

Foundations of Housing Finance

IN *The Mystery of Capital* (2000), Hernando de Soto calculates that the value of real estate is worth more than the gross domestic product (GDP). In Peru, the value of real estate is 1.25 times the value of GDP, and in Haiti it is 1.5 times. However, the value of mortgage loans barely amounts to 2.9 percent of GDP in Peru and is more than 10 percent of GDP only in Chile and Panama. By contrast, in the United States mortgage loans represent around 80 percent of GDP, and the average for European Union countries is more than 40 percent of GDP. Atrophied mortgage lending in Latin America is not only due to the low financial depth of the economies; mortgage lending is also a modest fraction of the assets of the financial system (see Table 15.1).

This chapter analyzes the causes of low housing finance in Latin America, taking into account the experience with the main policy instruments that have been used to broaden access to mortgage financing. These include state mortgage banks, various subsidy systems, and private mortgage lending systems. The issue is relevant for economic growth and well-being because the construction sector can be a powerful engine of economic growth and housing ownership may be a source of other desirable effects, such as reduced poverty and improved civic behavior (Erbas and Nothaft 2002). In addition, a smoothly functioning housing finance system can contribute to the development of the financial system and the capital market.

WHY THERE IS SO LITTLE HOUSING FINANCE

Why the region has such low levels of mortgage financing is an intriguing question. Because housing represents the largest investment in physical capital made by families and its usefulness lasts for decades and even generations, it would be desirable for families to be able to finance it over long periods. From the standpoint of lenders, housing finance offers the advantage of a guarantee because, contrary to what happens with many

other assets, there is a market for used housing and a house is an asset that depreciates slowly and cannot be concealed. Four fundamental reasons explain why there is little housing finance in Latin America and developing countries in general: (i) the inability of families to pay, (ii) obstacles to using and recovering collateral in the event of default by the borrower, (iii) the risk of interest rate fluctuations, and (iv) the maturity risk assumed by the lender in committing funds for the life of the loan.

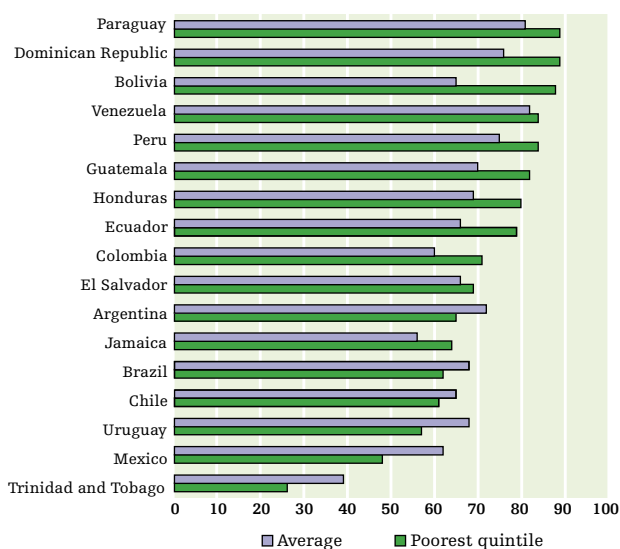
Inability to Pay

Inability to pay due to the low and unstable incomes of potential borrowers is a major reason for the low level of mortgage credit. Access to credit is strongly correlated with income level. For example, Gandelman and Gandelman (2004) estimate that the probability of access to mortgage lending rises 4 percent for every 10 percent increase in household income, based on household surveys for Uruguay. The problem is especially serious in Latin America due to sharp income concentration in the upper levels and high rates of poverty and informal employment. Typically in the countries of the region, the wealthiest 10 percent of the population receives half the income, approximately half the population lives on per capita income of less than two dollars a day, and one of every two workers does not have a stable source of revenue in the formal sector (IDB 1998; de Ferranti and others 2004).

Although there seems to be no solution to the problem of lack of access to credit due to inability to pay, such an argument ignores the fact that a significant proportion of low-income families own their homes. Indeed, Figure 15.1 shows that home ownership not only is high in the poorest income quintile in most countries, but differs little from the national average. Rates of ownership have risen considerably over time: half a century ago one of every three Latin American families owned its own home, whereas today two in three families are homeowners (Table 15.2). Thus, it seems that insufficiency of funds has not prevented a signifi-

TABLE 15.1 FINANCIAL DEPTH OF MORTGAGE LENDING IN SELECTED COUNTRIES

Country (year)	Percentage of GDP	Percentage of total credit	Source
Argentina (2001)	4.0	15.0	Cristini and Moya (2003); IDB calculations
Bolivia (2001)	8.6	16.3	Morales (2003)
Chile (2001)	10.8	17.7	Morandé and García (2003); Cámara Chilena de Construcción
Colombia (2001)	7.0	25.0	Cárdenas and Badel (2003)
Panama (2002)	24.4	26.4	Republic of Panama (2003); IDB calculations
Peru (2001)	2.9	9.5	Eyzaguirre and Calderón (2003)
Mexico	2.1	13.5	IDB calculations based on data from the Comisión Nacional Bancaria y de Valores de México
Uruguay (2001)	7.0	15.7	Gandelman and Gandelman (2003)
United States	79.6	87.2	Dübel (2004); IDB calculations
European Union	42.6	41.0	Dübel (2004); IDB calculations

FIGURE 15.1 Housing Ownership by Income Quintile (Percentage of households)

Source: De Ferranti and others (2003).

cant increase in home ownership, despite low coverage by formal credit.¹

It might be that incomes are insufficient because the housing owned by many people does not meet minimum standards of quality. A growing percentage of houses in large cities are in self-built neighborhoods that initially lacked basic services and other minimum conditions of quality. In Mexico City in 1990, 60 percent of the population was living in this type of neighborhood, compared with only 14 percent in 1952. Lima and Caracas have experienced a similar trend. However,

although self-built neighborhoods have gained importance, the quality of housing has improved according to all available indicators (Gilbert 2001). Self-built neighborhoods may have precarious beginnings, but they tend to become normal neighborhoods, not only with better infrastructure services, but also with better quality construction and a more finished appearance. Hence, the usual case is not that a family cannot pay for a house, but that it manages to do so over time, even without borrowing from the formal financial sector. The capital accumulated in informal housing, which cannot be used as collateral to obtain a loan, is proof of a huge savings effort by middle and low-income families. De Soto (2000) calculates that the value of informal urban housing in Latin America in 1997 was \$1.63 trillion dollars, or 82 percent of the region's GDP that year.

Hence, inability to pay is one reason that is less conclusive than is generally claimed as an explanation for the low level of mortgage credit. Nevertheless, a housing loan provider may perceive a high risk of non-payment, even if the borrower has the ability to pay. A reason why this may occur is the asymmetric character of information, resulting from the fact that the borrower cannot prove that his or her sources of income are sufficient. Another reason is the instability of the borrower's income, which raises the risk of default on installments, even when the borrower might have the ability to pay while the loan is in effect.

¹ The effectiveness of some informal lending mechanisms has been the basis for the development of housing-oriented micro lending systems, which are not the topic of this chapter. See Daphnis and Ferguson (2004).

TABLE 15.2 FAMILY HOME OWNERSHIP
(Percent)

City	1947-52	1970-73	1990-93
Mexico City	25	43	70
Guadalajara	29	43	68
Bogotá	43	42	54
Medellín	51	57	65
Santiago	26	57	71
Rio de Janeiro	33	54	63
Buenos Aires	27	61	72

Source: Gilbert (2001).

Among borrowers in Chile, the likelihood of making payments on time drops by 5 percent when the borrower does not have an employment contract and hence is exposed to less stable income.² As substantial as it is, the estimated rate underestimates the influence that income instability ought to have on access to credit because it comes from information on actual credit users, thereby excluding potential customers who did not have access to credit.

Obstacles to Recovering Collateral

Difficulties in the use and recovery of collateral guarantees may be the single most important reason why there is so little mortgage financing. The absence of deeds and deficiencies in deed registration systems works against potential borrowers and keeps them from using their property as collateral. These problems are especially serious in large cities in Latin America, where most housing has been built in informal settlements. De Soto (2000) highlights the importance of this issue, calculating that two-thirds of the housing and building stock in Latin America lacks deeds that could be used for loan guarantee purposes.

Even homeowners who hold proper deeds may not have access to credit or may have access only under very onerous conditions because of the difficulty lenders face in recovering the collateral when the borrower defaults on the contract. Failure to meet these conditions usually entails the lender's evicting the people living in the house. Although accepting the logic and legality of such a decision, society tends both to create controls to prevent wrongful eviction decisions and to accept delays or alternative solution mechanisms to avoid eviction. If these controls and practices are excessive, loan contracts will lose credibility, and potential

lenders will stop granting financing or will do so under conditions unattractive to borrowers, thereby severely limiting financing coverage.

Several recent studies indicate that recovery costs are a serious problem in Latin America (Box 15.1 and Table 15.3). In several of the countries examined, the costs of recovering the guarantees absorb a quarter to a third of the value of the debts and may take from one to three years. Even where the costs are low, as in Peru, lenders may incur large losses through the use and depreciation of the property. In other cases, such as in Bolivia, where the recovery process has been expedited, the cost is high for low-cost properties, thereby in practice excluding from the market a large portion of potential borrowers. Evidence on Argentina suggests that poor functioning of judicial systems may severely affect the costs and duration of recovering collateral and substantially reduce lending to families.

Real Interest Rate Fluctuations

The third reason that may explain the lack of mortgage credit is interest rate instability. The typical annual variation in the real interest rate for borrowing is 5.3 percentage points in Latin American countries, whereas in developed countries it is 1.6 percentage points. In Argentina, Brazil, Ecuador, and Peru, the typical real interest rate variation in the past decade was between 17 and 18 percentage points, and only in Belize and Panama was it similar to or less than in developed countries.³

Because the cost of borrowing on financial markets is unstable, the financial system prefers to transfer this instability to those seeking credit. However, a mortgage borrower may not be capable of undertaking such a risk because the value of a house equals several years of a family's income. According to UN Habitat (2003) indicators, in Latin America the value of a house equals around six years of average family income. For example, if 80 percent of this amount is financed, a 5 percentage point increase in the real interest rate would mean that the typical borrower would have to devote 24 percent more of his or her income to pay this higher cost of indebtedness. Few families are in a position to make such an adjustment to their budget.

² Morandé and García (2004) estimate this effect based on the 2000 CASEN (Encuesta de Caracterización Socioeconómica Nacional—National Socioeconomic Characterization) Survey, which makes it possible to isolate the influence of other borrower characteristics (income level, in particular).

³ Calculations based on data from IMF (various years).

BOX 15.1 | TIME AND COSTS FOR RECOVERY OF MORTGAGE GUARANTEES*Argentina*

Argentina is an especially interesting case because it is a federal country where the procedures and effectiveness of the judicial system vary from one jurisdiction to another. For example, the theoretical costs according to provincial laws for foreclosing a mortgage for a US\$200,000 debt can range from 7.7 percent in the federal capital to 13.2 percent in Cordoba. Information from court cases shows even greater ranges. The actual costs of recovery reach 33 percent of the amount reclaimed, and the process takes an average of 18.4 months in the jurisdictions that perform worst in handling these cases, as opposed to a cost of 25 percent and a duration of 9.8 months in the best-performing jurisdictions. These differences have implications for the availability of loans. Typically, in provinces where the judicial system performs worst, the loans families receive as a proportion of their incomes are one-third of what they are in jurisdictions with the best court systems.

Bolivia

In Bolivia, the regular procedure for recovering a mortgage guarantee takes only three and a half months (the process may begin 60 days after default in payment), and procedures rarely last more than two years. However, the unit cost for a procedure is estimated to be around US\$2,000, which is 13 months of per capita income. Banks are thus reluctant to make mortgage loans for small sums, in practice excluding the bulk of the population from financing.

Chile

In Chile, the costs of recovering guarantees are moderate. Various companies in the business have estimated costs at between 7 and 13 percent of the total sum of the debt, with recovery periods ranging from 12 to 18 months. However, these periods depend on the diligence of the judges, whether the parties are engaged in parallel negotiations outside the courtroom, and whether the debtor decides to appeal rulings issued by the court. Hence, even when average costs are low, these processes are shrouded in a great deal of uncertainty.

Colombia

Recovery processes are also slow and expensive in Colombia. On the basis of information from three mortgage banks, Cárdenas and Badel (2003) calculate that these processes typically take 32, 46, or 58 months. The authors estimate that for a loan of 15 million pesos (US\$5,530) backed by a property appraised at 30 million pesos, the costs of recovery would be around 3.7 million pesos, which represents a quarter of the value of the loan. In late 2002, the country passed a law seeking to reduce the recovery process to around 12 months and make it notably less expensive.

Peru

In Peru, the direct costs of recovering a guarantee are relatively low. According to a survey of litigation lawyers, court costs range between US\$422 and US\$607, depending on whether the liquidation of the property takes place at the first auction and whether the decisions on the appraisal and allocation of the property in the auction are appealed. However, total costs are much greater because debtors make numerous appeals in order to stretch out the process. The average duration of the process of recovering a guarantee is 31 months. If there are no appeals, the process can be reduced to 18 months; otherwise, it runs more than 36 months. These periods do not include additional court cases for compensation.

Uruguay

In Uruguay, from the moment the seizure of a property is ordered, foreclosure procedures take an average of 20 months, but they may take as long as six years. Foreclosure costs are very high, representing around half the value of the debt for mortgages under US\$10,000, and approximately one-third of the debt for mortgages of around US\$50,000.

Source: For Argentina, Cristini and Moya (2003); for Bolivia, Morales (2003); for Chile, Morandé and García (2003); for Colombia, Cárdenas and Badel (2003); for Peru, Eyzaguirre and Calderón (2003); and for Uruguay, Gandelman and Gandelman (2003).

TABLE 15.3 COSTS AND DURATION OF RECOVERY OF MORTGAGE GUARANTEES

Country (source)	Credit value (US\$)	Costs		Duration (months)
		Dollars	Percentage of debt	
Argentina (Cristini and Moya 2003)			25–33	10–18
Bolivia (Morales 2003)		2,000		3–4 (after 60-day delay)
Chile (Morandé and García 2003)			7–13	12–18
Colombia (Cárdenas and Badel 2003)	5,350	1,321	24.7	45
Peru (Eyzaguirre and Calderón 2003)		422–607		31
Uruguay (Gandelman and Gandelman 2003)	10,000	4,580	45.8	24 (from the issuance of
	50,000	16,200	32.4	decree ordering seizure)
	200,000	54,600	27.3	

Typical interest rate variations are even greater in some countries.

If variations in the nominal interest rate reflected only changes in inflation rates, interest rate risks for borrowers could be corrected by indexing the amount of the principal. For example, Chile and Colombia have developed relatively successful indexing mechanisms, precisely because most of the variation in nominal interest rates in these countries comes from inflation, so that the volatility of the real interest rate is relatively modest. Even in these cases, however, this is an incomplete solution because indexing the loan transfers the interest rate risk to the creditor. Unless the creditor can fund loans by borrowing capital denominated in the same fashion, it will only be able to offer indexed loans by charging borrowers a considerable surcharge to cover that risk. Hence, the problem of interest rate instability will ultimately be reflected in high financing costs, which will severely constrain the mortgage lending market.

Maturity Mismatch

The instability of the macroeconomic environment affects mortgage lenders not only because it increases interest rate risk, but also because it raises the risk of maturity mismatch. The problem comes from the fact that the funding sources of the financial system are unstable and mainly short term, while the mortgage portfolio is long term. Even in a context of relative macroeconomic stability, it is difficult for the financial system to convert short-term deposits into long-term loans. In Colombia, for example, for more than 20 years short-term deposits backed long-term mortgage financing. However, the

system could be maintained only because of the constant intervention of the central bank in providing liquidity to the financial system whenever it needed it and because of the monopoly on short-term, interest-bearing deposits enjoyed by lending companies. As soon as the system of automatic supply of liquidity was dismantled and banking competition increased, the system became extremely fragile and collapsed in the mid-1990s.

ATTEMPTS TO RESOLVE MORTGAGE LENDING PROBLEMS

State-Run Mortgage Banks

Latin American governments have been actively involved in the housing finance market. The model adopted since the early decades of the twentieth century, which still persists to some extent in some countries, was built around one or several savings funds and a state bank. Regular contributions from government employees and other segments of steadily employed workers financed savings funds for housing. Resources from these funds were set aside to provide loans to the contributors themselves at low interest rates fixed in nominal terms.

The state bank covered the rest of the middle-class mortgage market with loans at a fixed nominal rate, financing itself with long-term bonds that drew on surpluses from other state agencies and scarce private long-term savings in little developed and generally repressed capital markets. In a number of countries, government savings funds and mortgage banks were also financed through forced investments imposed on the rest of the financial system, outside financing sources, and occa-

sionally transfers of fiscal resources. In addition to savings funds and state mortgage banks, some countries set up other subsidized financing systems aimed at lower-income borrowers and financed with general government funds.

This model of housing finance was originally intended to alleviate three of the four problems of housing finance in the region. Risks of nonpayment due to insufficient and unreliable incomes were reduced by contribution mechanisms in the funds, selection of loan beneficiaries, and aggregation of many participants. The model attempted to resolve the risks associated with interest rate variations and maturity mismatch through the use of fixed interest rates on the lending side and through mandatory contributions and long-term borrowing under privileged conditions on the deposit side. Although the model was successful in a number of countries for several decades, the effectiveness of these solutions declined over time due to political interference in lending decisions, macroeconomic instability, and growing competition for long-term savings funds.

The recent fate of some of these traditional housing finance systems illustrates the nature and seriousness of the problems. In Peru, the Mutual Credit Association for Housing and the Central Mortgage Bank, the two central pillars of the system, were officially liquidated in 1993 after a decade of decline. High inflation rates (as high as 7,649 percent in 1990) combined with fixed interest rates eroded the value of assets. Fiscal pressures induced the government to reorient a portion of the funds of these institutions toward activities other than housing finance and to severely cut back general revenue funds for sustaining them. The loss of public trust in the sustainability of these institutions prevented them from competing in the deposit market (even by paying higher interest rates). Thus, their share in the deposit market fell from more than 50 percent in the early 1980s to only 6 percent in 1990. With the close of these agencies some years later, mortgage lending for housing virtually disappeared, and it began to reemerge only after 1995 with the development of mortgage lending by private banks (Eyzaguirre and Calderón 2003).

In Argentina, the National Mortgage Bank encountered problems in the 1980s. The fundamental problem was its dependence on short-term funds (coming primarily from government bodies) that were insufficient to cover the loans granted, which were for up to 25 years and had low nominal interest rates. This disequilibrium forced the National Mortgage Bank to go to the Central Bank of Argentina for financing through rediscounts at high interest rates that were adjustable

for inflation. Despite the subsidized nature of the loans, political interference and poor administration led to high delinquency rates. In 1987, when the National Mortgage Bank was taken over, it had a default rate of 67.7 percent.

The crisis became so deep that it was resolved by turning the National Mortgage Bank into a wholesale bank in order to prevent it from being used for political purposes. As a result, in the 1990s it helped reestablish the mortgage lending system, which had been destroyed by hyperinflation, by introducing innovative instruments. These included savings bonds for housing, which could be traded on the exchange and served as a basis for gaining access to lending. In the late 1990s, the National Mortgage Bank was reauthorized to make direct loans and was partially privatized. By 2001 it was once more the largest provider of mortgage loans, but also the largest provider of mortgage loan insurance and the largest mortgage manager in Argentina. That made it an interesting example of vertical integration in the mortgage industry (Cristini and Moya 2004).

In Uruguay, the state-owned Mortgage Bank of Uruguay has dominated the housing mortgage lending market, recently with a share of more than 80 percent, although private banks have made forays into the market. The Mortgage Bank of Uruguay has enjoyed three major advantages: (i) the use of indexed units for adjusting the value of loans, thereby protecting its assets from inflation; (ii) a special regime for recovering collateral, which gives it a huge advantage over private competition because it is exempted from the foreclosure process;⁴ and (iii) a system for selecting borrowers based on their savings capability as proven by their deposits in the bank. Despite the first advantage, the bank has serious problems of mismatch between lending and borrowing because it borrows most of its funds not in indexed units but in short-term dollars. Despite the second and third advantages, the bank displays very high rates of default, several times those of private banking, because of the influence of nontechnical criteria in lending decisions and the bank's debt collection and recovery practices.⁵

⁴ Under what is called the public system, borrowers can be promising buyers, rather than homeowners. But even when they are homeowners, the Mortgage Bank of Uruguay has exceptional power to take possession of the house and to sell it to the best bidder with no court intervention. See Gandelman and Gandelman (2004).

⁵ Between June 1992 and December 2001, average loan delinquency in national currency at the Mortgage Bank of Uruguay was 17.2 percent, compared with 2.4 percent in private banks (not only mortgages, but all kinds of loans); calculations are based on statistics from Gandelman and Gandelman (2004).

Despite its advantages, the Mortgage Bank of Uruguay is involved in a restructuring as part of an agreement with the International Monetary Fund (Gandelman and Gandelman 2004).

Hence, although government banks were designed to alleviate several of the central problems facing financing for housing, the mechanisms for solution have not been effective in the face of conditions of macroeconomic instability, growing competition for savings resources, and interference in lending decisions on the basis of nontechnical criteria.

Subsidy Systems

Subsidies are an attempt to solve the problem of the inability to pay. For the purposes of this chapter, the relevant subsidies are those that seek to facilitate access to financing. Nonetheless, it is convenient to place subsidies in the context of the housing subsidy system as a whole. In the past in Latin America, subsidies were commonly provided through mechanisms that did not use public funds efficiently or that caused distortions in the housing market. Among the more common practices, the public sector constructed houses to be sold at below market value, granted subsidies (directly through transfers or indirectly through preferential access to permits or services) to builders of housing for social programs, and set price controls on construction materials.

These solutions were not very effective because they diverted fiscal resources toward middle or upper-income groups, became sources of corruption, hindered the development of sectors supplying building services and materials, and diminished the supply of housing for the working-class population. For these reasons, the current thinking is that subsidy policy should be based on transparent subsidies, focused on the poor, and oriented to subsidize people rather than housing. Subsidies should aim at making the market operate smoothly and seeking to avoid the negative externalities that can hinder the development of the housing supply, building materials, or financing (Mayo 1999). Beyond these general principles, the effectiveness of subsidies depends on the characteristics of the programs and the institutional and cultural context in which they operate (World Bank 1993).

Until the 1990s, the most common subsidy systems for facilitating access to financing for housing consisted of government agencies granting loans at below-market interest rates for the purchase of new houses built under government contract. The trend has been to move away from this practice, which suffered from the problems mentioned, toward direct subsidies to buyers. Di-

rect subsidies, combined with other tools for reducing risk to creditors, seek to facilitate access to lending that is not necessarily subsidized.

Chile has extensive experience in the design of housing subsidies that seek to facilitate access to financing and that are part of an ambitious social housing policy. The government has subsidized more than 60 percent of the housing built since 1990 (Morandé and García 2004). The country's most important program provides help for purchasing finished houses. It consists of a direct, one-time loan to a buyer who has demonstrated the capacity to save and can presumably assume the debt to finance the remaining value of the house.⁶ Other programs provide assistance for the development of step-by-step housing (that is, gradual improvement, usually by self-building), rural housing, and specific groups of beneficiaries.

Despite the declared emphasis on targeting low-income families, the results of Chile's housing programs have been limited: only 24 percent of the beneficiaries of these programs come from the poorest quintile, and only 22 percent from the next quintile (according to information for 1998; see Morandé and García 2004). The value of the subsidies may be even less progressively distributed, given the emphasis placed on savings capacity for selecting participants. Another problem is that the programs that offer financing through the Ministry of Housing have not been able to escape the problem of delinquency. Between 1998 and 2002, the delinquency rate of the portfolio held by the Ministry averaged around 66 percent.

Although the programs are designed to resolve the problem of inability to pay, they are not immune from moral hazard, which in this instance consists of the beneficiary of a state loan modifying his or her behavior because the state is a poor bill collector. Indeed, econometric studies by Morandé and García (2004) show that, controlling for individual variables that can affect ability, participants in official programs are considerably less likely to pay their debts properly. This behavior reinforces the regressivity of the housing subsidy system because, as a result of delinquency, the beneficiaries of these programs receive a total subsidy that is 50 percent higher than the beneficiaries of the step-by-step housing subsidy, who are poorer and cannot obtain loans.

Other problems with Chile's programs include maladjustment to demand and the distortions generated in markets for land and used housing due to the predomi-

⁶ Eligible houses are those constructed by private builders under the supervision of the Ministry of Housing and Urban Planning, and until recently the loans were granted directly by the Ministry.

nance of the Ministry of Housing in construction decisions. For these reasons, the Ministry of Housing and Urban Planning reformed the programs as of 2002 with a view to better targeting and decreasing the participation of the public sector in housing loan contracting and financing. From the standpoint of access to financing, the fundamental change is that loans are made by the financial system. To achieve this, the program envisions directly subsidizing the fixed costs of issuing loan contracts and the portfolio discount risks arising from banks refinancing loans by issuing mortgage-backed securities. In addition, the government grants auction insurance to cover the difference between the yield of the sale and the guaranteed value of the debt in default.

Peru has recently experimented with an interesting variety of programs that seek to improve access to financing for lower-income borrowers (Eyzaguirre and Calderón 2003). For example, the Materials Bank provides loans for self-built housing to families or groups organized under a project sponsor. Like other programs in which the lender is a government body, this one also has a high rate of delinquency (39 percent in 2002), which leads to constant losses that use up the assets and undermine the original design of the program as a rotating fund. Seeking to overcome this problem and aiming at a somewhat higher income level, the Mortgage Fund for Housing Promotion (Mivivienda) was set up in 1999.

Mivivienda allocates funding under subsidized conditions to private banks, which then handle making loans for purchasing low-cost housing and assume risks for nonpayment, but not maturity mismatch or interest rate risks. To encourage payment discipline, the program offers an ongoing 20 percent discount on monthly obligations to borrowers who are up to date. Even so, the program has not been very successful. As of 2002, it had allocated only around 20 percent of its funds and financed less than half of the 12,500 houses that had been proposed as a goal for the first year. In 2002, Mivivienda launched the Techo Propio (Your Own Roof) program, which is similar to the new version of the Chilean program described above. Techo Propio seeks to grant direct, one-time subsidies to families that contribute from their savings 10 percent of the value of the house so that they can gain access to loans granted by financial institutions.

The cases of Chile and Peru are representative of a recent trend that also extends to other countries, namely, providing a direct, one-time subsidy to home buyers so that, by tapping into their own savings, they can gain access to lending provided by the private financial system in order to purchase housing (see Table 15.4). In

some countries, the subsidies are portable, which means that they are not tied to one solution or specific housing project. However, even when the subsidy is not portable, the housing projects do not have to be chosen or contracted by the state. This practice, which was common in the past, is now quite the exception. Instead, programs have evolved toward allowing informal construction in order to reach lower-income groups.

Some programs do not envision special financing mechanisms through the financial system, either because they grant financing through a government agency (such as the Mortgage Bank of Uruguay) or because there are no conditions other than access to regular lending by the financial system for the beneficiaries of these programs (such as in Costa Rica and Guatemala). To improve access to credit, special financing mechanisms through the financial sector may envision below-market interest rates. Lower rates can be obtained, for example, when the banks refinance loans in second-tier entities that channel treasury funds or whose financing sources offer lower rates than those from which the system borrows (such as the Mivivienda program). Moreover, in a few cases, such as that already mentioned above in Chile, the government provides subsidies for the financial system to cover fixed costs or risks that could inhibit intermediaries from making the relatively small loans needed by low-income families.

Private Mortgage Lending Systems

Public systems blocked private mortgage financing systems until the 1990s when financial liberalization and privatization increased the importance of private systems. Except in Chile, Panama, and to a lesser extent Colombia, the development of private housing finance systems has been very limited, especially because of the problems associated with recovering collateral guarantees and the conditions of macroeconomic stability common in the countries of Latin America.

Major transformations in housing finance systems took place in a number of Latin American countries in the 1990s, when development of mortgage financing was driven by financial liberalization and greater macroeconomic stability in the region.⁷ Competition between finance companies grew, the credit supply ex-

⁷ Liberalization policies in the 1990s were characterized by the lifting of restrictions on the entry of foreign participants into financial markets, privatization of banks, elimination of barriers to the entry and exit of capital, and elimination of interest rate controls. IDB (2001) and Galindo, Micco, and Ordoñez (2002a) examine the effects of financial liberalization on credit in more detail.

TABLE 15.4 | CHARACTERISTICS OF SUBSIDY PROGRAMS

Country	Program	Demand subsidy?	One-time subsidy?	Portable?	Does it finance only dwellings built under the program?	Does it finance progressive/self-built housing?	Is it constrained to the savings capacity?	Is the credit provided by a public agency?	Does it include credit programs with private financial intermediaries?	Is the interest rate lower than the one in the market?	Does it subsidize fixed costs or risks by financial intermediaries?
Argentina	Fonavi	No	n.a.	No	Yes	No	No	Yes	No	Yes	n.a.
Chile	Serviu										
	and others	Yes	Yes	Yes/no ^a	Yes/No	Yes/no ^a	Yes	No ^b	Yes ^b	No	Yes ^b
Colombia	Subsidios a la vivienda de interés social	Yes	Yes	Yes	No	Yes	Yes	No	Yes ^c	Yes ^c	No
Costa Rica	Bono familiar de vivienda	Yes	Yes	No	No	Yes ^d	No	No	No	n.a.	n.a.
Ecuador	Sistema de incentivos para vivienda	Yes	Yes	Yes	No	Yes	Yes	No	Yes	No	n.a.
El Salvador	Programa de contribuciones para la vivienda	Yes	Yes	No	No	Yes	No	No	Yes	No	No
Guatemala	Foguavi	Yes	Yes	No	No	Yes	Yes	No	No	n.a.	n.a.
Mexico	Fovi/SHF Programa financiero de vivienda	No	No	Yes	No	No	No	No	Yes	No	No
Mexico	Prosavi Programa especial de crédito y subsidios a la vivienda	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes	Yes
Peru	Mivivienda	No	Yes	Yes	No	No	Yes	No	Yes	Yes	No
Peru	Techo Propio	Yes	Yes	Yes	No	No	Yes	No	Yes	No	No
Uruguay	Sistema integrado de acceso a la vivienda	Yes	Yes	No	No	Yes	Yes	Yes	No	Yes	n.a.

n.a. Not applicable.

^a According to the program.

^b Since 2002.

^c The methodology of financing is not included in the program, but banks must use 25 percent of the increase in credit to finance housing through controlled interest rates.

^d Only for groups already organized.

Source: For Mexico, BBVA Bancomer (2002); for Peru, Eyzaguirre and Calderón (2003); for other countries, Rubinstein and Carrillo (2001).

panded, the cost of credit tended to decline, and the structure of payment periods increased. All these elements were central to the operation of mortgage lending markets.

Argentina and Peru offer particularly noteworthy instances of deepening of mortgage lending. It doubled in Argentina, increasing from less than 2 percent of GDP in 1991 to 4.2 percent of GDP in 2000 (Cristini and Moya 2004). In Peru, it increased from practically zero in the early 1990s to more than 3 percent of GDP in 2002 (Eyzaguirre and Calderón 2003). In both cases, the noteworthy growth in lending was made possible by the decline of inflation after the hyperinflationary crises of the 1980s and greater competition in the financial sector, which also helped lower interest rates.

Significant changes also occurred in the composition of mortgage lending. Whereas in the early 1990s the main lender in Argentina was the state through the National Mortgage Bank, by the end of the decade, private banks supplied 70 percent of all mortgage lending. This was due not only to the privatization of the National Mortgage Bank in 1999, but also to the aggressive participation of foreign (especially Spanish) banks in this market. Unfortunately, the subsequent crisis brought this successful experience to a halt.

Like Argentina, Bolivia and Peru underwent a great change in the structure of the housing lending market. In Bolivia, the reform process began in the mid-1980s and included the closing of the main providers of mortgage loans, which were two government banks: Banco de la Vivienda and Banco del Estado (see Morales 2003). Peru witnessed privatization and the entry of foreign banks in the 1990s. Currently, all lending for housing in Peru comes from private banks, with Banco Santander of Spain leading the way by far.⁸

Private mortgage lending systems have responded to the four fundamental problems of mortgage financing with a variety of innovations and successes. On the problem of inability to pay, progress has been quite modest. Mortgage lending from private finance entities has generally been concentrated on the middle and upper-income strata; see Cristini and Moya (2004) for the case of Argentina, Morales (2003) for Bolivia, and Morandé and García (2004) for Chile. Even so, in Argentina, the development of credit information registries (credit bureaus) and their growing use by finance companies to evaluate borrowers' ability to pay has improved access to housing loans. The same thing has happened in Colombia and Mexico, where the quality and credibility of information systems has improved over time.

In some countries, financial and contractual innovations have emerged to alleviate guarantee recovery

risk. Leasing has been a notable innovation in which the lender retains ownership of the property purchased until the borrower finishes paying off the obligations. In the event of default, the legal process of foreclosing on the defaulting borrower is avoided, and the process is simply a matter of removing the residents. In addition, leasing guarantees the creditor the assurance that the property will not be used as collateral for other loans.⁹ Curiously, the leasing system is more common in Chile, where guarantee recovery systems are less difficult. However, as a rule it is not used much for several reasons: (i) it does not reduce the risks of interest rate variation or maturity mismatch, (ii) it entails high administrative costs and hence accentuates the problem of inability to pay, and (iii) it does not offer the borrower enough legal certainty.

Another innovation focused on relieving the problem of guarantee recovery is a mortgage trust, which already exists in many countries. A trust facilitates the expropriation process and lowers transaction costs by avoiding the public registry whenever there is a change in ownership of the property. In this arrangement, as in leasing, ownership of the property remains in the hands of the lender until the borrower finishes paying. For similar reasons, it is not an attractive alternative for borrowers.

The most interesting developments in private mortgage financing systems may have to do with interest rate risk management in which loan amounts are denominated in units other than the legal currency. Argentina, Bolivia, and Peru have developed mortgage financing in dollars; Brazil, Chile, Colombia, and Mexico have set up instruments indexed to the general price index or workers' wages.

In Latin America, financial dollarization is not limited to mortgage financing; it basically involves a process of asset substitution in which agents make use of dollar-denominated instruments to protect themselves from inflation (see Levy-Yeyati 2003 and Galindo and Leiderman 2003). When depositors choose to save in dollars, banks are induced to lend in dollars as well, in order to reduce the risk of currency mismatch (see Galindo and Leiderman 2003). However, mortgage lending tends to be more dollarized than other loans, perhaps because houses are more likely than other

⁸ In other Latin American countries, such as Colombia and Mexico, similar changes took place in the 1990s.

⁹ Verifying the use of properties as security for multiple debts can be a thorny problem in countries with poorly developed property registries.

goods to be traded in dollars (Cristini and Moya 2004; Morales 2003). Because it also protects against inflationary uncertainty, dollarization reduces interest rate risk. However, dollarization creates a new risk because borrowers rarely have incomes in dollars that would enable them to counteract the risk of an increase in the real interest rate. This risk, which is often ignored by financial entities, may lead to serious portfolio problems. Studies by Eyzaguirre and Calderón (2003) and Morales (2003) for Peru and Bolivia, respectively, show that indeed delinquency rates increased sharply in 1998–2000, when the real interest rate rose in those countries.

Another alternative for reducing interest rate risk consists of tying the value of loans not to the exchange rate, but to the behavior of the general price index, as in Colombia or Chile, or to wage trends, as in Mexico. The Colombian indexation system, created in 1974, was the basis for a successful mortgage financing system that attained significant levels of depth (14 percent of GDP) before entering a crisis in the late 1990s. Financial intermediaries specializing in mortgage financing (savings and housing corporations, CAVs by their Spanish acronym) competed with the banking system in borrowing funds but were able to borrow in indexed units (constant purchasing power units), which gave them a monopoly on demand deposits.

Regulatory and technological changes in the 1990s dissolved the mortgage financing monopoly in Colombia. Competition between the savings and housing corporations and the banks for short-term loan funds led economic officials to link the value of the indexed units to the short-term interest rate.¹⁰ In trying to solve the problem of funding housing finance agencies, all the interest rate risk was passed on to the borrowers. The system continued for several years, but in 1999 a deep macroeconomic crisis led to sharp increases in the interest rate that were reflected in the balances of mortgage debts because of the indexation system. Declining real housing prices caused an unprecedented increase in the ratio between the value of the debts and the value of collateral, which reduced borrowers' incentives to pay their debts.¹¹ The system collapsed under a delinquency rate of more than 20 percent. It could survive in an environment of relative stability and little competition, but it was not an adequate system for the volatility typical of Latin American countries, which until then had spared Colombia.

The Colombian case makes evident the need to find a combined solution to the problems of interest rate risk and maturity mismatch risk. Colombia might have been able to avoid many of the problems if it had alternative long-term financing sources also denomi-

nated in indexed units. Chile also has a mortgage financing system based on an inflation-indexed unit of account, but with two major differences from Colombia's. One, the unit of account is strictly tied to inflation and has not been manipulated at all. Two, as opposed to in Colombia, in Chile practically the entire economy functions in indexed units of account, a practice that avoids the liquidity problems caused by competition between deposits in indexed units and deposits in pesos. The system in Chile may be regarded as the most successful in Latin America, not only because of its depth and strength during difficult macroeconomic episodes, but also because it depends very little on short-term borrowing.

The fourth risk factor mentioned earlier was handling the maturity mismatch between bank lending and borrowing. Only Chile has a system with long-term resources for financing mortgage lending through mortgage-backed securities and mortgage loans, most denominated in indexed units of account. The securities are financial instruments issued by a bank and backed by a set of mortgages. They are issued to the bearer and redeemed by payment of periodic coupons (usually quarterly), which include amortization of principal and interest. The security also has the guarantee of the issuing bank, linking the risk primarily to the bank and secondarily to the portfolios of borrowers.¹² Mortgage bonds are another instrument that is backed by a specific loan and may be issued by banks or any other creditor. The solvency of the borrower and the quality of the guarantee (of the issuing bank) back the loans. Mortgage bonds are tradable and their valuation is determined by discounting the flow of dividends to which the borrower is committed. Recently, issuers of mortgage bonds are also starting to securitize them in order to reduce the individual risk of each asset and bring about greater solvency.

Although there is a long tradition of these instruments in Chile, the great impulse for the development of mortgage financing markets took place in the early 1980s. Private pension funds were the main purchasers

¹⁰ Previously, liquidity gaps of the savings and housing corporations were resolved with liquidity funds from the central bank, thereby limiting the effectiveness of monetary policy.

¹¹ Cárdenas and Badel (2003) have proven the importance of this relationship econometrically: for each 1 percent increase in the ratio between the debt and the value of the property, delinquency rises by 0.14 percent.

¹² The notes are standard instruments and are denominated in 10, 20, 100, 200, and 500 development units. They vary according to the interest rate, amortization arrangement, and maturity of the loans backing them.

of mortgage-backed securities starting in 1982, investing around 20 percent of their portfolio in them.¹³ The existence of pension funds not only guarantees a primary market, but to a great extent stimulates the creation of a secondary market inasmuch as the funds periodically need to make adjustments in their portfolios. Recently, pension funds have also been permitted to buy securitized mortgage bonds, giving new momentum to this market. Through the use of such instruments, Chile has succeeded in creating a housing finance system that does not depend on short-term macroeconomic fluctuations.

Other countries are attempting to lessen the problem of maturity mismatch. The most advanced are Colombia and Mexico, which have established agencies for securitizing mortgage lending. *Titularizadora Colombia* (in Colombia) and *Sociedad Hipotecaria Federal* (in Mexico) have already successfully issued mortgage bonds. Peru and Bolivia are taking initial steps in the same direction, striving to base programs on capital markets that are still not very deep in order to extend the funding periods and limit the risk of maturity mismatch.

These experiences, especially the Chilean one, emphasize a crucial point: a robust and deep capital market is good for the housing market because it provides long-term savings funds and mechanisms for risk reduction that are essential for financing housing. At the same time, however, a smooth-functioning housing market is key to the development of the capital market because it provides low-risk, long-term assets that ultimately can support the creation of profitable investment instruments.

FOUNDATIONS OF A HOUSING FINANCE SYSTEM

Financing for housing is scarce in Latin America because of the four basic types of risk. Nonpayment risk reflects individual characteristics of borrowers. Collateral risk is of an institutional nature. The other two types of risk result from the macro and financial environment of the economy. A successful housing finance strategy must deal with these four problems simultaneously.

Explicit and Focused Subsidies

Due to low average income levels and high income concentration, inability to pay is a constraint on access to mortgage lending in Latin America. However, this ar-

gument should not be exaggerated: many low-income families manage to build a decent house for themselves over a period of years, even though they do not have access to credit. A system of explicit and focused subsidies can improve access to credit for families with a limited ability to pay. The problem of access depends on the ratio between the actual price of the house and the family's regular income. Of course, subsidizing the price of the house, its materials, or interest rates would improve this ratio, but experience has shown that these mechanisms are not effective for sustainably resolving the problem of access. They open the way to significant diversion to families with the ability to pay, distort housing markets by limiting the supply of housing for low-income families, and do not ensure the financial or administrative stability of the institutions responsible for lending.

The best current practices consist of granting one-time subsidies directly to families that belong to the target socioeconomic stratum and have savings that show that they are disciplined and have the ability to pay. Naturally, families that lack this ability can still be beneficiaries of housing subsidies, but they should not have access to credit. To avoid the distortions generated by government interference in housing supply, it is not a good idea to tie direct subsidy programs to a preselected supply of houses or to limit subsidies to finished or new houses. Given their target population, direct subsidies to housing should open up options for solutions that, even if not ideal, may be the most suited to the needs and possibilities of the beneficiaries.

The program of direct housing subsidies should take into account how beneficiaries are going to have access to credit. In the light of past experience, it is not necessary or advisable that the lending institution be a state agency. Instead, the program needs entities capable of putting together and managing mortgage portfolios with risk management criteria. However, mortgage lines of credit in the private financial system are not sufficient, because the conditions of these lines may keep low-income families from having access to financing because of the high fixed costs of information and registration and the high relative costs of risks of default.

Some countries have made an effort to resolve these problems by requiring the financial system or private mortgage banks to set aside a certain percentage of loans for housing for social programs. This is generally not a good solution because it does not respect the

¹³ Today private pension fund assets represent more than 60 percent of GDP.

fact that not all banks are familiar with, or interested in, the low-cost housing niche, nor can they be efficient in it. It is a better idea to establish lines of credit that are more attractive from a financial standpoint for those banks with relative advantages in this market. To improve the attractiveness of such financing, credits may be partially refinanced with funds obtained at a second-tier financial entity, which in turn has obtained the funds in preferential markets (financing from multilateral agencies, for example) or receives explicit fiscal transfers for that purpose. If competitive conditions on the mortgage lending market permit, banks should have freedom in the rates that they charge borrowers above and beyond the costs of these second-tier funds. Such a procedure provides an incentive for the most efficient banks to keep assets in the program.

To resolve the problem of high fixed information and registry costs and the high relative costs of default risks, it is not enough that banks have access to cheap funding for refinancing loans. As Chile and Mexico are beginning to experience, the solution may consist of directly subsidizing intermediaries for these costs. For example, it would be desirable to subsidize the costs of issuing lending contracts, the costs of real estate registration, and court costs of foreclosure and auction of properties in the event of failure to pay. The risk factors that may discriminate against small mortgage borrowers include the risk of errors or gaps in the history of the deed registration of the real estate or land and the risk of the auction of foreclosed real estate producing a sum less than the amount of the loan. In designing such subsidies, care should be taken not to reduce the incentives for banks to monitor the quality of their portfolio, because there is a risk of replicating the same old problems of delinquency and unsustainability of previous government lending systems.

Property Rights and Creditor Rights

Because houses are durable goods, cannot be concealed, have developed secondary markets, and have a use value for other people, they are potentially a good loan guarantee. However, mortgage lending represents a tiny fraction of the value of the total housing supply and the credit operations of the financial system. This apparent paradox is largely due to the difficulties and costs imposed on creditors in repossessing houses offered as collateral when nonpayment occurs. Typically, such costs consume between a third and a fourth of the value of the loans guaranteed. This means that the rights of mortgage lenders are weakly protected. As happens more generally with the total credit supply, there tends

to be less mortgage financing supply where creditors are less protected.

An alternative solution to these problems would be to create nonjudicial procedures for speeding up processes of collateral guarantee recovery. Some countries allow loan contracts to provide for this procedure, thereby significantly reducing recovery costs and time. Another alternative mechanism is to postpone final granting of the deed until loan obligations have been met, and hence legal ownership of the property remains in the hands of the creditor in the event of default. This is a less adequate solution because it does not offer the borrower sufficient legal security. A more complete solution consists of thoroughly reforming the legal procedures so as to offer both parties effective protection, without ruling out the option of nonjudicial procedures. Reform of the legal procedures should also provide for creating courts specialized in these procedures and introducing competition between private firms devoted to auctioning real estate under the oversight of the judiciary.

Even if guarantee recovery processes operate smoothly, they may present obstacles to access to mortgage credit for low-income families because they represent a fixed cost. Hence, it is advisable to subsidize this cost as part of a focused subsidy program.

Other programs of a legal and administrative nature limit the use of a house as a loan guarantee. In large Latin American cities, where nearly half the houses were built in what were originally illegal neighborhoods, many properties are not deeded, and hence they cannot be used as collateral. In Lima, 24 percent of the approximately 200,000 families who received deeds in 1998 and 1999 went to the financial system to expand or remodel their houses shortly thereafter (Gilbert 2001). Although the evidence is not very conclusive, granting deeds may also produce other effects, such as improved homes, broadened markets for used housing, increased family mobility, and increased workforce participation.

Protection from Interest Rate Instability

Interest rate instability militates against the development of the mortgage lending market. Even in developed countries, mortgage financing at fixed interest rates only prevails in a few cases because it can firmly be established only where there is a long tradition of macroeconomic stability and financial development. Recently in Latin America, only Chile, Mexico, and Peru have developed debt markets in domestic (nonindexed)

currency at a fixed rate with maturity greater than five years. Indexing mortgage debts is a more promising solution to this problem than dollarization. During periods of moderate inflation, indexation may be successful, provided the indexation rule is credible and stable, as shown by the contrast between the cases of Chile and Colombia in the 1990s.

Nevertheless, the indexation system does not guarantee success, which requires the development of stable sources of long-term saving that are also indexed so as to avoid problems of maturity mismatch. In Chile, this was made possible by the emergence of institutional investors, a development spurred by the pension system and high sustained rates of growth. The main risk faced by indexed financial systems is that indexation spreads to the rest of the economy. Chile and Israel have had to struggle with deep-rooted practices of wage indexation that have limited the effectiveness of monetary policies and reduced labor market flexibility, with unfavorable consequences for employment.

Financing systems based on indexed instruments are more justified when the inflation rate is persistent and the credibility of the monetary and fiscal policies is taking firm hold. Currently, the region as a whole has reached low inflation levels; hence it could be thought that there is no need to strive to develop markets in long-term financial instruments indexed to the price level as an intermediate step toward achieving long-term markets in domestic currency. However, current inflation levels are not necessarily a guarantee of future stability, particularly taking into account the fiscal fragility of some countries. From this perspective, it is reasonable to allow the development of indexed mortgage lending, provided it is financed with instruments that are also indexed, with a high proportion of them being long term.

Long-Term Financing and Capital Markets

There is no getting around it: the sustainability of mortgage lending systems requires long-term financing sources, and this entails the support of the capital market to mobilize savings funds. In addition, good mortgage lending systems that provide profitable long-term investment opportunities may in turn contribute to the development of the capital market.

Who the long-term investors can be and in what instruments they could invest are two central questions that must be answered in a mortgage lending development strategy. In most countries, the investors already exist: they are the insurance companies and pri-

vate pension funds that have long-term savings seeking profitable and safe investment options. Still needed are long-term financial instruments. International experience suggests what might be the most viable options for achieving it.¹⁴

The most important world trend is the securitization of mortgage loans. There are two major ways to do this: (i) through the issuance of bonds by financing institutions backed by their mortgage portfolio and their own net worth, and (ii) through the issuance of mortgage-backed securities by some nonlending institution. European countries prefer the former arrangement; the United States mostly uses the latter method. Some Latin American systems, such as those in Colombia and Mexico, have drawn inspiration from mortgage-backed securities.

Under the European system, the banks lend for the long term and issue a bond backed by their own mortgage loans. In practice, the guarantee given by the loans is less important than the guarantee provided by the capital of the issuing banks. In this system, the bank maintains the loan on its balance sheets and assumes the credit risk. Hence, this system requires capital levels high enough to deal with the credit risk and needs appropriate regulation for appraising that risk and a solid and modern bank oversight system to guarantee that those levels are maintained. Through this system, European banks finance 19 percent of the loans in their mortgage portfolio. However, 62 percent of loans are financed with deposits, some of which are short term.¹⁵ This suggests that it is not necessary for all mortgage lending finance resources to be long term. However, the more unstable the macro environment, the greater the risks of short-term financing, and hence the more important it is to develop long-term instruments.

In the mortgage-backed securities system, mortgage loans are not kept in bank balances. The financial institution making the loan sells it to a securitization agent shortly after issuing it. In the case of the United States, mortgage banks keep the loan on their balance sheets for one or two months at most and then sell it to some securitization institution. The main institutions of this type are Ginnie Mae, Freddie Mac, and Fannie Mae, which, although they are private, are perceived as government-guaranteed entities. The loans are se-

¹⁴ For a more detailed and complete description, see BBVA Bancomer (2003).

¹⁵ The balance of funding comes from savings accounts (5 percent), mortgage-backed securities (1 percent), and other sources (13 percent). Information from the European Mortgage Federation (cited by Hardt 2003).

curitized by these institutions and sold on markets that enjoy a great deal of liquidity. In this arrangement, the investor assumes credit risk.

This system became popular in the United States in the 1980s, when most mortgage lending was financed with short-term deposits. A sharp increase in interest rates in the early 1980s, which had serious repercussions for the stability of the financial system, led to the development of this new system. Today, practically the entire mortgage system is financed by mortgage-backed securities.¹⁶ In Europe, mortgage-backed securities have begun to develop, but their growth has been slow because of regulatory frameworks that hinder their expansion. International experience suggests that this type of system is not built overnight because of the following complex macroeconomic and institutional requirements:

- A stable macroeconomic environment that prevents generalized fluctuations in the ability of borrowers to repay and limits the uncertainty of investors
- Solid securitization institutions with access to capital that guarantee a high risk qualification of their issues and that provide investors with guarantees
- An adequate legal framework to guarantee property rights and enable lenders to enforce their rights to collateral in the event of nonpayment, without incurring excessive costs
- Standardized loans with homogeneous conditions that can be easily securitized so that flows are highly predictable by investors
- Risk appraisal techniques that are put forward and tested by the banks originating the loans and backed by banking supervisors, thereby assuring investors that there is a credible and valid process for selecting the borrowers of the loans backed by the securities
- Smoothly operating property registries so that

transfers of ownership can be carried out efficiently and at low cost

- An adequate system for appraising the value of housing (thereby also helping to broaden the real estate market and make it more transparent)
- A tax system that does not discourage financial transactions and that facilitates the transfer of risk assets to entities capable of managing them.

CONCLUSION

A strategy for financing housing must deal with the four fundamental problems limiting mortgage lending: low-income families' lack of ability to pay, guarantee recovery, interest rate fluctuations, and maturity mismatch. To some extent, each of these problems is rooted in deep problems of a distributional, institutional, or macroeconomic nature that go beyond the realm of financial policies and the housing sector. Hence, the possibilities for developing lending for housing will always be limited by the degree of development of the country and by the characteristics and depth of its capital markets. The potential is limited, but not determined, because proper understanding of these problems makes it possible to design subsidy and incentive systems, financing institutions, and instruments and financing policies that considerably improve access to credit and broaden the supply of long-term financing for housing.

Although it is an illusion to think that housing loans in Latin America could reach 70 or 80 percent of GDP as in developed countries, past and recent experience in a number of Latin American countries suggests that rates of 20 percent of GDP are not impossible. This modest goal would require that the current size of housing finance systems be multiplied several times in most countries of the region.

¹⁶ Fannie Mae handles 39 percent of issues, Freddie Mac 29 percent, and Ginnie Mae 9 percent. Other private companies have only a 23 percent share of issues (BBVA Bancomer 2003).

