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HOUSING FINANCE FOR DEVELOPING COUNTRIES

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PREFACE

This monograph reflects a ten-year experience in working with housing finance systems, central banks, ministries of housing, ministries of finance, and development planning agencies. While the opinions and conclusions expressed are my own, most of the opportunities to form them arose from a long series of assignments for the Office of Housing of the U.S. Agency for International Development. These assignments took me to every major region of the Third World and to a total of fifteen countries. Additionally, my role in supervising the work of others engaged by the Office of Housing has acquainted me with the housing finance systems of many more Third World countries.

Housing finance systems throughout the world suffer from a lack of information about how systems in other countries operate, how they have resolved particular problems, and generally what their experience has been over time. This lack of information is a serious barrier to innovation in housing finance and a deterrent to the establishment of housing finance systems where they have not yet been established.

Important housing finance systems exist in most of the industrialized world, and over the past twenty-five years formal housing finance systems have emerged in many Third World countries. Crude estimates put the combined assets of the housing finance systems of the world at more than one trillion U.S. dollars, yet no official international bodies, such as the International Monetary Fund, the United Nations, or the World Bank, collect data separately or comprehensively on the world's housing finance systems. Only the International Union of Building Societies and Savings Associations and the Inter-American Savings and Loan Union, which are voluntary organizations primarily financed by their membership, offer any significant statistical coverage or programs for the interchange of information.

Under these circumstances, it is not yet possible to provide detailed statistical or operational information about all, or even most, Third World housing finance systems on a current, country-by-country basis.

Nevertheless, there is much that can be said about the variety of techniques that are available for the achievement of similar objectives and about the common principles that successful housing finance systems observe. The discussion of these techniques, their strengths and weaknesses when applied in Third World circumstances, and the general principles of housing finance system management and operation make up the main content of this monograph.

Many people have helped me to make this book possible. My wife, Jo, and my daughters, Amy and Nikki, have been sources of inspiration to me. They have also endured my frequent and often extended absences from home with good grace. Peter M. Kimm, Director of the Office of Housing of the U.S. Agency for International Development, made most of those absences possible and fruitful. Norman Strunk, Secretary-General of the International Union of Building Societies and Savings Associations, gave me the encouragement, the incentive, and the opportunity to write this monograph. The staff and membership of the National Savings and Loan League, with whom I have had the privilege of working for many years, have expanded my personal knowledge by sharing their experience with me. Finally, the editorial assistance of Martha Roberts has made this a better manuscript than it otherwise might have been.

If there is a dedication to be made, however, it must be to all of those throughout the world who labor to make it possible for families of all nationalities, races, creeds, colors, and income levels to live in decent shelter. Theirs is a noble calling.

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THE ROLE OF HOUSING IN ECONOMIC DEVELOPMENT

It is frequently argued that housing is a social investment or a consumption good, rather than a capital good, even though, like other capital goods, housing generates a long-lived stream of services. This view has in the past relegated housing investment to a second or third priority in economic development strategies and has encouraged the use of techniques of shelter finance that dilute the positive economic effects that can be derived from housing investment.

The broad outline of economic development theory that has conditioned the development plans of most Third World countries is essentially as follows.

Within their national boundaries, most developing countries were viewed as being constrained by small markets, defined by the limited purchasing power of a relatively small number of potential consumers. Given the population, purchasing power had to be increased by making optimal use of available resources to produce for more affluent markets; in short, this view prescribed an export strategy for development.

Given further that surplus labor was to be found in the rural sector, an improvement in the efficiency of resource allocation could be realized by inducing rural-to-urban migration, or, more precisely, migration of labor from agricultural to industrial pursuits. Even though imports of capital would be required, the net gains from a more efficient allocation of resources and the exploitation of natural resources were generally estimated to be sufficient to produce the increases in income needed to provide both the saving for domestic investment and the purchasing power required for expansion of the domestic market.

Any theory or grand design must inevitably fail to address some issues, and the now classical theory of economic development is no exception to this rule. The export-promotion, import-substitution prescription for economic development is essentially a theory of markets and price mechanisms that, in its need to isolate and illuminate the broad thrust of its concepts, must necessarily abstract from the mass of institutional detail of how particular processes and mechanisms are put in place and are managed to produce the predicted results. Yet it is

within this mass of detail that the secrets to the successful development of the domestic economy are to be found.

The growth of saving, for example, is the critical precondition for the expansion of domestic investment and for the substitution of domestic capital for imported capital. Economic theory indicates that saving is primarily dependent on income and, in some formulations, dependent secondarily on the advantage perceived to derive from postponing current consumption—in short, the level of interest rates. This proposition is not in question, but there is an additional consideration to be taken into account.

The existence and effectiveness of money and capital markets, which constitute the institutionalized saving-investment transfer mechanism, cannot safely be assumed. The presence of a market potential is not sufficient to assure the establishment of a market; entrepreneurship is required to recognize the potential, marketing must educate and promote the approach to realizing that potential, and management must assure the effective use of resources devoted to the activity. Put differently, without effective financial institutions to mobilize savings and channel financial resources into investment activities, an increase in income may leave income recipients with little choice other than to consume more or to hold their savings in nonproductive forms—currency hoards, jewelry, gold bars, and other commodities with store-of-value qualities. Thus, engendering the growth of income will not *assure* the growth of saving channeled into domestic investment. Hence, a sustained expansion of domestic productive capability cannot be assured without the development of the financial institutions that preside over the saving-investment transfer mechanism.

None of the foregoing discussion applies exclusively to housing investment or to housing finance, but it is relevant to those topics for it establishes a basis for understanding why housing and housing finance have, until recently, been neglected elements of development strategy.

Commercial banks and commercial banking activity have been present in developing countries at least since the European colonial period. Owing partly to commercial banking tradition and partly to their role in international finance and trade during the colonial period, commercial banks primarily serve the financial needs of commerce. Supplying venture capital has typically been the role of merchant or investment bankers, who in the colonial period tended to operate from Europe, not from the colonies themselves. Furthermore, except for a restricted clientele, commercial banks in most of the developing world

did not then nor do they now serve the financial needs of households. In the post-colonial era, then, the financial sectors of most developing countries consisted only of a commercial banking system; the international lending agencies and multinational corporations replaced the merchant bankers in supplying venture capital, and the household sector remained essentially as it had been, its financial needs met only through informal and traditional mutual aid schemes and the local moneylenders.

Early efforts to supplement foreign venture capital through the establishment of both industrial and generalized development banks did not live up to expectations, largely because

- they failed to mobilize domestic saving,
- they attempted to lend at concessional interest rates, and
- failing in their savings mobilization efforts, they never succeeded in breaking their dependence on limited government budget resources and loans from the international lending agencies.

The financial sectors of developing countries thus did not broaden appreciably beyond the commercial banking sector; savings growth and domestic financing of domestic investment continued to lag behind the growth of income.

In this process, the household sector was overlooked as a significant source of domestic saving. This was at least in part due to the postulate of development theory that the vast majority of individual families were too poor to save and in part to the fact that development strategy inveighed against the allocation of domestic resources to household investment. Given the view, for example, that credit for housing, like credit for the purchase of automobiles or household equipment, constituted the financing of consumption expenditures that, in the grand design, should be deferred until self-sustaining economic growth had been achieved, little or no encouragement was provided for the development of household-oriented financial institutions.

Consequently, individual families remained then, as they do today, the largest source of untapped savings in a developing economy.

Pursuit of the export-promotion, import-substitution strategy *did* increase income and *did* induce a migration of surplus labor from the rural to the urban sector. This migration, however, together with natural population increase, created growing housing needs. These needs were manifested in overcrowded, unsanitary living conditions and the sprawl of squatter settlements in urban centers throughout most of the developing world.

Few governments failed to recognize the need, but most, still convinced that their people were too poor to save or to repay housing loans, responded with heavily subsidized public housing projects. With few exceptions, the required capital expenditures quickly outstripped government budget allocations without significantly reducing housing need or benefiting a significant number of families.

Within the last few years, housing need and the recognition that quality of life considerations must have a place in development strategies have compelled more and more Third World countries to raise the priority accorded to housing investment in their development planning. For economic, as well as social, reasons, this modification of the traditional development strategy can contribute positively and significantly to the development of the domestic economy.

Construction in general, but housing construction in particular, is a low-technology, labor-intensive activity that can readily absorb unskilled and semiskilled labor. Additionally, the capital requirements for new enterprises are relatively low, which assures ease of entry for local firms.

Furthermore, housing construction in most countries has a low import component; the use of domestically produced building materials contains within the domestic economy the stimulus derived from investment. The linkage of housing investment to the building materials industries therefore promotes a further expansion of the domestic economy.

These industries, for the most part, also employ low technology, making capital requirements small and providing employment opportunities for unskilled and semiskilled labor, as well as facilitating entry into the market for local firms.

Once occupied, new housing promotes an expansion of the domestic market for household furnishings and serves to shift consumer demand away from many imported commodities toward domestically produced goods and services.

These features of housing investment typically are not, however, the ones that prompt Third World countries to raise the priority on housing in their development planning. Rural-to-urban migration and natural population increase, without concomitant increases in the stock of housing, have made most urban areas in the developing world overcrowded and inadequately supplied with potable water and sanitary sewerage. Public facilities of all kinds—transportation systems, health clinics, schools, and recreation areas—have become strained beyond capacity. And while it may seem alarmist to suggest that the situation has reached crisis proportions in many countries, the need

for an increased allocation of resources to community development has nevertheless become evident to most.

A major concern and frustration remains the enormous cost of dealing adequately with these needs. Government budgets are almost invariably so assailed by competing demands that officials are unable to see how any significant amount of additional resources can be channeled into shelter and community facilities, for most continue under the impression that the vast majority of their citizens are too poor to afford decent shelter and too poor to afford the user charges for public facilities that would be necessary to make such operations financially viable. On this view, substantial subsidies would have to be granted from government budgets to provide the physical facilities that are such an integral part of the quality of life for the community.

There is hopeful evidence to the contrary, however, evidence that suggests that the capacity for self-help and mutual aid has been underestimated, evidence that suggests that what is lacking is the institutional infrastructure for the mobilization and management of resources directed toward the creation of viable communities.

In squatter settlements throughout the developing world, many individual families construct their own dwellings, rudimentary though they may be, largely from current income. In many cases, small contractors provide the expertise for constructing the structural elements of the dwelling and some even offer short-term credit arrangements. Where such credit is not available, mutual aid financing schemes emerge or families fall back upon the urban counterpart of the village moneylender. Rough calculations of the effective interest rates paid in most cases for such short-term credit far exceed the rates that would be required by formalized financial institutions if such institutions existed or served these clients.

Similarly, charges paid for potable water supplied by private vendors generally exceed by a significant margin the user charges that would be required by a municipal water authority to recover its costs of operations and maintenance and to provide for the growth of capital (or the amortization of debt) to expand the potable water system.

The point is that the capacity to pay for improved shelter and municipal services exists. The main problems that must be overcome are those of initial capitalization and the time-rate of payment. There are solutions to these problems.

It has been noted above that households remain the largest untapped source of savings in developing countries, largely because financial institutions have not emerged to provide financial services to individual families. In those countries where housing finance systems

have been developed, substantial success in savings mobilization has been achieved. Using these savings as the capital base for the extension of long-term loans for housing, they have substantially lowered the time-rate of payment to broaden the market for housing and, thereby, to facilitate the realization of the positive economic benefits to be derived from housing investment.

A simple illustration serves to demonstrate how extending the term to maturity of a housing loan from, say, five years to twenty years lowers the time-rate of payment and hence expands the number of families who can afford decent shelter. The level monthly payment required to amortize a \$5,000 loan at 10 percent over five years is \$105. If it is assumed that a family devotes no more than 25 percent of its income to housing, the monthly income required to amortize such a loan would be \$421 per month, or slightly more than \$5,000 per year. In most developing countries, there are relatively few families whose annual incomes equal or exceed this amount. However, if the term to maturity is extended to twenty years at 10 percent, the level monthly payment declines sharply to \$48, which would require a monthly income of only \$191, or about \$2,300 per year. This level of income approximates the earnings of middle-income families in many developing countries. Moreover, special lending techniques, as well as low-cost construction methods, are available to reach lower-income families.

An especially attractive feature of housing finance systems is the fact that they mobilize new savings, rather than divert existing savings from other institutions, by appealing to that sector of the economy—the household sector—that is not being served adequately. Indeed, in the vast majority of cases, the financial relationship that is established between a household and a housing finance institution will be the first such experience the family will have with a financial institution. In this way, the introduction of a housing finance system serves the general cause of promoting financial development by increasing financial sophistication, a precondition for the successful establishment of broadly based domestic money and capital markets.

In summary, housing investment can legitimately be included among those activities at the leading edge of a country's development efforts for a number of purely economic reasons:

- Housing investment typically has a low import component, which assures that the economic stimulus provided by the expenditure remains within the domestic economy.
- Housing construction is a low-technology, labor-intensive activ-

ity that offers employment for unskilled and semiskilled labor and ease of entry into the market for local firms.

- Housing investment is linked to other domestic industries, such as building materials and household furnishings, that also use low technology and afford employment opportunity for unskilled and semiskilled labor and ease of entry by domestic firms.
- Housing finance systems mobilize new savings from that sector of the economy—the household sector—that is least adequately served by other financial institutions, so that the capital used to finance housing investment does not represent a diversion of funds from industrial investment.

2

ALTERNATIVE TECHNIQUES FOR SAVINGS MOBILIZATION

Whatever organizational form a housing finance system takes—savings and loan association, building society, national housing bank, or some combination of these—no single aspect of its operations is more likely to determine its success or failure than its ability to mobilize savings. Housing finance institutions, properly so called, are financial intermediaries. As such, they accept idle funds from one group of people in order to lend them to another group. Consequently, the extent of their lending operations is limited by the amount of idle funds, or savings, they can mobilize, directly or indirectly.

To attract savings, a financial intermediary must provide the holder of idle funds with three key elements:

- *Security*: The institution must be able to assure the holder of idle funds that those funds will be at least as safe and, under prescribed conditions, as accessible in the institution as they would be in the hands of the owner.
- *Reward*: The institution must also offer adequate compensation to the holder of idle funds for the use of those funds. Generally, this compensation takes the form of an interest payment, but it may also take the form of a payment in kind—the performance of financial services, for example, effecting payments to third parties.
- *Access to Credit*: With few exceptions, security and reward are insufficient inducements for successful savings mobilization across a broad spectrum of the potential market. Because there are exceptions, however, some justification for regarding access to credit as a key element in savings mobilization should be offered.

In historical origin, building societies and savings and loan associations were structured as mutual self-help, or cooperative, organizations and were strictly community based. The members of the society or the association were its owners and came together for the principal purpose of accumulating savings capital from their members to permit loans for home construction or purchase to be made to those same members. Not every member could be provided with a loan imme-

diately, of course, but as loans were repaid, new loans could be made and each member of the society or association could recognize that the pooling of idle funds made it possible for him to obtain a home of his own much sooner than if he elected to save independently.

The forerunners of modern housing finance institutions were, therefore, sensitive to household needs and circumstances because they were themselves organized and developed by households. As community-based organizations, they were able to establish an atmosphere of mutual trust and common purpose that served to mobilize the savings of the community to provide the basis for mortgage lending.

It is in this context of mutual trust and common purpose that access to credit constitutes an important feature of successful savings mobilization. Building societies and savings and loan associations, in their original form, would not have come into being without the perceived benefit of ultimately obtaining a loan for home purchase. Homeownership was the end and saving was the means to this end.

As originally conceived, a building society should have dissolved once every member had received a loan, but in practice societies continued to take in new members and thus became permanent institutions specialized in housing finance. A part of this process was the development of institutional loyalty among the families who had participated in the society's loan program. Saving had enabled them to own their own home and saving could readily be seen as having merit in its own right. From the society's point of view, it could provide more housing loans to its members if some of them were not also borrowers, or if members who had already received loans not only repaid those loans but also deposited their idle funds with the society.

Modern housing finance institutions recognize this principle of operation and actively seek to develop a broad deposit base for their lending activities.

MOTIVES FOR SAVING

Structuring a savings mobilization program, however, demands an understanding of the three basic motives for holding money balances.

Transactions balances are held primarily to bridge the gap between the receipt of income, which occurs at discrete times for most individuals, and the need to effect purchases, which occur almost continuously through time. To the extent that transactions balances find their way into financial institutions, they tend to take the form of demand, or sight, deposits. Because of the purpose for which they are held, they are of very short maturity.

Contingency balances are held with indefinite maturity because

the purposes for which they are held relate to expenditures which may occur at some undetermined time in the future. Under this rubric are the pure savings of households and individuals, for whom contingency balances serve a dual purpose—funds to meet family calamities (loss of employment, serious illness, and death) as well as funds accumulated and held for happier events (dowries, weddings, children's education, capital for business ventures, retirement, purchase of a home, or a major home improvement).

Investment balances tend to be held by wealthier households, who enjoy a surplus of wealth and income beyond their immediate needs for comfort and support of their accustomed style of living. These balances seek the highest secure rate of return.

There is, therefore, a presumption that the savings, or idle funds, market divides between transactions balances, which gravitate toward commercial banks, contingency balances, which are the natural milieu of housing finance institutions, and investment balances, which tend to flow to the highest bidder and constitute a major source of funds for the broader capital market.

This segmentation of markets has a basis in the fundamental economic concept of specialization and division of labor. Briefly, this concept holds that economic efficiency is enhanced when economic entities (individuals, institutions, and enterprises) specialize in those activities that each does best, or most efficiently.

Commercial banks, by tradition and by predominant function, exist to meet the financial needs of business enterprise. It is only recently, in historical time, that commercial banks in developed countries have recognized that short-term consumer credit can be a lucrative adjunct to their customary lending activities and have adjusted their policies to render financial services to households of moderate means. In most developing countries, however, consumer credit has not yet reached a level that the small deposits of individual families and their limited short-term credit needs have been perceived by commercial banks as being worth the promotional effort and the relatively high administrative cost of originating and servicing small, short-term consumer loans. Furthermore, long-term lending of any kind, including mortgage lending, is considered by most commercial banking establishments to be beyond the pale of their role and function in the financial system.

Savings banks and postal savings systems, which are common in some parts of the developing world, accept savings deposits from families of moderate means, but since many savings banks and virtually all postal savings systems operate as extensions of the government, they

address only the first two key elements identified above; they do not typically extend credit to their depositors, rather they generally channel those deposits toward financing the government's budget deficit.

Capital market institutions tend to be facilitators of transactions rather than financial intermediaries. The stock in trade of bond dealers, investment bankers, and stock brokers is to provide their clients with the highest yield commensurate with the level of risk the client is prepared to accept.

Another type of capital market institution that can be especially important to housing finance systems does, however, operate in a manner similar to a financial intermediary. This class of institutions is best typified by life insurance companies and pension or retirement funds. The relationship of such institutions to housing finance will be discussed in greater detail below and in Chapter 4.

If transactions balances flow principally to commercial banks, if investment balances seek the highest secure rate of return, and if household contingency balances are viewed as the primary source of savings capital for housing finance institutions, the question remains as to the most efficient set of financial instruments for mobilizing those balances.

All debt instruments are dimensioned around three related characteristics—liquidity (or marketability), maturity, and yield. Generally speaking, the shorter the maturity of an instrument, the higher its liquidity and the lower its yield. The holder of short-term securities sacrifices yield in order to gain liquidity. Conversely, the longer the maturity of a debt instrument, the less generally is its liquidity, and the greater, therefore, is its yield. In sacrificing liquidity and accepting greater potential risk, holders of long-term securities demand higher yields.

Given these principles, investment balances would tend to flow to longer maturities bearing higher yields and transactions balances and contingency balances would tend to flow to shorter maturities.

This tendency defines a special characteristic of housing finance institutions. The purchase or construction of a home represents an initial outlay that is quite large relative to the income stream that is at the disposal of the majority of households. To perform their economic function, housing finance institutions must, therefore, provide long-term credit.

SAVINGS INSTRUMENTS

In mobilizing the savings with which to provide long-term credit,

housing finance institutions can employ, singly or in combination, four basic approaches: long-term bonds, contract savings plans, voluntary saving, and compulsory savings.

Long-term Bonds

Raising funds through long-term bond issues in order to finance long-term mortgages has the appeal of approximately matching maturities of the sources and uses of funds within the institution. Matching the maturities of assets and liabilities protects the institution against the potential for illiquidity (and insolvency) in the event that liabilities mature and cannot be replaced before assets mature. Moreover, the institution can estimate its interest rate spreads, hence its profits, far more precisely when this approach is adopted because the relationship between interest expense and interest earnings is largely fixed, assuming that borrowing and lending is conducted on roughly the same terms, i.e., fixed rates on both or floating rates on both.

The disadvantage of this most prudent approach is that capital markets in developing countries tend to be very narrow. The investment balances of individuals in developing countries tend to flow directly into equity positions, into the international capital market where hard currency issues are available, or into tangible forms of wealth—jewelry, precious metals, etc. Long-term debt issues denominated in local currency generally do not offer an attractive medium for the limited volume of investment balances available in most developing countries.

The same general conclusions must be reached regarding institutional investment balances, although the potential for tapping these funds is somewhat greater, as will be discussed below.

Contract Savings Plans

There are two basic forms of contract savings plans that are relevant to housing finance system operations. One involves entering into a contract with an individual saver and the other entails access to funds held by institutional investors.

In the first case, a contract between an individual saver and the financial institution provides that the saver agree to deposit a specified amount over an agreed upon period of time in exchange for the promise of a housing loan from the institution upon satisfaction of the terms of the savings contract. Typically the loan amount is some multiple of the amount of the savings contract. Upon completion of the savings contract, the individual is free to withdraw his accumulated savings, which are usually devoted to the downpayment on the house

or the purchase of a building site. Although the saver can typically withdraw his funds prior to completion of the contract, some form of penalty is invoked by the institution, for example, loss of part or all of the accumulated interest on the account. Some plans require regular installments while others do not.

The principal advantage to the financial institution employing a contract savings plan is the degree of control it can maintain over its lending operations. The contracts provide a relatively certain basis for calculating cash inflows and cash outflows and therefore eliminate much of the uncertainty in financial planning and portfolio management. Many, though not all, uncertainties for the saver-borrower are also removed. Satisfactory completion of the savings contract *entitles* the saver to a mortgage loan. In a world of rapidly inflating building costs, however, he cannot be sure of the type or size of house that that loan will finance.

There are two other disadvantages of this contract savings approach if used by a housing finance institution as its exclusive means of savings mobilization. One is that a supplementary source of funds for supplying loans when they fall due is required. Contract savings plans are mathematically sound, but they depend to a significant if not critical extent on all savings contracts being completed in a timely fashion. The other disadvantage is that each savings account is explicitly tied to a mortgage loan. This rigidity of the pure contract savings systems precludes the mobilization of all the idle funds potentially available to a housing finance institution.

The second type of contract savings is that employed by life insurance companies and pension funds, including government-sponsored social security trust funds. The purchase of a life insurance policy produces for the life insurance company a long-term, stable, and certain flow of premiums until the policy is paid up, cancelled, or paid by the company upon the occurrence of the event for which the policy was written. Likewise, pension funds receive long-term payment streams leading up to retirement of the individual beneficiary. These payment flows are contractual obligations and so are to be considered contractual saving. More important, they produce a flow of funds that is available for long-term investment.

Long-term home mortgages have most of the characteristics of the type of asset desired by life insurance companies and pension funds. These institutional investors, however, usually prefer not to be involved in the origination and servicing of home mortgages, since they generally have other investment alternatives that bear similar yields with far less administrative cost.

On this basis, institutional investors become primarily important in the secondary mortgage market, where mortgage loans, mortgage participations, and mortgage-backed securities are bought and sold in relatively large blocks, rather than in the primary market, where individual mortgage loans are originated and serviced.

The secondary mortgage market can play an exceptionally important supporting role in a housing finance system based on contract saving *or* on voluntary saving, and it will be discussed at length in Chapter 4.

Voluntary Saving

Housing finance systems that feature voluntary saving employ two principal types of instruments—savings deposits that can be withdrawn either on demand or with short notice and time certificates of deposit that have specific maturities ranging from a few months to several years. Neither type of savings instrument is linked directly to a mortgage loan.

The most important advantage of this approach to savings mobilization is that it appeals to the broadest segment of the potential savings market—household contingency balances.

The most serious disadvantage is that it places the institution in jeopardy of net savings outflows. Given that a housing finance institution's assets are concentrated in long-term mortgage loans which generate stable but slow cash flows, any significant savings outflow threatens the ability of the institution to pay its depositors unless it has strong secondary sources of liquidity, i.e., unless it can sell some of its mortgage loans in the secondary mortgage market or borrow against those mortgages through a central monetary authority or both.

Two features of the voluntary savings approach guard against this possibility. The first is the use of time certificates of deposit, which have many of the characteristics of medium-term bonds. They have definite maturities and usually can be liquidated by the depositor prior to maturity only by incurring substantial interest penalties.

The second protective element, which is the feature that truly distinguishes the voluntary saving approach from all others, is the recognition that contingency balances are not necessarily short-term balances. They are balances with *indefinite* maturity. Bonding approaches and contract savings plans assume that any deposit that *can* be withdrawn *will* be withdrawn. Voluntary saving plans assume that, in general, a deposit will be withdrawn only if it becomes *necessary* for the depositor to do so.

Although the most successful housing finance systems employ

the voluntary saving approach to savings mobilization, they have been criticized for violating a basic canon of banking, that of failing to match the maturities of the institution's assets with those of its liabilities. To borrow short-term and lend long-term is regarded in commercial banking circles as an imprudent practice.

This view arises largely from the fact that commercial banks have traditionally dealt with transactions balances rather than with contingency balances. Most transactions balances, in the financial plans of their holders, are truly short-term deposits. But contingency balances, in the financial plans of their holders, have an indefinite maturity and cannot be regarded with certainty as being either short-term, medium-term, or long-term. Consequently, housing finance systems that employ the voluntary saving approach cannot really be accused of failing to match maturities. They are simply engaged in a different form of financial intermediation in a different segment of the savings and lending markets.

Many housing finance systems employ all three types of savings mobilization approaches outlined above, at least for a time. The dominant system around the world, however, is the voluntary saving approach, probably because it has the greatest appeal to the broadest segment of the savings market.

Compulsory Saving

Some developing countries employ special payroll taxes as a supplementary means of mobilizing savings for housing finance. Typically, employers are assessed a tax of, say, 1 percent of their gross payroll and the proceeds of this tax are paid over to the housing finance system, usually a government-owned national housing bank, for home loans. Since it must be assumed that employers will pass this tax on to the consumers of their products in the form of higher prices, this approach may properly be considered compulsory, or "forced," saving.

The advantage of this approach is that it can mobilize relatively large amounts of funds in a short period of time and, if continued, can provide a stable flow of resources to a housing finance institution.

The disadvantages, or potential inequities, in this approach are primarily that the tax becomes "regressive" in terms of its benefits. The tax is assumed to be borne by all consumers, rich and poor alike, but if long-term mortgage credit flows only to the middle- and upper-income groups, the ultimate effect will be a subsidy of the rich by the poor. For this reason, compulsory saving programs should be carefully constructed to assure that the lending policy of the housing finance insti-

tution provides for low-income families as well as for middle- and upper-income groups.

An alternative use of compulsory savings, particularly when this approach is employed as a supplementary rather than a primary source of funds, is in the financing of infrastructure—potable water and sanitary sewerage. Benefits from such facilities accrue generally to the entire population of an area and funding for such projects seems almost invariably to be in short supply. On this basis, compulsory savings might be more appropriately directed to ministries of public works or municipalities rather than to housing finance institutions.

Some countries also use compulsory bond purchases as a condition of building permit issue or the granting of a mortgage loan. Often such approaches have a dual purpose—to discourage the construction of luxury housing and to provide a special fund for low-income housing or infrastructure. In this mode, the value of the required bond purchase is scaled to the cost of construction, such that for building permits above a certain level of construction cost, bonds equivalent to, say, 15 percent of the cost of construction are required, while at a lower construction cost level a bond purchase equivalent to only 10 percent of the construction cost might be required. And for construction costs below a certain level, no bond purchase is required as a precondition for issuance of a building permit or a mortgage loan.

SAVINGS PROMOTION

With the exception of compulsory saving, all of the alternative approaches to savings mobilization entail some form of savings promotion program.

The principal role of a savings promotion program is to inform families of the benefits that can accrue to them from establishing a financial relationship with a housing finance institution and to motivate them to establish such a relationship by opening a savings account. Developing promotional material that can be disseminated in places of employment, marketplaces, and recreation areas as well as through mass media (newspapers, radio, television) requires a keen sense of the cultural milieu in which the institution operates and of the circumstances and aspirations of the group to whom the material is directed.

Each promotional program will, therefore, be somewhat unique. Most programs appeal to the family's desire for homeownership and stress the advantages of long-term mortgage credit in realizing this desire. But families and individuals have other needs and aspirations

that should not be overlooked—education, marriage, acquiring household furnishings. A systematic saving program offers one means of achieving these objectives.

Savings promotion programs may offer other inducements to acquaint potential depositors with the institution. Lotteries are one device that has been used in many developing countries. Often the approach is to have a drawing each three to six months for holders of savings accounts, usually of a specified minimum balance, that have been opened at least two months prior to the drawing. The prizes are usually cash awards. Many of the new accounts will, of course, be closed after the drawing, but it is frequently the case that upwards of 25 percent of the new accounts attracted in this way remain with the institution.

Another device that is employed is that of awarding premiums for new accounts and new deposits. New depositors who open accounts of a specified minimum amount or existing depositors who add a specified amount to their balance receive gifts which may range in value and appeal from ballpoint pens to transistor radios.

The costs of such promotional devices must, of course, be weighed very carefully against their benefits to the institution.

THE ROLE OF INTEREST RATES

Savings promotion is an essential element of savings mobilization, but in order to mobilize and retain a major share of potential savings, a housing finance institution must not only provide security for the depositors' funds and access to long-term mortgage credit, it must also offer an "adequate" rate of return on its deposits.

What constitutes an "adequate" rate of return is determined by a combination of factors. These are, in no particular order of priority, the rate of interest paid by other financial institutions on comparable deposits, the degree of competition for funds in the savings market, the actual or anticipated rate of inflation, and the effective demand for mortgage credit.

In many developing countries, the competition for household savings is relatively weak. Commercial banks are oriented toward the business community and wealthier families who also have commercial interests. Savings banks, which exist in a number of developing countries, along with informal sector financial mechanisms can, however, constitute substantial competition for a housing finance system. In this context, the distinguishing feature of a housing finance system is that it offers long-term mortgage credit. Access to such credit then becomes the most significant element in the depositor's decision if

the housing finance institution does not also offer a rate of interest that is at least equal to that of the competition. And, as noted above, a housing finance system whose deposit base does not include a significant number of savers who do not plan to borrow must have a strong secondary source of liquidity to assure its continued viability.

The actual or anticipated rate of inflation has always been treated as a significant factor in the determination of the rate of interest. As the theory goes, individuals prefer current consumption to future consumption because the future is uncertain. Therefore, in order to induce an individual to forego current consumption, i.e., to save, he must be offered the prospect of being able to consume *more* in the future than in the present. What this means is that the purchasing power of the funds he saves (lends to someone else) must increase during the period that the funds are lent out. The traditional rule of thumb for this calculation is that the increase in purchasing power should be approximately 2-3 percent a year. Thus, in a world in which prices remained absolutely unchanged, the rate of interest would be approximately 2-3 percent. In a world in which prices are rising at, say, 5 percent a year, money lent at 2 percent would *lose* 3 percent of its purchasing power every year. To prevent this from happening, the nominal rate of interest would have to be set at 7-8 percent a year.

In practice, a number of factors modify this rigid prescription. Cash assets are important for meeting unforeseen contingencies and must be held in liquid form whatever the rate of price inflation; the convenience of liquidity yields a return in kind that makes the required nominal rate less than the rate of inflation plus 2 or 3 percent. Financial institutions also provide a return in kind in the form of tangible services—safekeeping of the depositor's funds, effecting payments to third parties, keeping records of the depositor's financial transactions, etc. Nevertheless, a financial institution cannot ignore the need for paying a rate of interest on deposits that reflects a strong relationship to purchasing power.

Moreover, the competition is not always an adequate guide to what this rate should be. Potential depositors always have the option of holding tangible assets that also have liquidity characteristics—gold coins and bracelets, even building materials, are but a few examples of tangible asset alternatives. Indeed, tangible assets are the traditional forms that saving has taken in developing countries, and it is such patterns that new housing finance systems must overcome to successfully mobilize household savings. The rate of interest offered on deposits is a significant means of accomplishing this.

Since a housing finance institution borrows in order to lend, there

is at least one other consideration to be taken into account—the size and strength of the market for its principal product, the long-term mortgage loan.

To pay an “adequate” rate of return on deposits, a housing finance institution must also be able to charge an “adequate” rate for its loans. The institution must be able to cover its operating and administrative costs, including the interest paid on deposits, and provide for additions to its capital reserves. The rate of interest on mortgages must, therefore, be greater than the rate of interest on deposits.

The effective demand for mortgage credit, however, depends on what families are willing and able to pay. Even given the fact that housing is in very short supply relative to the need in virtually all developing countries and given the fact that housing finance systems, where they exist, are virtually the only source of long-term mortgage credit, the terms quoted on mortgage loans will still determine how many families are able to afford to borrow. Obviously, the larger the number of such families, the larger will be the demand for mortgage credit, assuming that developers can deliver housing units that are also affordable by a large number of families in need of housing.

To illustrate, assume that the least expensive house that is being built requires a mortgage of \$2,500 and that of 1,000 families, annual family income is distributed as indicated in Table 2.1. Assuming that each family can devote 25 percent of its income to the mortgage payment, the maximum affordable amounts for each income group is as shown in Table 2.1. In Table 2.2 an array of required annual mortgage payments is shown for different rates of interest, assuming that level-payment mortgages are granted for terms of 25 years on the least expensive (\$2,500) housing unit available.

Clearly, the higher the mortgage interest rate, the fewer are the number of families that can afford even the least expensive housing unit. It then follows, since access to credit is an important element in the success of a housing finance system's savings mobilization efforts, that the broader the market that the system can serve by granting mortgage credit, the larger is likely to be its deposit base.

Interest rate policy, both in terms of the rates paid on deposits and the rates charged for loans, is therefore a key element in savings mobilization. Deposit rates should be the highest rate of return consistent with the competition, both from other financial institutions and from tangible assets, and mortgage rates should be as low as possible to capture the largest segment of the potential savings and lending market.

One means of minimizing the difference between deposit rates

and mortgage rates is obviously the careful control of operating and administrative costs. This topic will be discussed in Chapter 5.

Another means of expanding the institution's market for savings and for loans is through the use of alternative mortgage instruments. As described in the next chapter, such instruments need not entail a reduction in interest rates or an extension of the term to maturity in order to achieve an expansion of the institution's market.

TABLE 2.1

Number of Families	Annual Family Income	Amount of Annual Income That Can Be Devoted to Mortgage Payment
100	\$12,000 +	\$3,000 +
100	8,000	2,000
100	4,000	1,000
100	2,000	500
100	1,200	300
100	1,000	250
100	800	200
100	600	150
100	400	100
100	300 and less	75 and less

TABLE 2.2

Interest Rate	Required Annual Mortgage Payment	Percent of Population for Which Mortgage is Affordable
9%	\$251.75	60%
10%	272.60	50%
11%	294.03	50%
12%	315.98	40%

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ALTERNATIVE TECHNIQUES FOR LENDING

Financial intermediaries—institutions that receive deposits in order to lend—have traditionally based their lending decisions on the estimated market value of the property that the proceeds of the loan are used to acquire. The value of the property is the principal security for the loan; should the borrower fail to repay the loan, the property is forfeited to the lender, who then sells it to recover his capital. In commercial banking terminology, this basis for lending is known as the “commercial lending,” or “real bills,” doctrine. Its equivalent in housing finance is easily identified in the mortgage contract and in institutional policies that prescribe, among other things, limits on the remaining useful life of the property, restrict loan-to-value ratios, and require property (or hazard) insurance on the dwelling.

The view that the value of the property is the principal security for the loan is expressed in the standard mortgage instrument in use throughout most of the world—the fixed-rate, level-payment mortgage. This loan instrument qualifies a borrower on the basis of his *current* discretionary income and typically sets a limit on the amount of that income that he can prudently devote to amortization of the loan. The amortization schedule provides for periodic (usually monthly) payments of equal amounts throughout the term of the loan, with one portion of the payment accruing to interest and the remainder applied, in steadily increasing proportions, to reduce the outstanding principal balance.

The underlying theory supporting this financial instrument is basically static. It assumes, implicitly to be sure, that the value of the property will not increase, but rather will depreciate through normal usage in some relatively fixed relationship to the declining principal balance of the loan. It also assumes—implicitly—that the borrower's income will remain unchanged through time. Moreover, on the lender's side, it is assumed that interest rates will not change appreciably during the life of the loan. None of these assumptions accurately reflect the world in which most of us live today.

Population is increasing in virtually every country in the world and the value of land is rising accordingly. The supply of housing falls so far short of housing demand that the market value of existing housing

units is increasing as well. Consequently, fixed-rate, level-payment mortgages originated even a short time ago tend quickly to become overcollateralized in terms of the market value of the property.

Furthermore, where long-term housing finance is available, housing is purchased as soon after family formation occurs as it is financially possible to do so. Since family formation takes place relatively early in life, the family's peak earning years are usually in the future; family income tends to grow for an extended period of time, even in the absence of inflation. Bound by the current income criterion at the time of purchase, however, the family typically buys a smaller home than it will need and be able to afford as the family grows and family income increases.

This approach has other implications that should be noted, however. The current income criterion generally results in a process known as "filtering." Families whose incomes increase significantly over time choose to sell their houses to purchase larger ones, prior to the maturity of their original mortgage loans. The sale of their homes makes available to lower-income families the opportunity to purchase an existing dwelling and enables the housing finance institution to write a new loan on currently prevailing terms. Where this practice is common, effective loan maturities are much shorter than contracted loan maturities, a fact that makes it possible for housing finance institutions to more closely match the maturity of their assets with that of their liabilities.

Finally, interest rates have, in recent decades, shown a tendency to rise rather than to fluctuate around a flat long-term trend, for the most part due to the persistence of inflation as a world-wide phenomenon. Since most housing finance institutions accept deposits that, at least prospectively or contractually, have a shorter maturity than the mortgage loans they grant with those funds, an increase in short-term interest rates must be accompanied by a more than proportionate increase in mortgage interest rates when the institution is holding fixed-rate mortgages originated when short-term interest rates were lower. A simple example will illustrate the broad dimensions of this problem.

Assume that the institution requires an average yield on its loan portfolio of two percentage points above its average cost of funds to cover operating expenses and to provide for additions to its net worth. Assume now that it receives deposits in \$1,000 increments and makes loans in \$1,000 increments and that over time short-term interest rates rise from 3 percent to 5 percent to 7 percent. Each increase in short-term rates obliges the institution to pay the new rate on *all* of its

deposits. (This assumes, of course, that depositors have alternatives and will withdraw their deposits if the higher rate is not paid.) If the institution has made fixed-rate mortgages based on its average cost of funds at the time and short-term rates subsequently rise, it will have to increase the interest rate it charges on new mortgage loans more than in proportion to the increase in short-term rates to preserve its two-point spread between the *average* yield on the loan portfolio and the *average* cost of funds, as is demonstrated in Table 3.1.

TABLE 3.1

Time	Short-term Rate	Total Deposits	Total		Total Loans	Required Incremental Return from Loan Portfolio	Required Mortgage Rate for New Loans
			Cost of Funds	Required Income from Loan Portfolio			
(yrs)	(%)	(\$)	(\$)	(\$)	(\$)	(\$)	(%)
1	3	1,000	30	50	1,000	50	5
2	5	2,000	100	140	2,000	90	9
3	7	3,000	210	270	3,000	130	13

Property value considerations cannot, of course, be ignored, but greater weight can be given in the underwriting decision to the expected future income of the borrower and to the probability of appreciation of the value of the property over time. Similarly, mortgage contracts that contain provisions for changes in the rate of interest in the event of significant changes in the cost of funds to the institution can serve to spread the cost of mortgage financing more equitably over the entire group of borrowers.

Recognition of these factors has engendered an array of alternative mortgage instruments—the variable-rate mortgage (VRM), the roll-over mortgage (ROM), the graduated-payment mortgage (GPM), the blocked-compensating-balance mortgage (BCBM), and the sequentially-escalating mortgage (SEM). Moreover, the potential for combining the concepts of two or more of these instruments creates an even wider set of permutations. What these instruments have in common is that they attempt to deal with the variety of economic circumstances of borrowers and lenders and with changes in those circumstances over time. As such, they are dynamic, rather than static, instruments.

The conventional, fixed-rate, level-payment mortgage is best suited to borrowers who have stable incomes that are sufficient to buy

or build complete housing units. As such, it is a mortgage instrument that finds its widest application among salaried, middle-income families. This instrument is not well adapted, however, to the circumstances of low-income families, families with unstable incomes derived from self-employment, or to families whose incomes may presently be low but can be expected to rise in the future. A housing finance institution therefore limits its market by offering only one type of mortgage instrument and restricts its opportunities for savings mobilization from these other types of families, while at the same time impairing access to mortgage credit for a significant segment of the population.

THE BLOCKED-COMPENSATING-BALANCE MORTGAGE (BCBM)

The BCBM is a mortgage instrument designed to reduce the risk of lending to families with unstable incomes and to lower the administrative cost of servicing loans paid on an irregular basis.

The concept of the BCBM is inspired by the commercial banking practice of requiring certain clients to maintain a deposit balance with the institution as a condition of granting a loan or a line of credit (hence the term "compensating balance").

The compensating balance serves principally as a reserve against delinquency, not against default, though its existence cushions the institution against loss through default.

The prototypical form of the BCBM is as follows.

Assume that the prospective borrower is a small businessman, or perhaps a farmer, whose income varies from month to month. Such a borrower's mortgage loan application might be rejected, or approved only on more stringent terms than offered to a family with a stable income, because the lending institution could not be assured that the borrower could make *regular* monthly installments on the mortgage.

Under the BCBM, however, instead of rejecting the loan application, the lending institution would propose to establish a blocked compensating balance in the amount of the normal downpayment, or some proportion thereof, to be held as a delinquency reserve. If the normal downpayment were 20 percent and it were determined that all of this amount were required as the reserve, or blocked compensating balance, the housing finance institution would then make a loan for 100 percent of the appraised value of the property. The blocked compensating balance would earn interest at the standard rate paid on savings deposits by the institution. The institution would be permitted to draw against the compensating balance if the borrower failed to make a regularly scheduled loan payment, but the borrower could not gain access to the balance (hence the term "blocked") until the loan had been repaid in

full or until certain agreed upon conditions had been met.

The mechanics of the BCBM are illustrated in Table 3.2, on a per thousand basis, under the following assumptions. The mortgage rate is assumed to be 10 percent, fixed for the term of the loan, which is assumed to be 25 years. The standard deposit rate, or the interest rate applied to the blocked compensating balance, is assumed to be 6 percent. The illustration given also assumes that the standard loan-to-value ratio used by the lending institution is 80 percent, so that the standard downpayment would be 20 percent. Under this BCBM it has been determined that a 100 percent loan will be made with the full 20 percent downpayment being placed in the blocked compensating balance. For illustrative purposes, it has further been assumed that no delinquency ever occurs and that the compensating balance is held until maturity of the mortgage loan, at which time it is unblocked, or returned in full, with accrued interest, to the borrower. At this point, the borrower would have paid \$1,754.04 per thousand in interest on the mortgage, but would also have earned \$658.37 in interest on his blocked compensating balance; he would therefore have paid total *net* interest of \$1,095.67 per thousand, would own his home, and have a cash balance of \$858.37 per thousand at his discretion. (See page 28.)

The BCBM schedule shown in Table 3.2 also indicates that the loan could be repaid between the 17th and 18th years of the term of the loan, when the blocked compensating balance becomes equal to the outstanding principal balance of the mortgage. Assuming that the mortgage were paid off in this way at the end of the 17th year, total interest paid on the mortgage to that point would amount to \$1,460.53 and total interest earned on the blocked compensating balance would amount to \$338.55, resulting in a total *net* interest payment of \$1,121.98.

By contrast, a conventional 80 percent mortgage on the same terms (10 percent, 25 years) would result in the payment of the full \$1,754.04 per thousand in interest over the term of the loan. In one sense, then, the BCBM is less expensive to the borrower.

Other advantages to the borrower are that he obtains a loan that might otherwise have been denied; the fact that his downpayment, or a portion thereof, is employed as a blocked compensating balance is immaterial since he could not liquidate the downpayment without selling the house or borrowing against the equity. Moreover, upon maturity of the mortgage, the compensating balance is unblocked and a sizeable liquid balance is available to him.

There is really only one disadvantage to the borrower: the monthly payments on a BCBM are higher because the mortgage loan balance is greater. A 100 percent loan of \$1,000 against a property valued at

TABLE 3.2
THE BLOCKED-COMPENSATING-BALANCE MORTGAGE
 (per \$1,000)

Mortgage Terms: 10%, 25 years

Level Payment: \$110.17/year

Compensating Balance: 6%, 25 years

Calculations based on annual compounding

End of Year	Loan Payment			Compensating Balance		Borrower's Net Debt Position
	Interest	Principal	Balance	Interest	Balance	
1	\$ 100.00	\$10.17	\$989.83	\$ 12.00	\$212.00	\$778.83
2	98.98	11.19	978.64	12.72	224.72	753.92
3	97.86	12.31	966.34	13.48	238.20	728.14
4	96.63	13.54	952.80	14.29	252.50	709.30
5	95.28	14.89	937.91	15.15	267.65	670.26
6	93.79	16.38	921.53	16.06	283.70	637.83
7	92.15	18.02	903.52	17.02	300.73	602.79
8	90.35	19.82	883.70	18.04	318.77	564.93
9	88.37	21.80	861.90	19.13	337.90	524.00
10	86.19	23.98	837.92	20.27	358.17	479.75
11	83.79	26.38	811.54	21.49	379.66	431.88
12	81.15	29.02	782.52	22.79	402.44	380.08
13	78.25	31.92	750.60	24.15	426.59	324.01
14	75.06	35.11	715.49	25.60	452.18	263.31
15	71.55	38.62	676.87	27.13	479.31	197.56
16	67.69	42.48	634.39	28.76	508.07	126.32
17	63.44	46.73	587.66	30.48	538.55	49.11
18	58.77	51.40	536.26	32.31	570.86	34.60
19	53.63	56.54	479.71	34.25	605.11	125.40
20	47.97	62.20	417.51	36.31	641.42	223.91
21	41.75	68.42	349.09	38.49	679.91	330.82
22	34.91	75.26	273.83	40.79	720.70	446.87
23	27.38	82.79	191.05	43.24	763.94	572.89
24	19.10	91.07	99.98	45.84	809.78	709.80
25	10.00	99.98	—	48.59	858.37	858.37
TOTALS	\$1,754.04			\$658.37		

\$1,000 would require payments of \$9.18, whereas an 80 percent loan of \$800 against a property valued at \$1,000 would require a monthly payment of only \$7.34 (based on annual compounding).

From the lending institution's point of view, it has made a loan that it might otherwise have denied without increasing its expectation of administrative costs in servicing the loan while continuing to earn its normal spread between its borrowing rate and its lending rate. Moreover, the institution may also have gained a customer who will deposit funds above and beyond those derived from the compensating balance.

The disadvantage to the lending institution is that it must still accept slightly higher risk in terms of lower collateral coverage during the first four years of the loan; at the beginning of the fifth year collateralization under the BCBM exceeds that of the conventional mortgage. This comparison is illustrated for the first ten years of the loan in Table 3.3, assuming that the value of the property remains constant, i.e., appreciation in market value is assumed to be exactly offset by depreciation through aging of the structure.

TABLE 3.3
BCBM COLLATERALIZATION

Beginning of Year	Ratio of Property Value Plus Compensating Balance to Outstanding Principal Balance on the 100% BCBM Loan	Ratio of Property Value to Outstanding Principal Balance of an 80% Conventional Loan
1	1.200	1.250
2	1.224	1.263
3	1.252	1.277
4	1.281	1.294
5	1.314	1.312
6	1.376	1.335
7	1.421	1.356
8	1.472	1.383
9	1.530	1.414
10	1.597	1.450

It can readily be seen that the risk differentials are minor and that, on balance, the BCBM is a meaningful alternative to the conventional mortgage in dealing with borrowers who have unstable incomes.

Of course, all of the preceding illustrations assume that no delinquency occurs. To the extent that a BCBM borrower falls behind in making his mortgage payments, the blocked compensating balance would be drawn down by the lending institution to cover the shortfall and interest earnings on that balance would therefore be smaller than indicated above.

It should be noted, however, that from the outset the lending institution has approximately 22 months of coverage against arrearage in the blocked compensating balance. Under the conventional mortgage, it has none. From the point at which a conventional borrower fails to remit on schedule, the lending institution must immediately incur additional servicing cost, which it must seek to recover through late payment penalties, forbear by rescheduling the loan, or proceed to foreclosure, all of which entail administrative cost and the loss of cash flow during the process. The BCBM obviates most of these problems.

THE SEQUENTIALLY-ESCALATING MORTGAGE (SEM)

The SEM is designed to make credit available to low-income families who are employing self-help techniques or following an incremental construction program in acquiring decent shelter.

In an attempt to provide adequate, affordable shelter to low-income families, self-help and incremental construction techniques are being employed increasingly in Third World countries. These techniques take the form of site and services and expandable core housing projects.

Site and services projects provide only land, potable water, and sanitary sewerage infrastructure; construction of the dwelling unit is the responsibility of the family that acquires the serviced site. This construction is often accomplished through assisted (or supervised) self-help, and, although loans for the purchase of building materials are frequently provided as part of the initial project, the homeowner is frequently left to his own devices in financing the future expansion of the dwelling unit.

Core housing projects typically provide a one-room, expandable housing unit with enclosed sanitary and cooking facilities on a serviced site. Mortgage financing is usually available to finance the core unit, but, again, arrangements for financing the subsequent expansion of the dwelling are usually left to the homeowner.

At best, the type of credit usually available for such purposes takes the form of a medium-term or short-term home improvement loan and each such loan to finance an increment of construction

requires full processing of a loan application. Under this procedure, housing finance institutions incur greater administrative cost relative to the standard interest return and either charge higher interest rates to cover this cost or simply limit the number of home improvement loans they make. The SEM represents an approach to overcoming these problems.

Like the BCBM, the SEM is inspired to some extent by commercial banking procedures in extending a line of credit. In fact, the SEM can best be viewed as just that—a line of credit against which the borrower can draw after meeting certain predetermined conditions. As described below, these conditions relate principally to the borrower's proven income rather than to property value appraisals.

As applied to an expandable core housing unit, the procedures can be illustrated as follows.

Assume that the core unit is valued at \$2,500 and that the borrower is prepared to make a 20 percent downpayment of \$500. Expansion of the core unit is expected to cost an additional \$3,000 if accomplished within a specified period of time. The lending institution therefore processes a loan application for a line of credit of \$5,000, drawdowns against which are made to depend upon the borrower's income at the time a drawdown is requested. The maximum term of the loan is set at, say, 25 years. After each draw against the line of credit, the loan is consolidated, so that only one loan payment is made to amortize a series of drawdowns. Table 3.4 provides an illustration of an SEM made at 10 percent interest with a maximum term of 25 years, drawdowns conditioned upon the borrower's income such that no more than 25 percent of income can be devoted to the consolidated loan payment. The borrower's income is assumed to grow at 8 percent per year.

The illustration shown in Table 3.4 indicates that, under these assumptions, the line of credit can be fully drawn down by the beginning of the 12th year and that the borrower's annual payments will peak at \$584.75. This is only slightly above the annual payment of \$550.84 on a single \$5,000 mortgage at 10 percent for 25 years, assuming annual compounding. More important, this annual payment is substantially below the combined peak annual payment of \$708.58 required to amortize one 10 percent, 25-year mortgage of \$2,000 and six 10 percent, 10-year home improvement loans of \$500 each. (See page 32.)

Moreover, the costs of origination to the lending institution are less when extending a single line of credit under an SEM compared to originating one mortgage and six home improvement loans.

TABLE 3.4
THE SEQUENTIALLY-ESCALATING MORTGAGE
 Calculations based on annual compounding

Year	Drawdown Amount (Beginning of Year)	Consolidated Loan Balance (End of Year)	Annual Loan Payment	Borrower's Annual Income (Beginning of Year)	Loan Payment as a % of Annual Income
1	\$2,000	\$1,979.66	\$220.34	\$1,000.00	22.0%
2		1,957.29	220.34	1,080.00	20.4%
3	500	2,426.40	276.62	1,166.40	23.7%
4		2,392.42	276.62	1,259.71	22.0%
5	500	2,806.11	334.43	1,360.50	24.6%
6		2,752.30	334.43	1,469.33	22.8%
7	500	3,188.73	388.80	1,586.87	24.5%
8		3,118.80	388.80	1,713.82	22.7%
9	500	3,529.55	451.13	1,805.93	25.0%
10		3,431.38	451.13	1,999.00	22.6%
11	500	3,807.65	516.87	2,158.92	23.9%
12	500	4,153.67	584.75	2,331.64	25.0%
13		3,984.28	584.75	2,518.17	23.2%
14		3,797.96	584.75	2,719.62	21.5%
15		3,593.01	584.75	2,937.19	19.9%
16		3,367.56	584.75	3,172.17	18.4%
17		3,119.56	584.75	3,425.94	17.1%
18		2,846.77	584.75	3,700.02	15.8%
19		2,546.69	584.75	3,996.02	14.6%
20		2,216.61	584.75	4,315.70	13.5%
21		1,853.53	584.75	4,660.96	12.5%
22		1,454.13	584.75	5,033.83	11.6%
23		1,014.79	584.75	5,436.54	10.8%
24		513.52	584.75	5,871.46	10.0%
25		—	584.75	6,341.18	9.2%

THE GRADUATED-PAYMENT MORTGAGE (GPM)

The GPM constitutes another alternative mortgage instrument available to housing finance institutions for expansion of their market and their deposit base. This instrument is addressed primarily to young families whose peak earning years lie in the future; and, of the mortgage instruments discussed in this chapter, the GPM is most

closely related to the modern commercial banking doctrine of lending against anticipated income rather than the underlying collateral. This is not to say, however, that the GPM ignores the value of the property in the underwriting decision.

There are basically two ways to structure a GPM. One of these is to impose a constant *percentage* increase in the payment and the other is to incorporate a constant *absolute* amount of increase in the payment. Both draw theoretical inspiration from the "life-cycle" theory of income in assuming that as a household head begins his career, his earnings will rise until he reaches a relatively mature age, say 45 or 50, at which point his earnings will tend to grow more slowly or stabilize, ultimately declining as he approaches and then achieves retirement age. Accordingly, both types of GPM seek to establish a level mortgage payment somewhere near the middle of the term of the mortgage loan, typically when the graduated payment becomes equal to the level payment required to amortize the loan at a fixed maturity. In short, the GPM is designed for relatively young families for whom the probability of income growth is high.

Both forms of GPM also capitalize the difference between the graduated payment and the conventional level payment. Thus, there is a sense in which a GPM also represents the extension of a line of credit. The loan schedule is, of course, prepared in advance so that both borrower and lender know exactly what their commitments are.

Tables 3.5 and 3.6 illustrate the two basic GPM formulations. Both assume interest at 10 percent for 25 years. (*See pages 34 and 35.*)

The constant-rate-of-increase formulation (GPM I) permits slightly more liberal initial payments but requires a higher level payment later in the term of the loan than does the constant-amount-of-increase formulation (GPM II). Table 3.7 describes the required rate of growth of income for each GPM. In the case of the constant-rate-of-increase GPM (GPM I), the borrower's income must rise by 8 percent a year for the first 11 years of the loan, while for the constant-amount-of-increase GPM (GPM II), the required rate of increase of income is 10 percent in the second year of the loan and remains above 8 percent until the fifth year of the loan, after which the required rate of increase declines. (*See page 36.*)

The two GPM formulations thus describe two different expected income growth patterns. GPM I would apply for a borrower whose income was expected to rise steadily for an extended period of time, while GPM II would apply for a borrower whose income was expected to rise at a sharper rate in the early years of the loan and at a slower rate thereafter.

TABLE 3.5
GRADUATED-PAYMENT MORTGAGE I
(Constant Rate of Increase)
Mortgage Terms: 10%, 25 years
Initial Payment: \$75 (annual)
Rate of Payment Increase: 8% per year
Calculations based on annual compounding

End of Year	Graduated Payment	Level Payment Due on Outstanding Balance	Addition to (Reduction of) Principal Balance	Principal Balance
1	\$ 75.00	\$110.17	\$ 35.17	\$1,035.17
2	81.00	115.21	34.21	1,069.38
3	87.48	120.38	32.90	1,102.28
4	94.48	125.67	31.19	1,133.47
5	102.04	131.06	29.02	1,162.48
6	110.20	136.54	26.34	1,188.83
7	119.02	142.12	23.10	1,211.93
8	128.54	147.77	19.23	1,231.16
9	138.82	153.48	14.66	1,245.82
10	149.93	159.24	9.31	1,255.14
11	161.92	165.02	3.10	1,258.23
12	170.80	170.80	- 44.98	1,213.25
13	170.80	170.80	- 49.47	1,163.78
14	170.80	170.80	- 54.42	1,109.36
15	170.80	170.80	- 59.86	1,049.49
16	170.80	170.80	- 65.85	983.64
17	170.80	170.80	- 72.44	911.21
18	170.80	170.80	- 79.68	831.53
19	170.80	170.80	- 87.65	743.88
20	170.80	170.80	- 96.41	647.47
21	170.80	170.80	-106.05	541.41
22	170.80	170.80	-116.66	424.75
23	170.80	170.80	-128.32	296.43
24	170.80	170.80	-141.16	155.27
25	170.80	170.80	-155.27	0

TABLE 3.6
GRADUATED-PAYMENT MORTGAGE II
 (Constant Amount of Increase)
 Mortgage Terms: 10%, 25 years
 Initial Payment: \$80 (annual)
 Rate of Payment Increase: \$6 per year
 Calculations based on annual compounding

End of Year	Graduated Payment	Level Payment Due on Outstanding Balance	Addition to (Reduction of) Principal Balance	Principal Balance
1	\$ 80.00	\$110.17	\$ 30.17	\$1,030.17
2	88.00	114.66	26.66	1,056.83
3	96.00	118.97	22.97	1,079.80
4	104.00	123.10	19.10	1,098.90
5	112.00	127.06	15.06	1,113.96
6	120.00	130.85	10.85	1,124.80
7	128.00	134.47	6.47	1,131.27
8	136.00	137.94	1.94	1,133.21
9	141.27	141.27	- 27.95	1,105.26
10	141.27	141.27	- 30.74	1,074.52
11	141.27	141.27	- 33.82	1,040.70
12	141.27	141.27	- 37.20	1,003.50
13	141.27	141.27	- 40.92	962.58
14	141.27	141.27	- 45.01	917.57
15	141.27	141.27	- 49.51	868.05
16	141.27	141.27	- 54.46	813.59
17	141.27	141.27	- 59.91	753.63
18	141.27	141.27	- 65.90	687.77
19	141.27	141.27	- 72.49	615.28
20	141.27	141.27	- 79.74	535.54
21	141.27	141.27	- 87.72	447.82
22	141.27	141.27	- 96.49	351.34
23	141.27	141.27	-106.14	245.20
24	141.27	141.27	-116.75	128.45
25	141.30	141.30	-128.45	0

TABLE 3.7
REQUIRED RATE OF GROWTH OF INCOME

Year	GPM I	GPM II
	(%)	(%)
2	8.0	10.0
3	8.0	9.1
4	8.0	8.3
5	8.0	7.7
6	8.0	7.1
7	8.0	6.7
8	8.0	6.2
9	8.0	3.9
10	8.0	0
11	8.0	0
12	5.5	0
13	0	0
14	0	0
15	0	0

The principal benefit of the GPM, of course, is to lower the initial payments on a mortgage loan. Note that in terms of income requirements, assuming that no more than 25 percent of income is devoted to the mortgage payment, the annual income per \$1,000 for GPM I is only \$300 and that for GPM II is only \$320, whereas a conventional level-payment mortgage would require income of \$436 per \$1,000. These GPM formulations reduce initial income requirements by roughly one-fourth to one-third. In terms of the hypothetical data shown in Table 2.1 (page 21), GPM I could extend the market for a housing finance institution to 70 percent of the population, compared with only 50 percent if the conventional mortgage were used exclusively.

THE VARIABLE-RATE MORTGAGE (VRM) AND ROLLOVER MORTGAGE (ROM)

The VRM and ROM are responses to a world in which inflation has become a fact, and a way, of life. They constitute means by which a housing finance institution can preserve the spread between its average cost of funds and the average yield on its portfolio of mortgages and, in the process, share the burden of increasing costs more equitably among existing mortgagors and those who are just entering the mortgage market.

Both of these types of mortgages schedule the payments over an extended period of time—25 to 30 years—but provide for periodic adjustments of the rate of interest charged on the loan. The adjustment period can be as short as three to six months or as long as three to five years. In some formulations, a limit is imposed on the extent of upward adjustment of the interest rate in any given period and/or over the term of the loan. Generally, there is no limit on the downward adjustment of the rate of interest.

The provisions of these two types of loans can be illustrated most conveniently by assuming that both have annual interest-rate adjustment periods and employ annual compounding. In the case of the VRM, the limits of adjustment assumed are 0.5 percentage points per adjustment period and no more than 2.5 percentage points over the term of the loan. For the rollover mortgage, no limits are assumed, but an additional provision is included that if the new monthly payment exceeds 25 percent of the borrower's income, the term to maturity may be extended.

In Table 3.8, a VRM payment schedule is shown with maximum upward adjustments. The implied rate of income growth required to prevent the payment from exceeding the original relation between the borrower's income and the mortgage payment is also shown.

TABLE 3.8
VRM MORTGAGES
Original Terms: 10%, 25 years
Original Loan: \$1,000
Calculations based on annual compounding

Year	Interest Rate	Annual Loan Payment	Loan Balance	Required Rate of Growth of Borrower's Income
	(%)	(\$)	(\$)	(%)
1	10.00	110.17	989.83	—
2	10.50	114.34	979.42	3.79
3	11.00	118.48	968.68	3.62
4	11.50	122.58	957.50	3.46
5	12.00	126.62	945.78	3.30
6	12.50	130.61	928.66	3.15
7	12.50	130.61	914.13	—

In Table 3.9, an ROM payment schedule is given, assuming that the borrower's income increases at the rate of 5 percent a year in order to determine the limits on the increase in the interest rate without necessitating an extension of the term of the loan.

TABLE 3.9**ROM MORTGAGES****Original Terms: 10%, 25 years****Original Loan: \$1,000****Calculations based on annual compounding**

Year	Interest Rate	Annual Loan Payment	Loan Balance	Assumed Rate of Growth of Borrower's Income
	(%)	(\$)	(\$)	(%)
1	10.00	110.17	989.83	—
2	10.66	115.68	979.67	5
3	11.35	121.46	969.40	5
4	12.09	127.54	959.06	5
5	12.86	133.91	948.49	5
6	13.68	140.61	937.63	5
7	14.56	147.64	926.51	5
8	15.48	155.02	914.91	5
9	16.46	162.77	902.73	5
10	17.50	170.91	889.80	5

In the case of the VRM, income growth of less than 4 percent a year is required, and in the case of the ROM the interest rate can rise from 10 percent to 17.5 percent over a 10-year period without requiring extension of the term of the loan if the borrower's income grows by at least 5 percent a year.

It should be noted, however, that the ROM is sensitive to the income-growth limitation. A 2.5 percent growth of income, for example, permits the rate of interest on an ROM to rise to only 13.53 percent after 10 years. Moreover, extending the term to maturity by an additional five years does not substantially alter the upper limit of the increase of the rate of interest. In the present case, the upper limit would be 13.78 percent after 10 years.

It is entirely reasonable to assume, however, that any 10-year period of inflation that would require long-term interest rates to rise from 10 percent to 17.5 percent would also provide income growth of at least 5 percent a year for the vast majority of borrowers.

There are at least two basic ways of determining what the new mortgage rate should be at the time of adjustment. One links the increase or decrease in the mortgage rate to a cost-of-funds index. For example, if conventional standards suggest that a housing finance system requires a spread of three percentage points between what it pays for deposits and what it charges for loans, this feature would be written into the mortgage contract, specifying how the cost-of-funds index is constructed and the limits on upward adjustment of the mortgage rate.

The other method is to relate the mortgage interest rate to an index of rates on similar types of long-term debt. For example, where an active secondary mortgage market operates, the index could consist of the rate of return required by institutional investors to invest in mortgages sold in the secondary market. Such a rate might be termed the prime mortgage rate. The housing finance institution originating and servicing the mortgages would then set its lending rate at a level sufficiently above the prime rate to cover origination and servicing costs.

Although logic suggests linking the ROM interest rate to the rate on other long-term debt instruments, it is probably preferable to use a cost-of-funds index. Housing finance institutions usually intermediate *between* segments of the term structure of interest rates—that is, they borrow funds that potentially have short-term maturities and lend those funds for longer terms. As long as short-term interest rates are lower than long-term interest rates, which is their normal relationship to one another, financial intermediation between segments of the term structure is a perfectly sound and economically useful junction. In economies that are prone to cycles in economic activity, however, short-term rates sometimes exceed long-term rates, a phenomenon known as “yield curve inversion.” If the ROM is then indexed to other long-term debt issues, the housing finance institution is placed in the position of lending funds at interest rates lower than the interest rates it has to pay to obtain funds, or at least suffering a reduction in the spread between its average cost of funds and average yield on its portfolio. With the ROM indexed to the cost of funds, however, the spread can be maintained.

In closing the discussion on VRM and ROM mortgages, it should be noted that such instruments are designed primarily to deal with relatively mild forms of inflation. In the developing world, several housing finance systems have adopted a stronger method of coping with severe inflation—monetary correction or indexation. This approach to the problem of inflation entails the payment of “real”

rates of interest for both deposits and loans by periodically adjusting their respective balances upward in accordance with an index reflecting the rate of inflation.

MONETARY CORRECTION

Monetary correction is not a cure for inflation. In its partial application, it is a means of redressing inequities and distortions in the way particular markets function under inflationary pressure. In its comprehensive form, it may be viewed as a method of reimposing a rational system of pricing without subjecting the economy to massive dislocations bearing large social costs.

Partial applications of monetary correction, or indexation, may extend only to long-term debt instruments, to pension benefits, wage contracts, and tax systems. Inasmuch as partial applications are made to housing finance system operations, they deserve discussion here.

Where national development policy gives a relatively high priority to housing, some governments facing severe inflationary pressure have applied monetary correction to the deposit balances and long-term mortgages of the housing finance system without applying the same correction to other elements of the financial sector on the grounds that financial institutions operating mainly in short-term maturities are able to adjust their lending rates to changing rates of inflation whereas housing finance institutions cannot readily do so. If, however, this approach fails to apply indexation to wages and salaries also, the housing finance system is exposed to loan defaults if incomes fail to keep pace with inflation and readjusted mortgage balances. Indeed, a partial application of monetary correction of this sort would differ from a system making use of rollover mortgages and freely floating interest rates mainly in its technical details of implementation since the system would, in any event, be obliged to pay "real" rates of interest to mobilize savings.

Comprehensive systems of monetary correction apply in a coordinated or integrated fashion to most, if not all, aspects of the economic system and may be a rational response to an inflationary situation that cannot be controlled by conventional means without exacting enormous social costs. Under a comprehensive system of monetary correction, wages and salaries, rents, taxes, corporate and government bonds, life insurance, pension benefits, exchange rates, deposits, and loan balances are adjusted to movements in specified price indices. The system is designed to prevent the introduction of new distortions and to lend itself to the application of incentives and disincentives in the direction of resource allocation.

Comprehensive monetary correction is clearly a sophisticated approach to coping with inflation, one that requires a sound and extensive statistical base and a highly trained cadre of officials to administer the system successfully. Moreover, it is not an approach that can be implemented unilaterally by the housing finance system.

There are a number of other measures that can be employed to promote and support the growth and development of the housing finance system. These are discussed in the next chapter.

4

HOUSING FINANCE SYSTEM SUPPORT FACILITIES

Like commercial banks, housing finance institutions are affected by the public interest. At issue is the promotion and preservation of public trust and confidence in the financial system, which is essential for economic growth and an efficient allocation of resources. Toward this end, financial intermediaries should be, and typically are, subject to government regulation and supervision of their financial practices. Regulation and supervision, however, are not sufficient to maintain the integrity of a financial system. This is particularly so of housing finance systems, which as specialized, long-term lenders do not enjoy the same degree of portfolio diversification that more generalized financial institutions, such as commercial banks, do.

LENDER OF LAST RESORT

To induce a deposit inflow, individuals must first be convinced that their money will be "safe" in the hands of the financial institution and that it will, in fact, be available when wanted or needed, at least in terms of the deposit agreement. In the interest of economic efficiency, however, financial institutions should maintain a stock of cash in their vaults only to the extent necessary to meet normally anticipated withdrawals and to carry out routine transactions. But in the event that withdrawals exceed by any significant amount the level anticipated under "normal" circumstances, the institution must have a secondary source of liquidity or run the risk that its inability to pay a few depositors will engender a massive loss of confidence among its clientele and prompt a wave of demands for redemption of deposits—in short, a "run" on the institution.

Arrangements can be made with other financial institutions for such contingencies, but it is far preferable for secondary liquidity support to be available from a central authority—the central bank or a central housing finance authority—that is not also subject to deposit withdrawal pressure. The function performed by central authorities in such circumstances is known as the "lender of last resort" function.

This function also applies in psychologically less volatile circumstances. Assume, for example, that a natural or an economic calamity befalls a community, disrupting the local economy to the

extent that many families are unable to meet their scheduled debt repayments and need to draw down their savings in order to meet expenses. In such cases, the central authority, as the "lender of last resort," can advance funds to the local institutions to maintain their financial viability as well as to avoid compounding the problems of the distressed local economy.

In some housing finance systems, the mechanism established to provide lender-of-last-resort support is used to provide loans, or advances, to housing finance institutions simply as an adjunct to their savings mobilization efforts. Such a program is usually motivated by housing policy considerations rather than by a concern for maintaining the safety and soundness of the financial institutions. For example, if the deposit inflow of the housing finance system is insufficient to provide mortgage financing for all of the actual or planned housing construction called for by the national housing policy, the central authorities may elect to borrow on their own account and advance funds to the housing finance system to cover the financing shortfall.

This kind of program is best applied when a housing finance system is young and needs to establish its credibility as a lender in order to support its savings mobilization efforts and when the central authorities have better access to the national or the international capital market than the individual housing finance institutions. Care should be taken in implementing such a program, however, that the housing finance system does not come to depend on central authority advances and neglect its savings mobilization efforts. For this reason, an advance program of this type should establish clear limits on the relative or absolute amount of central authority advances a housing finance institution can carry in its liability portfolio. For example, the central authorities might limit advances to, say, 25 percent of deposit liabilities.

For private sector institutions, lender-of-last-resort support may be provided either by a central housing bank or by the central bank itself. Public sector institutions would ordinarily have such arrangements with the central bank.

DEPOSIT INSURANCE

Financial institutions sometimes fail, in spite of government regulation and supervision, because of bad business judgments or because of malfeasance on the part of their officers or employees. In such cases, loss of confidence in the financial system can be prevented by the central authorities through the provision of deposit insurance. Briefly, the central authorities guarantee the deposits of individuals against

loss through the failure of a financial institution. The details of deposit insurance schemes vary from country to country, but it is not uncommon for financial institutions to pay insurance premiums into a general fund. Compensation is paid out of this fund to depositors for any loss that they might otherwise incur from a forced sale of the assets of an insolvent institution.

For government-owned institutions, deposit insurance may be implicit, but for private institutions, the provision of deposit insurance is an important security feature.

MORTGAGE INSURANCE AND GUARANTEES

The availability of mortgage insurance and guarantees can serve a dual purpose in the promotion and expansion of housing finance systems. On the one hand, they can provide an extra margin of risk coverage to financial institutions in the introduction of new lending techniques, such as graduated-payment mortgages, and in providing investors with similar coverage in order to broaden access to capital for housing finance institutions through the secondary mortgage market. On the other hand, the insurance or guarantee of all or a portion of the principal balance of the mortgage loan can encourage housing finance institutions to make mortgage credit available to lower-income groups or to special segments of the population which might not otherwise meet conventional standards of creditworthiness. Mortgage insurance or guarantees serve these ends primarily by permitting lower downpayments.

To illustrate, suppose that the standard practice of housing finance institutions is to require a 30 percent downpayment. If mortgage insurance can be obtained from the government or from private insurance companies on 10 percent of the mortgage loan, the downpayment requirement can be lowered to 20 percent. The insurance premium, which is typically paid by the borrower, is usually incorporated into the interest rate structure and is paid only until the principal balance of the loan has been reduced to 70 percent of the appraised property value.

Mortgage guarantees operate in much the same way but are usually offered only by a government agency in conjunction with a social or economic policy objective. For example, government might provide mortgage loan guarantees as part of a program to facilitate relocation of particular types of workers to a development region.

SECONDARY MORTGAGE MARKETS

Another step that can be taken by the central authorities that has

broad and important implications for the housing finance system as well as for the general cause of financial development is the promotion and support of a secondary mortgage market.

Like any other secondary market, the principal function of a secondary mortgage market is to increase the liquidity of the instrument traded. In general, the greater the liquidity—or marketability—of a security, the broader and deeper the market for it, regardless of its ultimate maturity, since the holder of the security has confidence that he will not have to wait for the instrument to mature to recoup his investment. (Since purchases and sales are made at the discounted present value of the security, however, capital gains or losses may be incurred.)

It is relatively easy to see how the existence of a secondary mortgage market is of benefit to housing finance institutions. In periods when housing finance institutions experience net savings outflows (financial disintermediation), their mortgage portfolios can provide a source of liquidity to cover savings withdrawals; they are not then completely dependent on the central authorities for liquidity support. Moreover, given a secondary mortgage market, housing finance institutions are not strictly limited in their origination of new loans by their net deposit inflows and scheduled loan repayments. Existing loans can be sold in the secondary market to raise capital for new loans or the new loans can immediately be “passed through” to the secondary market. Profit remains for the institution since it usually retains all origination fees and collects a portion of the interest on the loan for servicing (i.e., collecting payments and forwarding them to the holder of the loan).

If the advantages of a secondary mortgage market are relatively clear, the means through which such a market is established are not. Long-term capital markets are virtually nonexistent in most developing countries, but this fact does not also mean that the potential for such markets does not exist. The basic preconditions for the establishment of a secondary mortgage market—a primary housing finance system to originate and service mortgage debt and the existence of investment balances—can be met in many developing countries. The critical technical consideration, given these basic preconditions, is to structure the financial instrument offered for sale in the secondary market so that it has sufficient appeal to institutional investors and individuals holding investment balances.

As noted earlier, investment balances tend to seek the highest secure rate of return available. Home mortgages frequently yield rates of return that are competitive with other debt issues available in a

national capital market, so that one of the principal problems in developing a secondary market is providing sufficient security.

The most common approach to solving this problem is the use of insurance or guarantees against default, issued by private mortgage insurance companies, quasi-public secondary mortgage market institutions, or the central government. The type of debt instrument traded in the secondary mortgage market is then a claim against the insurer or the guarantor, not a claim against the individual mortgagor.

There are three basic types of instruments used in secondary mortgage market operations: whole mortgages, participations in pools of mortgages, and mortgage-backed securities.

Whole Loans

The sale of whole loans, or pools of whole loans, effectively shifts the entire risk of default to the insurer or the guarantor and the investor, if the insurance or the guarantee is less than 100 percent. The housing finance institution that originates the loans usually, if not invariably, continues to service the loans, for a fee, under special agreement with the purchaser of the loans. The servicing agreement generally obliges the originating institution, or servicer, to collect and remit the loan payments to the investor and, in the event of default, to take the necessary steps to access the insurance or the guarantee and/or to process the foreclosure.

There are a variety of disadvantages in this approach to secondary market operations. The first is that each sale of a whole loan typically has to be registered and the legal process is frequently a time-consuming and expensive affair that inhibits both the original and subsequent transactions. Moreover, registration of transfer of the mortgage often requires that the mortgagor be notified that title to the mortgage has passed to another holder. This fact can have the effect of weakening the institutional loyalty of the borrower to the housing finance institution and of impairing loan collection efforts. The denominations of whole loans can also prove to be too large for individual investors, thus limiting the market to institutional investors.

Compared with alternative approaches, there is little to recommend secondary market operations in whole loans for developing countries.

Participations in Mortgage Pools

The sale of participations in mortgage pools is one approach that is preferable to the sale of whole loans. A pool of mortgages is assembled and participation certificates in this pool are sold. The denomina-

tions of such certificates can be in any amount, although to minimize servicing costs and to avoid competing with the savings and time deposits of the housing finance system, denominations should be relatively large.

This feature represents one improvement over the sale of whole mortgages, and in some cases registration of the sale can be avoided if the originating institution retains an interest in the pool of mortgages.

Retention of an interest in the pool, say 10-20 percent, by the originating institution can be made to serve in lieu of insurance or guarantees if these are not available. In this case, the originating institution agrees to absorb any loss through default in its share of the mortgage pool. Given the existence of a pool of mortgages, the risk of default is spread over the entire pool and offers a much less risky investment than a whole loan.

The same servicing arrangements as those incorporated into the sale of whole loans are usually applied, although foreclosure proceedings are internalized to a greater degree if the originating and servicing institution retains an interest in the pool.

Mortgage-backed Securities

Mortgage-backed securities, or bonds, are the most flexible of secondary mortgage market instruments in that mortgages are used only as collateral for the issue; title remains with the originating institution. Consequently, there is no requirement for registering a change of ownership and there is no necessary relationship between the maturity of the mortgage and the maturity of the mortgage-backed bond. The maturities of the mortgage-backed bonds can be tailored to fit the market. This feature is particularly useful in countries that have weak capital markets and whose investment traditions tend to run toward short- to medium-term debt rather than long-term debt.

To illustrate how a mortgage-backed bond issue is structured, assume that market analysis indicates that a five-year maturity will have the greatest appeal to individual and institutional investors and that these investors require a yield of 9.5 percent. The housing finance institution would like to raise \$1 million in this manner for relending at some rate above 9.5 percent.

The size of the mortgage pool can be determined subjectively in conjunction with a "rating" of the issuing institution. Under this procedure, an investment banker and an independent, recognized "rating service" are employed. The rating service examines the issuing insti-

tution to assess the quality of its management, its general portfolio, its past financial performance, the specific collateral being offered, etc., and establishes a "rating" for the debt issue being offered by the institution. A high rating requires a lower level of collateralization than a low rating, and the size of the mortgage pool is then set on the basis of what the investment banker handling the issue feels that the market will require to accept an issue with this particular rating. This procedure is generally not available in Third World countries and its subjectivity probably makes its use undesirable in any event.

An alternative approach that would be more appropriate for Third World application is one that recognizes that the real collateral for a mortgage-backed bond issue is the repayment flow generated by the pool of mortgages. The size of the mortgage pool is then determined by formula and the mortgages pledged are placed in trust with the central housing authority or the trust department of a commercial bank. The trust agreement assures the transfer of title to the collateral should the issuing institution default on the bond. The trust agreement also provides for the replacement of mortgages in the pool that become in default or that are paid in full (satisfied) during the life of the bond. The most stringent formula to determine the size of the mortgage pool is as follows.

The average maturity of the mortgages in the pool and their average yield must first be known. Assume that the pool used in this example has an average maturity of 15 years and an average yield of 9 percent. Assume further that interest is to be paid on the mortgage-backed bonds semiannually and that for purposes of calculating the size of the mortgage pool, the cash flow generated by the pool must be sufficient to create a sinking fund (at 9.5 percent) equal to the principal amount of the bond. (Note that the sinking fund need not be established; the concept is simply used to determine the size of the mortgage pool.)

The semiannual interest payment on the bonds would amount to \$47,500 and the semiannual contribution to a sinking fund at 9.5 percent that would be required to accumulate \$1 million after five years would be \$80,436. The cash flow generated by the mortgage pool must therefore be the sum of these two, or \$127,936 each six months. A cash flow of this amount, given an average yield of 9 percent and an average maturity of 15 years, would require a mortgage pool of \$2,102,307. In other words, the mortgage-backed bond would be collateralized at approximately 210 percent of its face amount.

Collateralization requirements computed under this formula for a sample of alternative average yields and average maturities of the

mortgage pool required to secure a 9.5 percent, five-year mortgage-backed bond issue are as follows:

Average Yield	Average Maturity		
	10	15	20
7.5%	180%	230%	265%
8.0%	176%	223%	255%
8.5%	172%	216%	246%
9.0%	168%	210%	237%

Clearly, collateral requirements rise as the average term to maturity of the pool increases and as the pool's average yield declines since the discounted present values of the repayment flows are smaller.

Although this approach to collateralization is a stringent one, it produces a secondary market instrument whose security is impeccable. It should also be emphasized that under this approach the issuing institution retains the cash flow from the collateral for reinvestment—no sinking fund is actually established. Profitability is, therefore, unaffected by the size of the mortgage pool.

SECONDARY MARKET INSTITUTIONS

Although primary market institutions can employ any of the instruments described above to access the capital market directly, an efficient secondary market requires an institutional structure of its own. As noted above, the principal function of a secondary market is to increase the liquidity of the financial asset traded. To do this, a facility for both purchases and sales must be available. Primary market institutions *can* be net purchasers as well as net sellers of mortgages and mortgage-backed securities, but in developing countries, primary market institutions generally face loan demand in excess of their deposit resources and would usually tend to be net sellers in the secondary market. A separate secondary mortgage market institution, or agency, links the primary market institutions to the capital market, but equally important, it links buyers and sellers within the capital market to facilitate trading in the issues and thereby to enhance their liquidity.

Organizationally, this institution might be no more than a division or a department of the ministry of finance, the ministry of housing, the central bank, or the central housing authority. Or it might be a private or public entity specializing in secondary mortgage market operations. The stock exchange might also serve as the institutional vehicle, with the market organized around brokers and investment bankers.

Whatever organizational form proves opportune or appropriate in a given country context, government can provide important support in the development and expansion of a secondary mortgage market in a variety of ways.

At the lowest level, facilitating the enactment of legislation and regulation necessary to bring the market into being is a positive course of action that can be taken by government. Further support can be given by permitting mortgages, participations in mortgage pools, or mortgage-backed securities to serve as eligible reserves for insurance companies, social security funds, pension trusts, and other regulated institutions holding investment balances. A level of support that might be regarded as a maximum could occur if government chose to establish a public sector secondary mortgage market institution that would purchase mortgages from primary market institutions for its own portfolio and issue obligations backed by that portfolio and guaranteed by the full faith and credit of the government in the secondary market. The instrument traded in the secondary market would thus be a government obligation.

While this approach might be considered a maximum level of governmental support, it need not be regarded in all cases as the most effective. In some developing countries, a private obligation may have greater standing in the investment community than a government obligation, particularly when the governmental institution issuing the obligation is known, or reputed, to be badly managed and inefficient.

INTERNATIONAL SECONDARY MORTGAGE MARKETS

A potential solution for overcoming some of the problems of establishing national secondary mortgage markets in Third World countries is represented by the concept of an international secondary market. This approach, of course, faces problems of its own.

Housing finance systems have almost invariably developed with a domestic, or national, orientation. In most countries, housing is a social as well as an economic affair; it is not a commodity to be bought and sold in the international marketplace or one to be dealt with in purely economic terms. These considerations condition the structure and operating procedures of housing finance systems in spite of the fact that the nature of finance and financial relationships is fundamentally economic.

The legal codes of most countries would preclude the sale of whole mortgages across national boundaries, and even if they did not, the standardization of mortgage documents necessary for large-scale secondary market operations in whole loans would prove to be an

almost insurmountable obstacle. These difficulties are easily bypassed, however, by the use of mortgage-backed securities as the trading instrument.

The most serious constraint that the predominantly domestic characteristic of housing finance systems presents for the establishment of international secondary mortgage markets is that many countries maintain their mortgage rates below the interest rates prevailing in the international capital market, either by regulation or by statute. Where this is the case, it is hardly profitable for a housing finance system to mobilize funds abroad that it can lend at home only at a lower rate of interest. Insofar as the level of interest rates prevailing in a given country are "real" rates of interest, i.e., exceed the prevailing rate of inflation, this country would simply not choose to borrow abroad under the circumstances. In many cases, however, interest rates paid to depositors and charged on mortgages by housing finance institutions do not exceed the prevailing rate of inflation and are, in fact, negative real rates of interest. In these cases, interest rate reform and removal of statutory usury ceilings would enhance the system's domestic savings mobilization performance as well as improve the likelihood that borrowing through an international secondary market facility would prove to be profitable.

A second constraint affecting international secondary mortgage market operations is the variability of foreign exchange rates and the absence of medium- to long-term forward markets through which to hedge exchange rate risks. This constraint can be overcome, however, through the issuance of the guarantee of the central bank of the borrowing country. This approach generally obviates the need for any other collateral and places the issue on an equal footing with all other external public debt of the country. The proven cash flow of the pool of mortgages backing the issue becomes irrelevant to most international capital market institutions, which tend not to look beyond the quality of the central bank guarantee.

The introduction of an international secondary mortgage market institution nevertheless holds some promise for enhancing the acceptability of mortgage-backed securities in the international capital market and of improving the terms on which participating housing finance systems could obtain external funds. Basically, this promise derives from the principle of pooling risks. If the portfolio of the international secondary mortgage market institution were composed of central bank guaranteed mortgage-backed securities, the risk associated with this portfolio should be perceived as lower than the risk associated with the debt issues of any one of the countries represented in the portfolio if

each country were assessed separately. The international secondary mortgage market institution should then be able to sell participations in its portfolio or use the portfolio as collateral for its own debt issues at lower interest rates than those available to individual countries.

Two such institutions—the Central American Bank for Economic Integration (CABEI) and the Inter-American Savings and Loan Bank (BIAPE)—exist and are enjoying limited success along these lines. CABEI, in existence since 1960, is a multipurpose institution that has had success in borrowing internationally against its total portfolio, which includes, but is not limited to, loans to housing finance systems in the Central American region. BIAPE is an institution specialized in housing finance, which has been in operation only since 1975. In that time it has proven to be a profitable organization, but it is too early to make an assessment of whether it will ultimately succeed in establishing a viable international secondary mortgage market.

One further issue involved in the establishment of an international secondary mortgage market deserves mention. The absorptive capacity for external capital of Third World housing finance systems is not unlimited. In spite of estimates of an almost overwhelming housing *need* in the Third World, the housing delivery systems, which include the housing finance systems, of these countries are constrained by factors other than a shortage of funds. The availability of building materials, experienced contractors, sanitary infrastructure, and developable land, as well as financing, all limit the number of housing units that can be built and occupied in a given period of time.

International secondary mortgage markets will become increasingly relevant as Third World housing delivery systems expand and absorptive capacities outrun domestic sources of funds. Much remains to be done in the primary markets of Third World countries, however, and these tasks, insofar as housing finance is concerned, are a special responsibility of the management of housing finance systems.

5 MANAGEMENT

Among the main tasks of management are the specification of the goals and objectives of the organization, the definition of realistic measures and standards of performance in the pursuit of those goals and objectives, and the assurance of an efficient and effective allocation of resources toward this end. Management must also be an agent of change; few sets of objectives are likely to remain relevant without modification over time nor are the procedures for attaining those objectives likely to remain indefinitely effective. Finally, management must lead and motivate the members of the organization to produce the results required for the achievement of the organization's goals and objectives.

All of these tasks require judgment. In some cases, the intuition, or "business sense," of the manager will provide the basis for a decision, but generally judgment is based on information and the quality of a manager's decisions will be determined to a substantial extent by the quality of his management information system.

A management information system should convey current information on the external environment in which the organization operates (the market) as well as on the internal functions of the organization. Through this information, the manager can assess the continued relevance of goals and objectives and monitor the progress of the elements of the organization toward the achievement of their individual objectives. On this basis resources can be reallocated and new techniques introduced or old ones abandoned.

The management of housing finance institutions shares these very general principles with the managements of most other organizations. But like each type of organization, certain distinguishing features are derived from the nature of its activity. These features determine the broad outline of management concern.

Beyond the special nature of the goals and objectives of a housing finance institution, four key activities form the arena for managerial action. These are savings administration and liability management, loan administration and asset management, administrative cost control, and the maintenance of capital adequacy.

GOALS AND OBJECTIVES

Housing finance institutions are not purely business enterprises, nor

are they entirely service organizations. They tend to be a combination of the two, whether they are private sector or public sector entities. Because housing finance institutions are such an important part of the national shelter delivery system, they become, in effect, instruments of public policy in the housing sector. Moreover, as depository institutions they are affected by a public interest, that of engendering and maintaining confidence in the nation's financial system. In order to accomplish this, the financial institution must lend prudently, avoiding loss and maintaining its solvency while at the same time attempting to satisfy national housing policy objectives that commonly run in terms of providing safe, sanitary, and affordable shelter for all families.

As they impact housing finance institutions, these two public policies are basically competitive. The manager of a housing finance institution must, therefore, find a form of expression of his own organization's goals and objectives that satisfies both of these public policy concerns.

This can be done in the broadest terms if the goals and objectives of the institution are expressed in terms of expanding the market it serves rather than in terms of increasing its assets and liabilities or its profits, for market expansion implies institutional growth while still addressing the need to provide decent shelter for an ever-increasing number of families.

In this endeavor, the housing finance system must, of course, have the cooperation and active support of the other elements of the shelter delivery system. In many respects, finance only facilitates; it is passive rather than active. If the construction and the building materials industries cannot produce a housing unit, or a shelter solution, that is affordable by a substantial segment of the population, the housing finance system cannot be expected to serve that segment of the population.

SAVINGS ADMINISTRATION AND LIABILITY MANAGEMENT

There are two important features of savings administration and liability management that deserve emphasis. One of these is attitudinal; the other is technical.

Savings Administration

Savings are the lifeblood of a housing finance institution. Formalized savings promotion efforts succeed if they bring a new depositor into the institution, but the responsibility for keeping that depositor and, through him, building the reputation of the institution as a good place to save depends upon the quality of savings administration. Both

the management and the staff responsible for opening new accounts and servicing existing ones must be especially sensitive to depositor convenience and service. Prompt, courteous, and personalized service should be the hallmark of the institution and customer satisfaction one of its prime objectives.

To assure achievement of this objective, management can employ several approaches. Personnel selected for the savings department should possess the character and personality traits associated with courteous service. New savings department employees should be given intensive training to assure that they are not only technically proficient in handling cash, operating the equipment, and completing the necessary paperwork, but also that they understand the institution's goals and objectives as they relate to savings administration. The personnel of the savings department, from the department manager down to the most junior clerk, should be imbued with the sense that they are the institution's salesmen, for in a very important way, they are.

An acid test of the extent to which savings department personnel have been properly motivated in this role and the extent to which the department's policies and procedures are effective is the number of savings department personnel (and other employees of the institution) who keep their personal savings accounts in the institution. Management is frequently surprised to find that not all of their employees do. Discovering the reasons why they do not then becomes a useful and effective means of improving training programs and revising policies and procedures.

Liability Management

A more technical aspect of housing finance institution operations, liability management's principal dimensions are the growth, stability, and cost of the savings base and the maturity structure and cost of the institution's other liabilities. All of these considerations will be influenced by asset management decisions, so that there is in fact always a set of simultaneous decisions to be made. For the sake of the discussion, however, assume that the demand for mortgage credit is known and that all elements of asset management decisions—portfolio yields, loan repayment flows, maturity structure, etc.—are known.

First consider the stability of the savings base. Generally speaking, the larger the number of accounts, the more stable will be the savings base. At issue is the risk of deposit withdrawal, particularly when a voluntary saving system is being employed. For a given

amount of savings on deposit, the risk of disruption of operations is far less when there are 1,000 relatively small accounts than if there are only 10 relatively large ones.

Savings base diversification can also be encouraged by promoting savings from families of different economic circumstances. For example, if all the institution's depositors were employed by a single enterprise, the risk of deposit withdrawal would be greater than if the depositors were employed by a number of different firms or were engaged in a variety of economic activities. A collapse of the market for the product of the single enterprise or any other event that resulted in the loss of employment could occasion the need for these families to withdraw their savings. If deposits were concentrated among these families, the economic difficulties of this enterprise would almost immediately be translated into economic difficulties for the housing finance institution.

Another dimension of the stability of the deposit base is the transactions activity within the accounts. Transactions activity that involves frequent additions to and withdrawals from accounts introduces an extra element of uncertainty into asset management decisions, occasions the need for the institution to hold higher levels of (nonearning) cash assets than would otherwise be necessary, and increases the cost of savings administration. Moreover, it suggests that the savings promotion effort has attracted transactions balances into the savings deposit base whereas the effort should have concentrated on the mobilization of more stable contingency balances.

It should be noted, of course, that housing finance institutions in many developing countries offer demand, or sight, deposits and consider them a useful financial service to households as well as an important supplemental source of funds. Where this is the case, asset management decisions should be fully cognizant of the behavior of these accounts and seek to direct these funds into shorter-term assets than long-term home mortgages.

Similarly, housing finance institutions usually have other liabilities, such as advances or loans from the central authorities, and many offer time certificates of deposit that have specific maturities ranging from three months up to several years. These types of liabilities should be considered by the housing finance institution as subject to payment upon maturity, and care should be taken to spread these maturity dates evenly through time to avoid the potential for having to pay out large sums within a short period of time.

Cost considerations are reflected both in the interest paid on deposits and in the direct costs of administration of the savings

department (wages, salaries, equipment, office supplies, etc.).

The role of interest rates in savings mobilization has been discussed in an earlier chapter in the context of providing an inducement to save. Interest costs and administrative costs should, however, be considered in conjunction since there is a sense in which they trade off against one another. For example, suppose that a housing finance institution offers demand, or sight, deposits against which checks can be written, that no interest is paid on these accounts, and that the administrative costs incurred by the institution amount to \$0.25 per check. Assume further that such funds can be lent short-term at 10 percent, or 0.833 percent per month. If an average of 25 checks were written against the average account every month, that average account would have to contain \$750 for the institution simply to recover its administrative costs. By contrast, the institution could pay 8 percent on a \$750 savings deposit account which had, say, two transactions per month at \$0.25 per transaction, lend the funds long-term at 12 percent, and realize a gross profit of \$7.00 a month. Even lending the funds short-term at 10 percent would yield a profit of \$0.75 per month on a \$750 account.

Savings promotion programs are, of course, intended to produce growth of deposits, yet they are not costless. And the lower the rate of interest offered on deposits, the greater, generally, will have to be the savings promotion effort and hence the greater will be the administrative costs attributed to the savings department. Conversely, the higher the interest rate, the less should be the need for an intensive savings promotion program; the higher will be the interest cost, of course, but the lower will be the costs of administration. Similarly, the lower the costs of administering the accounts, the higher the rate of interest paid on deposits *can* be.

Management must discover by market analysis and experimentation the best combination of interest rates, deposit types, and savings promotion efforts that will generate and induce growth of a broad, stable savings base. The management information system, which provides data on the costs and the results of these operations, is the manager's most useful means of accomplishing this task and of continuously monitoring the process to determine when changes are required.

LOAN ADMINISTRATION AND ASSET MANAGEMENT

Loan Administration

Loan administration refers generally to the origination and servicing of loans—reviewing and processing loan applications, appraising property values, preparing and registering loan documents, disbursing

the loan proceeds, collecting and accounting for loan repayments, and taking necessary action on delinquent payments and loans in default.

Management's principal tasks with regard to these activities are to establish the criteria against which loan applications are to be accepted or rejected, to specify the terms upon which loans are to be granted, and to set policy for the treatment of delinquency and default.

Every financial institution attempts to grant only those loans that it can confidently expect to be repaid on time and in full. This concern must be reflected in criteria upon which loans are granted and in the loan terms that the institution offers. Implementation of these criteria, however, is the responsibility of the personnel of the loan department; it is management's responsibility to select these personnel carefully.

Loan officers—those who receive and analyze loan applications and make recommendations to the loan committee—should not only be completely familiar with the institution's lending policy and loan criteria, they should also be knowledgeable of the types of economic activity in which loan applicants are engaged, be aware of the reputations of the builders and developers active in the area, and be familiar with the social and economic context of each lending area. While these characteristics in loan officers are important in any lending institution, they are especially important in developing countries where the credit history of most loan applicants is informal and where standards of privacy regarding financial information is a stronger custom than in most developed countries.

For example, the economic pattern in rural or small-town areas may be one in which each household head has several sources of income, but regards his primary source of income as his "occupation," perhaps for tax purposes. On the loan application, the potential borrower would write in this occupation and indicate the income derived from it, but unless the loan officer knows that multiple sources of income are common to the loan applicant's region and primary occupation, it might not occur to him to ask if the loan applicant were also part-owner of a taxicab, rented his tractor or truck to others on occasion, or owned a vegetable stand that his wife operated. Without this information, the loan officer might conclude that the downpayment the loan applicant was prepared to make had not been derived from income but had been borrowed from friends or relatives and that the loan applicant could not really afford to repay the loan being requested. Such a conclusion would be unfortunate for both the potential borrower and the lending institution.

Loan criteria are, therefore, insufficient to assure sound loan underwriting; much depends on the knowledge and judgment of the

loan officer who analyzes the loan application. Personnel selection procedures and loan officer training programs should emphasize this point.

The criteria for loan approval are typically structured in three main dimensions, with a number of subsidiary aspects to each. These are the potential borrower's income and asset position, the value of the property, and the borrower's prior debt repayment record. Although all of these aspects of the potential borrower's financial position are important, income is probably the most important of these. Most delinquencies occur because of an interruption in the borrower's income stream—sickness, unemployment, crop failure, a decline in business receipts—not from some attempt to defraud the lender.

In evaluating the loan application, therefore, care should be taken to determine the level, stability, and prospective growth of the potential borrower's income, including secondary sources of income that may be derived from the economic activity of other family members and from other business ventures in which the potential borrower may be engaged. Additionally, other claims against the loan applicant's income must be identified. This assessment leads to a determination of the potential borrower's *discretionary* income, which should be the basis for determining his debt-carrying capacity. Although it may be obvious, it is still worth noting that if the potential borrower is renting housing at the time of the loan application, the rental payment should be included in his discretionary income, not subtracted from it. Clearly, as a homeowner, the mortgage payment would be made in lieu of rent.

Consideration of the rental payment may also be one of the few, and perhaps the only, means the housing finance institution has of determining the loan applicant's prior debt repayment record. In most developing countries, consumer credit is uncommon, most transactions being made in cash. A record of prompt rental payments to a landlord may, therefore, be the only substantive evidence of the potential borrower's willingness and ability to pay.

Where even this kind of evidence is lacking, some housing finance systems adopt lease-purchase arrangements, through which the borrower's loan application is approved subject to a satisfactory payment record over a three- to five-year period under a lease arrangement. During this period, the institution retains full title to the housing unit and the borrower is entitled only to a leasehold. Rental payments, however, follow the mortgage loan payment schedule and upon completion of a satisfactory payment record over the lease period, title passes to the borrower subject to the mortgage held by

the institution. The borrower's equity conveys as if he had held title from the beginning. Of course, if the borrower fails to meet the scheduled payments, the institution can proceed against the lease under laws governing the relationship between landlords and tenants, which can usually be implemented more quickly and less expensively than would be the case under the laws governing foreclosure.

Property value appraisals in developing countries are usually made on the basis of the cost of construction, and it is not uncommon for housing finance institutions to require that the loan applicant have clear title to the land on which the dwelling is to be constructed before considering the application, even though the mortgage takes as collateral both the land and the dwelling unit. While this approach is clearly within the bounds of prudent lending, it may be excessively so and may consequently limit the institution to a comparatively small market.

The loan-to-property-value ratio is nevertheless a central element in the loan terms offered by the institution. High ratios, of course, reflect a more liberal lending policy than low ratios. Management must judge, in this context, what ratio represents "adequate" security for the loan. In one sense, the lower the loan-to-value ratio, or the greater the value of the potential borrower's own wealth that the borrower is willing to pledge against the loan, the greater is the lender's confidence that the borrower intends to repay the loan and that the borrower's own assessment of his ability to repay is high. Low loan-to-value ratios, however, also limit the institution's market by limiting the number of eligible borrowers. Yet there is also a sense in which low loan-to-value ratios permit the institution to spread its limited resources over a larger number of borrowers and thus to expand its market.

Similar conflicting considerations attach to the establishment of terms to maturity. Other things being equal, the longer the term to maturity of the loans granted by the institution, the lower is the periodic payment and so the larger should be the number of families who are able to afford to borrow. But the shorter the term to maturity, the more rapidly outstanding loans will be repaid, thereby increasing the opportunity for others to borrow.

Experience around the world suggests a wide range of variation in these elements of loan policy; loan-to-value ratios range from as low as 20 percent to as high as 95 percent (in some cases where government guarantees are available, up to 100 percent). Terms to maturity also vary substantially, from about 7 years up to 30 years. Although the most common terms indicate loan-to-value ratios between 70 and 80 percent and loan maturities of 15 to 20 years, each manager must

decide what terms his institution will offer on the basis of his own perception of the market in which he operates and on the basis of the institution's goals and objectives.

As to income limitations, somewhat greater unanimity seems to exist among housing finance institutions around the world. The vast majority limit loan amounts to those that will require the borrower to devote no more than 25 percent of his income to the mortgage payment, although wide variations exist among institutions regarding their determination of what constitutes "income" in making this calculation. A liberal lending policy would permit the inclusion of income derived from secondary sources, whereas a conservative policy would not.

The essence of a sound and effective lending policy is simply that it assures the institution that the payments required by the loans granted are within the borrowers' ability to pay and that should this become impossible, the value of the property is sufficient to permit the recovery of the principal balance of the loan plus accrued interest and the legal costs of foreclosure.

Delinquencies and defaults reflect the extent to which the lending policy or the administration of that policy has proven ineffective. Delinquencies and defaults will nevertheless occur and one of management's tasks is to devise a delinquency control program that minimizes them.

Virtually all housing finance institutions employ a reminder system that notifies the borrower when a loan payment is overdue. Generally a loan is considered delinquent when a payment is one month overdue and is considered in default when three successive payments have not been made. The standard procedure is then to turn over the account to the institution's legal counsel to proceed with foreclosure.

Foreclosure should be the last thing that a housing finance institution wants to happen; it is administratively expensive, it is harmful to the institution's image in the community, and it reflects a failure of all of the policies and programs introduced by management to prevent it from occurring. Because no good can come from default and foreclosure, management is warranted in taking special pains to assure that its delinquency control program is effective.

In this regard, management's analysis of the causes of delinquency and default is an essential ingredient. In most cases, this analysis will reveal that delinquency occurs because of illness, loss of employment, divorce, death of the head of household, or unusual and unanticipated expenses associated with one or another family

calamity. There are a variety of things that management can incorporate into its delinquency control program to prevent these circumstances from becoming defaults.

Most housing finance institutions require that hazard insurance be written on the dwelling unit to protect the collateral value from loss through fire, flood, or natural disasters. But the need for mortgage insurance is often overlooked. Such policies can be written against the life of the borrower so that in the event of his death, or disability, the mortgage is paid and the institution is not placed in the position of having to compound the family's difficulties by foreclosure and eviction.

In less dire circumstances, the institution's delinquency control program can include provisions for forbearance and debt re-scheduling. For example, if a borrower loses his job or becomes ill and cannot work, a forbearance agreement can be developed that permits the borrower to make no payments, payments of interest only, or partial payments for up to several months until he returns to work. Such a forbearance agreement might extend the term of the loan or capitalize the shortfall in payments and serve to reschedule the loan, depending upon the circumstances of each case.

Determining those circumstances and responding to them in an understanding way, of course, require the personal attention of the staff of the housing finance institution's loan administration department. This approach may appear to be administratively expensive and it certainly is not costless, but such costs will frequently be less than the cost of foreclosure and the process will earn good will for the institution in the community whereas foreclosure usually has the opposite effect.

Not all delinquencies arise from circumstances beyond the borrower's control. In these cases, the provisions of the mortgage contract should be rigorously enforced, for if they are not, the community will recognize that the institution's procedures are lax and delinquency will spread. One means of protecting the borrower against himself and assuring timely repayment of the loan that is employed in many countries is the "check-off" system. The borrower instructs his employer, by prearrangement with the housing finance institution, to deduct the mortgage payment from his wages and remit it directly to the institution. This approach works reasonably well for borrowers who have stable employment.

Asset Management

Asset management, like liability management, is a more technical aspect of operations than loan administration.

One of the first asset management decisions that must be made regards the institution's cash position. Cash assets, particularly vault cash, earn no interest. Experience will dictate the percentage of assets that must be held in cash, but asset management must nevertheless seek to minimize this amount.

Most housing finance institutions do not restrict their lending activity exclusively to long-term mortgages and an important element of asset management involves determining what proportion of the institution's assets should be devoted to these other types of loans. Among these are loans for home improvements, which typically have short maturities relative to mortgage loans for the construction or purchase of completed dwelling units; construction loans to developers, which are also short-term; industrial financing of building materials industries, which can range from short- to intermediate-term; and short-term consumer loans. Although long-term mortgage loans generally comprise 70-80 percent, or more, of an institution's portfolio of earning assets, these other types of loans serve to shorten the average maturity of the loan portfolio and provide additional flexibility for portfolio adjustments. Moreover, these other types of loans often yield slightly higher rates of interest than long-term mortgages, primarily because they are perceived to entail higher risk to the lender.

Many housing finance institutions also hold part of their portfolio in the form of the debt issues of other institutions. Such issues are commonly government debt, but they may also include the debt issues of municipalities, the sewer, water, and electric utilities, and public housing authorities.

In determining asset composition, management must consider five basic elements—risk, yield, the relative cost of originating and servicing the loan, the cash flow, and the public's perception of the institution's lending activity.

First consider the public's perception of the institution's lending activity. All financial institutions are important to a community's economic well-being, but the community's perception of these benefits differs. Commercial banks, for example, contribute to employment creation by lending to business and new jobs directly benefit households in the community. The public, however, sees the firm as the benefactor and only dimly perceives, if at all, the role of the commercial bank in making those new jobs available. The benefits of mortgage loans granted by housing finance institutions, however, are perceived as directly benefiting individual households within the community. Inasmuch as housing finance institutions are supported primarily by household savings, any significant departure from home financing is

likely to be perceived negatively by the community. For example, construction financing or the financing of building materials industries might be higher-yielding, lower-risk, shorter-term investments than mortgage loans for a housing finance institution, and might be just as productive from an economic point of view, yet if such investments constitute a substantial proportion of the institution's portfolio, say 40 percent or more, it runs the risk of losing its identity as a housing finance institution devoted to helping families improve their standard of living through homeownership. As discussed earlier, this identity is a valuable one in terms of savings mobilization, and whatever the technical requirements of asset management in terms of yields, maturities, and cash flow, a housing finance institution should be at some pains to preserve its image as a mortgage loan specialist.

Within this context, it is a reasonable approach to asset management to establish portfolio composition targets for cash and home mortgages, leaving a proportion of the portfolio available for all other types of loans and investments to vary according to yield, risk, and cash flow considerations.

ADMINISTRATIVE COST CONTROL

The control of administrative costs associated with savings administration, loan administration, and the general overhead is a management task that is frequently neglected in developing country housing finance systems, particularly in the case of public sector institutions.

In some countries, this appears to occur because government agencies are used to artificially create employment. No judgment will be made here as to whether this approach is preferable to welfare programs or to open unemployment, but the management of a housing finance institution should nevertheless be cognizant of the cost implications.

Standards of appropriate administrative costs suggest that total administrative costs (wages, salaries, equipment, office supplies), including overhead costs, should be approximately 15 percent of the gross revenue, or operating income, of the institution. The direct costs of savings promotion and administration should represent about 50 percent of total administrative costs, or 7.5 percent of gross operating income; the direct costs of loan administration should account for approximately 25 percent of total administrative cost, or 3.75 percent of gross operating income. Overhead costs should also approximate 25 percent of total administrative costs, or 3.75 percent of gross operating income.

Eighty-five percent of gross revenue is therefore available to pay

interest expense, to provide for additions to capital, and to pay taxes, if taxes are levied on the institution's income.

The more closely the management can hold its actual costs to these standards, the less difficulty it will have in maintaining the adequacy of the institution's capital.

MAINTENANCE OF CAPITAL ADEQUACY

The capital of a financial institution relative to its assets, particularly its risk assets, reflects the ability of the institution to sustain losses without impairing its ability to pay its deposit liabilities. Conventional standards suggest that the ratio of an institution's net worth, or capital, to its risk assets should be about 5 percent, indicating that 5 percent of these assets could be in default before the institution would become insolvent. This rule obviously will depend upon the institution's default experience over time. In some circumstances, capital may *not* be adequate at the 5 percent level.

Whatever the standard, it is clear that as the institution grows, its capital must also grow to maintain its solvency. The fundamental method whereby this is accomplished is through the retention of earnings. For housing finance institutions established on the mutual principle, under which the depositors are technically the stockholders, there is no other way. For government institutions, additional capital can be appropriated, and for stock-charter institutions, whose capital is owned by shareholders who are not necessarily depositors, new issues of stock can be sold. The success of the issue will generally depend, however, on the institution's earnings stream, so that the fundamental issue remains the ability of the institution to maintain an adequate spread between its revenue and its expenses. Similarly, successive injections of capital by government belie the financial viability of the institution and constitute subsidization of the organization's operations.

The growth of net worth is not the only measure of a housing finance institution's success, but it is probably the most important indicator of the quality of its management, for it brings together all of the facets of asset and liability management and administrative cost control into a single measure of management effectiveness. A simple illustration may serve to establish this point.

Assume two hypothetical institutions, each with \$1,000 in deposit liabilities, \$50 in capital, and \$1,050 in assets, of which \$50 is held in cash. Both institutions pay 8 percent on deposits and charge 10 percent on loans, so that each pays \$80 in interest expense during the year and earns gross revenue of \$100 on its loan portfolio. Institution A

holds its administrative cost to 15 percent of gross revenue, or \$15, while Institution B manages to hold administrative cost only to 20 percent, or \$20. If neither institution pays taxes nor suffers defaults, Institution A will be able to increase its net worth at the end of the year by \$5, to a total of \$55 ($\$100 - \$80 - \$15 = \5). Institution B, however, will have no increase in net worth; its entire two-point spread between its deposit rate and its lending rate will have been absorbed by its interest expense and administrative cost ($\$100 - \$80 - \$20 = 0$). Institution B's capital will remain at \$50, so that if both institutions grow by, say, 10 percent during the next year, Institution B will have to change its policies and procedures to maintain the adequacy of its capital.

Against Institution A's competition, Institution B cannot reduce its deposit rate or increase its lending rate. It can only reduce its cash position and trim its administrative costs. Indeed, if the maintenance of capital equal to 5 percent of risk assets were a rigid requirement imposed by law or regulation, Institution B would not be permitted to grow until it had brought its costs into line with conventional standards, since with growth of 10 percent—\$10 in deposits and \$10 in assets, of which \$9.50 was added to earning assets and \$0.50 to cash—the ratio of capital to risk assets would fall to 4.6 percent.

As the preceding example illustrates, the growth of net worth serves in an important way to govern the rate of growth of the institution and the institution's growth strategy must give substantial weight to this consideration. Low rates of growth of net worth reduce the margin of safety in pursuing the objective of market expansion while high rates of growth of net worth create an array of options for market expansion.

GROWTH STRATEGY

The growth strategy of a newly established housing finance institution clearly must differ from that of a mature institution. It is generally inadvisable for a new institution to begin operations with a large variety of savings instruments and loan programs. Rather it should attempt to establish a base of earning assets in the heart of the potential market. The earnings stream from this solid core of loans can then sustain the growth of net worth as the organization perfects its policies and procedures and initiates new programs to expand its market outward from this central core.

The danger inherent in this strategy is that management may become complacent and neglect to exert the dynamic energy required to capture the full potential of its market. This danger must, of course,

be balanced against the danger of trying to do too many things at once in the early stages of an institution's development.

Under the rubric of its key responsibilities of establishing goals and objectives and defining realistic measures and standards of performance in the pursuit of these goals and objectives, management can and should specify growth targets in a general plan of action for market expansion. Although actual experience will require modifications in the plan over time, the act of preparing such a plan and its use by management in conjunction with the management information system in monitoring the performance of the institution can serve to establish a management style and pattern that guards against complacency.

For most, if not all, developing country housing finance systems, a substantial segment of the potential market exists in what is known as the "informal" sector of urban areas.

6

INFORMAL SECTOR FINANCE

In general, the "informal" sector of an economy or of an urban area is distinguished from the "formal" sector by the extent to which government is functionally cognizant of the activities carried on. To illustrate, most "informal" sector transactions are not taxed nor are they registered in the national income accounts. In more comprehensive terms, the International Labor Organization has defined the informal sector by the following set of characteristics:

- Family ownership of enterprises,
- Reliance on indigenous resources,
- Small scale of operations,
- Labor-intensive and adapted technology,
- Skills acquired outside the formal school system,
- Unregulated and competitive markets.

In most developing countries, a substantial proportion of the urban population lives and works in the informal sector. Squatter settlements constitute one of the most visible manifestations of the existence of the informal sector and the quality of shelter and community facilities in such settlements represents the most tangible evidence of the potential market for housing finance institutions.

To a significant extent, informal settlements have been the consequence of rural-to-urban migration inspired by the hope of broader employment and educational opportunities in the city than in the countryside. The migrants bring with them not only hope but ambition, initiative, and a willingness to help themselves. The very existence of informal settlements testifies to these qualities.

Formal sector institutions and local and national government agencies typically are slow to respond to the needs of these communities, partly because they lack the resources and partly because they have insufficient information about the informal sector. Consequently, the migrants transplant and adapt the traditional institutional patterns that they know from the countryside. A dual society and a dual economy come to exist in the urban sector.

Bridging the gap between the formal sector and the informal sector, between the modern and the traditional, between rich and poor, is one of the most significant tasks of development. It is also a task that demands new techniques and new institutional structures.

not simply a transfer of the techniques and institutions of the industrialized world. Moreover, the development of new approaches and the adaptation of existing ones to bridge these gaps are as much a question of the will to do so as it is a question of the application of one technique or another.

Techniques such as those discussed in the preceding chapters may be adaptable to various country circumstances, but the basis for making such adaptations depends very critically on an understanding of the techniques and institutional patterns that exist in the informal sector.

SELF-FINANCE

The most basic form of home financing in the informal sector is self-finance. Individual families simply draw from current income or borrow from relatives on a kinship basis to buy building materials or to pay small contractors to construct a room or lay a foundation. Current income in this context refers to all sources of family income, not simply the income drawn from the primary occupation of the household head. It is not at all uncommon in the informal sector for a household to have multiple sources of income—the husband may hold two or more jobs, the wife may operate a small enterprise or engage in part-time employment, and the older children frequently earn income from a variety of small tasks. These secondary and tertiary incomes usually escape the attention of government statisticians and, as a consequence, incomes in the informal sector are almost always substantially underestimated.

Even with multiple income sources, however, current income is often insufficient to construct a dwelling over a short period of time, and in areas where culture calls for brides to receive a dowry, funds for home construction are frequently raised by selling part of the dowry.

Furthermore, most of the equity invested in the shelter that typifies the housing stock of the informal sector is “sweat equity”—the labor of the family itself, aided on occasion by friends and relatives, in the construction of the dwelling.

TRADE CREDIT

Another form of financing common in some parts of the Third World is the extension of credit by small contractors and suppliers of building materials. In many cases, this kind of credit is not considered a loan, but the equivalent of interest is incorporated into a tiered-pricing system. In short, the longer the customer wishes to take to pay for the

work or for the materials, the higher is the price. Rough calculations of the implicit interest embodied in these arrangements is almost invariably higher than rates prevailing in the formal sector.

Small contractors and building materials suppliers who extend such credit are usually being financed to some extent by formal sector financial institutions, not simply by their own capital. There is, therefore, an established, but often unrecognized, linkage between the formal and informal sectors that could be expanded.

ROTATING CREDIT SOCIETIES

Rotating credit societies operate in all four major regions of the Third World—Asia, Africa, the Middle East, and Latin America. Generally formed by relatives and friends or, more broadly, by members of a community or neighborhood who are known to one another, the rotating credit societies are called by a variety of names—*tontine* in West Africa, *esusu* in Nigeria, *harambee* or *obilimba* in Kenya, *ekub* in Ethiopia, *sanduk* in Sudan, *gamiya* in Egypt, *char* in Thailand, *kye* in Korea, *ooi* in Hong Kong, and generally in Latin America as *sociedades mutuales*.

These informal and voluntary associations typically require that their members contribute a predetermined amount of money to the pool of funds on a weekly or monthly basis. Each member of the association has a right to the use of the funds (i.e., to borrow) under some established procedure.

African and Middle Eastern societies usually establish a rotation among their members by drawing lots, although local variations are common. In some cases, the funds pass to the member who expresses or demonstrates the greatest need. The "borrower" continues to make his regular contribution until the debt is fully repaid. Ordinarily, no interest is charged or paid, the major benefit of the society being regarded as the access to "credit."

Asian societies generally do require the payment of interest. Like their African counterparts, the members of the group meet at the time their contributions to the pool of funds are due. Each member submits a bid representing the amount of money he is willing to pay for the use of the funds in the pool. The highest bidder "wins" the pool and is obliged to repay the amount he has bid, i.e., an amount greater than the pool—the conceptual equivalent of principal plus interest. The amount corresponding to interest usually remains in the pool until a predetermined time when the pool, including the interest payments, is divided among the members in proportion to their contributions to the pool. Obviously, yields can vary substantially from one time to another

and between associations. One recent study of Korean *kye* societies, however, found that about 65 percent of households in Seoul were members of *kye* societies, that their contributions amounted to approximately 7 percent of monthly income, and that interest earned averaged about 4 percent *per month*.

The uses to which these funds are put range across a variety of activities. Often the funds are used for small business financing. It is known, however, that home construction and home improvements are financed through rotating credit societies. Inasmuch as the terms of "loans" are generally short, this type of financing is suited to the incremental construction techniques so common to the informal sector.

The similarities between these rotating credit societies and the early building societies and mutual savings and loan associations are striking. Absent are the loan applications, credit reviews, property appraisals, mortgage documents, and government regulations of their modern descendants. Present still is the spirit of mutual aid in common purpose.

The principal shortcoming of the various types of rotating credit societies is that they fail to realize the economies of scale that would facilitate broader access to funds and increased extension of credit. It should be recognized, however, that these societies offer a potential approach to integration of the formal and informal sectors.

BRIDGING THE TWO SECTORS

In some Third World countries, efforts are underway to link informal sector financial institutions to formal sector institutions. There are three basic approaches being employed.

Outreach

The first of these is essentially an "outreach" approach by a formal sector financial institution. There is no standard pattern, but some of the elements of various approaches are as follows:

- Mobile branches of the formal sector institution make regularly scheduled visits to squatter areas to collect savings and receive loan applications.
- Existing employees of the financial institution are paid commissions for generating new accounts and servicing loans in informal sector communities during their off-duty hours.
- The formal sector institution enters into agreements with a network or "agents" who are not employees of the institution to act as intermediaries between the institution and the agents' communities; this technique appears to be used most prevalently in

loan origination and servicing rather than in savings mobilization and the agent usually remains responsible for delinquencies and defaults.

Mutual Accounts

The second approach is that of offering "mutual accounts." This approach seems to have its origin in sub-Saharan Africa, where it remains common for rural-to-urban migrants to maintain their ties to the village. Although directed principally toward the rural sector rather than the urban informal sector, it is but a short conceptual step to applying this technique to bridge the formal and informal sectors. The mutual account is structured as follows.

- The mutual account is established in the name of the village by village members who are working in the urban sector.
- The village representatives are responsible for collecting savings from the village and from other members of the village working in the urban sector.
- The housing finance institution agrees to make a loan of a specified amount when savings in the mutual account reach a predetermined level. The proceeds of the loan are used for building homes and community facilities, such as schools and clinics, in the village. Loan repayment is made through the village representatives.

Although the cultural and kinship bonds among members of the same village are stronger than could be expected to exist among members of a neighborhood in a squatter settlement, the potential clearly exists for this approach to be applied in the urban sector to rotating credit societies that have already established an identifiable organization or to new organizations established around a common desire for home improvement or home construction.

Affiliation

The third approach entails a more structured relationship between informal sector financial organizations and formal sector financial institutions, one that might be developed directly or evolve from the establishment of mutual accounts.

Essentially, rotating credit societies or their equivalent become "affiliates" of the housing finance institution, in a manner similar to the relationship that exists between correspondent banks. The affiliates are community-based, their organizers or administrators are known to the community, and the community is known to them. These characteristics are essential to the establishment of confidence in the

deposit relationship between the individual and the institution and to sound loan underwriting and loan administration in the informal sector.

While the informal sector organization offers the understanding and knowledge of the specific market area, the formal sector housing finance institution offers to the affiliate management advice, accounting service, and access to a much larger pool of loanable funds than the affiliate could develop for itself operating independently.

The institutional details of the affiliation approach will, of course, vary from one country to the next, but there are several general principles that all should observe.

First, affiliation, rather than branching of the housing finance institution, is designed to take advantage of an existing set of informal financial organizations that have already developed techniques for mobilizing savings and making loans in the informal sector. The scale economies achieved through affiliation should serve to make these techniques more effective; the affiliation process should *not* serve to supplant those techniques with the standard operating procedures of the formal sector institution. This is not to say that no improvements in the techniques and procedures employed by the informal sector affiliate cannot be made, but that the affiliate should have discretion in its underwriting and loan administration practices and procedures, since these are adapted to the economic and social circumstances of the informal sector.

Second, in lending to affiliates, the formal sector housing finance institution will almost invariably have to modify some of its own procedures. The usual income and collateral requirements employed in formal sector lending may simply not be applicable for informal sector lending. In general, the use of short- to medium-term lines of credit, or advances, renewable with a satisfactory repayment record, would seem to constitute the device least disruptive of the formal sector institution's existing loan policies and procedures.

Third, while there are a variety of ways in which government can support the affiliation of informal sector financial organizations with formal sector housing finance institutions, there are real dangers in the excessive application of supervision or the imposition of a regulatory framework. Supervision and regulation almost invariably entail a large volume of documentation, whereas informal sector economic relationships are based on mutual trust enforced by sanctions that are usually more compelling than formal sector legal proceedings. Moreover, there are many who live and work in the informal sector who do not read or write. Legal documents, applications, and so on are of

little consequence to them and are likely to be viewed with a degree of suspicion that would hamper efforts to build institutional bridges to the informal sector.

The affiliation of a rotating credit society with a formal housing finance institution could be established without the need for large-scale government regulation or supervision and without the imposition of the formal sector institution's standard loan underwriting criteria. The basic elements of the financial relationship could involve a combination of blocked compensating balances and a medium-term, renewable line of credit, say ten years, with the limit on the line of credit set at a relatively low multiple of the blocked compensating balance. To illustrate, assume that a rotating credit society is established by ten families for the purpose of mutual aid in financing the construction of their own homes. Assume further that each family has accumulated savings of \$200, so that the total pool amounts to \$2,000. None of the families have regular employment or stable incomes, although they have several sources of income. Each family is known to every other family through kinship, village origin, and/or by virtue of living in the same community.

Upon affiliation with a formal sector housing finance institution, their pool of savings is deposited in a blocked compensating balance and a line of credit equal to, say, twice the blocked balance, or \$4,000, is established in the name of the society. The blocked balance earns the standard rate of interest paid by the institution, say 7 percent, and interest of, say, 10 percent, is charged on the outstanding balance of the line of credit. Draws against the line of credit must be made in, say, \$500 increments to minimize the administrative cost burden on the formal sector institution. Repayment terms would be made to coincide with the normal contributing meetings of the society—weekly or monthly—but to accommodate the irregularity of income streams and to minimize administrative cost, loan repayment might be *scheduled* on a quarterly basis. The weekly or monthly payments made by the society would, in this case, be paid into the blocked compensating balance and the housing finance institution would simply draw against the blocked balance when a scheduled payment was due. Such provision might not, of course, be necessary, but the existing information on informal sector finance is not completely consistent. Some information indicates that income streams are unstable and that families save mainly out of "windfall" income or by extreme sacrifice while most of the information on rotating credit societies suggests that at least the families who are members of these societies save on a very regular basis.

The line of credit could be increased by enrolling new members in the society to increase the blocked compensating balance and, for reasons to be indicated below, this should be encouraged. New credit against the line could, of course, be made available as the outstanding loan balance is reduced by repayments.

There are three kinds of security for the line of credit. The first, obviously, is the blocked compensating balance. The second is the fact that the line limit is set low enough to accelerate the pace of an incremental, self-help construction program, but not so high that the original members of the society could immediately complete their dwellings and leave the housing finance institution with recourse only to the blocked compensating balance. The third form of security is the community pressure exerted by the members of the society, or affiliate, on any member who irresponsibly falls delinquent in making his contribution to the pool. All three of these forms of security would be enhanced if the society expanded its membership over time, since expansion maintains within the society a group of families whose interests lie in maintaining the affiliation in good standing because they have not yet completed their dwellings.

In allocating the proceeds of a draw against the line of credit, the affiliate is left to operate under its own procedures. The necessity for the housing finance institution to conduct credit reviews, complete loan applications, and otherwise follow its standard loan underwriting procedures is therefore obviated.

For several reasons, however, the affiliates should be dealt with by a special department of the formal sector housing finance institution. First, a special group would be needed to coordinate the program with the regular line departments of the institution, since every teller, loan officer, and accountant cannot be expected to gain complete familiarity with the affiliate procedures. Second, the affiliate would likewise need an interface with the formal sector institution to handle procedural problems as they arose. Third, the special department could serve also as a technical assistance unit for the affiliate in improving its procedures, promoting the program in the informal sector, and in assuring that the funds drawn against the line of credit were used wisely and for the intended purposes. Finally, the special department could also serve as an advocate for the affiliate with the municipal or national governments with regard to building permits, the provision of infrastructure, land titles, and a host of other problems that low-income families face in dealing with officialdom.

The special department's role in serving the interests of the formal sector housing finance institution should include the promotion

of pure savings from the informal sector through the affiliates. Members of the affiliate who have completed their dwellings and repaid their loans must be encouraged to continue saving through the affiliate. Such savings, of course, would have to be made through an affiliate account other than the blocked compensating balance so that these savers would have access to their funds when needed. This would be a relatively simple matter to handle through procedures that the special department could assist the affiliate to establish. In time, it is possible to visualize the affiliate being transformed from a rotating credit society into a branch of the formal sector housing finance institution with a savings flow sufficient to sustain lending operations not only to members of the community in which it is located but also to other, newly established affiliates.

In the process, the formal sector housing finance institution would have made progress in the achievement of one of its key organizational objectives—market expansion through the provision of housing finance for an increasing number of families.

Housing finance systems around the world have the special role and function of making it possible for families to own their own homes. Third World countries face special problems in meeting this responsibility, of which bridging the gap between the formal and informal sectors is one of the most difficult. But the difficult is not also the impossible. The very existence of housing finance systems in Third World countries and their growing strength are ample testimony to the fact that obtaining decent shelter is one of the most powerful motivations that families have for saving and that, with adequate institutional support, those savings can be transformed into a better life for all.

BIBLIOGRAPHY

- Christian, James W. "Housing for Lower-Income Families: Macroeconomics and Finance," *Proceedings of Third Conference on Housing in Africa*. Washington, DC: Office of Housing, U.S. Agency for International Development, 1976.
- _____. "New Mortgage Instruments Broaden Lending Horizons." *National Savings and Loan League Journal*, March 1976.
- _____. "Savings Mobilization for Housing Finance." United Nations Conference on Housing Finance. Nairobi, 1978.
- _____ and Pagoulatos, Emilio. "Domestic Financial Markets in Developing Economies: An Econometric Analysis." *Kyklos* 26 (1973): 75-90.
- _____. "Foreign Capital, Domestic Finance and Saving in Developing Countries." *Economia Internazionale* 29 (1976): 1-8.
- Currie, Laughlin. *Accelerating Development*. New York: McGraw-Hill, 1966.
- Elliott, Sean M. *Financing Latin American Housing: Domestic Savings Mobilization and U.S. Assistance Policy*. New York: Praeger, 1968.
- Federal National Mortgage Association. *A Guide to Fannie Mae*. Washington, DC: FNMA, 1979.
- Giersch, Herbert, et al. *Essays on Indexation and Inflation*. Washington, DC: American Enterprise Institute, 1974.
- McKinnon, Ronald I. *Money and Capital in Economic Development*. Washington, DC: The Brookings Institution, 1977.
- Melton, Carroll R. *Housing Finance and Homeownership: Public Policy Initiatives in Selected Countries*. Chicago: International Union of Building Societies and Savings Associations, 1978.
- Robinson, Harold. "Readjustable Mortgages in an Inflationary Economy—A Study of the Israeli Experience." *Journal of International Law and Economics*, January 1971.
- Strassmann, W. Paul. "Measuring the Employment Effects of Housing Policies in Developing Countries." *Economic Development and Social Change*, April 1976.
- Sweet, Morris, and Walter, George. *Mandatory Housing Finance Programs: A Comparative International Analysis*. New York: Praeger, 1976.
- United Nations. *Non-conventional Financing of Housing for Low-Income Households*. New York: UN, 1978.

_____. *Policies and Techniques for Mobilizing Personal Savings in Developing Countries: Report of an Interregional Workshop*. New York: UN, 1976.

_____. *Review of Sources and Methods of Financing Housing and Urban Development in Africa*. New York: UN, 1970.

United Nations Commission for Africa. *Indigenous Savings Associations in Eastern Africa and the Mobilization of Domestic Savings*. New York: UN, 1968.