

(% of national income earned by top 3 % of households) times
(% of their income spent on housing) times
(the marginal tax rate that applies to this group).

The result is (.15) times (.15) times (.4), which equals 0.9 percent of National Income. In 1985, the estimate was approximately Rs. 1 billion. From another perspective, this lost tax revenue, or tax expenditure, was about 2.5 percent of total government revenues in 1985.

There are, however, several qualifications that suggest the tax expenditure is not so large. First, the tax code has changed in the past two years, lowering the maximum marginal tax rate.¹

Second, not all the high-income households will have a mortgage. Some will own their homes outright and not pay any mortgage interest. Also, the deduction for the repayment of principal is allowed only for purchases of new homes and must be the only house owned by the taxpayer. A further constraint is that the mortgage must be held by an approved government-sponsored mortgage lender.

1. Given the prevailing levels of tax rates, it is clear that personal income taxes are not a large proportion of government revenues. In 1986, only 187,073 individuals paid income taxes, which is 6 percent of households. This figure is higher than the estimate used in the earlier study. Total receipts from personal income taxes were only Rs. 1,513 million in 1986, or less than 4 percent of all government revenues.

Alternative Mortgage Instruments

Because there has been a consistently high rate of inflation in Sri Lanka over the last decade, the high nominal interest rates are much lower in real terms. This has led to the suggestion that, if the borrower can get through the first few years of mortgage payments, then inflation will be reflected in higher nominal incomes and the burden of the high mortgage interest payment will be reduced substantially. Also, the value of the collateral would rise.

To assist the borrower over the early years, consideration could be given to Graduated Payment Mortgages (GPM). This instrument is designed to lower the monthly payment in the early years. For example, a GPM might pay only interest in the early years, with no amortization of the principal, or even negative amortization, in which the loan balance actually increased as unpaid interest is capitalized into the remaining principal. A typical GPM will have yearly scheduled increases of 7 1/2 percent in the monthly payment over the first 5 years and remain constant for the remaining life. In this way, the cash flow of the stream of mortgage payments is reconstructed in a way that accommodates the borrowers expected pattern of income growth. The changes are smooth and predictable. Of course, care should be taken to explain the requirements of the mortgage to the borrower, so that the payments increases are anticipated and budgeted.

Another form of mortgage that can lower the borrowing cost, as well as make the funding of the mortgage less risky to the

financial institution, is the Adjustable Rate Mortgage (ARM). An ARM adjusts the interest rate by indexing it to the market rate for a short-term instrument. As such, the mortgage payment varies with movements in short-term rates, with limits typically imposed on the maximum amount of the change in the monthly payment. Protections are accorded borrowers from large increases in their monthly payments by limiting the size of the interest rate change, both at the yearly change and over the entire life of the loan. Though these limits on the interest rate adjustments are not common in the U.K. and elsewhere, they are nearly universal in the U.S. Typical limits would be 2 percentage points for the yearly change and 5 percentage points over the life of the mortgage.

ARMs are useful when the interest rate for long-term funding is higher than the rate for 1-year funding. Over its life, an ARM can have a lower overall interest rate, such that the borrower would ultimately pay less interest.

One form of an ARM is a variable rate mortgage in which the monthly payment does not change, but instead, the term to maturity varies. If the mortgage rate were to rise, the higher interest is capitalized into the mortgage principal, such that additional payments are needed beyond the originally scheduled 15 years. If the interest rate were to fall, the life of the mortgage is shortened. This mortgage has the same feature of the standard ARM, since there is the potential for a lower interest component over its life. But this mortgage maintains the security of a known monthly payment. A problem with introducing an ARM in Sri Lanka would be "pricing" the ARM relative to a standard mortgage, because

housing lenders have had little experience managing -- and thus valuing -- interest rate risk.

These mortgage instruments are quite different than the standard Sri Lankan mortgage, which is a 15- to 20-year fixed-rate instrument with level payments. Technically, the loan documents allow the lender to adjust the loan rate, but to date we have not heard that any lender has used this authority. Normally, when lenders are making 15-year loans, and funding these loans with variable rate deposits, the institution would be exposed to considerable interest rate risk.

Mismatched Assets and Liabilities

The SMIB is funding loans with liabilities that are of a much shorter maturity. The SMIB issues debentures with 5- to 6-years maturity, which are held primarily by the Central Bank, and lends these funds for 15 years at interest rates ranging from 10 percent to 20 percent, depending on the size and use of the loan. The HDFC, however, raised 90 percent of its funds with 15- and 20-year loans from the government. Through 1987, it had received Rs. 100 million in subsidized government loans with an average repayment period of 15.8 years.

These different funding mechanisms are interesting, because if there is a significant mismatch in the cash flows of the two sides of the balance sheet, then earnings will be volatile as interest rates move. The concept of "duration" is a recently developed measure of the average repayment period for each rupee of a loan. Though a detailed discussion of the duration measure is beyond the

scope of this study, we can nonetheless investigate the interest rate mismatch that might arise from different funding strategies.

Suppose that a 15-year fixed-rate mortgage at 14 percent were made by a housing finance institution. Consider two sources of funding: 1) a 15-year debenture at 12 percent and, 2) a 5-year debenture at 12 percent. At first glance, the 15-year debenture would seem to have a closer match because of the identical maturity. However, a mortgage is an amortizing instrument, which pays down the outstanding principal throughout its life, whereas a debenture pays only interest until maturity, when a lumpsum principal payment is made. Table 3.3 below shows the duration of these three instruments.

Table 3.3

Durations of Assets and Liabilities

<u>Instrument</u>	<u>Maturity</u>	<u>Duration</u>
Debenture	15-years	7.29 years
Debenture	5-years	3.90 years
Mortgage	15-years	5.10 years

The duration of these instruments is calculated as a weighted average of the time until the receipt of each rupee of the cash flows¹. Therefore, since the mortgage pays down principal, as

1. The duration, D, of a fixed-rate mortgage with maturity n and interest rate r is:

$$D = 1 + 1/r - \left[\frac{n}{(1+r)^n - 1} \right]$$

well as interest, the cash flows that are early in the life of the mortgage serve to lower the duration measure to a figure well below the stated maturity of 15 years. Given the scheduled payments of principal and interest, a 15-year 14 percent mortgage has a duration of 5.1 years, a value roughly one-third the stated maturity. Likewise, the debentures have semiannual interest payments that bring down the duration to a level below the stated maturity. But since no principal is repaid until the maturity date, a debenture's duration is a larger proportion of the term to maturity. The 15-year 12 percent debenture has a duration of 7.29 years, or half the term to maturity, whereas the 5-year debenture with the same interest rate has a duration of 3.9 years, or nearly four-fifths the stated maturity.

The greater the gap between the durations of the institution's assets and liabilities, the more susceptible will the earnings be to a movement in interest rates. If the duration of the liabilities is shorter than the duration of the assets, then earnings will fall if interest rates rise. This is because the liabilities are repriced at the new higher rates before the earning assets move to the higher level. That is, the lower interest earnings are locked in for a longer period of time, while the funding costs increase, therefore eroding earnings. Conversely, if the duration of the liabilities are longer than the duration of the assets, then earnings will rise as interest rates rise.

From Table 3.3 above, we see that the duration gap is smaller using the 5-year funding compared to the gap for the 15-year

debenture. The fact that mortgages in Sri Lanka have a 15-year term, rather than the typical 25- to 30-year maturity in other countries, make these housing finance institutions considerably less susceptible to changes in the term structure of interest rates. As such, it weakens the argument for introducing ARMs, which reprice every year, as a means of lowering the interest rate risk of these institutions. However, ARMs would still be a useful instrument if the yield curve were to become more steeply sloped than it now is, since borrowers would find ARMs more affordable than fixed-rate mortgages.

Interest Rate Effects on Financial Savings

It is difficult to gauge the effect of changes in real interest rates on the level of financial savings because of weaknesses in the measures of price inflation. Table 3.4 below shows one estimate of the time series of real interest rates and savings. It is calculated as the average of the minimum and maximum rate on 12-month deposits at commercial banks minus the rate of change in the Colombo Consumer Price Index. The index has weaknesses. Its base is 1952 and it has a rent component that has not moved since 1970.

The level of financial savings reported in the table is defined as the change in the narrow money supply -- which is composed of currency and demand deposits held by the public -- plus the change in savings deposits and fixed deposits at commercial banks and the NSB. The table ignores saving by the public in the form of

contributions to the EPF and the ETF¹. The real level of savings is the nominal level less the measured rate of inflation.

The average of the real interest rate on commercial bank deposits from 1977 to 1987 was 4.8 percent, with only one year having a negative real rate. The level of real financial savings has shown substantial volatility as well, falling from 20.1 percent in 1982 to -1.2 percent in 1986. With data available through September, real financial savings appear to be positive for 1987.

Table 3.4

Real Interest Rates and the Level of Financial Savings
(percent)

<u>Year</u>	<u>Nominal Interest Rate</u>	<u>% Change Colombo Price Index</u>	<u>Real Interest Rate</u>	<u>Nominal Financial Savings</u>	<u>Real Financial Savings</u>
1977	14.5%	1.2%	13.3%	35.5%	34.3%
1978	14.5	12.2	2.3	24.3	12.1
1979	14.5	10.8	3.7	38.1	27.3
1980	20.0	26.1	-6.1	28.5	2.4
1981	21.0	18.0	3.0	21.6	3.6
1982	18.5	10.8	7.7	30.9	20.1
1983	20.5	14.0	6.5	23.6	9.6
1984	18.0	16.7	1.3	18.1	1.4
1985	15.0	1.4	13.6	13.8	12.4
1986	11.3	8.0	3.3	6.8	-1.2
1987	11.3	6.8	4.5	8.4	1.6

1. Employees contribute 8 percent of their salary to the EPF, while their employers contribute another 12 percent. The ETF collects 3 percent from employers. There has always been a considerable debate in the academic literature on how large the effect of these so-called forced savings is on the savings behavior of households. Some researchers suggest that it may have a considerable dampening effect.

The data are not robust enough to infer a strong correlation between the estimated real interest rates on deposits and the rate of accumulation of inflation-adjusted financial assets. The impression one gets from the data from 1984 to 1987, however, would be that there does seem to be a responsiveness by the public to accumulate financial assets more rapidly when real rates are rising. But again, the inflation data is so weak and the level of forced savings so high, that we would not make predictions of the amount of savings induced by a 1 percentage point increase in the nominal deposit rate.¹ Finally, given the relative importance of the informal sector in Sri Lanka, the reported measure is undermined further as an accurate gauge of savings behavior.

Credit Allocation

Several previous studies of the financial markets in Sri Lanka have described the involvement of the government and the Central Bank in providing subsidies to targeted sectors of the economy.² We will only augment this literature.

Table 3.5 below shows the distribution over time of total domestic credit by sector. The share of domestic credit going to the government has ranged from 17.5 percent in 1978 to 40.5 percent

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1. Other estimates of real interest rates can be found in Struyk et al.; and Rane Jayamala "Financial Deepening in a Changing Financial Structure," Central Bank News Survey, Sri Lanka, February, 1985.
 2. Knight; Struyk et al.; IMF 1986 report "Sri Lanka: A Survey of the Financial System"; ADB "Study of Capital Markets in Sri Lanka"; World Bank Report, "Sri Lanka: Issues in Macro-Economic Industrial Development Policy"

in 1982. Over the last four years the proportion has trended upward, reaching 37 percent in September 1987. The sum of the proportions of credit going to Government corporations and cooperatives fell rapidly from 1977 to 1981, and has continued a modest downward trend throughout the last six years. The other private sector borrowers appear to gain (or lose) its share of credit from (or to) the government sector. The nominal amount of credit has grown 8 percent and 12 percent, respectively, in 1986 and through September 1987.

Table 3.5

Sectoral Allocation of Domestic Credit
(as a percent of total)

Date	<u>Private Sector</u>				Total Rupees ¹
	<u>Net to the Government</u>	<u>Government Corporations</u>	<u>Cooperatives</u>	<u>Other Private</u>	
1977	34.1%	19.0%	14.0%	32.9%	8,775
1978	17.5	22.1	15.7	44.7	10,675
1979	19.5	22.4	12.7	45.4	14,972
1980	34.8	16.0	5.3	43.9	25,804
1981	37.7	13.2	3.8	45.3	33,967
1982	40.5	11.0	2.8	45.7	42,398
1983	35.6	8.9	3.6	51.8	49,293
1984	29.2	8.3	3.1	59.4	49,926
1985	34.4	7.5	2.2	55.9	59,226
1986	35.2	7.4	2.2	55.2	64,109
1987	37.0	8.7	1.8	52.5	71,554

For credits extended by commercial banks, Table 3.6 below provides allocative detail over the past five years. Commercial uses, which include export and import finance, have received the largest proportion of credit. The roughly 50 percent figure has been very stable. The next largest share of credit goes to industrial uses, at 23 percent. The agricultural proportion declined through

1. Millions of rupees. Data for 1987 is September.

1985, to 9.3 percent, before increasing 1 percentage point in 1986. Housing has also seen an increase in its relative share of credit from commercial banks. Unfortunately, data is not yet available for 1987.

Because the relative shares for the sectors have shown such stability over the last five years, each has benefitted from the growth in nominal commercial bank credit, even though, as a proportion of GDP, credit has decreased from 27 percent in 1982 to 25 percent in 1986.

The lending of the Development Finance Corporation of Ceylon is shown in Table 3.7, while that of the National Development Bank of Sri Lanka is shown in Table 3.8. Though they are not large in relation to the size of commercial bank credits, they are growing rapidly. Both have grown in excess of 30 percent in the last 3 years. In 1986, loan approvals for agriculture amounted to Rs. 54 million; for commercial purposes, Rs. 47 million; and for financial uses, Rs. 38 million. Of the loan approvals by the NDB in 1986, over 70 percent were for industrial uses. The fact that the loans of the DFCC and the NDB are refinanced by the Central Bank and carry less-than-market rates reflects the Government's goal of subsidizing particular sectors of the economy. Although refinance lending is a relatively small proportion of commercial bank lending, roughly 10 percent, the Government uses other means of allocating credit.

Since 1980, the Central Bank has used the National Credit Plan (NCP) to direct commercial bank lending to sectors that are accorded higher priority, such as agriculture, industry and

Table 3.6
Commercial Bank Credit by Purpose
(percent of total)

<u>Purpose</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Commercial	48.0%	48.6%	49.7%	49.6%	49.8%
Financial	2.2	2.3	2.3	1.9	2.0
Agricultural	12.1	10.9	9.7	9.3	10.3
Industrial	24.4	25.6	24.6	23.7	22.8
Housing	6.1	6.3	7.2	7.5	8.4
Consumption	1.7	1.5	1.4	1.7	1.6
Others	<u>5.6</u>	<u>4.8</u>	<u>5.1</u>	<u>6.3</u>	<u>5.1</u>
Total	100.0	100.0	100.0	100.0	100.0

Total (in billions)	25.3	31.4	34.9	38.2	40.9	na
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Source: Central Bank of Sri Lanka.

Table 3.7

Development Finance Corporation of Ceylon
(millions)

<u>Date</u>	<u>Total Loans and Equities Outstanding</u>	<u>Percentage Change</u>
1977	124	-
1978	149	20.2%
1979	207	38.9
1980	278	34.3
1981	370	33.1
1982	498	34.6
1983	592	18.9
1984	656	10.8
1985	853	30.0
1986	1,114	30.6
1987	1,506	35.2

Table 3.8

National Development Bank of Sri Lanka
(millions)

<u>Date</u>	<u>Total Loans and Equity Investments Outstanding</u>	<u>Total Refinance Credit Outstanding</u>	<u>Total of Outstandings</u>	<u>Percentage Change</u>
1980	77	42	119	-
1981	286	131	417	250%
1982	470	146	616	48
1983	706	123	829	35
1984	993	103	1,096	32
1985	1,249	180	1,429	30
1986	1,623	402	2,026	42
1987	1,984	718	2,702	33

Source: Central Bank of Sri Lanka.

exports. The NCP provides guidelines that the banks are expected to follow, i.e. moral suasion, or informal regulatory control. Since the NCP establishes shares of the markets for each bank, it will also have the effect of restricting competition between institutions.

CHAPTER 4

HOUSING FINANCE SYSTEMS

At the outset, we wish to highlight the obvious. Any system of housing finance is simply a means to transfer funds from one participant with money to lend to another participant in need of funds. The housing finance institution serves as an intermediary that brings the two parties together. In some instances, a housing finance institution is not needed as an intermediary. Funding might be provided by the seller of the property, or the purchaser's family may extend credit. Frequently, in developing countries, a very small proportion of investment in housing is financed in organized markets. The informal credit markets of Sri Lanka certainly fill the void for many households.

Apart from the rudimentary form of lending that does not include an intermediary, for discussion purposes we can delineate two broad types of mortgage finance. For lack of better labels, we can call these deposit lending and mortgage banking.

Deposit Lending System

By a deposit lending system, we mean the familiar practice of accepting deposits from (or issuing debentures to) the public and lending the funds in the form of mortgages. Institutions that practice deposit lending are commercial banks, savings and loan associations, and savings banks in the U.S., or building societies

in Great Britain, Australia, and New Zealand. On the balance sheet of these institutions, the mortgage is reported as an asset, while the deposit or debenture is reported as a liability. By definition, the net worth of the institution is the excess of the value of assets over the value of liabilities.

Though it may appear trivial, it should be noted that these institutions originate the loan by applying underwriting standards, they service the loan by receiving payments and monitoring performance, and they also hold the loan as an asset. What is not trivial is the fact that technology and innovation have made these three aspects of the intermediation process completely separable. Loan originators frequently do not service or hold the loans they grant; the right to service a loan is itself a marketable item; and the holder of a mortgage need not have originated a loan or currently own the mortgage servicing rights to it.

Among the financial institutions in Sri Lanka, mortgages are made in the context of deposit lending. By deposit lending we mean that an institution issues a liability in order to raise funds to lend, which it then records as an asset on its balance sheet. For example, banks and finance companies provide a limited number of mortgages to their staff. The SMIB and HDFC, likewise issue liabilities and report the mortgage asset on their balance sheet. These are direct lending channels. The TCCS also act as originators, having borrowed from the district level office and lending to households.

By accounting conventions, the deposit lending institution makes loans (an asset) that are funded by deposits (a liability). The more deposits it accepts and the larger the loans it makes, the larger will be the institution's balance sheet. We note this simple fact because it highlights an important constraint. If a deposit lending institution can not collect deposits or issue its debt, it will not be able to make loans. Or, if an institution has more deposits than the demand for loans, it will have to seek other investments. This constraint will be discussed below in the description of the origin of the secondary mortgage market in the U.S.

Mortgage Banking System

The deposit lending system can be contrasted with the mortgage banking system by focusing on one important difference. The mortgage banking institution does not hold the mortgages that it originates. After making a mortgage, the loan can be sold to any investor. This allows the funds from the sale of the mortgage to be loaned a second time, which in turn can be loaned again, after the sale of the second mortgage, and so on.

The difference is the fact that the mortgage banker has made more loans, with the assets appearing on the balance sheet for only a short time. The mortgage banker, however, might retain the servicing rights to these mortgages. Or the servicing rights might be sold to another party. The servicing would include collecting monthly payments, disbursing the payment to the holder

of the mortgage, notifying borrowers if they are late in their payments, administering the escrow account for property taxes, etc. In return for this, the mortgage servicer extracts a small fee -- at least it is small in proportion to the total interest paid.

The difference between the systems is that the risk of borrower default is borne by the holder of the mortgage, and the mortgage asset appears only on the balance sheet of the holder. In this way, a housing finance institution can generate more loans that it holds, and need not bear the risk of default. They may earn loan origination fees, and may retain or sell the servicing rights. All this in an effort to leverage their own balance sheet. In the U.S., the selling of mortgages -- and their servicing rights -- into the secondary market is a very competitive business. It operates on very thin profit margins and is a risky activity when undertaken in an environment of volatile interest rates.

Theoretical Issues¹ and Recommendation

Theoretically, there is no reason that the process of originating mortgages, servicing them and holding them need be undertaken by the same institution, since the requirements of each step in the process are different. In order to make and service loans, an institution needs contact with the borrower on a regular basis. This might be facilitated by, but does not require, a wide

1. This section draws heavily from the discussion in "Innovations in Housing Finance Instruments and Institutions," a paper given by Mark Boleat, Deputy Secretary-General, The Building Societies Association, to the OECD Meeting, Glasgow, Scotland, 28/29 March 1985.

distribution network of branches and customer service agents. In order to hold loans, the requirement is money; hopefully, accompanied by a strong balance sheet with substantial net worth.

In the U.S., given the geographical restrictions on the deposit gathering activities of mortgage originators and holders, the secondary market is believed to have grown partially out of the need for housing loans in one area of the country, where deposits were inadequate, to be funded by the region where there was a relative excess of deposits.

In other cases where there is a shortage of funds, analysts have suggested that the large institutional sources, such as insurance companies, could be called upon to provide funding for housing. Somehow, the context of institutional sources of funds became synonymous with a secondary mortgage market. We do not believe that need be the case. Institutional funding does not require a secondary mortgage market.

Institutional investors need not get involved with origination or servicing and they need not buy actual mortgages from the mortgage finance institutions. All they need to do is lend to the mortgage finance institutions, that is, buy their debentures. A secondary mortgage market implies the sale of a mortgage asset. It might be actual loans, or it might be an ownership interest in a pool of loans. Whatever its form, the secondary market is only one way of attracting funds. As has been pointed out above, it is also a way of separating the three components -- origination, servicing and investing -- of the mortgage finance process.

A Housing Finance System for Sri Lanka

With regard to the provision of housing finance in Sri Lanka in the next few years, we do not see the need, or perhaps even the possibility for, a secondary mortgage market. The technical requirements for an efficient secondary market are quite substantial. Yet, the components for an increase in the flows of funds to housing in Sri Lanka are already in place.

There is a very large system of deposit-taking. The NSB, commercial banks, the EPF and ETF: all these institutions mobilize substantial resources. Both the SMIB and HDFC are able to originate and service loans in the Colombo area. The NHDA, through the TCCS, has a wide-ranging network to access rural borrowers. The TCCS, being community-based and with minimum overhead, appear to have a comparative advantage over the larger institutions in carrying out the servicing of mortgages for a large majority of households.

What is needed is to make housing an attractive investment alternative to the large providers of funds. Bring the two sides together. A more nearly market-determined rate on mortgages would help. The debentures of the SMIB and HDFC would be attractive relative to the yield on government securities.

The institutional investors are investing in housing regardless of whether it is through direct lending to homeowners, secondary market purchases of mortgages or mortgage-backed securities, or purchases of the debentures of finance institutions that are more efficient originators and servicers. It is this last method of investing that we would recommend in the near-term.

Measuring and Targeting a Housing Finance Subsidy

For the targeted low-income groups serviced by the NHDA with subsidized interest rates, we suggest the following. In this example, suppose that funds are borrowed by the NHDA at a "market-determined" rate of 12 percent. The borrower pays 11 percent. The primary thrift retains 2 percentage points of interest as a servicing fee, while the district union of thrifts currently retains 2 percentage points.¹ The NHDA, therefore, effectively receives 7 percent interest on the balance, which is 5 percentage points less than the rate it paid to obtain the funds. Suppose loans of Rs. 10,000 are made under these terms. The economics of the example are that the NHDA is providing a 5 percent subsidy on an amortizing loan over 15 years. To simplify, we'll ignore the fact that the instrument used by the NHDA to obtain loanable funds (a debenture) has a different cash outflow than an amortizing mortgage instrument. That is, unlike a mortgage, the debenture pays no principal before maturity.

Table 4.1 below shows the subsidy implied by this lending arrangement. Again, for simplicity, we assume yearly payments, rather than monthly. The compounding of interest would be different under a schedule of monthly payments, but the description is unchanged.

1. We note that the current service charges, which combine to 4 percentage points, is quite large and could be expected to be renegotiated downward as the program evolved.

Table 4.1

Measurement of NHDA's Subsidy When Lending Rate is
11 Percent While Funding Rate is 12 Percent
(15-Year Mortgage at 11% for Rs. 10,000, Payment = Rs. 1,391)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Unpaid Year balance	<u>1,391 Payment</u> Prin. & Inter		=(3)x.64 Interest Paid to NHDA	=(2)+(4) Total to NHDA	Outlay of NHDA	=(6)-(5) Net Outflow	Present Value of Outflow
0	10,000							
1	9,709	291	1,100	700	991	1,468	477	426
2	9,387	323	1,068	680	1,003	1,468	465	371
3	9,029	358	1,033	657	1,015	1,468	453	322
4	8,631	398	993	632	1,030	1,468	438	278
5	8,190	441	949	603	1,044	1,468	424	241
6	7,700	490	901	573	1,063	1,468	405	205
7	7,156	544	847	539	1,083	1,468	385	174
8	6,553	603	787	501	1,104	1,468	364	147
9	5,883	670	721	459	1,129	1,468	339	122
10	5,140	743	647	412	1,155	1,468	313	101
11	4,314	825	565	360	1,185	1,468	283	81
12	3,398	916	475	302	1,218	1,468	250	64
13	2,382	1,017	374	238	1,255	1,468	213	49
14	1,253	1,129	262	167	1,296	1,468	172	35
15	0	1,253	138	88	1,341	1,468	127	23
							Total =	5,108 2,640

The mortgage payment of Rs. 1,391 is allocated to the repayment of principal and interest according to columns (2) and (3), respectively. Column (1) shrinks each year by the amount of principal repayment shown in column (2). Although the borrower pays an interest rate of 11 percent per year, the NHDA receives 4 percentage points less than this. Column (4) shows the interest received by the NHDA, which in this example, is 64 percent of the 11 percent charged the borrower.

The total cash inflow to the NHDA is shown in column (5) as the sum of columns (2) and (4). These are the amounts received as

payment for the Rs. 10,000 loan. A larger cash outflow is used to retire the debt that funded the loan, since the NHDA pays an unsubsidized market rate, assumed to be 12 percent. Column (6) shows the yearly cash outflow to retire an "annuity bond" -- just like a mortgage -- for Rs. 10,000 at 12 percent for 15 years.

The NHDA's annual cash outflow to retire the debt is given by:

$$P = \frac{M \times r}{1 - \left[\frac{1}{(1+r)^n} \right]}, \text{ where}$$

r = interest rate (12 percent),

n = term of loan (15 years),

M = amount borrowed (Rs. 10,000)

P = annual payment amount = Rs. 1,468.

The net annual outflows in (7) are simply the difference between (5) and (6). Column (8) discounts this net cash outflow to the present. The summation of those present values is shown at the bottom of column (8). That amount is the total value today of the subsidy realized by the borrowers over the next 15 years. Assuming no defaults, for every Rs. 10,000 in loans -- lent at 11 percent, funded at 12 percent, and with 4 percentage points service fees -- the NHDA incurs a cost, which over its life, has a value of Rs. 2,640.

In this example, the NHDA, if it is to be current in retiring its debt to the private sector, should set aside 26.4 percent of the amount of loans it makes in a year, exclusive of its own

operating expenses and unanticipated loan losses. It is important to note that the net cash outflows of the future years have been discounted to the present using a rate of 12 percent. This means that the 26.4 percent "allocation" in the first year is assumed to be invested at 12 percent for the period of time until it is used to pay for the subsidy that the borrower realizes in years 2 through 15.

Table 4.2 shows the present value of the subsidy, when we include 10 percent nonrecoveries -- Rs. 1,000 in loans make no payments. The subsidy rises to 34 percent of loans originated.

Table 4.2

Nonrecoveries of 10 percent

Year	(1) Principal to NHDA		(2) Unpaid		(3) Interest to NHDA		(4) Unpaid		(5) = (1)+(3)	(6)	(7) = (6)-(5)	(8)
	Paid	Unpaid	Paid	Unpaid	Received by NHDA	NHDA Outlay	Net Outflow	Present Value of Net Outflow				
1	262	29	630	70	892	1,468	576	514				
2	291	32	612	68	903	1,468	565	450				
3	322	36	591	66	913	1,468	555	395				
4	358	40	569	63	927	1,468	541	344				
5	397	44	543	60	940	1,468	528	300				
6	441	49	516	57	957	1,468	511	259				
7	490	54	485	54	975	1,468	493	223				
8	543	60	451	50	994	1,468	474	191				
9	603	67	413	46	1,016	1,468	452	163				
10	669	74	371	41	1,040	1,468	428	138				
11	743	82	324	36	1,067	1,468	401	115				
12	824	92	272	30	1,096	1,468	372	95				
13	915	102	214	24	1,129	1,468	339	78				
14	1,016	113	150	17	1,166	1,468	302	62				
15	1,128	125	79	9	1,207	1,468	261	48				

Total = 3,375

The effect of the nonrecoveries is to lower the inflows, which increases the net outflows. The increase in the subsidy is not equal to the Rs. 1,000 in lost loans because the losses in

interest and principal repayments are spread into the future. Thus, the present value of those losses is less than Rs. 1,000. Table 4.2 does show, however, the sensitivity of the subsidy to changes in recoveries. In summary, the main point is to separate the subsidy component from the loan portion. This model can be taken further: SMIB and HDFC could make loans at any interest rate that NHDA deemed appropriate for its beneficiaries. NHDA would give SMIB or HDFC the present value of the implied subsidy when the loan is originated. Thus, the intermediary earns the return that it needs to service its market rate debentures and NHDA leverages its funds to serve more households.

Setting Rates on the Debentures of Mortgage Providers

In Chapter 2 we indicated that the Treasury bill market is the best indicator of market rates. The Treasury bill rate, however, would have to be adjusted upward to arrive at an appropriate rate of interest on the debentures of the housing finance institutions. In the discussion below, we build up from the short-term Treasury rate to arrive at a long-term mortgage rate.

Relatively low-risk housing finance institutions might expect to pay the Treasury bill rate plus 1.25 to 1.5 percentage points for 1-year funding; that is, 1 percentage point for the longer term to maturity, plus a slight risk premium if their debt is not guaranteed by the government, perhaps 25 to 50 basis points. If a deep market in 1-, 3- or 5-year Treasury securities evolves, the risk premium would be added to those rates.

The following are possible indexes that could be used to establish the rates paid on the debentures of mortgage providers.

Treasury bill yield
1-year +
funding = 1% maturity differential
+
1/4 to 1/2 % risk premium

Treasury bill yield
3- to +
5-year = 2% maturity differential
funding +
1/4 to 1/2 % risk premium

The funding rates apply an additional increment in the rate paid for each maturity beyond 91 days, plus the institution's risk premium. If the 91-day bill rate were 11 percent, the 1-year debt of the housing finance institutions would be roughly 12.5 percent, while the 3-year debt would be 13.5 percent. Of course, these are just estimates based on current market conditions. The risk premium of the housing finance institutions might differ from the assumed 25 to 50 basis points, and a 3-year government debt instrument might indicate a more steep or more flat yield curve.

In Chapter 3, we noted the usefulness of the 5-year debenture as a means of limiting the interest rate risk of a 15-year fixed-rate mortgage. The rate on 5-year debentures might be substantially higher than the short-term rates, however, given the history of relative volatility in inflation and interest rates. To lower the cost of 5-year debentures, the mortgage institutions might consider issuing an instrument that carries a put option at the second or third year. This option would allow the holder of the debenture to redeem the instrument before the 5-year maturity

and would protect the holder from rising interest rates. If interest rates fall, the debenture is not put back to the issuer. If rates rise, the debenture's put option is exercised.

In exchange for the put option, the holder of the debt accepts a lower interest rate. Therefore, both parties gain. The 5-year debenture has less interest rate risk for the holder and the housing finance institution lowers its cost of funding.

Setting Mortgage Interest Rates

In addition to the interest cost of its debentures, a mortgage lending institution must also cover overhead expenses. These would include salaries and other fixed costs of operations, as well as expenses for loans that are not recovered. We have rough data on the ratio of these noninterest expenses to total assets at three institutions.

At the NSB, the ratio is a very low .8 percent. One explanation for such a remarkably low ratio is the subsidy provided by the network of post offices, which serves as deposit taking bank branches. Also, the relatively maintenance free composition of assets (Treasury securities) would help lower the ratio by eliminating the need for staff, such as loan officers.

At the SMIB, the noninterest expense to total assets ratio is 1.24 percent, which is also very low. This figure can be compared to a ratio of roughly 4 percent at U.S. commercial banks. For the HFDC, which has a much smaller volume of loans, we estimate an overhead to total assets ratio of 3 percent.

Using a conservative estimate for overhead expenses, a lending rate of 2.5 to 3.0 percentage points over the funding costs would be appropriate. Depending on the maturity of the debenture, the funding costs might range from 12.5 to 14.5 percent. Add to this the range of overhead expense and the mortgage rate would be estimated to fall between 15 and 17.5 percent.

ANNEX A

GOVERNMENT HOUSING POLICY SINCE 1977¹**Introduction**

With the change in administration in 1977, the environment for housing policy changed significantly. In the period before, policy measures had been formulated within a context of relatively slow economic growth, as well as being subject to serious constraints in the government budget and the balance of payments. State policy had nevertheless attempted to increase the pace of housing construction and the quality of available housing services. The aggregate flow of resources had been relatively large, averaging about 5 percent of GDP.

In 1958, the proposed Ten Year Plan allocated about one-fifth of a total investment program of Rs. 13,600 million to housing. The Five Year Plan developed in 1971 expected to invest approximately 28 percent of the total investment of Rs. 14,820 million. A significant part of gross capital formation had been directed to housing for many years. Progress had been made in the available housing services. However, the pace had been slow.

The state had played an important role in the housing sector prior to 1977. The government constructed dwellings for rental and

1. This appendix was written by Dr. Nimal Gunatilleke, who also made valuable contributions to all portions of the study.

hire purchase in urban areas. At various times it also regulated the flow of construction material for permanent housing through state production and the control of imports. It provided housing loans through the National Housing Department to middle income households and was active in the land market by clearing title and providing lands under many different schemes. The state also intervened in the process of absorption of building technology.

Strong rent control laws, combined with a ceiling on the number of homes that an individual could own, seriously affected private initiative to invest in housing capital beyond a household's own home. The total resource flow to housing, measured by the share of the GDP and GDCF, seemed to be adequate to provide for significant improvements in the average housing conditions. But the framework could not achieve the desired level of progress. The state framework seemed to have been inordinately concerned with the permanent component of the housing market, with greater emphasis on regulation and control. Distributional effects were given high priority and controls on the size of new homes were administratively imposed. It is against this backdrop that the new administration announced the Hundred Thousand Houses Programme (HTHP) as one of the its main investment projects.

The policy framework for housing development changed after 1977. First, the state assumed an activist role on a scale not attempted before. This was the HTHP, whereby the state was directly engaged in the construction of homes. Various factors contributed to the reformulation of the state role, which resulted in the

Million Houses Programme (MHP). During the decade 1977-1987, however, new state institutions had been created and new processes related to housing undertaken.

The Period of the HTHP: 1977-1984

The HTHP was designed to construct 100,000 permanent dwellings with state direction and resources, during a period of approximately five years. The composition of the HTHP was adapted to the changing circumstances. Direct state construction became prohibitively expensive and was substituted with aided self help (ASH) methods during the period 1978 to 1982. Nevertheless, the targets for various projects under the HTHP seemed monumental when compared with a total public sector production of less than 5,000 dwellings during the preceding five years.

The HTHP had many subprogrammes. The methods of construction were:

- 1) Direct construction, where the state, through its agents would build dwellings and hand them over to selected households;
- 2) ASH, where the state provided the building materials and the beneficiary was required to organize the construction; and
- 3) Upgrading and improving urban low-quality housing and neighbourhoods.

The HTHP was in large measure a programme to construct new dwellings. The government, through the National Housing Development Authority (NHDA), was directly involved in the production of housing. The estimates of the number of dwellings constructed under the HTHP vary. The evidence indicates, however, that a significant

increase in the annual production of dwellings -- both permanent and semipermanent -- had taken place during this period. The government's contribution to the increase had been substantial.

Total HTHP expenditures are estimated to have been Rs. 3,836 million. The unit costs are estimated to have varied widely among the different components of the programme¹.

Table A.1

HTHP Production and Average Costs¹

	<u>Units</u>	<u>Average Cost (Rs.'000)</u>
A. Direct construction:		
Urban Housing	15,027	170
Electorate Housing...	5,880	80
B. ASH Rural	40,998	20
C. Slum and Shanty Upgrading (families assisted)	8,000	-
D. Housebuilder's Loans	31,705	-
Total	101,610	

By 1986, the total number of units completed under the HTHP was estimated to have been 54,696; 12,233 by direct construction, 31,656 by rural housing (including ASH and model villages and fisheries houses), and 10,807 by electorate housing.² Another 5,410 units were under construction.

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1. Source: Sirivardana, S., The Million Houses Programme - Aspects and issues: July 1983, NHDA, Colombo, Sri Lanka, and Robson, David G., Andrew Gromley and Dilip Sonawane, Aided Self-Help Housing in Sri Lanka 1977-1982. Report for the Overseas Development Administration UK 1984, p. 45.
 2. Central Bank of Sri Lanka, Annual Report, 1986, p. 69.

The HTHP had many different components, although the methods of construction were grouped into four categories. The direct construction methods and the types of units were different, both within the urban sector, as well as between the urban and the rural sectors. The direct construction programmes were targeted to the housing needs of the low-income households in the Colombo metropolitan area. Two and four story units were to be constructed for renting.

The ASH programme was built on the experience gained during the 1972 to 1977 period. During that time 61 ASH schemes had completed about 2,300 dwellings in rural and semi-urban areas. An interest-free loan for 20 to 25 years had been granted and a small ground rent charged for the serviced site developed by the government. The direct costs to the government had been estimated as Rs. 6,000 per dwelling at pre-1977 prices.¹

The ASH schemes of the HTHP were divided into low-income and middle-income subprogrammes. Affordability criteria were established as follows:

- 1) low-income programme: monthly income of Rs. 250-550 and the materials provided were sufficient for a unit of approximately 392 square feet; and
- 2) middle-income programme: monthly income of Rs. 550-1,100 and a floor area of about 570 square feet.

The HTHP was intended to be primarily a loan programme. The ASH loans were to have maximum terms of 30-years and the maximum monthly loan payment was set at Rs. 50 for the low-income projects. The

1. Marga Institute, Housing Development in Sri Lanka 1971-1981, Tisara Press, Colombo, Sri Lanka, 1986, p. 149.

middle-income ASH loans did not have a payment cap and had an annual interest rate of 6 percent. The sites were leased from the NHDA at an annual ground rent of Rs. 12 for a term of 33 years -- with an option for renewal. The ASH projects included model villages, where resources from non-ASH sources were combined to develop services, such as water, roads, schools and health clinics.

The HTHP was administered by the NHDA and the Urban Development Authority (UDA), while the construction was aided by other public agencies or departments of the government. Private builders carried out most of the construction. During the time of the HTHP, two other major investment programmes with large scale construction components were underway. Construction costs rose steeply and strained the capacity of the public sector to sustain the level of housing production. Based on the construction cost indices developed by the Ministry of Local Government Housing and Construction (MLGHC), between 1978 and 1981 housing costs increased at an annual average rate of 30 percent.¹ Construction in the HTHP had to be shifted towards ASH building.

The HTHP combined many different elements into a housing programme. It strengthened some activities that already existed, such as the ASH. It also attempted to improve the functioning of the Home Loan Programme under the National Housing Fund. The fund had run into serious difficulties during the 1970's. It borrowed from the Treasury and lent to private individuals for the building, purchase and improvement of dwellings and for the purchase of

1. Central Bank of Ceylon, Review of the Economy 1981, Colombo, Sri Lanka, 1982, p. 89 and Review of the Economy 1983, Colombo, Sri Lanka, 1984, p. 97.

building sites. However, the fund was depleted due to poor recovery. New lending was suspended in March 1980. In 1981, the programme was transferred from the Department of National Housing to the NHDA.

The HTHP initiated a process of housing development that could not be sustained at the planned levels. A large scale private sector effort had been expected to complement the government's effort. The contribution from the private sector was expected to have been about 400,000 dwellings. This meant that about 100,000 permanent and semipermanent dwellings were expected to have been built each year during the HTHP. The evidence indicates that over 400,000 permanent and semipermanent dwellings would have been built during the 1977 to 1981 period. The private sector would have contributed about 87 percent of the total¹.

The performance had not been altogether disappointing. However if the targets had been those for permanent homes, then what took place during the HTHP was well below expectations.

The recoveries under the HTHP were poor. The reflows of rents to be collected on the direct construction components were very low. The beneficiaries in some cases had not considered that they were assuming obligations to pay back the government funds used to provide housing. The emphasis had been on the production of dwellings, such that the mechanisms to deal with the financial flows and recoveries were lagging behind².

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1. Manson, Donald and Raymond Struyk, "Housing Needs and Probable Investments in Sri Lanka: 1983-2003," The Urban Institute, 1984, p. 17.
 2. PADCO Inc., Evaluation of Housing Programs of the Government of Sri Lanka. Report for the U.S. AID Office of Housing and Urban Programs.

The HTHP had other issues to contend with besides costs. The design of some of the projects had not incorporated the essentials of cost recovery. The HTHP was administered by the NHDA. The organization of construction on the scale of the HTHP was new to the state. Activity was dispersed spatially and systems had to be developed as new institutions were created. A large number of small loans were granted under many schemes. The NHDA, a nonfinancial institution, was administering the difficult portfolio of small loans.

The HTHP did not seem to have directed adequate attention to one of the most important processes that created housing capital -- and thereby the improvements in the housing -- the upgrading of semipermanent homes into permanent ones. The HTHP had a focus on building new homes. The resources were not adequate to carry out the task to improve housing services, if organized and directed as in the HTHP. Therefore, the HTHP was modified after 1981, when construction costs escalated steeply. Increased costs of production in the HTHP posed serious problems of affordability for the targeted households. The consequence was increasing levels of subsidy. Substantial efforts were made to reduce costs through changes in design and building materials.

The experience of the HTHP and the need to continue the housing development effort led the government in a new direction. The MHP was developed to cope with the issues of cost, affordability and cost recovery.

The Million Houses Programme: 1984-1988

The MHP is primarily a support programme designed to increase the pace of completion of dwellings. Therefore, it has as its goal the upgrading of existing homes, as well as new construction. It was designed to cover a much larger proportion of households with an assistance package to accommodate a wide range of needs. The MHP was clearly a loan programme, and this was made clear from the beginning. It had varying degrees of subsidy for different income groups.

The data for 1971 to 1981 indicated that a large volume of home upgrading was taking place. This is partly evidence of a building process that is spread over a long time period. The household resource mobilization fashioned the building process. In the rural sector, much of dwelling construction was organized by the owner. Materials were collected over time -- in some instances spanning a generation. Housing construction in this setting was financed by a combination of household savings, intra-family transfers and various forms of noninstitutional borrowing. A large part of the resources that go into the construction do not flow through a market. Materials are fabricated over time with locally available resources and the household supplies a large part of the labour that is needed for construction. The building is often at a slow pace. Cash needs are for the purchase of materials.

The MHP moved away from state-sponsored or directed construction. The policy changed and the government assumed the role of facilitator. The MHP consists of six subprogrammes. The NHDA and related agencies assist in some components directly, while

in others, the programmes are expected to link with activities of ministries. The programme outline is given below.¹

- 1) The Rural Housing Sub-Programme (RHSP) covers the rural sector of the nation and is expected to reach about 50,000-60,000 households per year. This is the main component of the MHP, started in 1984, and targeted to the poor.
- 2) The Urban Housing Sub-Programme (UHSP) started in 1985. It is expected to cover all urban administrative units and reach 13,000-16,000 poor households.
- 3) The Plantation Housing Sub-Programme (PHSP) is designed for the plantation sector workers and staff. It is intended to transform the existing low-quality housing stock and will be implemented through the State Plantation Corporation (SPC) and the Janatha Estate Development Board (JEDB).
- 4) Housing development in the Mahaweli development programme settlements areas will be handled by the Mahaweli Development Authority. This will be the Mahaweli Housing Sub-Programme (MHSP).
- 5) The Private Sector Housing Sub-Programme (PSHSP) will reach both the individual home builders, as well as the property developers. The financial flows that support the construction will be directed through specialized home finance institutions, such as the SMIB, the HDFC, the TCCS, the rural banks and commercial banks.
- 6) The Major Settlement Scheme Sub-Programme (MSSHSP) is designed to reach non-Mahaweli settlements through the office of the Land Commissioner.

In terms of the number of households reached, the MHP performance has been very impressive during its four years of operation. The MHP maintained the rural focus of the HTHP. Relatively small-sized housing loans with a wide range of options and repayments plans will be granted. The options are contained in the Housing Options Loan Package (HOLP) for the various sub-programmes of the MHP.

1. Fernando, S., et al., Aspects of Support Based Rural Housing in the Galle, Matara, Jaffna and Puttalam Districts of Sri Lanka, Colombo, Sri Lanka, 1987. Report for U.S. AID Office of Housing and Urban Programs, p. 6.

The different sub-programmes of the MHP have a different set of options, loan limits and eligibility criteria. Households up to the estimated median income level are able to participate in the low-income components of the MHP. In the rural sector, those households with monthly incomes up to Rs. 1,250 are eligible to participate¹

The repayments are in equal installments over periods ranging from 5 to 15 years. For the RHSP, the options address the issues of incremental building and upgrading, the need for better quality amenities and housing related services. The rural HOLP does not limit itself to the needs of the poor, but has a small middle class component as well. The maximum loan for the low-income household is Rs. 7,500 at an annual interest rate of 6 percent. It is related to a package of a new core house and individual services. For the middle class household, a maximum loan of Rs. 12,000 at 10 percent -- repayable in 15 years -- is available for upgrading activities.

The maximum income level for eligibility for the UHSP is Rs. 1,500. The options include the core housing at serviced site, upgrading, and building at serviced sites.

The main elements of the MHP are:

- 1) The small financial package approach;
- 2) Separating the assistance package into three components; a) the construction of new homes, b) upgrading, and c) obtaining housing-related amenities, such as water and toilets;

1. Ministry of Local Government Housing and Construction, Implementation Guidelines, Rural Sub-Programme, Colombo, Sri Lanka, 1984.

- 3) Linking the housing assistance program with other activities, which can enhance and improve the quality of housing;
- 4) Directing attention to the needs of poor households that complete homes over a long time horizon. The small loan amounts address the special needs for cash at critical points in the building process;
- 5) The RHSP addresses the difficult issues of land tenure and title in innovative ways. In the rural sector, a variety of tenure forms exist. Over the years, the traditional arrangements have been modified by actions of the government. The NHDA, through the RHSP, does not demand clear title in the same way that a formal banking institution does;
- 6) The UHSP also has to contend with unclear and difficult title issues. Lease holds for periods of 45 years are granted to households at the serviced site. To date, no outright sales of sites have been made to poor households under the MHP;
- 7) In the PSHSP, the proposed lease period for the sites is 25 years (proposed for the pilot program in the Kalutara district). Improvement in the plantation sector has to deal with the difficult issue of tenure and title; and
- 8) The loan collateral conditions have been changed to meet the special requirements of the poor. In the RHSP, lending is not based on collateralized value, but rather, on income flows to the household.

The transition of the HTHP to the MHP required many changes in the orientation of housing policy. The HTHP had focussed attention on production. The work was organized by the NHDA, which was then a new institution. The effort required the organization and management of a flow of resources on a scale new to the state housing sector. The HTHP effort also increased the pace at which permanent housing was added to the national housing stock. The construction costs were higher than expected and, even at high rates of subsidy, the expected beneficiary households could not have

amortized the loans with their incomes. In other words, dwellings were not affordable to the poor, given their incomes and the costs of construction.

The HTHP drew the nation's attention to housing. Housing investment, maintenance and improvement activity increased. Along with the HTHP, the government took initiatives to increase and improve the flow of resources to housing. The financial flows were improved through state-sponsored agencies such as the SMIB. Public awareness of housing was increased through the media. Other results in the economy, such as faster income growth, supported the increased housing activity.

The MHP was introduced in this setting. The coverage of state housing activity was widened. The quality of financial resource flows improved and the base for a sustained improvement of housing services created. The RHSP, through the small loan packages, creates a large and distributed pool of financial resources. If the loans are well-managed, it will form the basis for a wide range of housing related economic activity in the rural sector.

Loan performance needed substantial improvement. Under the HTHP, more attention was paid to production than to loan recovery and management. The NHDA was not as well-equipped to deal with the task of recovery as it should have been. The MHP was also initiated without a well-developed recovery mechanism in place. The effort to develop it for the NHDA began after the MHP was underway.¹

1. Comprehensive Marketing Systems Inc., Collections Program for the Sri Lankan National Housing Development Authority, 1985. Report for the U.S. AID Office of Housing and Urban Programs.

The recovery rates of the funds loaned through the MHP have been substantially below targets set by NHDA/AID. Available data indicate that loan recovery rates for 1985-86 for the RHSP were approximately 75 percent for disbursements through the Gramodaya Mandalayas (GM). For the UHSP, which started later, the recovery rate was lower, at 44 percent.¹

The operations of the MHP were combined with the functions of the GMs, which are the smallest unit of community organization. The GMs represent about 500 households and fall within the smallest level of local government -- the GS division. The MHP began by allocating equal funds to each GM area in the country. Later, this was changed and the allocation was linked to performance in the previous year. The GM is not a financial institution. In order to establish itself, it is likely -- in some instances -- to offer patronage through the MHP.

The MHP was linked with the TCCS in 1985. These are small local organizations, which mobilize funds and disburse small loans. The TCCS is a financial institution. The MHP conducted a pilot programme with the TCCS and the results encouraged an expanded role for TCCS. The TCCS had existed in many areas of the country for quite a while. They are usually small credit institutions lending for working capital in agriculture with a maturity rarely over a few years. Some TCCS have lent for housing.

1. Fernando, S., et al., op. cit., pp. 138-139.

The present policy is to set up TCCS where they do not exist and to reactivate old ones. The local level TCCS are represented at the district level by a District Union (DU). Together with the Department of Cooperative Development (DCD) the DUs are engaged in institutional development and in organizing new TCCS. New units are being established, training is provided and local level financial management capacity created. One of the major weaknesses of the MHP had been the relatively unbalanced capacity of the implementing institutions to manage the financial flows and reflows. The development of a small credit institution, with a capacity to manage a portfolio of small housing loans, is an important step to improving the credit market for the poor. The NHDA, with assistance from AID, is furthering institutional development related to the TCCS movement.

The TCCS disburses loans under the MHP at interest rates determined by the NHDA. The TCCS receives a service charge for administering the loans. About 10 percent of the service charge is given to the DU and the rest is retained as TCCS earnings.

The introduction of the TCCS into the MHP allowed the NHDA to assume an oversight role. Other financial institutions will handle the financial resource flows, so that the circulation and building of funds for housing operates within a new environment. Recovery rates for loans granted through the TCCS are substantially higher than in previous programmes. This operation has the potential to build a new level of financial responsibility, which can result in a substantially improved flow of finances in the rural sector. Data on the operations of the TCCS confirms their sound management.

Overview of Financial Institutions and Markets

Sri Lanka has a well-developed financial structure. The Central Bank is at the apex and is empowered to supervise the activities of the participant institutions. The financial system consists of the the Central Bank (CB), 25 commercial banks -- of which the largest two are state-owned and 21 are foreign owned -- 25 Foreign Currency Banking Units (FCBU), the NSB, finance companies, leasing companies, a merchant bank and development finance institutions, as well as numerous credit societies.

There are two specialized housing related finance institutions, the state-owned SMIB and the more recently established HDFC. Meanwhile, there are other institutions that mobilize financial resources from the public. They are the EPF, ETF, and insurance companies. In January 1988, the private sector resumed operations in the insurance business. A stock market functions in Colombo with a relatively small daily volume. A large part of the financial system falls directly under government control through its ownership of participating institutions.

After 1977, substantial changes have taken place in the financial markets. New branches were opened by 15 foreign banks, the institutional framework was expanded to include two merchant banks, two development banks and the addition of FCBU. The expansion of the banking sector was in anticipation of continued rapid growth of the economy and good prospects for Sri Lanka to become a regional banking center. The continued instability of the

country will no doubt prompt many foreign operators to reconsider their positions.

The CB has many instruments to control monetary aggregates. Although the country does not have a comprehensive banking law, the CB is empowered by the Monetary Law Act, which created the CB in 1949, to exercise credit controls, set reserve requirements, provide refinance and rediscount facilities, conduct open market policies and to manage interest rates.

The largest two commercial banks, the Bank of Ceylon and the People's Bank, are state-owned. The foreign-owned banks are more numerous and tend to be small. With the exception of a few, the others are of recent origin and were established in response to the changed government attitude toward foreign banks after 1977. A wholly Sri Lankan owned private bank started operations in 1987.

The banking sector has become more competitive in the last few years. The state banks have lost a part of their share in a growing financial market. Nevertheless, the size and the inertia of the two large state banks dominate the commercial banking sector.

The NHDA

The NHDA was established in 1979 by government statute to implement the public sector housing programmes. It had to deal with the issues of loan recoveries from the inception of the HTHP. Since 1981, when AID supported the government housing programme, NHDA has been able to develop its institutional capabilities and to move away from its direct involvement in the disbursement and recovery of funds.

The direct construction component of the HTHP had built dwellings that were highly priced relative to the target group of households. First, the units intended for middle-income households in various schemes were not easily disposed. Some remained unsold for long periods. NHDA assets were thus tied without yielding the expected flow of returns.

In the ASH, the electorate schemes and model villages, the cost recovery mechanisms were not functioning as well as they should. Loan recoveries were poor in most cases.

When the MHP began, the NHDA was to administer it and had the responsibility for all disbursements, servicing and collection functions. State nonfinancial institutions had been involved in loan disbursement and recovery in the past. The National Housing Department had done this, but on a scale very much smaller than either the HTHP or the MHP.

The NHDA housing loans were granted without interest charges in the early 1980's. Today the loans are disbursed at rates ranging from 6 to 10 percent. The NHDA did not have the trained personnel to deal with the collection of the numerous small loans. The information systems to deal with the disbursements and reflows had to be developed specifically for the MHP.

The RHP disbursed about 40,000 loans a year during 1985 and 1986. This implied an increasingly difficult collection problem. The duties had to be transferred to a specialized agency for efficiency in disbursement, as well as in collection.

The NHDA has been able to develop the capacities in other institutions. First the GM's, and then the TCCS, took over a large portion of the tasks related to disbursements and collections under the MHP. When the MHP started, the GM's were used for disbursements and collections. However, the NHDA maintained the functions of record keeping and monitoring performance of individual loans. As the recovery rate of the MHP fell, the search for alternatives led to the involvement of private sector institutions with a specialized capacity to deal with the financial aspects of the MHP. The TCCS were drawn into the MHP after a pilot programme in Kandy.

The NHDA is in the process of reorganization and decentralization. The proposed changes in the structure of national administration will enable the MHP operations to be directed through a system that is not as concentrated. Meanwhile, the encouraging performance of the TCCS and the potential for its expansion will further facilitate the process of transferring functions of the NHDA to specialized institutions. This in turn will develop the financial institutions of the rural sector.

Specialized Institutions Providing Lending for Housing: The SMIB

The SMIB was formed in 1975 by merging the State Mortgage Bank (SMB) and the Agricultural Investment Credit Corporation (AICC). It began operations in 1977. It was first conceived as a development bank, but this was changed and the development aspects were undertaken by the NDB. In 1982, the cabinet authorized the reorganization of the SMIB as a specialized housing bank. Wider powers were given, along with a substantial increase in authorized

capital. Bank operations have grown quickly, especially since 1984. More than four-fifths of its lending is for housing and property development.

The SMIB has a head office and two branches, all in Colombo. Four departments divide the applications from different parts of the country. Activities in the Colombo district dominate the bank's operations. More than three-quarters of the value of total disbursements, and a little less than half of the number of loans granted, are in Colombo. The SMIB is negotiating with the Bank of Ceylon and the People's Bank for a refinance scheme granting the banks a 2 percent margin.

The SMIB receives funds from the government and from the sale of debentures. Recently, debenture sales have proven more difficult. Debenture issues have been for a period of 3 years, with a rate of 16 percent. Previously the terms had been longer and the rates much lower. The SMIB competes for short-term funds with finance companies, which offer higher rates for funds lent up to 3 years.

The disbursements of the SMIB have increased rapidly, from about 550 loans in 1980 to nearly 5,000 by 1986. The majority of the loans are in the category of Rs. 100,000. The popularity of this category of loan is related to the linkage of interest rates with house size and the tax incentives for building.

The SMIB directs loans to the middle income range of households. The loans are limited to 75 percent of the estimated value of the home and have a maximum maturity of 20 years. The bank is conservative in its lending policies and has a high recovery rate. It has statutory powers to foreclose on delinquent loans and

its policy is to exercise this option when loans are pastdue.

The funds for the SMIB have been generated primarily through government guaranteed debentures. The CB had been one of the primary customers. The ETF is a major outside buyer. The SMIB has not made use of its full deposit taking powers. It holds a small portfolio of government securities, primarily Treasury bills and bank deposits.

The HDFC

The HDFC was established as the only building society in the country in 1983. It started operations in 1984. The government holds 60 percent of its share capital, while the rest is in private hands. Membership shares are issued in Rs. 500 denominations and can be purchased in installments of Rs. 50.

Mortgage financing is provided for up to 80 percent of the estimated cost of a home and is available only to members. The financing is limited to 5 times the membership shares of the borrower. Maturities range from 15 to 20 years, but the loan has to be repaid before the borrower reaches the official retirement age of 55. At the end of the accounting year for 1986-87, HDFC had 2,942 members, of whom 1,176 had applied for loans.

The main source of funding for HDFC is a loan from the NHDA. Membership shares constitute a small component of its funds. It operates in competition with the SMIB and has disbursed about 500 loans. Expansion of lending is currently constrained by the availability of funds. The HDFC charges different interest rates to

the different income groups to equate the rates on an after-tax basis. Unlike SMIB, HDFC does not impose limits on the size of the dwelling unit constructed. Loans are available to members only, and in effect, a equity position of 20 percent has to be deposited with the HDFC. It does not have the tax exemption status of the SMIB and is supervised by the CB.

The Non-Banking Financial Pools: The EPF

The EPF is a provident fund for most employees in the organized private sector and corporate public sector. The self-employed can participate on a voluntary basis. It is administered by the CB. The employer contributes 12 percent of remuneration, with a further 8 percent paid by the employee as a deduction. It is estimated to cover about one-fifth of all those employed. In 1985, the EPF held about 10 percent of all financial sector assets.

The uses of the EPF's resources are determined by the monetary board of the CB. In the past, about 95 percent of the funds have been invested in government securities. The accumulation of government securities has resulted in the EPF holding about one-quarter of the financial sector's claims on the government. The EPF could invest in UDA debentures guaranteed by the government and in Treasury bills. It maintains a small non-interest bearing deposit with the CB. It cannot purchase CB securities nor make deposits with other institutions.

EPF withdrawals are tax-free and can be drawn in a lump sum after an employee reaches the official retirement age, which is 55

years for men and 50 for women. Concessions are made under mitigating circumstances. The amount obtained is the sum of deposits and interest earned -- computed at EPF asset yields -- less administrative charges. Given the investments of the EPF, the return has been low in comparison to market rates. Although the withdrawals from the EPF are tax-free the lower return reintroduces an element of taxation.

The ETF

The ETF was created by the ETF Act of 1980 and began operations in 1982. It is a fund to which only the employer contributes 3 percent of the employee remuneration. The fund is established to promote employee ownership of private sector enterprises. It has wider coverage and a larger membership than the EPF. It is responsible, as is the EPF, to the Ministry of Labour, but is more independent. All registered enterprises have to contribute to the ETF, including those not in the EPF system.

However, the ETF assets are significantly smaller than those of the EPF, since the contribution is only 3 percent.

The ETF board is expected to invest primarily in private sector equities and similar instruments. Discussions are underway to apply ETF funds to the housing sector. The ETF has an upper limit of holding 10 percent of a company's capital. It presently holds shares in more than two dozen companies, but maintains more than half of its funds as bank deposits. The yields on ETF holdings have been higher than those of the EPF, with rates converging as investible opportunities contracted in 1985. In order to expand the

client base, it is now offering a noncontributing life insurance scheme, which automatically covers all members. The ETF contributions can be withdrawn whenever an employee changes jobs after working with an employer for 5 or more years.

Private Provident Funds

There are about 230 private employee provident funds operating in the country. Some are associated with state banks and corporations. These private funds cover about 125,000 (or 2.5 percent) of the work force. In 1985, the total assets of the private provident funds were approximately Rs. 277 million.¹ Due to the high rate of outflow from these funds, it is unlikely that the total private provident fund assets have grown much above the 1985 figure. Companies that have provident funds are exempt from contributing to the EPF. The contributions to those funds usually earn more than the 3 percent, stipulated by law, discouraging contributions to the EPF. These funds offer more benefits, such as loan facilities and less stringent withdrawal conditions, than the EPF. These private funds have remained small, partly because of the leniency towards withdrawal.

The Banking Sector: The NSB

The NSB was created in 1972 by bringing together the Ceylon Savings Bank and the Post Office Savings Bank. It operates under the National Savings Bank Act and is the only savings bank in the

1. International Monetary Fund, Sri Lanka, A Survey of the Financial System, 1986, p. 26.

country. Almost all of its funds are drawn by the government to finance the deficit. The NSB mobilizes deposits through a widespread network of 57 branches. It also uses the post office system, with 357 offices and more than 3,000 subpost offices to accept deposits.

By law, the NSB has to invest at least 60 percent of its funds in government securities. Recent efforts to restructure the financial sector of the country include plans to permit the NSB to diversify its asset portfolio. In practice, however, almost all its assets are government securities. The NSB is a major source of government funding, as it aggregates the small pools of resources. The NSB has generally become a depository institution competing with commercial banks for time deposits. In 1985, nearly two-thirds of NSB resources were time deposits, about 70 percent of the depositors were from urban areas and more than a third of the deposit liabilities were in amounts over Rs. 100,000.

In addition to the fixed-deposit pass book savings schemes, the NSB has a contributory pension scheme for over 7,000 investors. It earns a very attractive 16 percent rate of return. It also has an endowment scheme for education -- where deposits made for 10-year terms earn a fixed rate of 16 percent. There are savings certificates and a "save as you earn" scheme for automatic payroll deductions deposited into a savings account. All these schemes are small compared to savings and pass book deposits.

The NSB plays a critical role in the determination of deposit rates in the country. As one of the largest mobilizers of deposits, the NSB rate is closely watched. In 1984, the NSB was permitted to

set deposit and lending rates for its operations. Previously, it had to obtain approval from the Ministry of Finance and Planning when determining rates. Rates were set to stimulate a flow of savings to fund government operations. Deposits at NSB have the advantage of tax relief -- up to one-third of the interest received on a deposit, or Rs. 2,000, whichever is larger. This increases the already favourable yield on NSB deposits. The tax concessions offset the somewhat better terms and additional benefits that commercial banks are able to provide their customers.

The NSB receives a yield from its investments in government securities that is lower than its total cost of funds. The government makes up the differential, which has the effect of not subjecting the NSB to the rigors of the market.

ANNEX B

Interest Rates at Finance Companies

Until recently, finance companies have been the least heavily regulated participants of the organized markets and, as noted in Chapter 1, they have been the most rapidly growing sector. Although there are roughly 100 finance companies, only 56 provided information to the Central Bank on their assets and liabilities. Presumably, these were the largest companies, and accounted for the vast majority of assets. In 1986, total assets increased 27 percent, to just over Rs. 7 billion. Data on growth in 1987 has not been made available.

On 15 December 1987, the rates that finance companies are allowed to pay on deposits was restricted to 18 percent for deposits of 12-months term or longer. For deposits with maturities less than 12 months, the maximum rate has been set at 17 percent. Our interpretation of this action is that it was in response to the insolvencies of 5 finance companies in 1987, which had been paying rates in excess of these levels -- sometimes on the order of 24 percent. Not surprisingly, such companies would have to engage in more risky lending activities to cover this funding cost. Since the Control of Finance Companies Act No. 27 of 1979 places supervisory responsibility with the Central Bank, they are able to put a halt to such activity by regulating the maximum allowable rates payable to depositors and by regulating the asset side of the balance sheet as well; for example, requiring minimum thresholds of liquid assets.

Since finance companies typically operate outside the traditionally subsidized sectors, we thought it would be instructive to describe the funding and lending procedures as they were conveyed to us in conversations with their senior management.

Funding

As expected, finance companies view themselves as being required to pay a premium over the deposit rates paid by the NSB. They do not deviate from this indexation to the NSB rate, and maintain a rate 2 to 3 percentage points over the administered rate of the NSB. Currently, finance companies are paying 14 to 15 percent on 1-year deposits and roughly 16 percent on 2-year money. Deposits at the 3-month and 3-year maturities are less frequent. Deposits from the public represent about 90 percent of funding, with the remaining 10 percent raised from commercial banks at current rates of 20 to 22 percent.

Since finance companies are following the lead of the NSB in establishing deposit rates, they are not any more accurate as an indicator of market rates than the more heavily regulated commercial banks. It is on the asset side that finance companies are unique in the marketplace.

Loans

Our discussions confirmed the observation that finance companies lend to borrowers who are not of the highest quality, and therefore, are denied access to commercial bank credit. And for this reason, the interest rates paid by borrowers are substantially higher, as we

will see in the example below. These more risky loans also require greater follow-up and supervision to see that they remain current. This contributes to higher administrative expenses, which were estimated to be higher than the expenses of the commercial banks, at roughly 6 percent of assets.

The portfolio of more risky loans also results in higher charge-offs of loans classified as loss. The practice of the finance companies is not to establish a reserve for possible loans losses, which, as part of the balance sheet, would be reduced as loans are written off. Instead, losses are expensed each year, and would be reflected immediately in the year's income statement. A figure of 10 percent was offered as a representative annual loss amount. To declare 10 percent of loans as uncollectable each year and still remain solvent is quite a feat. Such losses must be covered by the interest paid on loans that are recovered.

The following is an example of how a quoted lending rate of 24 percent translates into a much higher actual rate, which we will call the Annual Percentage Rate (APR). If a loan of Rs. 100,000 is made with a 3-year repayment period at a quoted rate of 24 percent, the calculation is as follows: the total amount to be paid is the principal, plus three years interest at Rs. 24,000 per year, or Rs. 72,000, plus the government tax, which is 11 percent of the interest, or Rs. 7,920. Over 36 months, the monthly payment, M, would be:

$$M = \frac{100,000 + 72,000 + 7,920}{36} = \frac{179,920}{36} = 4,998 \text{ per month}$$

Using this method to calculate interest owed will substantially understate the "true" rate of interest. In the above formulation, the concept applied is that the interest on 100,000 is due for the entire 3-year period, when in fact, the outstanding balance is being reduced through monthly installments. To calculate the APR, we would complete the following calculation: 36 monthly payments of Rs. 4,998 are being made to retire a loan of Rs. 100,000. What rate of interest will make 36 payments of 4,998 have a discounted value of 100,000?

Mathematically, what value of the rate, r , solves the following equation?

$$100,000 = \frac{4,998}{r} \left[1 - \frac{1}{(1+r)^{36}} \right]$$

A value of r equal to 43.17 percent would be the solution and would be the type of interest rate disclosure made to a borrower in the United States.

If we add up the costs incurred by the finance companies, this rate of interest is not unreasonable. If they are paying 18 to 20 percent on deposits, have administrative costs of 6 to 8 percent, and charge-off 10 percent of loans as uncollectable, the sum of these values is not far from 40 percent. Thus, the 90 percent of loans that are paying interest, would have to cover their own costs plus the cost of carrying the 10 percent that is written off, but for which deposits are still outstanding. And finally, there must be a return to the owners of the company.

That finance companies have shown such impressive growth, while charging such high rates for loans, suggests that private companies and individuals are finding investment opportunities with high returns. Otherwise, these investors could not pay such high funding costs to obtain their loans.