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# New Directions in Asian Housing Finance

## Linking capital markets and housing finance

Masakazu Watanabe, editor

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# Foreword

This book was prepared as part of our technical assistance project for Asian regional housing finance. The project is financed by the Japan/International Finance Corporation (IFC) Comprehensive Trust Fund, which was established at the IFC by the government of Japan. The technical assistance project is managed jointly by the IFC's Asia I and Asia II Departments, with support from the Housing Finance Practice Group of the IFC, the World Bank, and the Asian Development Bank.

The project consists of studies focusing on the role of primary and secondary mortgage institutions in the region and the related legal and regulatory environment. A workshop to identify common issues was held in Bali, Indonesia, in February 1998 for policymakers, researchers, and market participants from many countries. This meeting was the occasion for a fruitful exchange of ideas among leading experts and practitioners and stimulated the formation of a network of institutions and individuals interested in developing mortgage-related securities. The case studies in this book, based on papers presented at the workshop on the lessons learned in Japan, the United States, and European countries as well as developing economies in Asia, are presented here for the consideration of policymakers worldwide.

Special thanks for the successful completion of this project go to Masakazu Watanabe, who spearheaded this effort and managed it over 18 months, Ayaan Adam, and Eric Cruikshank of the IFC; Bertrand Renaud of the World Bank; and Michael Lea of Cardiff Consulting.

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# Part 1 Overview and Models

# 1

# Overview

*Masakazu Watanabe*

To support the expansion of housing finance systems as well as the development of capital markets in Asia, the International Finance Cooperation (IFC), in collaboration with the World Bank (IBRD) and the Asian Development Bank, organized a workshop on "New Directions in Asian Housing Finance: Linking Capital Markets and Housing Finance" in Bali, Indonesia, on February 5–6, 1998.

## The role of the International Finance Corporation

Established in 1956 as the private sector financing arm of the World Bank Group, the IFC makes equity and loan investments without government guarantees in private companies and joint ventures in developing countries. The IFC is one of the largest sources of purely private sector finance for developing countries. For the 1997 fiscal year, its loan and equity investment approvals totaled nearly US$3.3 billion in more than 284 projects in 74 countries. The IFC has also directly mobilized roughly US$3.4 billion through its loan syndication program.

The IFC has not only been a major investor but a catalyst in mobilizing funds to emerging markets from other sources. In this area the IFC has a unique role among development organizations. In addition to foreign investment, the IFC stresses the mobilization of savings from capital markets within developing countries themselves.

With rare and unusual exceptions, domestic savings in emerging market countries annually exceed foreign investment flows into these countries from both official and private sources. The intermediation of these domestic savings through institutions, instruments, and markets is critical to development. Foreign investment is an important complement to, but not a substitute for, domestic savings and investment.

The development of domestic capital markets to finance economic growth has traditionally been a strong focus of the IFC. The corporation's work has included promoting conducive legal and regulatory frameworks, building new institutions, and providing technical assistance and advisory services. Promoting securitization and asset-backed securities is another important element of the IFC's capital markets development strategy in Asia.

The IFC's institution-building activities include working with Indonesian and international sponsors to establish P.T. ABS Finance Indonesia (ABSFI) in Jakarta. This institution is the first and probably the only specialized capital markets institution in emerging markets dedicated solely to the business of securitization and credit enhancement. In addition to providing advisory services for structuring mortgage- or asset-backed securities, ABSFI provides credit enhancement in the transactions that it structures. The IFC is working to replicate the ABSFI model in several other emerging markets.

In the area of structuring advisory services, the IFC has worked as an advisor to the Lanka Orix Leasing Corporation to structure Sri Lanka's first asset-backed security issue involving automobile leases and receivables. Despite very difficult market conditions in Sri Lanka at the time, this asset-backed security was successfully placed.

Finally, and most important, the IFC is working with regulators in many developing countries, including Thailand, to establish and refine legal and regulatory frameworks for securitization. This is the most crucial area in any country for ensuring the rapid development of a securitization industry.

## The workshop

The rationale for the workshop was the observation that Asia faces a rapidly growing demand for housing finance and needs to develop new mechanisms for raising funds. Capital market funding of housing can enhance the flow of funds to the sector, assist lenders in improving their risk management, provide assets for developing national capital markets and institutional investors, and promote competition in housing finance.

The main purpose of the workshop was to improve the flow of cross-country information, especially about the issues and opportunities associated with the development of secondary mortgage markets in individual countries of the region. Specifically, a major aim was to improve understanding of the legal, regulatory, and primary market prerequisites for secondary market development.

The audience consisted of officials with direct responsibility for developing sound and dynamic capital markets, representatives of housing finance institutions throughout the region, and outside experts from the sponsoring organizations, secondary market institutions, and global service providers. The two days of meetings consisted of presentations focusing on the theoretical foundations of secondary market development, case studies of housing finance and capital market development in the region, and panel discussions on key issues faced in developing secondary mortgage markets. Presentations were made by representatives and consultants from Hong Kong Special Administrative Region, India, Indonesia, Japan, the Republic of Korea, Malaysia, the Philippines, and Thailand.

The meetings were held at a time when the Asian currency crisis was dramatically unfolding. Overzealous lending to the property sector was a major factor in the crisis. Although most of the excess occurred in the commercial property sector, there was overbuilding in the residential market in many countries as well. The painful restructuring process that the Asian economies must now undergo will significantly affect housing finance. Short-term interest rates have skyrocketed as countries attempt to defend their currencies, and financial institution liquidity has dried up, starving the sector of much-needed capital for new loans. This lack of liquidity has forced lenders to concentrate on short-term strategies, to the detriment of housing finance.

But in dark clouds there is often a silver lining. A key element missing in many countries' financial structures in Asia is a long-term bond market, and the lack of long-term funding options for lenders has worsened the impact of the crisis on housing. So one of the major initiatives coming out of the crisis in many countries is an increased emphasis on the development of long-term capital markets and the instruments and institutional mechanisms needed for tapping these markets for housing.

In this sense, the timing of the workshop was fortuitous. The focus of the country papers was on the emerging links between housing finance systems and capital markets across Asia. Each country case study includes a review of the historical development, current performance, and future prospects of the national capital market (in particular, the bond market) and the housing finance system. In addition, the authors provide a good understanding of the obstacles to and opportunities for increasing linkages between the capital markets and housing finance systems, particularly through the development of secondary mortgage markets.

This volume contains nine of the papers presented at the workshop. Chapter 2 develops a conceptual framework for accessing capital markets for the funding of housing. The remaining eight chapters review the history and current state of capital market development and housing finance in individual countries and make recommendations for further developing the capital market funding of housing.

## Models

The first paper, "Models of Secondary Mortgage Market Development," by Michael Lea of Cardiff Consulting Services, reviews several models of secondary mortgage market development, identifying their key characteristics, briefly discussing their historical background, and assessing their relevance for developing countries. In his discussion Lea poses several key questions:

*Why are secondary mortgage markets important in the development of housing finance institutions?* There are a number of reasons to develop such markets. They include:

- *Reducing institutional segmentation in the provision of housing finance.* In countries without secondary markets, housing finance is frequently provided by one class of institution, typically depository, funded primarily with one funding source, deposits. The creation of a secondary market can attract new investors, usually institutional investors, into the market, thus expanding the supply of funds for housing.
- *Reducing geographic segmentation in the provision of housing finance.* If lenders do not operate on a nationwide basis, the existence of a secondary market allows them to tap into funds from other geographic regions.
- *Increasing the liquidity of mortgages.* The ability to sell or borrow against mortgage loan assets increases the liquidity of such assets and decreases the risk of providing long-term finance.
- *Increasing competition in the mortgage market.* The ability to sell mortgage loans allows lenders without a local funding base to enter the market.
- *Increasing efficiency in the housing finance system.* Increased competition and improved ability to manage risk increases the efficiency of the housing finance system.

*What are the prerequisites for secondary market development?* There are three major areas that must be sufficiently developed to make a secondary market feasible:

- *Adequate primary market infrastructure.* Mortgages must offer attractive risk-adjusted returns, documentation, and underwriting; they must be standardized; and there must be a proven record of high-quality servicing and collection.
- *Adequate legal infrastructure.* The secondary market must include enforceable security interest (registration and foreclosure), transferable security interest (ability to sell the loan), and an ability to create structures such as trusts that are bankruptcy remote and tax efficient.
- *Adequate capital market infrastructure.* Also essential are a developed government bond market and yield curve, adequate regulation and supervision, and adequate information for investors.

*What are the types of secondary markets?* Secondary markets are typically identified with mortgage-backed securitization. Mortgage pass-through securities can be issued directly by lenders or through specialized institutions, known as conduits, which purchase mortgage loans and issue mortgage securities. However, this is only one form of secondary market. Lenders can sell whole loans to each other, to investors, or to conduits. The sale of loans on recourse to (or collateralized borrowing from) liquidity facilities is often viewed as a form of secondary market. Finally, lenders can issue mortgage bonds. While not a true secondary market (because there is no sale of assets), mortgage bonds are an important vehicle for accessing the capital markets in a number of countries and therefore are also covered in this review.

*What is the appropriate secondary market development model for a particular country?* More broadly, the question might be what the best way is to access capital markets for housing finance. The answer has three components:

- What do issuers want (or need)?
- What will investors accept?
- What will the legal and regulatory system allow?

Specific answers to these questions depend on the credit quality of mortgage assets and issuers, the funding and capital needs of issuers, and the state of the legal and regulatory system.

## The case studies

The eight presentations on East Asian economies are summarized in this volume. The case studies explore the links between housing finance and capital markets in these eight economies.

### Hong Kong

"Housing Finance and Capital Markets: The Hong Kong Experience," by Pamela Lamoreaux of the Hong Kong Mortgage Corporation, describes recent efforts to create a secondary market institution. Hong Kong has a well-developed primary mortgage market and a legal-regulatory infrastructure. However, deposit-funded banks have dominated the funding of housing. In recent years concern developed about the excessive concentration of banks in illiquid real estate assets. Eventually this concern led to the creation of the Hong Kong Mortgage Corporation in 1997. In addition, capital markets are immature and bonds are thinly traded. Investors and issuers have a short-term investment horizon due to a lack of longer-term institutional investors.

The government announced three goals for the Hong Kong Mortgage Corporation: to improve banking and monetary stability, to develop the local debt market, and to promote home ownership. The corporation will act as a conduit, purchasing mortgages, assuming their credit risk, and issuing long-term mortgage pass-through securities.

The Hong Kong Mortgage Corporation model is different from that of Cagamas, a national mortgage corporation in Malaysia. Initially it will be 100 percent owned by the government, with a mixed public-private board of directors. There are several reasons that the government chose this model. They include:

- Investor concerns about the quality of real estate assets. As a result of pressure on the currency and the increased volatility of interest rates, real estate asset prices have fallen significantly, and there is concern about potentially rising defaults on mortgage loans.
- The desire to encourage the entry of new primary market lenders. Lenders needed a source of finance that will allow them to be competitive with the bank cartel.
- The need for standardization. A government-backed institution may find it easier to encourage standardization in mortgage documentation and underwriting.
- The need to achieve a sufficient volume of issues. The Hong Kong Mortgage Corporation needs a sufficient volume of issues to develop liquidity in its debt. With increased volume it can achieve economies of scale (issuance costs).
- Ease for investors. A government-backed institution is less complicated for potential investors, both domestic and foreign.

Although initially government owned, the plan is for the Hong Kong Mortgage Corporation to become a privately owned institution.

## India

The complexity of the Indian housing finance system is described by Yogendra Kumar Garg in "New Directions in Housing Finance in India." The state of India's housing finance system is an example of the problems of a directed credit system for housing finance. Requirements that institutional investors, particularly life insurance companies, place a large portion of funds with government lending institutions, such as the Housing and Urban Development Corporation, limit the development of the private housing finance market as well as the bond and mortgage-backed securities market.

A severe limitation on the development of the mortgage market is the lack of access to collateral because of the inability to foreclose through the court system. Innovative lenders such as the Housing Development Finance Corporation have been able to offer mortgage loans with credit enhancement in the form of personal guarantees or pledges of other assets. However, their ability to expand the market, particularly for lower-income households, is seriously constrained by the weak legal infrastructure. This constraint also affects the prospects for developing a secondary mortgage market. Without collateral, security issuers will find much higher credit enhancement requirements and a smaller volume of feasible transactions.

Despite a difficult legal and regulatory environment, India is moving ahead with plans to develop a secondary mortgage market. The housing sector in India is vastly undercapitalized and the formal sector contribution is only 25 percent of the total investment in this sector. The demand for mortgage loans outstrips the supply of loanable funds, and the housing sector's access to resources is limited. If the housing finance system is to meet the projected demand for housing, it will be necessary to integrate housing finance with a national finance system. The only possible option for extending the resource base of housing finance in the institutions is to create a secondary market through the sale of mortgage-backed securities. A major issue in developing this market will be credit enhancement. At this time the National Housing Bank is working with several housing finance companies on a pilot issue.

## Indonesia

The difficulties and opportunities for developing housing finance in Indonesia are profiled in the paper "Housing Finance and Capital Markets in Indonesia," by Masatake Seki of P.T. Japan Asia Consultants and Masakazu Watanabe of the IFC. Prior to the crisis Indonesia had one of the least-developed housing finance systems among major countries in the region. At the end of 1996 the ratio of housing loans to GDP was only 3.1 percent, compared to 13 percent for Thailand and 23 percent for Malaysia. Over 85 percent of housing finance has been provided by the state housing bank. In recent years commercial banks have begun to enter the market but were seriously constrained by the lack of long-term funds.

Although Indonesia has an active stock market, the bond market is relatively undeveloped. The government does not issue long-term domestic debt, so there is no benchmark yield curve or liquidity in the market. Only 8 percent of housing finance has been funded through the issuance of bonds.

The current crisis is spurring much-needed reforms that will ultimately strengthen capital markets and the housing finance system. These include:

- *A bankruptcy law passed in April 1997.* This key underpinning of corporate law will help clarify relationships between lenders and corporate borrowers and facilitate the development of a secondary market.
- *A trust concept, passed at the end of 1997.* The lack of a trust concept, which is necessary for setting up a special-purpose vehicle for securitized loans, had deterred the development of a secondary market.
- *The secondary mortgage facility decree to establish a secondary mortgage facility institution signed in February 1998.* The lack of a long-term funding source has impeded the expansion of housing finance.

## Japan

As described by Masakazu Watanabe of the IFC in "The Japanese Experience in Housing Finance and Capital Markets," Japan's housing finance system is a classic example of a special-circuits approach to housing finance. The Government Housing Loan Corporation is the largest mortgage institution in the world (in terms of mortgage assets, which totaled $572 billion at the end of 1996). The corporation's institutional, operational, and funding structure is a clear example of a classic directed credit system. Virtually all of its mortgage lending operations have been funded by the postal savings system by means of government funding allocations through the Trust Fund Bureau, administered by the Ministry of Finance. Its funding advantage has crowded other lenders out of the market and slowed the development of securitization and bond funding.

Another major part of the Japanese housing finance system was the *jusen*, or special non-deposit-taking housing loan subsidiaries of banks established to provide mortgages for home buyers. A policy decision to exclude the jusen from the 1990 directive limiting loans of banks and financial institutions to the construction and real estate sector led to a rapid buildup of loans to developers that went bad when the real estate price bubble burst. Despite evidence as early as 1990–91 that defaulted loans constituted over 50 percent of the portfolios of some jusen, the authorities did not begin to take corrective action until 1995.

The liquidation of the jusen provides important lessons for other Asian countries dealing with bankrupt institutions and poor quality loan portfolios, particularly with respect to the overall supervision, governance, and regulation of financial conglomerates, which may have subsidiary or affiliate companies subject to regulatory and supervisory guidelines. One lesson is to ensure that the conglomerate/subsidiary/affiliate structure is not misused or abused to avoid regulation and supervision.

Recent legal and regulatory changes to facilitate bond finance and securitization are promising. There exists an important opportunity for securitization of the mortgage loan assets of the Government Housing and Loan Corporation, which would contribute to the expansion and diversification of the product mix of the Japanese capital market. With the low level of interest rates, the Government Housing and Loan Corporation may be able to securitize a portion of its portfolio (up until now below market). Issuance of mortgage-backed securities with the guarantee of a government-owned institution may speed up development of the market.

## Republic of Korea

Korea was well into restructuring its housing finance system and capital markets before the current crisis. As a result, it is better positioned than most Asian countries to recover quickly. This is the conclusion of "Restructuring the Housing Finance System and Broadening the Linkage with Capital Markets in the Republic of Korea," by Joong-hee Lee of the Housing and Commercial Bank of Korea and Sohan Lee of the Korean Institute of Finance.

Market-based pricing, competition, and a level playing field are necessary for a successful housing finance system. Korea, like Japan, has long had a directed credit system for housing finance. Almost all mortgage lending was directed through two government institutions, the Korea Housing Bank and the National Housing Fund. Until 1996 commercial banks were not allowed to make long-term mortgages. Most mortgage lending was at below market rates funded through mandated contractual savings. This kind of direct government intervention in the housing finance market resulted in a highly monopolistic market structure, the segregation of the housing finance market from the rest of the financial markets, nonmarket pricing of loans and distorted allocation of funds, and the coexistence of a small formal market with a large informal market (known as the chonse system).

The government began to dismantle this system in 1995 when interest rates were deregulated. Commercial banks were allowed to provide long-term mortgages in 1996. New mortgage lenders, called installment finance companies, were allowed to enter the mortgage market in 1997. The Korea Housing Bank was privatized in 1997, becoming the Housing and Commercial Bank. The privatization of this bank had especially important ramifications: privileges and restrictions on housing finance institutions have largely been removed, and competition among mortgage lenders has intensified.

These changes were necessary precursors to the development of a secondary market. Korea is now addressing the legal and regulatory obstacles to making such a market a reality. Commercial banks were permitted in 1997 to issue debentures with maturities of at least three years through the capital markets. The government also announced plans last year to create a secondary mortgage market in the near future.

### Malaysia

Malaysia has the region's foremost secondary market, as described in "The Secondary Mortgage Market and Capital Markets in Malaysia" by Huang Sin Cheng, General Manager of Cagamas Berhad. The secondary mortgage market in Malaysia originated in 1987 with the start of operations of Cagamas, the national mortgage corporation. Cagamas was able to build on a relatively well-developed primary market and legal-regulatory infrastructure to tap capital market funding for housing finance.

The history of Cagamas provides important lessons for Asian countries dealing with current problems. It was founded during a macroeconomic crisis in 1985, when the financial system was short of liquidity and financial institutions were reluctant to make mortgage loans. Cagamas has been able to successfully tap the capital markets for long-term funds, reducing liquidity and interest rate risk in the Malaysian housing finance system and substantially adding to the flow of funds to the sector.

Times change and so do the needs of mortgage lenders. A successful secondary market institution must adjust to the needs of the market, and Cagamas is therefore planning to introduce two innovations:

- *Facilitation of true sales.* To date all of Cagamas's purchases have been with full recourse. Although this minimizes the risk for Cagamas and its investors, it does not meet the needs of lenders that need to remove mortgage assets from their balance sheets. Cagamas will start purchasing mortgages without recourse in 1998.

- *Issuance of pass-through securities.* To better manage the own interest rate risk associated with full mortgage purchase, Cagamas will begin issuing pass-through securities in 1998, 12 years after its first issue. In so doing, it will become a true secondary market conduit.

Cagamas is an interesting model of the role of government. It is a public-private partnership, with a majority private sector ownership but a minority ownership by the central bank. The government has developed a legal-regulatory infrastructure to support the development of Cagamas, including incentives for lenders to sell their loans and for investors to purchase the bonds.

## The Philippines

The recent experience in the Philippines demonstrates the shortcomings of a directed credit approach to housing finance. As documented by Joselito Gallardo of the World Bank in "Rationalizing Housing Finance and Developing Capital Markets in the Philippines," the lack of sufficient funding to meet demand, weak credit risk management, and the lack of securitizable assets are all the result of this system. The main constraints to streamlining the primary mortgage markets and inducing the development of secondary markets in the Philippines are:

- The system of subsidies, incentives, and guarantees that create segmentation and fragmentation through non-market-based pricing differences.
- Foreclosure laws, procedures, and tax provisions that constitute barriers to securitization.
- Regulatory procedures and processes that limit the classes of assets available for securitization, nonbank issuance of mortgage-backed securities, and types of available asset-backed security and mortgage-backed security credit enhancements, as well as procedures that discriminate against certain types of mortgage-backed securities or favor other types of securities, especially for institutional investors.
- The absence or deficiency of supporting infrastructure, such as a central credit monitoring and reporting system, standardized property appraisal and valuation procedures, private mortgage insurance, title insurance services, master servicers, and a centralized automated title and deed verification system.

The World Bank is conducting a comprehensive policy review. It has identified key building blocks for a sustainable housing finance system with access to the capital markets. These include:

- Removal of subsidized interest rates and their substitution with direct transfer schemes. A necessary prerequisite for secondary market development is market pricing of mortgage assets.
- Standardization of mortgage loan underwriting and modern technology in loan processing and servicing.
- Creation of a secondary market institution to improve management of liquidity and cash flow risks and promote standardization and liquidity.

- Rationalization of the role of existing government-backed institutions.

The Philippine project may provide an opportunity for substantial privatization of the housing finance system.

## Thailand

Virach Aphimeteetamrong of Chulalongkorn University and Ballobh Kritayanavaj of the Government Housing Bank provide an in-depth review of the Thailand housing finance sector in "Integrating Housing Finance and Capital Markets in Thailand." Housing finance has developed as an integral part of the overall financial system. There is no directed credit arrangement, and resource allocation is affected through free-market forces. With a wide variety of financial institutions participating in a competitive home loan industry led by the commercial banking sector and the Government Housing Bank, mortgage loans have been widely available to homebuyers nationwide.

However, the weakness of a housing finance system dominated by depository institutions is now evident in Thailand. Lenders have a shortage of liquidity and face high liquidity risk in making long-term loans. In addition, the banks and finance companies are short of capital and cannot add new loans to their balance sheet.

The government recognized the need to develop capital market funding for housing prior to the crisis. A securitization law was passed in June 1987 and the process for developing a secondary market was introduced before the crisis.

The current crisis creates opportunities as well. The need to sell the assets of bankrupt finance companies can stimulate securitization, much in the manner that the Resolution Trust Corporation stimulated development of the commercial mortgage-backed securities market in the United States. The crisis also has accelerated efforts to develop a secondary mortgage market and institution. Legislation in 1997 authorized the creation of a secondary mortgage corporation to act as a conduit, purchasing mortgage assets and issuing pass-through securities. In addition, it authorized the Government Housing Bank to set up a secondary market department to explore possibilities for securitizing part of its portfolio.

The authors point out a number of obstacles that must be overcome before securitization can be viable. First and foremost is macroeconomic stability, which is a precursor for long-term investment. Additional issues include taxes, risk weighting, and criteria for off-balance-sheet treatment. They note that weaknesses in the primary market include lack of standardization, weak appraisal and credit reporting, and lack of performance information.

# 2

# Models of Secondary Mortgage Market Development

*Michael J. Lea*

Over the past decade, secondary mortgage markets have emerged as major vehicles to mobilize funds for housing. The development of secondary markets is a major policy objective for governments and private investors in a large number of countries. There are many different models of secondary mortgage markets and choosing the appropriate model for a particular country will depend on a number of factors. The purpose of this paper is to assess why secondary mortgage market development is an important topic, review the various models of secondary mortgage market development, identify their key characteristics and historical development, and assess their relevance for developing countries.

The answers to four key questions help to determine whether a secondary market is feasible and what form is most desirable. In addition, the answers can shed light on the appropriate role of the government in stimulating the development of the secondary market.

- *Why are secondary mortgage markets important in the development of housing finance institutions?* Secondary markets are a means to an end. The end is to increase the flow of funds to housing. A secondary market provides the means to accomplish this end by bringing together the originators of mortgage loans with the ultimate investors. It does this by developing new instruments and institutions that can lower the risks of mortgage lending for originators and provide them with new funding outlets. It can also overcome institutional or geographic segmentation in the market. In countries without secondary markets, housing finance is frequently provided by one class of institution, typically depository, funded primarily with one funding source, deposits. The creation of a secondary market can bring new investors, typically institutional investors, into the

A portion of the material in this paper was developed in collaboration with Jack Guttentag for the Wharton International Housing Finance Program. Bertrand Renaud of the World Bank provided useful comments on an earlier draft. All errors and omissions remain those of the author.

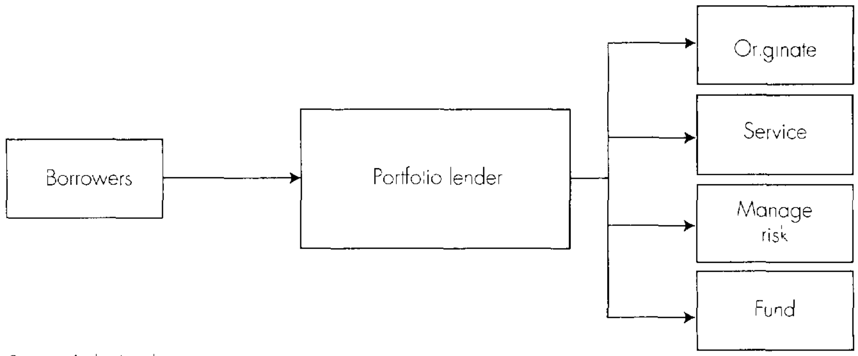
market, thus expanding the supply of funds for housing. The existence of a secondary market also allows lenders to tap into funds from other geographic regions. The ability to sell or borrow against mortgage loan assets increases liquidity of mortgages and reduces the risk of providing long-term finance. And a secondary market can stimulate increased competition in the primary market, which in turn can lead to increased efficiency in the housing finance system.

- *What are the prerequisites for secondary market development?* A secondary market depends on the existence of a strong primary market in which mortgages are regarded as attractive assets with good and well-documented performance. A major prerequisite is a strong legal infrastructure supporting the registration, enforcement, and eventual pledging and sale of mortgage loans. Finally, it is difficult although not impossible for a secondary market to lead capital market development. The existence of a robust bond market is an important precursor to secondary market development.
- *What are the types of secondary markets?* Secondary markets are typically identified with mortgage-backed securitization. Mortgage pass-through securities can be issued directly by lenders or through specialized institutions, known as conduits, which purchase mortgage loans and issue mortgage securities. However, this is only one form of secondary market. Lenders can sell whole loans among each other or to investors or conduits. The sale of loans on recourse to (or collateralized borrowing from) liquidity facilities is often viewed as a form of secondary market. Finally, lenders can issue mortgage bonds. While not a true secondary market (because there is no sale of assets), mortgage bonds are an important vehicle for accessing the capital markets in a number of countries and are also covered in this review.
- *What is the appropriate secondary market development model for a particular country?* More broadly, the question is what the best way is to access the capital markets for housing finance. The answer has three components:
  - What do issuers want (or need)?
  - What will investors accept?
  - What will the legal and regulatory system allow?

## Functional components of mortgage markets

To understand secondary mortgage markets it is important to understand the functional components of the mortgage lending process. The traditional or bundled model of mortgage lending is the portfolio lending model, in which one institution performs the major functions of origination, servicing, funding, and portfolio risk management (figure 2.1). Such an intermediary may purchase a few services from third-party vendors, such as appraisal

**Figure 2.1 The traditional or bundled home mortgage delivery system**




*Source* Author's schematization

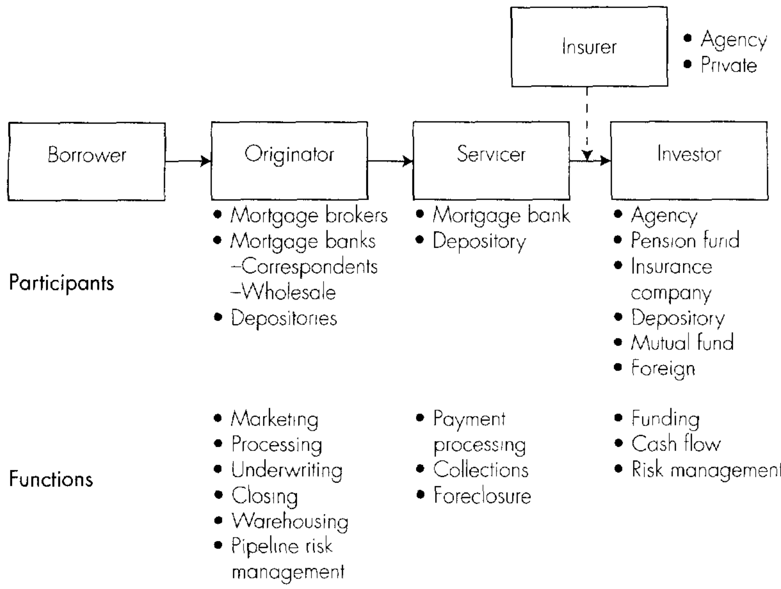
and credit reporting. However, a single firm accomplishes the primary functions. Portfolio lenders may be depository institutions (commercial banks, savings banks, savings and loans, building societies), contract savings institutions, or European-style mortgage banks.

The advantages of the traditional model are institutional simplicity (one institution performs all of the functions) and the ability to provide multiple services to clients (achieving economies of scope). The disadvantages of the traditional model in which depository institutions are the lender are relative inefficiency (depositories typically have higher cost ratios than capital-market-funded lenders) and inherent mismatches, generating liquidity risk and interest rate risk.[1]

The modern unbundled mortgage delivery system is characteristic of a secondary mortgage market (figure 2.2). In this model the functions of origination, servicing, risk management, and funding are unbundled and managed by different specialized entities. Originators may be traditional depositories, mortgage companies, or mortgage brokers.[2] The institution that originates the loan may or may not be the one that services it. Servicing is typically done by depositories or mortgage companies. In the unbundled model there is a wide variety of investors, ranging from depositories (investing in loans originated and serviced by others) to mutual funds. In the global market they may be either domestic or foreign. Finally, credit risk management is often specialized as well and can be provided by third parties such as mortgage insurance or bond insurance companies (public or private).

It is common for some of these functions to be combined. Thus a mortgage company or depository may originate and service loans but sell them in the secondary market to let other institutions provide the funding and credit risk management. Portfolio lenders may use mortgage insurers to credit-enhance the mortgages that they hold.

**Figure 2.2 The unbundled mortgage delivery system**




*Source.* Author's schematization

There are a number of potential advantages of the unbundled system over the bundled system. (For more detail on this issue see Guttentag forthcoming.) First, the unbundled system provides incentives for management specialization and greater use of economies of scale. In the bundled system inefficiencies in any of the major processing units are frequently cross-subsidized by other revenue-generating activities of the firm. This allows inefficient producers to continue to operate. The specialization by individual firms of various functions can lead to better efficiency in the mortgage delivery system. In systems dominated by the secondary market, mortgage origination tends to have low barriers to entry and thus is highly competitive and has many players. In contrast, mortgage loan servicing, which is characterized by economies of scale, is much more concentrated.

Second, the unbundled system can respond to market price signals more effectively than bundled systems. The fact that the loans must be sold at market prices means that originators must carefully manage the rate commitment process. In the United States mortgage companies change mortgage rates at least daily, whereas many depository portfolio lenders change rates weekly or even less often.

Third, the unbundled system also produces a superior division and sharing of the various risk management functions. Originators in the unbundled system are more careful in their management of commitment, warehousing, and documentation risk. Without a portfolio in which to bury mistakes, the unbundled system must utilize more refined risk management and documentation tools than the bundled system.

In the traditional depository intermediary system all of the risks associated with mortgage investment, pipeline, liquidity, credit, interest rates, commitment (the risk associated with providing an advance rate commitment to a borrower), and closing (the risk that a loan is inappropriately underwritten or documented, making it unsaleable) are assumed and managed by a single intermediary. In the unbundled system, specialists perform these risk management functions. Mortgage companies have become specialists in managing commitment and pipeline risk. Insurance companies and conduits can blend the loans from different locations and more efficiently diversify credit risk than most individual portfolio lenders. Cash flow risk is also unbundled. If loans can be sold they are more liquid. Interest rate risk may be lower because the secondary market can accommodate a wider variety of mortgage loans and match the characteristics of the loans with investor preferences.

## Prerequisites for secondary market development

The starting place for discussion of the requirements for a successful secondary market is the primary mortgage market. The following characteristics of the primary market are important prerequisites for secondary market development:

- *Mortgages must be attractive investments.* The interest rates on the mortgages must be market determined and provide investors with a positive, real, risk-adjusted rate of return.
- *Mortgage instruments must be standardized.* To reduce the transaction costs of evaluating mortgage loans and the processing costs of issuing and administering mortgage-backed securities, the characteristics (rate adjustment, amortization schedule, term) of the mortgages should be uniform. In addition, standardized documentation (note, deed, application, appraisal, credit report) must be available for all loans.
- *The underwriting of mortgages must be standardized.* An assessment of the ability to pay generally consists of relating borrower income, assets, liabilities, and net worth to proposed mortgage payments and overall housing expenses. Debt-to-income guidelines help to standardize underwriting. Willingness to pay is based on the downpayment (borrower investment in the property) and credit history. The appraisal determines the value of the property.
- *High-quality servicing of mortgages must be available.* The collection of mortgage payments and the periodic remittance of these payments to the investor (or conduit) is the major task of servicers (whether they are originators or third parties). They must also maintain accurate and current information on mortgage balances, status, and history and provide timely reports to investors.

A successful housing finance system is also premised on a well-developed legal and regulatory structure. The following legal and regulatory characteristics are important for development of the system:

- *Enforceable security interest.* This depends on the clarity of the land title, the ability to establish priority of liens on the collateral (an effective title and lien registration system), and the ability to enforce foreclosure and repossession over a reasonable time period.
- *Transferable security interest.* For transactions involving asset sale or pledging (as collateral), security interests must be transferable and investors must have the ability to perfect their security interest after transfer. Furthermore, the transfer of interest must be at relatively low cost. Transfer and recordation fees should be nominal and borrowers should not have to approve the transfer.
- *Bankruptcy protection.* An additional legal concern for investors is the solvency of the seller, servicer, or other third parties (such as credit enhancers or trustees) and their rights in the event of bankruptcy. Investor priority rights must be protected and they should have the right to pull or transfer servicing.
- *Supportive regulatory environment.* Capital requirements on mortgages and mortgage-backed securities must reflect the relative risks and ensure a level playing field. Proper accounting standards (including the requirements for off-balance sheet or sale treatment) should exist. The ability to sell assets in a tax-efficient manner (avoiding double taxation or withholding taxes) is an important consideration.

Mortgage pass-through securities are complex instruments, particularly relative to government bonds. A successful secondary market depends on an adequately developed bond market, which includes:

- Benchmark yields (and yield curve).
- Marketmakers, to provide liquidity.
- A regulatory body, to provide security issues.
- Rating agencies, to help investors understand the characteristics of the instruments and their relative creditworthiness.

## Whole loan sales

Sales of whole mortgage loans are common in many markets. There are three basic types of whole loan sale markets: broker markets, relationship markets, and wholesale markets (Guttentag 1997).

Broker markets arise when an individual or a firm brings together a buyer and a seller of mortgage loans (typically for a fee or commission). In this model both the buyer and seller are mortgage lenders, and the buyer must exercise due diligence to verify the quality of underwriting, documentation, and servicing of the loans. The loans are typically sold servicing-released, meaning that the buyer takes over the servicing of the loan.

Due diligence is costly in whole loan sales, because loan structures, documentation, and underwriting are not standardized across lenders. In addition, sellers need to generate portfolio performance data, which requires a certain level of system integration and sophistication. The due diligence costs and the risks of whole loan purchase can be reduced if the seller agrees to recourse (that is, agrees to buy back some or all of the loans in the event of default). While recourse makes whole loan purchases more attractive to buyers, it makes them less attractive to sellers, who retain substantial risk against which they must continue to hold capital.

Relationship markets involve the sale of loans or interests in individual loans or pools of loans between lending institutions that have a relationship with each other (for example, lines of credit, correspondent banking functions). A common form of a relationship sale is a participation in which one lender sells a portion of a loan or pool of loans to another. The seller typically retains the servicing of the loan(s). The risk to the buyer is reduced to the extent that the seller retains a stake in the loans that are sold. In addition, participation sellers typically expect to sell more interests in the future. The principal requirement is trust between the participants.

A second form of relationship market is the ongoing sale of whole loans from mortgage companies. The mortgage company acts as an originator and servicer for an investor (portfolio lender, conduit, government agency). If performed on an ongoing basis, the investor can set guidelines for the documentation and underwriting of the loans, increasing standardization and reducing due diligence costs. If the originator services the loan, it retains an interest in the ongoing performance of the loan, thus reducing the risk. If it is a specialist in this line of business, it has an incentive to originate high-quality loans to maintain its sales relationships.

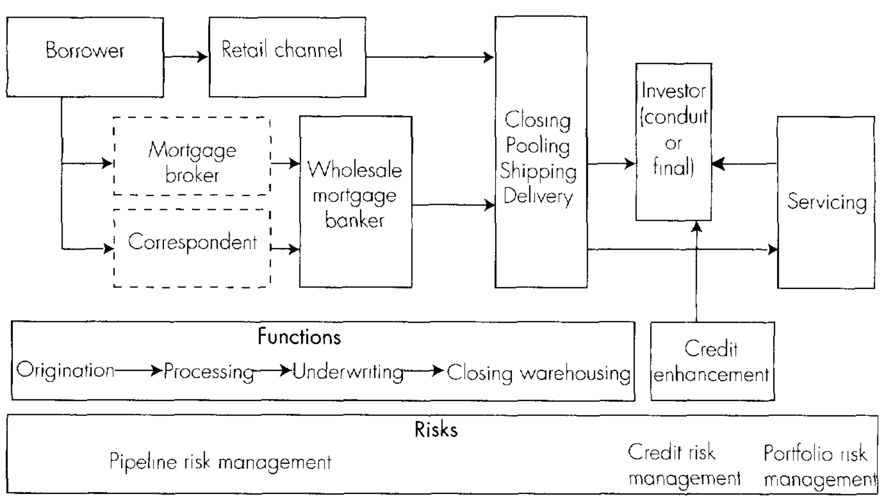
This model can work well if the loan is insured. It developed in the United States after the creation of the Federal Housing Administration mortgage insurance program in 1934. Mortgage companies were created to originate and service these loans for life insurance investors. This remained the main delivery mechanism for the Federal Housing Administration. Later, the Veterans Administration insured loans until the advent of the Government National Mortgage Association, or Ginnie Mae, securitization program in 1970.

The third type of whole loan sale is through wholesale markets. Wholesalers are mortgage companies that buy loans from different correspondents or brokers, package them together, and sell them to investors. Correspondent lenders close loans in their own name (and documentation) and then immediately sell them to the wholesaler. Brokers do not fund loans but simply originate them for the wholesaler in its name and on its documentation using its funds. The wholesaler takes the pipeline risk associated with locking a rate to the borrower. In addition, it takes the fallout risk associated with underwriting and documentation. It underwrites brokered loans and monitors the underwriting of correspondents.

In a typical wholesale market a mortgage company can originate loans through its own retail branches or obtain loans from brokers or correspondents—a depository institution could also operate in this manner (figure 2.3). The mortgage company warehouses the loans until they are ready to be delivered to the investor. The wholesaler assumes the pipeline risk from the time the rate is locked to the borrower until the loan is sold to the investor. It will underwrite loans originated by the broker and monitor the underwriting of the correspondent. It will then service the loans for the investor. The wholesale distribution channel became a major part of the U.S. mortgage market during the 1990s. It is predicated on the existence of secondary markets in which the wholesaler can sell large volumes of loans.

Whole loan sale markets were the earliest form of secondary markets and still exist in both industrial and developing countries. The advantage of a whole loan sale market is that it is relatively simple, requiring only that the ownership of the loan and, in most cases, the servicing can be transferred. Whole loan sales can improve the funding capabilities of individual lenders, reduce geographic and institutional segmentation, and potentially improve the allocation of risk in mortgage lending. By encouraging specialization in origination and servicing it can enhance competition and efficiency. Legal and regulatory obstacles to whole loan sales include restrictions on or prohibitive costs to transfer loans (for example, high mortgage lien registration fees or stamp duties; obligations to obtain borrower permission to transfer or service the loan; or restrictions on the data that can be disclosed to the purchaser, a current constraint in Germany). Economic obstacles to the development of a significant whole loan sale secondary market include the

**Figure 2.3 Unbundling with a wholesale lender**




*Source:* Author's schematization

high cost of due diligence and the lack of standardization in loan design, documentation, and underwriting.

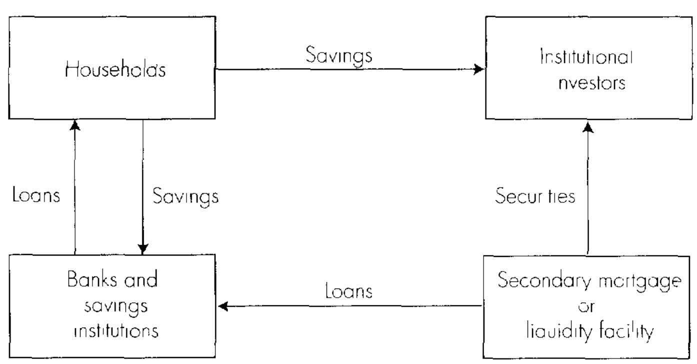
## Liquidity facilities

In many countries purely wholesale institutions exist to facilitate the flow of funds to the primary mortgage market (figure 2.4). These institutions, which are referred to as liquidity, rediscounting, or secondary mortgage facilities, issue general obligation bonds in the capital markets and use the proceeds to refinance the portfolios of primary market lenders. They provide funds to primary market lenders through collateralized loans or through recourse purchases.

Liquidity facilities exist to provide both short-term funds and capital market access to depository institutions. As such they can be viewed as adjuncts to the portfolio lending model. They operate with very low credit risk, purchasing loans on recourse or lending on an overcollateralized basis. Their borrowers are typically also their owners, either partially or totally. As a centralized bond issuer, they can often obtain better access on more favorable terms than their owners and members. With a greater volume of assets, they can access the markets more often, creating greater liquidity in their debt and negotiating better terms with underwriters. By lending to a number of institutions, they can achieve greater diversification in their asset base.

A prime example of a liquidity facility is the Federal Home Loan Bank System, established in 1932 to provide support for the U.S. residential mortgage market. It was charged with providing regulatory oversight and liquidity to the nation's thrift institutions, the dominant mortgage lenders at the time. Its creation was motivated by the collapse of the financial system caused by a lack of liquidity in the financial markets, the erosion of confidence in financial institutions, and investors' lack of understanding of asset default risk in the mortgage market.

**Figure 2.4 Liquidity facility**




*Source:* Author's schematization

The Federal Home Loan Bank System provides capital market access to its members, which are savings and loan institutions. The U.S. Treasury initially capitalized it in 1932. Over time, as new members joined and existing members borrowed, the system acquired capital from its members, which allowed it to repurchase the treasury stock. By 1947 the entire treasury stock holding was repurchased. At the end of 1996 the members had more than $330 billion in combined assets and $290 billion in debt outstanding, making the system the third largest financial institution in the United States. The bonds are joint and several obligations of the 12-bank system (not specifically collateralized) and are rated AAA/Aaa. The Federal Home Loan Bank System has never had a credit loss, reflecting its overcollateralized lending policy and its ability to control and transfer mortgage collateral.[3]

Each member of the Federal Home Loan Bank System is a congressionally chartered entity owned by its members (primarily banks and thrifts but also credit unions and insurance companies).[4] Members are regulated and supervised by the Federal Housing Finance Board, an independent agency whose sole responsibility is their supervision. This board appoints the public sector directors for each bank (approximately 40 percent of board representation).

Members in the Federal Home Loan Bank System receive a number of privileges from the government. The most important benefit is an implicit government guarantee of their debt (the market believes that the government would not let them fail—as a result their bonds trade at yields less than corporate AAA and less than 50 basis points over U.S. government bonds of comparable maturity). This benefit arises from their their size and special charter.

Federal Home Loan Bank securities also enjoy certain privileges, including exemption from Securities and Exchange Commission issuance requirements, the ability to issue in paperless form through the Federal Reserve System, authority of the Secretary of the Treasury to purchase up to $4 billion of their securities, and access to examination reports of member financial institutions. Federal Home Loan Bank loans are exempt from reserve requirements. The members are exempt from corporate income tax but must contribute $400 million annually to various housing initiatives and for the interest on bonds issued to repay depositors in failed savings and loan institutions, which represents a current effective tax rate of about 30 percent.

In France the Caisse de Refinancement de Hypothecaire performs a similar function as the Federal Home Loan Banks (Stone and Zissu 1994). It issues bullet bonds to finance the purchase of mortgage-backed bonds created by member lending institutions. It issues bonds that are over-collateralized by mortgage bonds created by primary market lenders rather than whole loans. It is a private institution, owned by most of the major mortgage lending banks in France. Only its shareholders can refinance mortgages through it.

The Caisse de Refinancement de Hypothecaire was created in July 1985 to replace the Marché Hypothecaire (a decentralized mortgage bond market). A major reason for its creation was the relative illiquidity of Marché Hypothecaire bonds, which were issued in irregular and small amounts by institutions with varying perceived credit quality. The motivation for a centralized institution was that it could gather more assets from diversified sources and would be able to regularly issue larger bond amounts.

The mortgage bonds issued by the Caisse were guaranteed by the government until 1988, after which the guarantee was withdrawn. The Caisse then changed the underwriting standards for the mortgage pools it was willing to refinance. These pools must be overcollateralized by 25 percent. The mortgage principal collateralizing the liabilities of the Caisse must be replenished as mortgages are prepaid and amortized. Its bonds do not receive special regulatory or tax treatment. The spread of its bonds to the yield of government bonds of similar maturity is actually lower today than it was when they carried the government guarantee. This may indicate that the liquidity of Caisse bonds has increased by enough to compensate for the increased credit risk. The current size of the Caisse de Refinancement de Hypothecaire is $9.5 billion. Its growth has slowed in recent years, reflecting the desire of its depository institution members to fund loans with relatively cheap retail funds.[5]

Cagamas in Malaysia is the most successful example of a secondary mortgage facility in a developing country (Cheng 1996). It purchases mortgage loans (the principal balance outstanding) from mortgage originators, with full recourse to the primary lenders, at a fixed or floating rate for three to seven years. This is in effect a secured financing, with Cagamas looking first to the credit of the financial institutions when mortgage loans default. Cagamas issues debt securities to investors in the form of fixed or floating-rate bonds, Cagamas notes, or Cagamas Mudharabah (Islamic) Bonds. Cagamas is the largest nongovernmental issuer of debt in Malaysia. Its securities are rated AAA by the Malaysian Rating Agency and are subject to only a 10 percent risk weight for bank investors. Twenty percent of its shares are owned by the central bank, and commercial banks and finance companies hold the remaining shares. As of the end of 1996 Cagamas had purchased ringgit (RM) 16.1 billion (US$6.4 billion) or 27.2 percent of the total volume of housing loans granted in Malaysia, and its outstanding debt securities exceeded RM 15.7 billion. Cagamas expects to begin purchasing loans without recourse and issuing pass-through securities in the near future.

Cagamas receives a number of privileges from the Malaysian government. Loans sold to Cagamas are not subject to the high (13.5 percent) central bank reserve requirements. Its securities are eligible as liquid assets (banks and finance companies must keep an additional 10 percent of assets in liquid form (government or Cagamas securities or cash). Cagamas securities carry a risk weighting of 10 percent, compared with a 50 percent rating for housing loans. The chairman of the central bank chairs the Cagamas board.

The Home Mortgage Bank in Trinidad and Tobago is a wholesale institution that issues bonds in the domestic capital market and purchases loans on recourse from primary market lenders (Hart 1996). At the end of 1996 the Home Mortgage Bank had assets and bonds outstanding in excess of \$600 million. The Home Mortgage Bank is, after the government of Trinidad and Tobago, the largest issuer of bonds. The bank enjoys two forms of government support: interest on its securities is exempt from tax, and, because it is partially owned by the government, its securities are viewed as comparable to those of the government (however, the bank has a limit on the total amount of tax exempt bonds it can issue. It is currently approaching this limit and it is exploring alternative loan purchase and funding techniques.) In 1997 the bank helped to create and will provide technical support for the Caribbean Home Mortgage Bank. This institution, modeled after the Home Mortgage Bank, will operate in the eight Eastern Caribbean countries. One notable aspect of its creation is a standardized legal and regulatory treatment achieved through a treaty negotiated between the eight countries.

There are proposals to create new secondary mortgage facilities in Jordan (Diamond 1996) and Indonesia. These proposals share a common conceptual theme with the above descriptions. To facilitate market acceptance of their securities, these institutions will have minority share ownership and representation by the domestic central bank on their board of directors. In this sense they will have an "implicit" government guarantee of their debt securities. The other feature of the proposed facilities is modest regulatory advantages for their activities. Loans from the secondary mortgage facilities will be exempt from central bank reserve requirements (14 percent in Jordan and 3 percent in Indonesia).

From a development perspective, a liquidity facility can be easier to create and operate than a secondary mortgage market conduit. If the legal system supports the pledging of assets (a loan secured by a loan), collateralized lending is simpler than the purchase and transfer of individual mortgage loans. In the United States the Federal Home Loan Bank either places a blanket lien on the entire eligible mortgage loan portfolio or has the lender segregate specific collateral that supports the loan. A full recourse purchase may also be easier to implement than an outright purchase and transfer, since the risk is that of the borrowing institution and the main concern of the facility is access to collateral in the event of institutional default. From a bond issuance perspective, in economies with underdeveloped capital markets it may be easier to obtain investor acceptance of simple bullet bond instruments than of more complex pass-through securities. The transactions costs of underwriting a centralized issuer are also lower than underwriting a number of individual issuers.

The major limitation of a liquidity facility is that it does not support off-balance sheet finance for the primary market investors. If lenders need to sell their mortgage assets for capital adequacy or diversification reasons, then a true secondary mortgage market is needed. A corollary is that liquidity facilities do not support small, thinly capitalized mortgage companies that depend on the sale of mortgages for finance. Although facilities can improve competition by giving small depository institutions access to the capital markets and long-term finance, they cannot facilitate entry by non-portfolio lenders. Finally, there is a danger that a centralized institution will be a monopoly, particularly if it has some form of government involvement.

## Mortgage bond markets

In Europe the mortgage bond system developed in two phases with different fundamental characteristics. The first phase developed in a part of Prussia that is now Poland with the creation in 1770 of the Silesian *landschaften*, a type of cooperative rural mortgage bank. The second phase grew out of the creation of the Credit Foncier de France in 1852.

The fundamental concept underlying the Silesian model mortgage bond system is the reliance on collateral as the fundamental source of credit quality. The bonds are obligations of the mortgage bank, and thus the institution provides the credit enhancement. The credit quality of the bonds is assured through the use of conservative underwriting standards and strict regulation of the loans and institutions. In the countries using this system, government laws create specialized institutions, whose main activity is the granting of real estate loans. As a rule they grant loans secured by first mortgages. They obtain funds only through the issuance of mortgage bonds for which they have the exclusive right to issue. Bondholders have priority claim on the pool of collateral as well as recourse to the capital of the issuing institution. There are typically restrictions on the lending limits (loan-to-value ratios), loan characteristics, institutional capital, the circulation limit of bonds, and the balance between borrowing and lending.

There are two forms of organization of these institutions. In Denmark and the other Scandinavian countries the issuing institutions are organized as associations of borrowers. Traditionally, the borrowers assumed joint and several liability for the bonds. In Germany private mortgage banks evolved as joint stock companies. However, the *landesbanken*, which are state-owned wholesale banks, also have the right to issue specialized mortgage bonds (*pfandbriefe*).

The government has strictly controlled the creation of mortgage banks in these countries. The characteristics of mortgage collateral supporting the bonds are stipulated by law and overseen by government regulation and, in the case of Germany, bondholder trustees. The bonds rely on the quality of the collateral and the issuing institution for their value; there is no special tax treatment or regulatory preference.[6] Bondholders are given preferential rights to the collateral in the event of institutional failure. In Germany regulations restrict the right to use the name *pfandbriefe*, which is a symbol of high quality in the market. As evidence of their high quality, pfandbriefe issued by the private mortgage banks trade at very tight spreads to comparable maturity government bonds.

German mortgage bonds are issued against a large pool of collateral held by the mortgage bank (the cover). Although the banks can grant mortgage loans up to 80 percent loan-to-value, only the portion of the loan at or below 60 percent loan-to-value is eligible collateral for the pfandbriefe. The mortgage bank can issue non-pfandbriefe mortgage bonds to fund the remainder of the collateral. The bonds are mostly simple noncallable bullet instruments. There is a small degree of overcollateralization (averaging 5 percent), reflecting the funding of amortizing mortgages with bullet debt. The mortgages are amortizing but prepayment is excluded for the period that the interest rate is fixed.[7] Thus the mortgage bank can match fund the loans with minimal cash flow risk. Mortgage banks provide approximately 20 percent of mortgage credit (both commercial and residential) in Germany.

Private mortgage banks are the dominant lenders in Denmark and Sweden. Prior to the 1980s, these institutions were part of a directed credit system in which institutional investors were obliged to purchase mortgage bonds—in the case of Sweden, at below-market rates. The directed credit systems were substantially dismantled during the 1980s. In the past many European pension funds and insurance companies were subject to constraints on portfolio allocation, leading them to favor mortgage bonds. These restrictions are being lifted in accordance with European Community directives.

The Danish mortgage market is almost entirely funded through the issuance of callable bonds. The Danish bond market is one of the largest and most liquid in the world, with a volume of bonds in circulation of 1.58 trillion kroner or approximately 95 percent of Danish GNP in 1995. By end of 1995, 54 percent of outstanding Danish bonds were mortgage bonds and only 39.4 percent were government bonds.

Mortgage bond issuance in Denmark is tightly regulated. Only authorized mortgage credit institutions (*realkreditobligationer*) can issue mortgage bonds. There are nine authorized issuers, with three institutions controlling 90 percent of the origination market in 1996. Since 1990 banks and insurance companies have been allowed to conduct mortgage credit activities through subsidiaries. The mortgage credit institutions are subject to strict limits on the characteristics of the loans that collateralize their bond issues and the matching of their assets and liabilities. Unlike German mortgage bonds, which are simple bullet bond structures, Danish mortgage bonds are pass-through securities. The mortgage bank securitizes the borrower's loan by selling a matched bond in the capital market. The loan is funded with the proceeds of the bond issuance. The individual bonds are part of large series with a particular coupon rate that can remain open for several years. The mortgage bank provides credit enhancement in that the bond is an obligation of the bank (which has recourse to the house pledged by the borrower).

The main investor groups in the mortgage bond market are pension funds and insurance companies, while the largest investor group in the government bond market are foreign investors. Danish institutions are required to hold a large share of their assets in domestic bonds; the quota of pension funds is two-thirds (Davis 1995). By 1995 the market share of these institutions in mortgage bonds was six times as large as in government bonds. Graven-Larsen (1993) notes that these restrictions result in "domestic institutional investors' willingness to purchase mortgage-credit bonds at a limited marginal yield in relation to government bonds." In recent years the quota system may have led to underpricing of prepayment risk, as the demand to fill quotas led to a required yield reduction in excess of the premium charged for increased value of the option (Dübel and Lea 1996).

As individual countries adjust to European Community norms, mortgage bonds will no longer be placed through traditional privileged channels (Thompson 1995). For example, in Sweden institutional investors no longer have quotas favoring domestic bond investment. In addition, they have limits on exposure to individual borrowers. This is leading to a diversification of funding sources on the part of the mortgage banks and also higher relative mortgage rates.

Mortgage bank and bond laws have been passed recently in several Central European countries. These laws are modeled after the German system with one important difference: the interest on the mortgage bonds is tax exempt. This exemption has been justified as a means of leveling the playing field with the existing state savings banks, which dominate the sector, and reducing the cost of borrowing for housing and thus expand demand.

Mortgage bonds are also an important instrument for housing finance in Chile (Garcia 1997). The bonds are issued by both commercial and mortgage banks. The system is quite similar to that in Denmark in that a financial institution issues a bond on the borrower's behalf to fund the loan. The bonds are sold based on the credit quality of the mortgage bank with no government guarantees.

Pension funds have been major investors in Chilean mortgage bonds. Since the privatization of the pension funds in 1981, they have experienced rapid growth. Pension fund assets now represent 40 percent of GDP (more than $26 billion). In the early days following reform, mortgage bonds were one of the most attractive assets available to managers. They were so attractive, in fact, that the government limited the portion of assets that could be in mortgage bonds to facilitate development of other investment alternatives (such as the equity market).

Mortgage bonds are issued by depository institutions in the United States and elsewhere. If the collateral is of high enough quality, backing bonds with mortgages can result in a higher rating and thus a lower cost for the issuer. During the 1980s, low-rated savings and loans in the United States were able to access the capital markets through the issuance of overcollateralized mortgage bonds. The overcollateralization rates were frequently 150 to 200 percent, with the investor receiving a priority claim on the collateral in the event of failure of the issuer. In this way, a below-investment-grade savings and loan could get a AAA rating on its debt. This funding mechanism declined in importance with the development of the secondary mortgage market because it did not address the capital needs of issuers.

Whereas the Silesian model developed as a number of decentralized institutions with rights to issue a unique financial instrument, the Credit Foncier de France model represents a centralized mortgage bank. According to Pleyer and Bellinger (1981), "one of the reasons for this measure seems to have been the principle of centralization predominant in France, and another, the financial fragility of the regional credit institutions, which were not in a position to overcome the difference in capital supply existing between Paris and the provinces. Furthermore, a general opinion prevailed that bonds were easier to negotiate when issued by a big real estate credit institution." To gain stronger influence over the institution, the government in 1854 transferred management of the company from a shareholder-elected director to governors appointed by the president of the republic.

There are a number of significant differences between the Credit Foncier model and the initial Prussian landschaften. In France Credit Foncier was created as a lending institution and not as an association of borrowers. The close connection between borrowers and investors was therefore not developed. The mortgage bond does not refer to a specific pool of loans, no encumbrance by the mortgage bond is entered in the land register, and joint and several liability of the borrowers does not exist. The mortgage bond bearer can only assert a claim against the issuing institution.

The role of the government is important but indirect in the Credit Foncier model. It was the only authorized issuer of mortgage bonds until 1966. It is a "financial institution with special legal status." Although Credit Foncier de France is a joint stock company, it carries out various mortgage market regulatory functions for the government, originates a special type of subsidized mortgage loan, the PAP, and its governor and senior executives are appointed by the president. The market has viewed its debt as guaranteed by the government. In 1996, in response to financial difficulties primarily associated with its real estate development activities, the government announced that it backed Credit Foncier's bonds and that it was going to merge the organization's core residential loan portion with another public institution. Its bonds enjoy some special privileges (exemption from registration) but no special tax treatment.

A centralized mortgage bank was established in Spain in 1872 (Boleat 1985). Until the 1980s Banco Hipotecario de España was the only mortgage bank in Spain and the only authorized issuer of mortgage bonds. It was nationalized in 1962 and transformed into a government-owned joint stock company in 1971. Throughout the 1960s and 1970s, Banco Hipotecaria was the mechanism by which the government carried out some housing policies. In 1991 Banco Hipotecario was merged with several other public credit institutions, forming the Argentaria Group, which has been partially privatized. It no longer receives subsidized funding from the state.

Banco Hipotecario's monopoly on mortgage bond issuance was removed in 1981 when new legislation allowed mortgage lenders to issue several types of mortgage bonds (Thompson 1995). Despite incentives in the form of tax concessions on the bonds, various legal and procedural difficulties precluded significant growth in the system. In the 1990s legislation has been passed to facilitate the issuance of mortgage-backed securities.

From a development viewpoint an advantage of a decentralized mortgage bank model is that it enhances competition if a number of lenders have the ability to directly access the capital markets. However, there are a number of limitations to this model. The decentralized European model is based on strict regulation of specialized institutions as well as strong legal protection of the lender vis-á-vis the borrower and the bondholder vis-á-vis the issuer. In countries with weak legal and regulatory systems, this model may be difficult to implement. The due diligence cost of underwriting multiple issuers also raises the effective cost of finance. Finally, the loans remain on the balance sheet of the lender and do not address capital adequacy and diversification needs. A centralized issuer can achieve larger scale and can better diversify its assets while also becoming a regular issuer of bonds, which leads to greater liquidity. However, the danger in creating a centralized institution is that it can become a monopoly and may be difficult to control, particularly if it has government connections.

## Mortgage-backed securitization

Mortgage securities are instruments backed by pools of mortgages. The simplest mortgage-backed security is the pass-through security, in which investors receive pro-rata shares of the cash flows—principal scheduled and prepayments and interest—from the mortgage pool. More complex derivative securities are frequently created from the pass-throughs. The cash flows of the loans and securities are thus matched with the balance of the security equaling the outstanding loan balance.

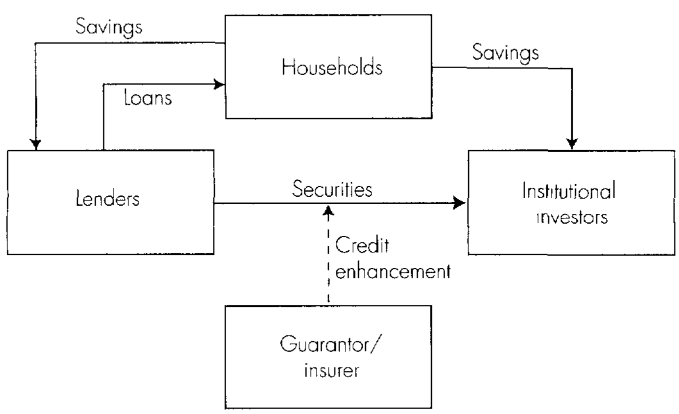
A mortgage pass-through security represents a sale of the underlying assets. (Although the Danish and Chilean mortgage bonds are pass-through securities, as noted above, they are not a sale of assets, but obligations of the issuing bank.) The issuer may sell the mortgage assets to a special purpose vehicle or trust, which then issues the securities, or to a conduit institution, which purchases mortgage loans from a number of lenders, pools the loans, and issues the securities.

## Direct sale

An example of the direct sale of mortgage-backed securities is the Ginnie Mae market in the United States. In this model the loan originators are the security issuers, and the role of Ginnie Mae is to provide credit enhancement of the security through the provision of cash flow insurance. Ginnie Mae was created in 1968 to manage the liquidation of the government loan portfolio of the Federal National Mortgage Association, or Fannie Mae. Ginnie Mae is a government agency and its securities are issued with a payment guarantee backed by the full faith and credit of the United States. The Housing and Urban Development Act of 1968 authorized Ginnie Mae to guarantee a new type of obligation, the pass-through security, to be issued in the capital markets by private lending institutions. Ginnie Mae issued the first mortgage pass-through security in 1970.

Mortgage companies in the United States with small balance sheets and capital primarily originate Federal Housing Administration and Veterans' Administration loans. They pool the loans, obtain a Ginnie Mae insurance certificate, and then sell the pools as Ginnie Mae securities (figure 2.5). The collateral behind Ginnie Mae securities are Federal Housing Administration and Veterans' Administration insured mortgage loans. Although these loans carry 100 percent default risk insurance on the principal, the timing of receipt of the principal interest is uncertain. The main risks to an investor in pass-through securities issued by a mortgage company are the failure of the company that services the loans and the delay associated with collecting on the mortgage insurance. Ginnie Mae provides a guarantee of timely

**Figure 2.5 Direct sale secondary market**




*Source* Author's schematization

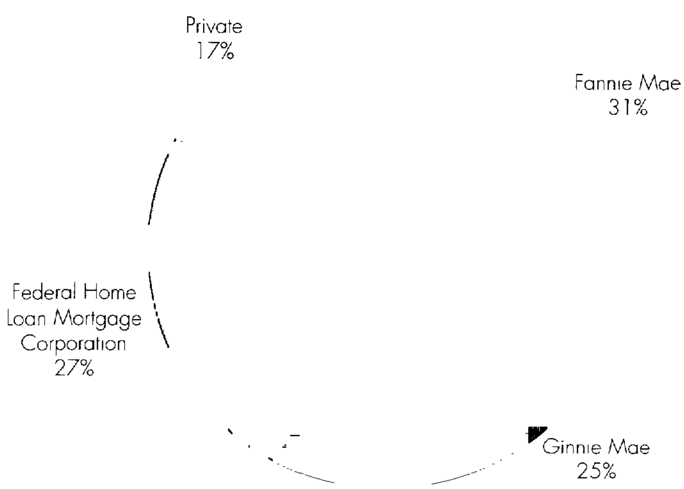
payment of interest and principal to the investor (cash flow insurance). The risk it takes is the delay in receiving mortgage insurance proceeds and the failure of the servicer. This insurance enables mortgage companies to sell portfolios of Federal Housing Administration and Veteran's Administration loans directly in the capital markets.

The Ginnie Mae pass-through meets the needs of mortgage companies. It represents a sale of assets, involves no overcollateralization, and can be issued in small denominations. The issuer retains 44 basis points for servicing the loans and pays 6 basis points to Ginnie Mae for its cash flow insurance. The issuer must advance all contractually scheduled payments to the investor. The relatively large servicing fee provides a powerful incentive for the mortgage company to properly service the loans, since it is its main source of income. An important lever that Ginnie Mae has for controlling its risk is the threat to transfer the loan servicing (and thus fee income) to another servicer and disqualify the mortgage company from future business.

During its existence Ginnie Mae has insured over $500 billion in securities (figure 2.6). The principal advantages of this model are its simplicity, low cost (Ginnie Mae has a staff of less than 60 people), and ability to liquify mortgages and enhance competition in the primary market by giving small, thinly capitalized lenders direct access to the capital markets. Its principal disadvantages are a dependence on 100 percent default risk insurance and small pools, which are less liquid and more costly to issue.The alternative model of mortgage-backed securities issuance in the United States is

**Figure 2.6 Mortgage-related securties by issuer, 1996**

**$2,058 billion**




*Source.* Fannie Mae

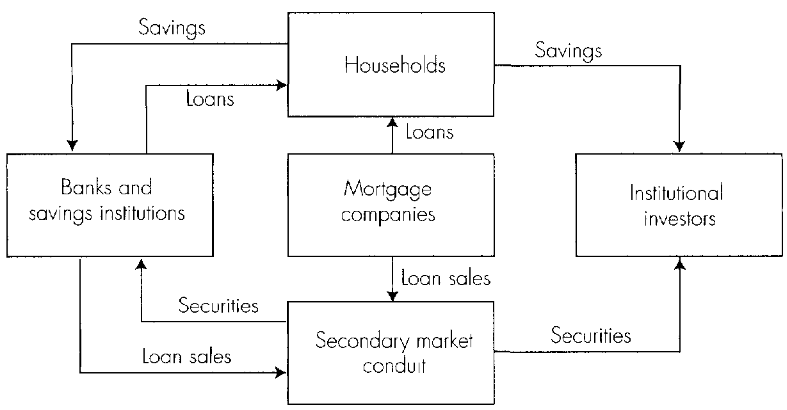
the conduit. Conduits purchase mortgages and issue mortgage-backed securities (figure 2.7). The best known conduits are Fannie Mae and the Federal Home Loan Mortgage Corporation, or Freddie Mac, but there are also over 20 private conduits with a rapidly growing share of the market.

The first true conduit (in the sense of purchasing mortgages and issuing pass-through securities) was Freddie Mac, which was created in 1970 to develop a secondary mortgage market for savings and loan institutions. The savings and loans through the Federal Home Loan Banks initially owned Freddie Mac, but in 1989 it became a government-sponsored enterprise with a structure similar to Fannie Mae's. Freddie Mac began issuing conventional (non-government-insured) mortgage pass-through securities in 1972.

Fannie Mae did not begin functioning as a conduit until 1981. Fannie Mae was created in 1938 to promote the adoption of the Federal Housing Administration mortgage instrument and increase liquidity in the mortgage market. Its mission was to provide a secondary market (both buying and selling) for originators of Federal Housing Administration mortgages by purchasing the loans funded with bond sales by the Resolution Funding Corporation.

Throughout most of its existence, Fannie Mae has functioned as a housing bank, purchasing loans for its own portfolio. Fannie Mae was "privatized" in 1968, at which time it was given a special charter by the government and its shares were sold to the public. (In fact, Fannie Mae had been partially privatized in 1954, when it introduced a requirement that borrowers had to purchase in the institution. In 1968 the U.S. Treasury provided a significant portion of the initial equity in the form of preferred stock, which was retired over a two-year period through the sale of stock to borrowers and the public.) At that time its special assistance functions

**Figure 2.7 Secondary market with a conduit**




*Source:* Author's schematization

and portfolio were spun off to a newly created agency, Ginnie Mae. The primary rationale for this change was to move Fannie Mae's mortgage purchases off-budget at a time of growing government deficits (Weicher 1988).

The pass-through securities issued by Fannie Mae and Freddie Mac differ in several significant ways from those guaranteed by Ginnie Mae. First, they are backed by non-government-insured mortgages. By charter they are required to have some form of credit enhancement on loans they purchase with loan-to-value ratios of 80 percent or more, which typically is in the form of private mortgage insurance. Second, because they purchase a large volume of loans from a large number of lenders, they can issue larger securities with more diversified loan collateral and greater liquidity. As purchasers of the loans (which are serviced by third parties) they receive the cash flows and repackage them for payment to investors. Thus they are a much larger organization with more than 3,000 staff for each company. Third, they provide their corporate guarantee on their securities, whereas Ginnie Mae provides a full faith and credit of the U.S. government guarantee. Although they are private corporations, their unique status as government-sponsored enterprises allows them to issue debt at yields lower than comparable issues of AAA-rated corporations (but higher than comparable maturity treasury bonds).

The government-sponsored enterprises model is at the heart of the creation of the modern secondary market in the United States. The model is based on private ownership and management of a corporation that the markets view as having a special status due to its congressional charter and various other advantages. Although there is no explicit government backing, the financial markets believe that the federal government will not let one of these enterprises fail. (This perception is bolstered by the fact that the government-sponsored enterprises have $1 billion credit lines from the U.S. Treasury and one-third of their board of directors is appointed by the president.) Thus as a general proposition they can finance large volumes of debt and enjoy a favorable cost of funds. In addition, their securities enjoy several advantages that reduce investor-required yields and issuance costs. The government-sponsored enterprises are exempted from state corporate income taxation.

A significant feature of government-sponsored enterprises is their private ownership. Fannie Mae and Freddie Mac are publicly traded, shareholder owned corporations and the Federal Home Loan Banks are mutual organizations, owned by their borrowers. These organizational structures bring several benefits to government efforts to facilitate the flow of funds to particular users. The reliance on private capital allows these activities to be off-budget. Thus taxpayers do not directly fund government-sponsored enterprise activities. In attracting private capital on a competitive basis, these institutions must operate efficiently, and the government benefits from applying private sector management skills to designated public policy purposes. However, an implicit guarantee is not as efficient as an explicit guarantee, because the institution does not receive the full benefit of the government support

These benefits translate into lower rates and increased access to capital for borrowers. Because their special status provides them with a funding advantage, they crowd out private conduits and constitute a duopoly in the secondary market. (However, Fannie Mae and Freddie Mac are subject to maximum limits on the size of loans they can purchase. The loan limit was $214,600 in 1997 and is set to rise to $227,150 in 1998.) As noted by the Congressional Budget Office (1996), they are "spongy conduits," because only two-thirds of the value of their government support translates into lower mortgage interest rates for borrowers. Shareholders and management capture the remaining one-third of the benefit.

Two unique factors influencing the development of the U.S. secondary mortgage market were a prohibition against nationwide banking and the requirement (until 1980) that federally insured depository institutions make only fixed-rate mortgages. The prohibition created a geographic mismatch in the sources and uses of funds. Although a secondary market in whole loans existed, the lack of standardization in the mortgage instrument and the agency risk inherent in such a market limited its effectiveness.

The fixed-rate mortgage restriction in effect created an unstable and highly risky type of financial intermediary. To speed up their balance sheet restructuring, thrifts were given capital relief for the sale of below-market mortgages in 1981.[8] This led to a massive sale of fixed-rate mortgages to the secondary market, primarily funded by the issuance of mortgage-backed securities by the government-sponsored enterprises. Annual mortgage-backed securities issuance increased from $30 billion in 1982 to $265 billion in 1986. A major portion of this increase was in conventional mortgage-backed securities issued by Fannie Mae and Freddie Mac, which increased from $14 billion in 1982 to $160 billion in 1986 (Chinloy 1994).

An active private secondary mortgage market has emerged in recent years in the United States. During the 1990s between 16 and 21 percent of mortgage-backed securities issued have been private label (non-Ginnie Mae, Fannie Mae, or Freddie Mac). The share of mortgage debt outstanding in private securitized form has grown from 2 percent in 1990 to more than 6 percent in 1996.

The securities issued by private conduits are similar to those of Fannie Mae and Freddie Mac, with the exception of loan size. In this market, investors rely on information supplied by rating agencies and enhancement from either the collateral (overcollateralization), cash flow (such as senior-subordinated securities), or third parties (for example, pool insurance provided by mortgage insurers or bond insurers) to manage the credit and agency risk inherent in third-party origination and servicing.

The development of the senior-subordination structure has been a key factor in the growth of the private mortgage-backed securities market. In this structure, the senior security has priority claim on the pool cash flows. All defaults and cash flow shortfalls will be borne by the subordinate tranches until (in a worst case scenario) they are gone. The rating agencies have developed models that predict the default rates on pools of mortgages based on loan characteristics (underwriting ratios, loan type), servicer performance, geographic location, and so on. Based on their estimate of lifetime default rates, they determine the size of the subordinate tranch(es) necessary to get the desired rating (for example, AAA). A lesser but still important alternative form of credit enhancement is through pool insurance provided by mortgage insurance companies or bond insurance provided by companies such as MBIA, the Federal Security Agency, and FGIC. For a fee, a bond insurer will in effect put its AAA rating on a security (one that is already investment grade) to improve its rating. (Bond insurance is the common form of credit insurance for U.S. housing revenue bonds, which are tax exempt securities issued by state government housing agencies to provide lower-cost finance through exemption from taxation of bond interest for lower-income households).

## International experiences

A mortgage-backed securities market was created in Canada in 1987, when the Canadian Mortgage and Housing Corporation was authorized by the government to provide timely payment guarantees on pools of federally insured loans. These securities, which have become known as "Cannie Maes," are modeled on Ginnie Maes (Jones 1995). Because the Canadian Mortgage and Housing Corporation is a crown corporation, its securities have a full faith and credit guarantee of the Canadian government. Like Ginnie Maes, Cannie Maes have a zero percent capital risk weight, reflecting their government guarantee.

The secondary mortgage market in Canada has not achieved the same degree of success as in the United States. Two major differences between Canadian and the U.S. financial systems may explain the different degrees of importance of the secondary mortgage market. First, Canadian lenders have always operated on a nationwide basis. Therefore a need to rely on a secondary market to facilitate the interregional transfer of funds has never developed. Second, the market never received the boost in liquidity that occurred during the massive thrift mortgage sell-off in the early 1980s in the United States. Canadian lenders have had fewer incentives to sell mortgages, and as a consequence liquidity in Canadian mortgage-backed securities is not as great as in the United States. Thus the economies of scale that characterize securities issuance and servicing and the functional separation of origination, servicing, and investment that characterize U.S. housing finance have not developed to the same degree in Canada. As of the end of 1997 nearly Can$35 billion of mortgage-backed securities have been issued and the outstanding volume was approximately $14.5 billion, compared to total domestic residential mortgages in excess of $350 billion.

In Australia the mortgage-backed security market was started by official programs to support housing. But unlike in the United States and Canada, where the central government has been active in promoting the market, state governments took the lead in Australia (Thompson 1995). The securitization market began in Australia in 1985 with the issue of promissory notes by the National Mortgage Market Corporation, which was established in 1984 by the Victorian state government. In late 1986 the government of the state of New South Wales formed the First Australian National Mortgage Acceptance Corporation. It was the first state entity to issue investment-grade, long-term securities. Each of these organizations has the state government as part owner, in conjunction with private sector shareholders.

Securitized debt as a proportion of Australian debt outstanding (face value) had grown to approximately 18 percent as of September 1997 (Gill 1997). Securitization is now dominated by the private sector, including firms such as Aussie Home Loans and PUMA. Major banks such as Westpac have also reconfigured their mortgage lending business along the lines of U.S.-style mortgage companies, focusing on origination, servicing, and funding with securitization.

The expansion of the Australian mortgage-backed securities market was aided by important legal and regulatory changes. State stamp taxes were lifted, and restraints were removed that would have prevented state-based building societies and credit unions from selling assets.

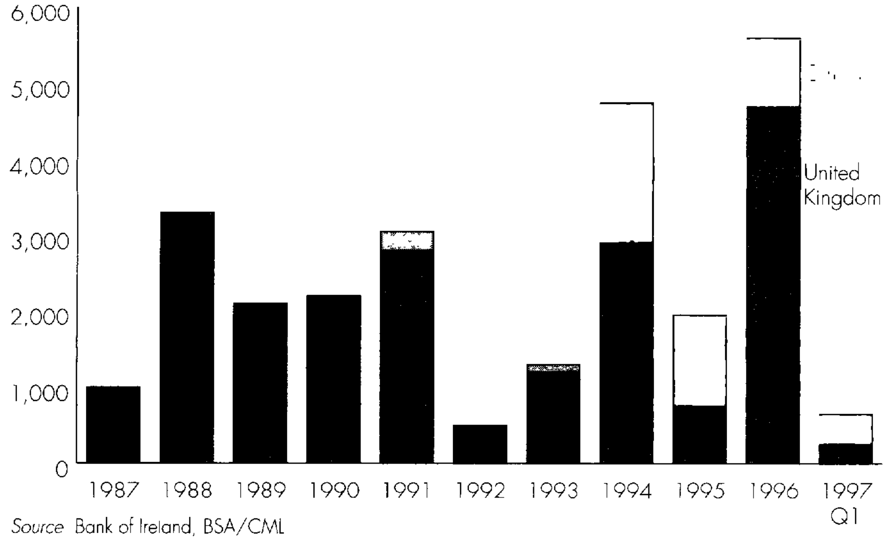
The European mortgage-backed securities market was created in 1987 in the United Kingdom. Since that time there have been 123 issues for nearly $26.3 billion (figure 2.8). The first non-U.K. mortgage-backed securities were issued in France and Spain in 1991 by government-backed mortgage banks. Issuance began to pick up in 1994 with 12 issues from France and Spain. The year 1996 saw four new country issues, including Belgium, Germany, Ireland, and the Netherlands. In 1997 there were large mortgage-backed securities issued in France, the Netherlands, and the United Kingdom.

Unlike the U.S. market, the European mortgage-backed security market developed without any direct government involvement. There have been no government-sponsored conduits created to provide credit enhancement or regulatory incentives to facilitate investor acceptance.

The pioneers in Europe were centralized mortgage lenders in the United Kingdom (similar to U.S.-style mortgage banks), which entered the market in the mid-1980s in response to wide spreads between mortgage and money market rates (Diamond and Lea 1992a). These institutions (private conduits) lend through a network of brokers and insurance agents and fund

**Figure 2.8 European mortgage-backed securities**

*Millions of U.S. dollars*




*Source* Bank of Ireland, BSA/CML

themselves entirely through wholesale sources, primarily mortgage-backed securities. The centralized lenders were able to build a share as high as 13 percent of the market over a short period, aided by favorable wholesale-to-retail funding rates and aggressive marketing and product differentiation. Their share fell to less than 5 percent in the early 1990s, reflecting the aggressive pricing of building societies, which benefited from significant deposit inflows in the wake of the October 1987 stock market crash. The downgrading of insurance companies, which provided credit enhancement for early mortgage-backed securities, and an initially unfavorable risk-based capital treatment of mortgage-backed securities (initially at 8 percent weight rather than the 4 percent for residential whole loans) adversely affected the cost of funds of the centralized lenders.

Mortgage-backed security issues in continental Europe have been sporadic, and there are no ongoing programs. The primary reasons for the slow pace of securitization have been the lack of capital pressure on lenders, relatively low rates on retail funding for depositories, high costs of developing securitization programs, and legal and regulatory uncertainty. Lack of centralized information on mortgage repayments has also retarded the development of mortgage-backed securities development. In France and Spain an arduous process of legislative change was required to develop the necessary legal infrastructure for securitization.

The European mortgage-backed securities market may grow substantially in the future. With European monetary union, the costs of cross-border financial service provision are going to fall. Competition is likely to emerge sooner in the savings market than in the lending market, which may cause the relative cost of retail funds in depositories to rise. In addition, consolidation pressure and increased emphasis on shareholder return are leading to more careful capital management and greater securitization of relatively low return assets.

The first developing countries to develop secondary mortgage markets were Colombia and Argentina. Mortgage-backed securities were first issued in Colombia in early 1995 by savings and loan corporations (Gomez 1996). These institutions, known in Spanish as CAVs, were created in 1972 and have been quite successful in originating price level adjusted loans (using the UPAC indexing system).

Since then the CAVs have successfully carried out six offerings of mortgage-backed securities for a total amount of $250 million. The legislation established a framework very similar to the U.S. trust concept. The loans are sold to the trust, a bankruptcy remote vehicle that issues the securities. There have been no major regulatory or tax incentives given to the CAVs to facilitate securitization. The credit enhancement is through senior-subordination and a reserve account funded with excess spread.

In Argentina the National Mortgage Bank issued its first mortgage-backed securities in October 1996. The bank is government-owned with budgetary and administrative autonomy (Cerolini 1996). It was established in 1886 to provide low interest rate mortgage loans. The bank was rechartered and restructured in the early 1990s as a wholesale bank providing medium- and long-term financing for construction and home loans.

The National Mortgage Bank functions as a conduit purchasing mortgages from originators (primarily banks) and pooling them in special purpose vehicles that issue bonds. The securities issued by the bank are backed by mortgages originated by banks and other financial institutions, which guarantee the ultimate payment of all principal and interest (recourse purchase). The National Mortgage Bank acts a master servicer and advances delinquent payments in the event of originator default and has the unusual authority to request a debit from the servicers' central bank account (Duff and Phelps 1996). Credit enhancement on the first dollar-denominated transaction was provided by an 85:15 senior-subordinated structure with a reserve fund of approximately 10 percent of the mortgage pool. The bank has also issued mortgage-backed securities in the domestic market.

The Central Bank of the Argentine Republic designed a standard model for the mortgage loans, which allows for the origination of homogeneous mortgage loans, in respect to terms, currency, interest rate, amortization system, maximum loan values, maximum loan-to-value ratios, installment to income ratios, and expenses and fees. The central bank introduced standard documents and mandatory terms for all lenders, to make securitization feasible in the future.

Private banks in Hong Kong have issued mortgage-backed securities. The Hong Kong Monetary Authority created a Fannie Mae-style secondary market conduit that purchased its first pool of mortgages in late 1997. The institution will initially be 100 percent government owned, with a mixed private and public sector board of directors. The Hong Kong Mortgage Corporation was established in March 1997 to reduce asset concentration in the banking system and stimulate the development of the secondary mortgage market (Sheng 1997).

## Conclusions

In countries with pools of long-term savings that can be accessed through the capital markets, issuers can expand the supply of funds they lend for housing and improve their management of risk. Issuer needs fall into two general and overlapping categories: the need for long-term finance and the need for off-balance sheet finance (capital relief).

As discussed above, housing finance can subject lenders to both liquidity risk and interest rate risk. Liquidity risk arises from the long-term nature of housing loans and interest rate risk arises from the nature of the mortgage instruments offered to borrowers. If these risks are the major concern of a lender, then on-balance sheet issuance of mortgage bonds may be an acceptable solution. But whether an individual lender sells bonds to domestic investors at attractive yields depends on its perceived credit quality. If the lender is viewed as strong and well managed, it may be able to issue long-term bonds on its own. If mortgage collateral is viewed as exceptionally safe (which depends in part of the strength of the legal and regulatory system), then collateralizing the bonds with mortgages may facilitate bond issuance at lower cost.

But what if the lender is small, new, or not viewed as a strong credit by investors? In this case it may not be able to access the markets or the cost may be prohibitively high. A liquidity facility is an alternative approach for accessing the capital markets, particularly for small institutions. A liquidity facility can act as a centralized bond issuer for primary market lenders. If it has a strong balance sheet (or government support) it may be able to access the capital markets at lower rates than individual lenders. A program of continued bond issuance by one institution can also establish liquidity in the market and lead to lower transactions costs, in turn, lowering the cost of finance for individual lenders. Such an institution can also be more successful than individual lenders in placing long-term debt.

However, both of these options leave the mortgages on the balance sheet of the originating lender. If the lender is capital constrained (as the U.S. savings and loans were in the 1980s) or is in need of asset diversification (as may be the case with Hong Kong banks), then a true secondary market with a sale of assets and transfer of risk is needed. The first alternative to consider is the direct sale of whole loans or mortgage-backed securities, because it does not necessitate the creation of a new institution. The problem with whole loan sales is the high cost of due diligence and the lack of standardization of mortgage loans. If the mortgage assets are regarded as good quality, with sufficient performance information to establish the creditworthiness of the loans and servicer, they may be salable in securitized form. Mortgage-backed securities are typically more standardized than whole loans and if rated have an additional element of due diligence review. A senior-subordinated structure will enhance the credit quality of the senior bonds, but if true off-balance sheet finance is needed, the subordinate security must be sold, which may be a problem in the context of a developing market. In this case, it may be necessary to create a conduit with a high market perceived credit quality.

Investors are concerned with three aspects of mortgage-related investments: credit quality, cash flow performance, and liquidity. The primary concern of domestic investors is the credit quality of the investment (whole loan or security). In most developing markets, the benchmark for bond investment is likely to be the government or state-owned enterprises. If the issuer is a private entity, it must convince investors that its bonds are of high credit quality, reflecting its status as an issuer or the quality of the collateral. This is unlikely to be the case in most developing countries and thus there will be a need for credit enhancement. Subordination of a portion of the bond issue is one approach for credit enhancement. In the event that an investor in subordinate tranches cannot be found, the investor will typically look for third-party credit enhancement. This can come from an insurer, liquidity facility, or conduit.

The second concern of investors is the cash flow performance of the investment. If bond markets are not well developed, institutional investors may not be accustomed to complex instruments. Most government bonds are bullet bonds paying periodic interest, with the principal paid at the end of the term. Introducing monthly payment amortizing instruments can be difficult, particularly if investors do not have the systems to handle such payments. More important, if borrowers can prepay their mortgages, there is an element of uncertainty in the cash flows that must be understood and priced. If this is the case, simple bond structures such as mortgage bonds and liquidity facility bonds may be more acceptable than mortgage pass-through securities, at least in the short run.

The third investor concern is liquidity in the bonds. Even if they are comfortable with the credit and cash flow risk, many investors will be reluctant to purchase bonds if they do not see a ready way to sell the securities. They will look to the issuer, underwriter, or third party, such as a central bank, to make a market in the securities. If the issuer is seeking off-balance sheet treatment, it will not agree to repurchase its own securities. Whether underwriters will agree to repurchase bonds will depend on their capital and commitment to the market. There have been occasions, such as in the creation of liquidity facilities in Malaysia and Trinidad and Tobago, where for a limited period of time the central bank agreed to make a market in the securities.

The legal and regulatory infrastructure is one of the main determinants of capital market access for lenders. The legal infrastructure for a true secondary mortgage market with sale of assets and transfer of ownership and risk includes a well-functioning mortgage registry, in which liens can be registered and transferred efficiently. In addition, a prerequisite for effective private sector credit enhancement (such as mortgage insurance or bond insurance and guarantees) is the ability to foreclose on defaulted loans and realize proceeds from the sale of collateral in a reasonable time frame.

Any form of capital market finance of housing requires some degree of bond market development. Pricing of long-term mortgage-backed securities, whether they are mortgage bonds or mortgage-backed securities, is aided by the existence of comparable maturity government (credit-risk-free) bonds as pricing benchmarks. The existence of a long-term government bond market is not an absolute requirement. In both Denmark and Germany the long-term bond market was created with mortgage bonds, since the government's historically (up to the 1980s) issued primarily short- and medium-term debt. However, in both cases investors were protected through strong regulation of the mortgage banks and mortgage collateral.

A secondary market model requires the existence of a vehicle for off-balance sheet finance. A trust or special purpose vehicle that purchases the loans, issues the mortgage pass-through securities, and is bankruptcy remote—meaning that investors cannot pierce the trust and claim against the originating institution—is a necessary condition for securitization. In addition, the transaction must be tax efficient so that net cash flows are taxed only once, at the investor level and not at the trust or special-purpose vehicle level.

Governments play a critical role in establishing a strong legal and regulatory foundation for the primary as well as secondary mortgage market. Their responsibilities include protecting foreclosure rights in the event of default, mandating priority lien status for investors, supervising mortgage institutions, and providing for transparency in the capital markets.

The decentralized European mortgage bank system developed without the involvement of a government-sponsored institution and without specific financial or tax incentives from the government. However, it was aided significantly by the existence of a well-developed set of institutional investors and restrictions on the portfolios of these investors that resulted in a strong preference for mortgage bonds. These directed credit systems, which constitute a nontransparent tax on savers, are now being dismantled in Europe and other countries (such as the Republic of Korea). A key question for developing countries is whether new companies specialized in mortgage lending and subject to significant regulation and supervision will be credible bond issuers without external credit enhancement.

Even if the credit risk of individual mortgages and mortgage lenders is low, a decentralized mortgage bond market may not develop on its own due to high transactions costs in bond issuance. In the United States in the 1930s and in France in the 1970s and 1980s decentralized mortgage bond issuers did not develop in the manner expected by legislators. The solution was to create of a centralized liquidity facility able to provide capital market funds to a variety of originators and a standardized bond issue from one high-quality institution to investors. This approach reduces the transactions costs of screening individual issuers by investors, enhances liquidity in the bond market, and facilitates the development of economies of scale in bond issuance.

The need for a centralized bond issuer does not itself necessitate the involvement of government. If primary market lenders desire long-term funds from the capital markets, they can jointly create a centralized bond issuance facility. Such a facility can develop economies of scale in bond issuance by using the collateral of a number of members. However, if mortgages are not regarded as strong assets or the member institutions themselves are not considered sufficiently creditworthy, a newly created private liquidity facility may also find it difficult to access the capital markets.

The role of the government in credit enhancement can take several different forms. In a number of English-speaking countries, mortgage insurance is an effective form of credit enhancement. The existence of insurance can facilitate the development of capital market funding by reducing the due diligence costs of institutional investors. The Federal Housing Administration program was instrumental in expanding mortgage lending and the use of the long-term self-amortizing mortgage instrument. Since the creation of the secondary mortgage market, private mortgage insurance has expanded substantially and is now capable of providing insurance to a large portion of the market.

If individual bond issuers are not regarded as credible by institutional investors, some form of credit enhancement on mortgage-related securities may be necessary. In the United States the Ginnie Mae program provides cash flow insurance on pools of mortgages insured by the Federal Housing Administration, allowing small, thinly capitalized lenders direct access to the capital markets. This program was developed in response to investor concerns about the timing of cash flows on securities with 100 percent default risk insurance. In recent years, private sector alternatives to Ginnie Mae have developed to provide credit enhancement on investment grade securities. Cash flow insurance on securities issued by individual lenders can facilitate competition in the primary market. The question is how the agency risk and moral hazard of such guarantees can be enforced. If the guarantees are provided on pools of insured mortgages, the additional monitoring of the issuers may not be high.

The alternative credit enhancement mechanism is the conduit. The conduit creates two forms of value: the transformation of illiquid mortgages into more liquid mortgage-backed securities, and the credit enhancement of mortgage pools. A centralized, government-backed conduit can provide investors with effective credit enhancement as well as liquidity in its securities. As shown in the United States, private conduits can perform these functions, but their success depends on a well-defined legal structure for mortgage credit, the possibility of obtaining mortgage and bond insurance, and a developed secondary market with the ability to sell subordinated securities. If developing countries are without such an infrastructure, some degree of involvement by the government may be necessary.

The difficulty with financial institution debt guarantees is that they insure against default of the mortgage asset as well as the institution. Government mortgage insurance may be a less risky approach (from the standpoint of the government) because the guarantee is directed toward the asset (mortgage). Both the Federal Housing Administration and the National Housing Administration in Canada are examples in which the government has provided guarantees to facilitate mortgage market development. This approach is targeted toward the main obstacle in capital market funding of housing, the high transaction costs of underwriting credit and agency risk. This approach contrasts with the provision of guarantees on the liabilities of secondary market institutions, which expose governments to the liquidity and cash flow risks of the institution as well.

What is the appropriate form of a guarantee? As Jaffee and Renaud (1997) note, explicit government guarantees are the most efficient form of credit enhancement, because the issuer can obtain full benefit of the support. If properly budgeted, the contingent liability of the government can be estimated and reserved for. The risks to the government may be less if the guarantee is on the mortgage assets rather than on entire institutions.

The experience of several developing countries suggests that something less than 100 percent government ownership can facilitate development of capital market funding of housing. In both Malaysia and Trinidad and Tobago, secondary market institutions were created with the assistance of the government but without explicit government debt guarantees. In both cases the government has a minority share and board interest (through the central bank). The aura of government involvement was sufficient for domestic institutional investors to be comfortable with the credit quality of the bonds. International organizations such as the International Finance Corporation (the private sector arm of the World Bank Group) may also contribute equity capital to secondary market institutions (as was the case in Trinidad and Tobago). Their involvement can lend credibility as well as expertise and technical assistance.

As the case of France demonstrates, such a facility does not have to be backed by the government in perpetuity to be successful. In fact, in the countries covered in this survey, the case of the Caisse Refinancement de Hypothecaire is the only example of a government guarantee being withdrawn.[9] It is noteworthy that the corporate plans of newly created liquidity facilities in Jordan and Indonesia contemplate a sale of the government's equity stake after an initial period of development. Likewise, the restructuring of the National Mortgage Bank in Argentina from a retail to wholesale bank has been accompanied with a plan for privatization.

A major issue arising from the creation of a centralized government-backed institution, conduit, or liquidity facility is the potential that it can become a monopoly issuer of bonds in the market. Even if government involvement is indirect, as in the U.S. secondary mortgage market conduits, the funding advantage is sufficient to preclude private sector competition. This suggests that the creation of any government-backed centralized institution should be accompanied by a sunset provision reducing or removing government backing at a future date.

What is, then, the appropriate model for secondary market development? The answer is that it depends on many factors that flow from the relative development of the mortgage market, the legal and regulatory environment, and capital markets. The answer in each country will be different. (For a view on this subject see Pollock 1993.) The general principle that policy-makers should follow is to create solutions that are tailored to the specific needs of issuers and investors, are of minimum cost in economic and administrative terms, and are simple and direct.

## Notes

1. *Liquidity* refers to the ability to rapidly turn assets into cash. Liquidity risks for depositories can arise because mortgage loans are long term and deposit liabilities are short term. Interest rate risk arises when there is a mismatch in the maturities or duration of assets and liabilities (Jaffee and Renaud 1997). As portfolio lenders, European-style mortgage banks are more efficient than depository institutions and are better able to match and fund long-term fixed-rate mortgages through mortgage bond issuance. The advantages and disadvantages of this institutional form are discussed below.

2. There is a difference between European-style mortgage banks, which are portfolio lenders, and U.S.-style mortgage banks or mortgage companies that originate and perhaps service mortgage loans but do not invest in them. These entities differ from mortgage brokers who perform some of the origination functions (marketing, packaging, processing) but do not fund loans.

3. If a borrower experiences an erosion in credit quality, the Federal Home Loan Bank System can require a transfer of the mortgage loan collateral (notes and deeds) to a third-party trustee or to the system itself. During the savings and loan crisis of the late 1980s the Federal Home Loan Bank System obtained possession of the collateral. Once a savings and loan failed, the Resolution Trust Corporation, in

its capacity as liquidator of the assets, would repay the Federal Home Loan Bank to obtain the collateral (the value of which was substantially in excess of the loan) and then sell the mortgage loans in securitized form.

4. Federally chartered thrift institutions are required to be members. Other financial institutions can be members if at least 10 percent of their assets are mortgages. However, they must hold more stock if they are not qualified thrift lenders (with 65 percent of assets deemed to be mortgage-related, including government securities and cash).

5. In France depository institutions benefit from a tax advantaged contract savings scheme, the épargne logement, which allows them to raise funds on a below-market (pre-tax) basis. These funds can be used for any form of housing activity and are used to cross-subsidize first mortgage loans. Also, a majority of the Caisse members are large banks with direct access to the capital markets.

6. During the early 1950s, in an effort to rebuild the market after the war, interest on *pfandbriefe* was tax exempt. The bonds issued by the *landesbanken* are guaranteed by the *länder*, or state governments, and thus implicitly by the federal government.

7. The exclusion contract is under pressure from courts and consumer groups in Germany. The Supreme Court recently ruled that the mortgage bank must allow early repayment in the event of a household move (the loans are assumable). As discussed in Lea and Dübel (1996) this contract is likely to be replaced with a prepayable loan subject to a penalty.

8. In 1981 the Federal Home Loan Bank provided a limited exemption from the net worth and statutory reserve requirements for institutions that sold mortgages carrying an interest rate equal to or less than 7.5 percent. These institutions were allowed to amortize losses over the remaining life of the mortgages for the purposes of computing their capital ratios, providing a significant inducement to sell. This exemption ended in 1985. See Barth 1991.

9. One of the major U.S. government-sponsored enterprises, the Student Loan Marketing Association or Sallie Mae, recently successfully lobbied to give up its government charter in favor of a purely private corporation charter. The transition will take place over a 10-year period, with the company separating into a liquidating government-sponsored enterprise and a new private company free to undertake new activities. The government-sponsored enterprise will continue to be supervised and subject to capital requirements during this time.

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# Part 2 Case Studies

# 3

# Housing Finance and Capital Markets: The Hong Kong Experience

*Pamela A. Lamoreaux*

The government of the Special Administrative Region of Hong Kong has the primary objective of maintaining price stability in the private sector while promoting home ownership through an increased supply of public housing units and financing schemes. These policy aims have such secondary goals as boosting the demand for first-time homebuyers in Hong Kong, curbing property price speculation, and creating efficient transport linkages to significantly reduce travel time between commercial and residential areas.

Chief Executive Tung Chee-Hwa's first policy address on October 8, 1997, identified two housing policy issues that will influence the development of the primary and secondary markets in Hong Kong: the supply of housing and the demand for housing.

First, there has been a sharp increase in land supply and new flats. In response to this development the government has targeted about 85,000 flats (both private and public) to be built each year. Roughly 120 hectares of land will be released to the private sector up until March 1999, and an additional 260 hectares will be released over the next three fiscal years. Another 285 hectares of land will be released for public housing during the same period, and three sites now used for civil servant quarters and 260 government quarters will be released for private development. The government is instituting a 10-year land sale program, which includes site-specific information (to be rolled forward annually for the first five years). It has also decided to accelerate redevelopment of old industrial areas into housing; establish an Urban Renewal Authority in 1999, which will be empowered to carry out redevelopment more efficiently; introduce new legislation to facilitate land resumption and assembly (of potential benefit to agricultural land conversion); and set up a Hong Kong (HK) $500 million urban rehabilitation fund to provide loans to owners of old buildings in areas targeted for redevelopment.

It is generally felt that these targets are very aggressive. The government has been cautioned against building more public housing estates than needed just to reach its target of 85,000 flats a year. However, an oversupply situation seems highly unlikely, since the production targets are not expected to be reached before 2000. The government thus has ample time to gauge actual demand. Table 3.1 reflects the government's latest forecast of residential unit supply for the next eight years to address the supply shortage. This forecast has already been revised downward from the numbers first published in July 1997.

Second, there is a projected gap in the supply of housing against the demand for housing finance. The government has set a target for private home ownership, currently at about 52 percent, to reach 70 percent by 2007. It also intends that 250,000 tenant households in public flats buy their flats, and that the average waiting time for public rental housing be reduced from six and a half to three years. Moreover, the lead time for development of public housing will be reduced from 62 to 47 months for properties developed by the Housing Authority and from 52 to 46 months for those constructed by the Housing Society.

Currently, outstanding residential mortgages in Hong Kong are about 31 percent of GDP. The Hong Kong Monetary Authority (HKMA) has estimated the potential shortfall in housing finance in the year 2005 to be about HK$788 billion. Analysts, particularly in light of current market conditions, have challenged some of the assumptions of the HKMA. However, if the government's housing targets are even partly obtained, there will be a shortage of funds for mortgages based on the demand. The assumption that housing debt as a percentage of GDP will grow from 30 percent to 50 percent is aggressive, even if a 70 percent home ownership ratio is achieved. Admittedly, a simple trend analysis was used to calculate this ratio, and other factors should be considered, including house price movements relative to inflation and population demographics.

Population growth is a major factor in determining demand. The latest demographic data show the growth rate at 3 percent, up steadily from a low of only 0.3 percent in early 1990. This represents an increase of 191,000 people during the year prior to June 1997, of which about 61,000 were immigrants from mainland China, 33,000 represented a natural increase, and 23,000 were foreigners. The remaining 74,000 are attributed to returning immigrants.

The age mix also bodes well for an increased demand for housing. The largest single groups are the 35–39 and 30–34 age ranges, the groups most likely to experience salary increases and have growing children who may need more space. This upwardly mobile group should be trading up to larger and more expensive housing.

There are several other demographic factors that would suggest a continued demand for housing:

- *Smaller households.* The average household size has decreased from 4.1 persons in 1981 to 3.5 persons in 1995, increasing the demand in mass residential housing.
- *Affordability.* Hong Kong families continue to accumulate wealth, with GDP per capita estimated at US$27,000 in 1997, compared with US$19,700 in the United Kingdom and about US$30,000 in the United States. Purchasing power is enhanced by low (15 percent) income taxes.
- *Marriages and divorces.* There is a relatively high number of marriages at about 40,000 a year and an increasing number of divorces at about 10,000 a year.

On the other hand, the current 25–30 percent drop in residential prices is sure to have a dampening effect on demand. This correction should allow for the residential property market to be supported by genuine end-users, whose primary considerations will be affordability and availability of mortgage finance.

While it is too soon to determine what long-term impact the current financial turmoil in the region will have on these initiatives, it is safe to say that the government will be watching carefully and will move swiftly to make any necessary modifications to protect the overall health of the financial sector. Although the mortgage market is small compared to other countries, there is still a demonstrable need for a secondary mortgage market in Hong Kong. It will in turn help to strengthen the primary mortgage market and deepen the capital market.

**Table 3.1 Forecast of residential unit supply, 1997-2005**
*(Number of units)*

| *Type of housing* | *1997–98* | *1998–99* | *1999–00* | *2000–01* |
|---|---|---|---|---|
| *Public rental and subsidized housing* | | | | |
| Housing Authority (rental and sale) | 32,200 | 20,900 | 51,200 | 93,400 |
| Housing Society (rental and sale) | 4,300 | 0 | 0 | 1,200 |
| Private sector participation scheme (sale) | 1,800 | 12,900 | 7,700 | 23,000 |
| Sandwich class housing scheme (sale) | 4,000 | 5,400 | 1,100 | 12,400 |
| *Private* | | | | |
| Auction/tender | 0 | 0 | 17,600 | 11,600 |
| Land exchange | 20,800 | 29,000 | 19,000 | 25,100 |
| Total number of units | 63,100 | 68,200 | 96,600 | 166,700 |

*Source:* Hong Kong Mortgage Corporation

## Structure and performance of the capital market

The domestic capital market is relatively young. Until 1979—except for a HK$250 bond issue for the Hong Kong government in 1975—the traded debt market in Hong Kong dollars consisted of bankers' acceptance and bills of exchange. In 1979 the government-owned Mass Transit Railway Corporation issued the first Hong Kong dollar commercial paper. In 1975 the Mass Transit Railway Corporation made the first major syndicated loan and in 1984 became the first company to issue floating rate notes.

Blue-chip companies issued fixed-rate loan stocks, which were traded on the local stock exchange in 1980–81. Floating-rate certificates of deposit were first issued by banks in late 1970s, and by the early 1980s they included innovative features such as step-up coupons and warrants into fixed rate. In 1984 the first fixed-rate certificate of deposit was issued by Royal Bank of Canada and involved the first interest rate swap with Hongkong Land. Quantas, guaranteed by the commonwealth of Australia, issued a 10-year amortizing bond in 1988. This was the first overseas borrower permitted to issue in Hong Kong dollars. The World Bank followed a year later with the first issue (other than government paper) to be exempted from the profits tax.

In 1990 the Hong Kong government launched its exchange fund bills program. This was the first Hong Kong dollar paper that could be sold short. Between 1993 and 1997 the government gradually lengthened the yield curve by issuing exchange fund notes with maturities of 2, 3, 5, 7, and 10 years. In 1994 the HKMA extended its clearing and custodian service, the

| 2001–02 | 2002–03 | 2003–04 | 2004–05 | Total |
|---|---|---|---|---|
| 40,700 | 42,500 | 45,000 | 37,300 | 363,200 |
| 1,600 | 4,600 | 0 | 0 | 11,700 |
| 5,200 | 5,000 | 6,300 | 11,000 | 72,900 |
| 3,200 | 3,200 | 10,000 | 10,000 | 49,300 |
| 19,500 | 18,800 | 28,000 | 29,600 | 125,100 |
| 17,000 | 19,600 | 15,700 | 15,600 | 161,800 |
| 87,200 | 93,700 | 105,000 | 103,500 | 784,000 |

Central Moneymarkets Unit, to cover Hong Kong dollar debt paper issued by the private sector. The same year the mortgage authority also created the liquidity adjustment facility, Hong Kong's equivalent of a discount window, to help banks manage their liquidity. The HKMA implemented the real-time gross settlement in the central money markets unit in December 1996, so that debt trading can be cleared and settled on real-time or end-of-day delivery versus payment basis.

As of September 1997 the total size of the debt market was HK$332 billion (US$43.0 billion), of which HK$99 billion (30 percent) was government paper (exchange fund bills and notes). From January to September 1997 the new issue market for debt securities (excluding government paper) was approximately HK$75 billion, of which 19 percent was fixed rate. The total number of issues for this period was 166, of which 92 were fixed-rate deals. The government issued approximately HK$6.0 billion in exchange notes of 2 to 10 years during this period.

There was relatively little growth in the fixed-rate corporate debt market outside of the syndicated loan market until the first quarter of 1998. This is a reflection of cheaper funding alternatives available locally on a floating-rate basis (usually combined with an interest rate swap) and more efficient vehicles available in other markets (primarily the United States and Tokyo), where top corporates can raise larger amounts with longer tenor.

In the past international banks with branches in Hong Kong tapped the fixed-rate certificates of deposit market to achieve an after-swap cost that was considerably cheaper than issuing floating-rate certificates. In the 1980s such issues accounted for 70 percent of all fixed-rate issuance. But in the past five years the share of bond issues by international banks has risen, so that certificates of deposit now represent only 40 percent of all fixed-rate issues (including government bond issues) on average for the past five years. Such certificate-of-deposit issues are extremely cheap and easy to arrange and most Hong Kong investors view them in much the same way as bond issues. Maturities vary from 1 to 10 years, but the most common are three to five years.

The short-term (maturities of one year or less) commercial paper market virtually disappeared in the 1990s, losing out to the government's short-term exchange fund bills program. This program was introduced in March 1990 as a money market instrument to facilitate monetary management in Hong Kong. Two-year notes were introduced in May 1993, three-year notes in October 1993, five-year notes in September 1994, seven-year notes in November 1995, and 10-year notes in October 1996. The present size of each issue of exchange fund bills with maturities of 91, 182, and 364 days is HK$2 billion, HK$1 billion, and HK$500 million, respectively, while the size for exchange fund notes is $500 million.

To gain a better understanding of the types, size, and volatility in the markets, table 3.2 provides highlights of some corporate bond deals that were made in the last few months of 1997.

It should be noted that the all-in yield is an estimate based on market information, and the actual cost of funds may differ based on details of interest rate swaps and other unknown factors. In January 1998 traditional Hong Kong dollar bond investors had a keen interest in AAA/Aaa-rated paper yielding above 10 percent for relatively shorter terms (two–three years). Obviously, most of the activity was driven by supranationals (more than HK$6 billion). Lead managers confirmed that most of the activity was swap driven, and that after swapping with the intermediary (lead manager) supranationals usually strike for all-in costs around the Hong Kong interbank offered rate (HIBOR) minus 10–30 basis points, or more important, the U.S. dollar London interbank offered rate (LIBOR) minus 25–50 basis points. Lately, several People's Republic of China accounts, traditional Hong Kong dollar bond investors, and U.S. funds have been actively taking supranationals' short-term paper with double-digit absolute yield (which is said to be above their targeted yield).

In mid-1997 short-term HIBOR levels were about 6.0–6.5 percent. After the turmoil in the Asian markets in October 1997, rates shot up and eventually settled at 8.5–9.5 percent in December. There is still considerable volatility, and the question, or more precisely concern, on the minds of the banking community is at what level the HIBOR will settle this time around. This depends on the market risk premium attached to the Hong Kong dollar by market participants. The general perception is that it may well be at double-digit levels. These levels will affect the volume of mortgage origination and the funding costs of the Hong Kong Mortgage Corporation.

Over the past few months the HKMA has provided liquidity in the short end, not only in overnight but even more in the one-week and one-month rates. This has helped to calm the market and has led to softer rates. There is continued concern, however, that the mortgage authority will again have to squeeze short-term liquidity to defend the peg.

## Practice and infrastructure

The following are key aspects of the capital market in Hong Kong.

*Initial public offerings.* Debt securities to be listed on the Stock Exchange of Hong Kong must comply with the listing rules or statutory requirements under the securities ordinance, the protection of investors ordinance, and the companies ordinance. Under the companies ordinance, issuers can avoid lengthy prospectus requirements if the issue is made to market professionals in the business of dealing in securities. In such cases a shorter listing document is still required. Rules set by the stock exchange for listed issues stipulate that the issuer's shares must be listed or shareholder's funds must exceed HK$100 million; the issue size must exceed HK$50 million and be freely transferable; and securities,

**Table 3.2 Selected Hong Kong dollar debt issues**
*(Millions of Hong Kong dollars)*

| *Issuer* | *Amount* | *Maturity (years)* | *Coupon (percent)* |
|---|---|---|---|
| *October 1997* | | | |
| World Bank | 1,000 | 3.5 | 7.05 (A) |
| Fannie Mae | 1,500 | 5 | 6 85 (A) |
| | | | |
| Nordic Inv. Bank | 300 | 2 | 6.93 (SA) |
| BOTM HK | 730 | 2 | 1M H+20bp |
| Keppel Bank | 300 | 2 | 3M H+25bp |
| Dao Heng Bank | 1,000 | 3 | 1M H +32bp |
| Hang Seng Bank | 3,000 | 3 | H+ 22.5bp |
| IFC EMTN | 300 | 2 | 1.2.25 (Q) |
| Dresdner Bank HK | 200 | 1 | 9.6 (A) |
| | 100 | 2 | 8.25 (A) |
| Westdeutsche L. | 100 | 1 | 8.25 (A) |
| | 100 | 1 | 8.75 (A) |
| HKSB | 400 | 2 | 8.5 (A) |
| | 100 | 2 | 8.75 (A) |
| *November 1997* | | | |
| None | | | |
| *December 1997* | | | |
| Council of Europe (EMTN) | 1,000 | 2 | 3M H–30bp |
| Wing Hang Bank | 100 | 0.5 | 6-M H+40bp |
| EIB | 1,000 | 3 | 10 (Q) |
| *January 1998* | | | |
| IBRD-World Bank | 300 | 3 | 10 (SA) |
| IADB | 500 | 5 | 10.75 (SA) |
| Eurofima | 355 | 2 | 10 50 (Q) |
| IBRD-World Bank | 1,000 | 3 | 11 (SA) |
| UBS | 100 | 1 | 12.77 (Q) |
| IFC | 300 | 2 | 11.50 (Q) |
| COE | 400 | 1 | 12.50 (Q) |
| COE | 1,000 | 2 | 11.60 (Q) |
| COE | 700 | 1 | 12.50 (Q) |
| EFIC | 1,000 | 2 | 1M HIBOR |
| IBRD-World Bank | 350 | 3 | 10 (SA) |
| Fannie Mae | 350 | 5 | 10.5 (SA) |
| COE | 500 | 2 | 11 (A) |
| IFC | 670 | 3 | 11 (A) |
| EBRD | 300 | 1 | 12.625 (SA) |

— Not calculated.
*Source:* Hong Kong Mortgage Corporation.

| Price | Estimated all-in fee/yield | Leads | Type |
|---|---|---|---|
| 99.20 | 7.29 (10/16) | IBJA | NC Bond |
| 96.70 | 7.69 (10/17) | HSBC Mkt | NC Bond Global |
| 100.15 | 7.03 (10/17) | Oakreed | NC Bond |
| 100.00 | — | TMI | FRCD Priv |
| 100 00 | — | HSBC Mkt | FRCD Priv |
| 100.00 | H +37 5bp | HSBC/BNP | RCD |
| 100.00 | H +28bp | Hang/HSB | FRCD |
| — | — | C | FRN |
| 100.00 | — | TMI | FRCD |
| 100.00 | — | — | FRCD |
| 100.00 | — | — | FRCD |
| 100.00 | — | BA Asia | FRCD |
| 100.00 | — | BA Asia | FRCD |
| 100.00 | — | HSBC Mkt | FRCD |
| | | | |
| 100.00 | EFN+70-80bp or LIBOR-40bp | SocGen/Merrill | FRN |
| 100.00 | — | HSBC Mkt | FRCD |
| 100.00 | EFN +54bp | HSBC Mkt | FRN |
| | | | |
| 100.00 | EFN-71bp/H-197bp | DMG | FRN |
| 101.78 | EFN+61bp or H-48bp | HSBC Mkt | Straight/Bond |
| 99.30 | H-44/EFN+95 | HSBC Mkt | Bond/Priv |
| 100.00 | H-54/EFN+76 | HSBC Mkt | Bond/LAF |
| 100.00 | H-15/EFN+3 | UBS | FRCD |
| 100.00 | H-20/LIB-45 | SocGen | Bond/Priv |
| 100.08 | 13.00%/3M H-25 | HSBC Mkt | Bond/Priv |
| 99.85 | H-10/EFN+149 | HSBC Mkt | Bond/LAF |
| 100.00 | EFN+250/3M H-35 | HSBC Mkt | Bond/Priv |
| 100.00 | H+13bp | HSBC/UBS | FloatRN |
| 99.52 | EFN+20/H-25 | DMG | Straight Bond/Global |
| 100.00 | EFN+105/H-19 | DMG | SB/Global |
| 100.00 | EFN+106/H-27 | Goldman | SB/EMTN |
| — | H-20/30 | Goldman | SB/Priv |
| 100.00 | 13 12/H-70 | Merrill | Bond/Global |

including options, warrants, and so on, must conform to the requirements set for such additional features.

*Private placements.* The Securities and Futures Commission must approve all advertising and marketing for investment products, but otherwise private placements are not subject to specific regulation. If privately placed issues are subsequently to be listed on the stock exchange, the exchange must be satisfied that an active market will be created in the instruments, usually through the stated agreement of two or more marketmakers.

*Derivatives.* Hong Kong's derivative market has been active for more than a decade and has been growing in terms of both volume and products. The Hong Kong dollar swap market is the most developed of any of the Asian domestic currency markets. While the market is not as liquid as the U.S., European, or Japanese markets, interest rate and currency swaps exist out to 10 years, the transaction volume is respectable, and a number of committed marketmakers exist.

The growth of the exchange fund bills and notes program and the introduction of the liquidity adjustment facility have been of great benefit to the maturation of the market. Spreads were as narrow as five basis points on interest rate swaps, compared to 20–40 points in some of the regional swap markets. Forward rate agreements, interest rate caps, floors, swaptions, and currency options are also available.

*Pricing.* In the primary market, exchange fund bills and notes are sold through auction and traded through book entry. They are usually traded in the secondary market with a bid-ask spread of five basis points, whereas for certificate of deposits and bonds a wider spread of 30 basis points is normally quoted. A typical lot size for the trading of exchange fund bills and notes and other debt securities is HK$10 million, although lots of bonds and certificates of deposit can be as small as $500,000.

Floating-rate Hong Kong dollar issues are generally priced against the three-month HIBOR. Eligibility for the liquidity adjustment facility is a key factor in determining the pricing of such securities. Fixed rate issues have traditionally been priced in relation to U.S. treasury bonds, because of the fixed exchange rate between the U.S. and Hong Kong dollars. Currently they are most often priced against the benchmark exchange fund issue or the interest rate swap curve, both of which follow U.S. rates closely.

*Ratings.* Hong Kong has no domestic rating agency. However, Moody's, Standard & Poor's, Thomson Bank Watch, and the Integrated Business Communications Alliance (IBCA) have all recently opened offices in Hong Kong. While a top credit rating is not essential for issues in the domestic capital market (particularly for companies and institutions regarded as likely to be influential in Hong Kong's future business community), the majority of investors are extremely credit conscious and, for fixed-rate issues, highly rated issuers are considered more seriously. More than 75 percent of fixed-rate issues have historically been for international and bank issuers with a AA or AAA international credit rating. This is in marked contrast to the other domestic capital markets in Asia, which generally attempt to develop their markets through the promotion of lower-rated corporate debt.

*Taxes and fees.* There is no withholding tax for foreign or domestic investors. No corporate or individual taxes are payable on government securities, and issues by designated supranationals are also tax exempt on interest receipts and trading profits. Other public issues with a five-year minimum maturity and minimum investment grade have recently been granted a 50 percent tax exemption, but this is proving less useful in practice. Trading on the stock exchange is subject to 0.013 percent stock exchange levy and a standard brokerage fee of 0.5 percent (which is negotiable).

*Settlement and clearing.* The stock exchange's traded papers are cleared through the central clearing and settlement system, which was established in 1992. However, the vast majority of trading of Hong Kong dollar debt securities is over the counter.

To help develop the debt instrument market, the HKMA has instituted a clearing and custodian service, the Central Moneymarkets Unit. After January 31, 1994, the service was extended from exchange fund issues to cover Hong Kong dollar debt papers issued by private issuers. Since the clearing service is conducted in computer book entry form, efficiency is enhanced and risks associated with settlement are minimized. The Central Management Unit has also established correspondent links with Euroclear and Cedel. At the end of December 1996 there were 275 participants in the unit, with 444 debt issues worth HK$135 billion lodged with the service ($225 billion, including government paper).

*Investment banks and underwriters.* Hong Kong is host to almost every major investment bank in the world, although virtually none is active in the full scope of products offered in this dynamic financial center. They generally choose to use Hong Kong as a regional base to specialize in one or more products, such as fund management, project finance, equities, major currency bond trading, syndicated loans, dragon bonds, and Asian corporate floating-rate notes or convertible issues.

## Investor profile

The unrestricted regulatory environment allows Hong Kong-based investors to invest in a broad range of currencies and instruments. Hence Hong Kong is the chosen location for a wide number of regional investors. The following are local currency investors.

*Commercial banks.* The banking system's total assets in September 1997 amounted to a sizable HK$8.6 trillion, equal to US$1.1 trillion, of which more than 65 percent was denominated in foreign currencies. This made Hong Kong-based financial institutions major investors in both local- and foreign-currency-denominated debt instruments.

Hong Kong-based banks are not burdened with statutory reserve requirements necessitating large holdings of qualifying debt securities, although liquidity regulations are enforced under the banking ordinance, which sets minimum levels of liquid assets. In 1994, to assist banks in managing liquidity, the Hong Kong Mortgage Corporation created the liquidity adjustment facility, Hong Kong's equivalent of a discount window. Initially only exchange fund paper qualified for the facility, but the number of eligible papers has since widened significantly to include debt securities of at least HK$1 billion issued by highly rated issuers. This has had a positive effect on banks' appetite for such issues and has increased the attractiveness of these papers to investors in general by improving secondary market liquidity. At the end of 1996 there were 33 facility-eligible private sector issues totaling HK$60 billion.

*Exchange fund.* With total assets of HK$569 billion as of June 1997, the exchange fund is the largest single investor in Hong Kong. Over 94 percent of its assets are held in foreign currencies, predominantly U.S. dollars. The exchange fund's mission, to defend the integrity of the Hong Kong dollar and Hong Kong's financial system, compels it to make investments that are of a highly liquid and secure nature.

*Charity funds.* Hong Kong's laissez faire economic policies have slowed the development of a social security system, and this gap has been partly filled by private charitable institutions, the largest of which is the Hong Kong Jockey Club. Estimated assets of this sector as of December 1994 were HK$20 billion, of which 15 percent was invested in local currency-denominated debt securities.

*The Special Administrative Region government land fund.* This fund was established under the Sino-British Joint Declaration in 1985 to manage funds received from the sale of government-owned land. Net assets of the land fund totaled HK$163 billion (US$21 billion) on January 1, 1997. These funds were fully invested in debt instruments, equities, and bank deposits, of which about 35 percent were in Hong Kong dollar-denominated assets.

*Housing Authority.* The authority is a conservative investor with net assets of HK$154 billion, mostly invested in housing projects. However, up to 5 percent of these assets is invested in exchange fund issues, bonds, and bank certificates of deposit.

*Insurance companies.* Hong Kong is an important insurance center for 6 of the top 10 insurance companies of the world. At the end of 1996 Hong Kong had 223 authorized insurers, of which 123 were incorporated overseas. Gross premium income in Hong Kong in 1995 amounted to HK$43.8 billion and is growing at an average rate of 19 percent a year. At the end of 1996, 19 insurers operated some 8,750 of Hong Kong's 15,000 occupational retirement schemes, covering about 10 percent of the workforce and investing about $30 billion (or about 32 percent of Hong Kong's retirement funds).

*Fund management.* Hong Kong is the regional capital for fund management, with assets under management at the end of 1995 totaling US$94.2 billion. Seventy percent of these funds were sourced from outside Hong Kong. While the main focus of funds was equity investment, more than 20 percent was dedicated bond funds, with the balance in currency funds.

*Pension funds.* Estimated pension resources in Hong Kong totaled HK$130 billion at the end of 1994, according to the Department of Internal Revenue. Much of this has been placed with external fund managers. The government recently passed legislation to establish the mandatory provident fund, a government-run scheme that will, in time, rival the size of similar schemes in other countries in the region and become a major investor in fixed-income securities. Slated to begin operations in 1998 (although this may be postponed due to the financial turmoil), the fund is predicted to add $35–40 billion annually in investor demand. In all likelihood, 30 percent of the fund will have to be invested in Hong Kong dollar instruments, so the bond market should be a major beneficiary.

*Retail and private banking.* Because of the desire to protect the profitability of the banking system at all costs, interest rates in Hong Kong have historically been determined by an official "cartel," which—when combined with the low absolute yields on the Hong Kong dollar resulting from the currency link—has effectively discouraged the general public from investing in the debt market. As part of these arrangements, minimum denominations for negotiable certificate of deposits have been set at HK$500,000 (US$65,000) and for commercial paper at HK$1 million. No such restrictions have applied to equity products.

The only individual investors in the debt market are therefore private, high net worth banking clients, but even these represent a tiny proportion of the total investor community because of the current low absolute yields. The heavy buying of double-digit Australian and New Zealand commercial paper in the late 1980s and the current appetite for double-digit yields for supranational paper in Philippine pesos are clear indications that retail interest will only make a significant contribution in a higher interest rate environment.

## Secondary market trading

There are two distinct parts to the market: the public and private sectors. The secondary market turnover in private sector debt (whether fixed- or floating-rate) is minimal. Most new issues are made in response to actual or perceived investor demand and most investors have a take-and-hold philosophy, whether for strategic reasons or because there are restrictions on trading for accounting purposes. In this sense the market is not "liquid" at all. Nevertheless, there will nearly always be a handful of investment banks that are prepared to bid for paper at varying levels (probably in yearly yield around 10 basis points away from the level at which comparative new issues could be brought). Investors therefore have the option of selling but very rarely exercise it.

Consequently, it is almost impossible to assess the actual secondary market turnover for private sector debt as a whole. Government statistics for 1993 and 1994 suggest that total purchases of certificates of deposit by authorized institutions in the secondary market were roughly 30 percent of the total outstanding issues. This is an annual figure so it still suggests poor liquidity overall.

Debt trade through the Hong Kong Stock Exchange is virtually nonexistent, and the only other clues are the more recent daily turnover figures of debt instruments in the central money markets unit clearing system, which suggest average daily volumes of less than 1 percent of the total outstanding. By contrast, the Hong Kong government's exchange fund bills and notes program is one of the most liquid debt markets in the world, with daily turnover sometimes exceeding 50 percent of the total outstanding issues (the market size is now HK$100 billion). The average daily turnover in 1996 was HK$16 billion or 25 percent of the total and nearly three times the average daily turnover on the stock exchange.

Tremendous confidence is generated by the 33 official marketmakers in the exchange fund bills and notes program, and, moreover, the exchange fund itself is a marketmaker of last resort. Most private sector deals (private placement in nature) are quasi-placements by one manager, with less than 10 percent of the issues having any underwriting syndicate at all. The size of each individual issue of exchange fund paper is to a large extent indeterminate, in that the HKMA can add or subtract supply at its discretion. This is not too difficult to manage, since it is a paperless market and, unlike private sector deals, there are no constricting swap arrangements behind government issues. Most significant of all, exchange fund bills and notes are the only issues in the market that are currently allowed to be sold short. In the private sector, on the other hand, placement of the issues in firm hands makes it dangerous for traders to show offer prices if they are not certain of being able to persuade existing investors to sell.

The first securitization using mortgages as collateral was made in Hong Kong in 1994. These deals are not perceived as successful for a variety of reasons. It is commonly thought that the market was not ready for these transactions, that they were not priced appropriately, and that potential investors had not been properly educated. The biggest advantage from the standpoint of the issuers and the markets seems to have been that they could be done in Hong Kong.

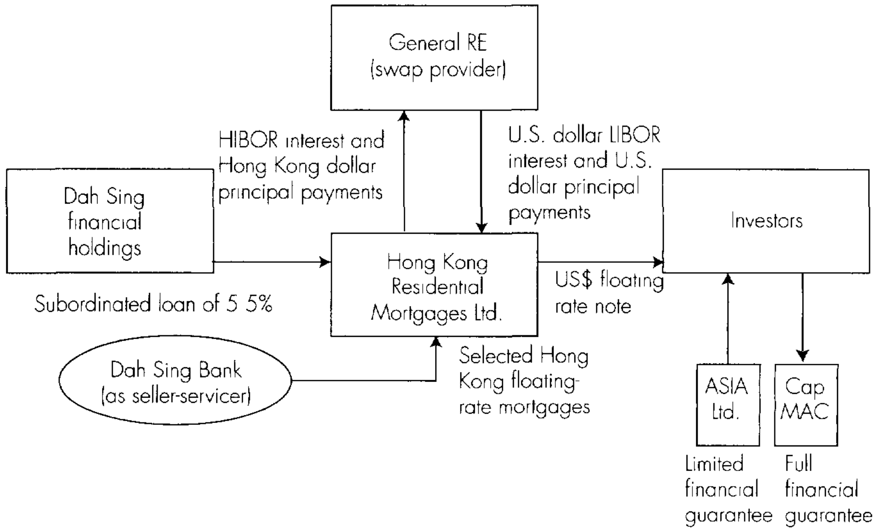
In early 1997 the prospect of an active asset securitization market in Asia generally and in Hong Kong specifically seemed a foregone conclusion. However, the currency crisis and economic turmoil have put many banks' plans on hold. The main impetus for the banks is to be able to remove mortgage assets from their balance sheet to be in compliance with HKMA guidelines limiting their exposure to these assets to 40 percent. Understandably, Hong Kong was expected to be one of the most active participants in this region because the preconditions were in place to support securitization, as demonstrated by the 1994 deals.

There were four more mortgage-backed securities deals concluded in 1997 that were generally thought to be successful and fully subscribed from both domestic and international investors. Transactions for Dah Sing, a strong but medium-size bank in Hong Kong, which had been made earlier in the year, had more favorable pricing and used monoline insurance to enhance the deal. But three of the 1997 deals also used monoline insurance as credit enhancement. Monolines underwrite deals to apply their own credit rating (AAA) to the transaction, charging a premium to do so. This gives the issue a higher rating than its country's sovereign rating (A in Hong Kong), which should reduce the cost of funds for the issuer. In addition, monolines have the advantage of attracting longer-term investors to consider these types of collateral.

Due to its innovative structure and pricing, the Dah Sing transaction was touted as a win-win for the issuer and the investors (figure 3.1). With high quality assets, Dah Sing suffers almost no write offs and experiences a high rate of prepayment. The financial guarantee provided jointly by ASIA Ltd. and CapMAC at two levels ensured that this long-term financing would proceed smoothly, and pricing attained a spread to U.S. dollar LIBOR of 20 basis points, generating HK$2.3 billion for Dah Sing—equal to 6 percent of its total balance sheet. This success enabled Dah Sing to conserve equity and meet the HKMA regulatory constraints. Moreover, the bond issue was placed in the 144a market in the United States.

There has been strong growth in the volume of receivable securitization in the developing markets over the past 10 years and this trend is expected to continue. There are several mandated mortgage-backed security deals

**Figure 3.1 Dah Sing Bank's residential mortgage-backed securities transaction, 1997**




*Note.* Hong Kong Residential Mortgages Ltd is a special-purpose vehicle.
*Source.* Author's schematization

in the pipeline for 1998. Players include Wing Hang Bank, with Merrill Lynch as the mandated lead manager; Dao Heng Bank, with HSBC Markets as the mandated lead manager; the International Bank of Asia (with no lead manager specified); and First Pacific Bank, with DMG as the mandated lead manager. Many of these deals are being reworked in light of the current economic situation and will most likely come to market in the next few months.

However, the markets will need at least six months of stability to make the pricing attractive. Moreover, Hong Kong is not expected to issue a similar volume of securitization as other countries in Asia for the simple reason that its banks are generally not desperate for funding. Nor is there (or is there expected to be) the same level of nonperforming assets as in many other countries.

Meanwhile, the necessary framework has been established in Hong Kong to support the development of a successful mortgage-backed securities market. Its positive features include:

- *Reliance on common-law principles of assignment.* Hong Kong is in the enviable position of not having any legal impediments to securitization. The current legal framework supports ownership, clear title, transferability, assignability, repossession of property, and eviction and provides workable privacy laws. In addition, the mortgages are originated on an enforceable legal charge, and legal documents created for previous transactions provide an adequate level of disclosure and transparency.

- *Streamlined regulation.* The HKMA sent out revised rules for mortgage securitization in August 1997, which, while essentially the same as the existing rules, relaxed regulation in a few areas. The HKMA has provided a clear definition of clean sale treatment and recourse.
- *Absence of onerous stamp duties or capital gains taxes.*
- *Strong primary mortgage market.* Hong Kong banks are generally well-capitalized and well-managed institutions. Most of the banks use similar origination guidelines and are originating a similar mortgage product (administered floating-rate mortgages). Hong Kong has experienced very low delinquency rates (even in down markets) and high prepayment rates.
- *Introduction of a mandatory provident fund.* Hong Kong anticipates the establishment of this fund in 1998 or 1999, depending on the economic environment. It was logically to be a substantial investor in longer-term paper such as mortgage-backed securities.

While the framework is in place, there are several obstacles hampering the development of the mortgage-backed securities market in Hong Kong, some of which are structural in nature and will take some time to address. One such obstacle is that issuers are increasingly sensitive to the cost of funds. The recent volatility in HIBOR has made pricing unattractive. The underlying assets (mortgages) are tied to prime while the securitization uses HIBOR for its funding. On October 23, 1997, the price of the basis swap increased from between 20–25 basis points to around 75 basis points over LIBOR. Prior to these levels, transaction costs stood at between 100 basis points and 120 basis points. The extra 50 basis points has had a marked effect on the banks' willingness to securitize their assets.

Moreover, the land registry system in Hong Kong is cumbersome and antiquated. The documents (memorials and exhibits) needed to transfer a mortgage are onerous to complete and require much detailed information. There are seven registries, and forms for each registry must be completed accurately before the entire transfer can be recorded. There are "stopped deed" fees for correcting any errors. The larger the transaction, the more difficult the timely recording of the transfer becomes. In addition, there is not much demand currently from investors for long-term paper. Therefore educating investors in Asia will take some patience. There is also no consistent benchmark pricing mechanism for mortgage-backed securities.

While the economic downturn will not be severe and will turnaround fairly quickly in Hong Kong, there is no doubt that the performance of some of the banks will affect asset-backed securitization here. The financial sector in Hong Kong is generally technologically advanced, but banks have not had any incentive to capture much information at the loan level for their mortgages. This makes it very difficult to analyze and model historical data pertaining to properties and borrowers (prepayment, curtailments, loan-to-value ratios, and debt-to-income ratios). From an investor standpoint the high percentage of complete prepayment and significant amounts of partial prepayments (curtailments) can be troublesome, depending on the reinvestment environment. Moreover, there is a heterogeneity of issuers, which requires investors to spend a good deal of time and energy in getting to know them and their differences.

Finally, 96 percent of all mortgages are originated as administered floating-rate mortgages, which means they adjust at the whim of the bank. The index is the prime lending rate, which is set by an official cartel of banks (led by Hongkong Shanghai Bank). This makes it difficult for investors to price the uncertainty of the timing of the cash flow or to predict the change in the index. However, the mortgages do adjust very quickly (usually within days) when there is a change in the prime lending rate.

## The Hong Kong Mortgage Corporation

One of the most significant enhancements to the housing finance system in Hong Kong has been the creation of the Hong Kong Mortgage Corporation. Since its inception in April 1997, it has become fully operational and is clearly having a positive affect on the financial sector in Hong Kong. This is not to say there has been no resistance on the part of some of the banks or that others have not expressed concerns. Some of the issues that have been raised include:

- An unwillingness on the part of the banks to relinquish highly profitable, high-quality assets.
- The lack of a "Chinese wall" between the regulator (HKMA) and the corporation.
- Uncertain competition with banks that wish to do their own mortgage-backed securities transactions.
- The conservative purchasing criteria of the Hong Kong Mortgage Corporation, which allows it to obtain banks' best assets, leaving them with a lower-quality or riskier portfolio that could have a negative impact.
- The ability of small to medium-size banks to compete more aggressively with larger banks, as allowed by the mortgage corporation.

The Hong Kong Mortgage Corporation is initially owned completely by the government of the Hong Kong Special Administrative Region through the Exchange Fund. Capital resources total HK$1 billion, with a 5 percent capital to asset ratio (that is, a maximum mortgage portfolio of HK$20 billion). The mortgage corporation is a limited public company registered under the companies ordinance. It was granted status as a "public sector entity" in July 1997, which allows a favorable risk rating of 20 percent on debt securities issued. The board of directors is composed of 15 members drawn from the public and private sectors.

The mortgage corporation's mission is to promote the development of the secondary mortgage market by improving banking and monetary stability, developing the local debt market, and promoting home ownership. Its business is being developed in two phases. Phase one is already completely operational and phase two will be operational in late 1998 or early

1999, depending on operational and strategic issues. In phase one the mortgage corporation will purchase mortgages for cash from approved seller-servicers and issue unsecured debt to meet its funding needs. In phase two it will package its own mortgages and pools of mortgages created by approved seller-servicers into mortgage-backed securities, providing a guarantee for the timely payment of interest and principal to the investors. In phase one, the Hong Kong Mortgage Corporation will purchase mortgages from approved seller-servicers to retain for its own portfolio. The funding of these mortgages will come from working capital, the use of a credit facility granted by the exchange fund of the HKMA, the issuance of unsecured debt, and bank lines. Phase two will allow for the mortgage corporation to securitize a portion of its own portfolio. The next enhancement would most likely be for it to place its guarantee on pools of mortgages being securitized by banks.

Among the contributions that the mortgage corporation is making to the banking sector are an effective balance sheet management tool, through its role as a ready and fast channel for offloading mortgage loans; a recurring income in servicing fees, which allows a bank to retain relationships with customers; standardized loan documentation and mortgage purchase information; and the flexible option for banks to hold liquid mortgage-based securities or mortgage loans in their portfolio. The contributions of the Hong Kong Mortgage Corporation to the development of the capital market include a consistent supply of high-quality unsecured debt securities, which should enhance liquidity; the ability of Hong Kong to compete more effectively in international markets with standardized documentation and disclosure information; less complicated arrangements for investors, who will only need to be comfortable with the strength and integrity of the mortgage corporation instead of knowing all issuers in the market; the education of investors to differentiate mortgage products from other paper in the Hong Kong market; and the introduction of new products.

While relatively small and thinly traded, the prospects for the development of the Hong Kong capital market seem positive. Clearly, the largest expansion in the investor base will come from the Mandatory Provident Fund, which should significantly boost the size and liquidity of the market. In the interim, the development of the Hong Kong Mortgage Corporation should facilitate the growth and depth of the domestic capital market. To support the development of the private sector debt market, the HKMA has agreed to implement a securities lending program for certain issues cleared through its central money market unit system. This will enable traders to go short and post real two-way prices, significantly helping liquidity in the secondary market for these instruments.

On its own, Hong Kong will undoubtedly develop a stronger and more vibrant capital market. However, as the gateway to China it has an overall outlook that is even more promising.

## The current housing finance system

Authorized institutions form a three-tier banking system in Hong Kong, consisting of licensed banks, restricted license banks, and deposit-taking companies. At the end of 1997 there were 180 licensed banks (149 of them incorporated outside of Hong Kong), 66 restricted license banks (27 incorporated outside of Hong Kong), and 116 deposit-taking companies (two incorporated outside of Hong Kong). In addition, there were 159 representative offices in Hong Kong.

In the absence of specialist banks, licensed banks transact all kinds of business. The interest rate rules established in 1964 were liberalized in 1994–95. On October 1, 1994, in the first step of a phased liberalization program, the Hong Kong Association of Banks removed the interest rate cap on Hong Kong dollar time deposits fixed for more than one month. On January 3, 1995, the interest rate cap on all time deposits fixed for more than seven days were abolished. In the final stage, the bank association removed the cap on all time deposits fixed for seven days or with a call or notice period of seven days. The interest rate rules now only apply to current accounts, savings accounts, and time deposits with a maturity or call period below seven days. While the bank association still has minor control over deposit rates that the licensed banks may pay, lending rates are no longer subject to any cartel agreement and for cost reasons are basically geared to the deposit rate structure. However, in practice most licensed banks use the benchmark best lending rate set by the Hong Kong Shanghai Bank in setting their prime rate. There is some competition in the margins that the various banks charge.

Unlike the licensed banks, the restricted license banks and deposit-taking companies generally depend on the deposits, capital, and retained earnings of their parent companies as their principal source of funds. Restricted license banks may take deposits of any maturity from the public, but in amounts of not less than HK$500,000. Deposit-taking companies may take a minimum deposit of HK$100,000, with an original term to maturity of at least three months. Neither is subject to the rules on interest rates of the bank association for deposits and therefore both are able to offer more attractive rates.

Restricted license banks and deposit-taking companies are quasi-banking institutions ranging from large merchant banks to relatively small finance companies. They may be owned by licensed banks (to take deposits outside of the bank association structure) or foreign banks or they may not be affiliated to any bank at all. The merchant banks, including most restricted license banks, offer more specialized services than licensed banks, such as underwriting, advice on corporate mergers and management, long-term fixed deposits, project financing, and loan syndication for borrowers both inside and outside of Hong Kong. Deposit-taking companies that are finance companies owned by the licensed banks are principally engaged in hire purchase credit, mortgage loans, leasing, factoring, and long-term deposits. Other deposit-taking companies that are small independent finance companies are mainly engaged in hire-purchase business, the stock market, and property market finance. In 1981 the Hong Kong Deposit-Taking Companies Association was established to represent the interests of these companies. Membership is voluntary.

Other positive factors that point to a robust banking sector (as of the end of 1997):

- Operating profits of local banks grew by 18 percent in 1997.
- Bad debt fell in 1997, with the level of classified loans at 2.08 percent, down from 2.91 percent the previous year.
- The capital adequacy ratios of local authorized institutions exceed 17 percent.

## Size and structure of the mortgage market

The total size of the residential mortgage market was approximately HK$419 billion as of September 1997. This number represents the totals reported to the HKMA by 33 authorized institutions representing 89 percent of all mortgage lending in Hong Kong. Property-related lending (including lending to property developers and investors) comprised 45 percent of total domestic loans as of June 1997.

For the past few years the percentage of growth from year to year has been steady (too steady from the perspective of the HKMA and others). In the first half of 1997 the growth rate was 26 percent. Total growth for the entire year was 25 percent only because of the economic downturn in the second half of 1997; otherwise the mortgage portfolios of the banks may have grown by 50 percent or more.

One of the most important regulatory guidelines set by the HKMA states that a bank's property exposure should not be greater than 40 percent. While the overall average for all banks is somewhat higher than 40 percent, it must be said that some banks are over 50 percent and many are well below 40 percent. The authority feels that this concentration risk ratio is critical to prudent risk management on the part of the financial sector, and so it is actively monitoring all authorized institutions and working with individual banks that are out of compliance. This can mean ensuring that these banks do not pursue an aggressive pricing structure (margin) that would encourage increased lending. In extreme cases the HKMA may use its statutory powers under the banking ordinance to refuse to grant approvals for the opening of new branches of noncompliant institutions, to place restrictions on the business of such institutions, or to take action against their management.

The increase in mortgage financing over the past 10 years is a direct result of the macroeconomic picture. However, it should be noted that high profit margins prior to 1997 are what drove most banks to substantially increase their mortgage portfolios. Until October 1997 the spread between the banks' prime lending rates and the three-month interbank rate (or benchmark used as cost of funds) was approximately 300 basis points. The margin (spread over prime charged by the banks) on mortgages was as high as 175 basis points in 1993, but it has gradually declined to an average probably closer to 120 basis points over prime. Therefore the average portfolio rate was delivering a margin of around 420 basis points until 1997. Coupled with the historically low levels of residential mortgage defaults, this was an extremely profitable business.

The amount of financing provided by banks for the purchase of flats under two public sector schemes, the home ownership scheme and the private sector participation scheme was as of September 1997 only HK$60 billion (compared to HK$420 billion for the private sector lending), or just 0.03 percent of the total amount of domestic loans in Hong Kong.

The private banks provide the majority of all mortgage finance. Ninety-eight percent of all loans originated under the private schemes are fully amortizing floating-rate mortgages indexed to prime and originated with similar characteristics. A recent survey of the most active mortgage lenders in Hong Kong identified various origination criteria for the different institutions (table 3.3).

The following are typical guidelines for private lending schemes:

- The majority of borrowers are given a fixed tenor, but the installment will adjust with a change in the interest rate. For relationship reasons, most of the banks will allow their good customers to take a fixed installment and variable tenor.
- As stipulated by the HKMA, banks can lend up to 70 percent (60 percent for luxury flats) of the appraised value of the property. Both internal and external valuators prepare property valuations. There is a wide divergence in the practice of the banks in this regard and in the quality of the resulting valuations that are used to make the loan. This is an area where the mortgage corporation can help to standardize and improve the quality and integrity of established property values.
- Ninety percent of all mortgage payments are made by direct debit from the borrower's bank account.
- Fire insurance for the replacement value is required for all mortgages.
- Tenors of 15–30 years are allowed, but most mortgages are originated with a 15-year tenor.
- Most banks allow a maximum debt-to-income ratio of 50 percent. However, again there is disparity among the banks as to the type and quality of proof of income they must obtain for validation.
- Borrowers, mortgagors, and guarantors are allowed, and income may be used from all to qualify for the mortgage. Banks have different policies on the relationship that the various parties must have (some accept business partners or other non-blood-related relationships).

- Banks generally charge a different rate for non-owner-occupied mortgages, as in other countries, it is difficult to identify an investor property if the borrower does not disclose it on the application.
- The average loan size for loans originated in 1997 was HK$1.83 million, but generally banks originate mortgages with a minimum of HK$500,000 and no maximum as long as it is approved by the board. All banks have very strict approval guidelines with designated levels of authority.

### Public sector schemes

With the end of the Pacific War and the influx of returning residents and immigrants, there was a severe shortage of housing in Hong Kong. In 1949 the squatter population was estimated to be about 300,000 or 15 percent of the total population. In the 1950s and 1960s the problem was handled by the government-run Resettlement Department and a number of voluntary organizations, such as the Housing Society and the former Housing Authority. In 1973 the new Housing Authority was formed, whereby the government's various functions in public housing were placed under the umbrella of one organization. At the same time the Housing Department was established as the executive arm of the Housing Authority, through which the authority plans, designs, builds, and manages public sector housing.

In 1988 the Housing Authority was reorganized, a nonofficial chairman was installed, and the authority was given greater financial and development autonomy. In 1994 a new Housing Branch under the government was established to take over responsibility for developing strategies for the provision of public as well as private housing in Hong Kong.

The authority is a financially autonomous body responsible for managing its own finances. The government is committed to subsidizing the authority's massive public housing program with the provision of free land for public rental housing and sites for flats for sale at concessionary prices. The authority manages an annual income and expenditures exceeding HK$59 billion. The major source of income is revenues from the sale of home ownership flats and rents collected from the public rental flats. The cash balance of the authority currently stands at about HK$26 billion.

On rental flats, tenants are paying a monthly rental of about 8.7 percent of their income, compared to 26 percent in the private sector. The default rates on the rental properties have been very low, usually below 2 percent of the total domestic rent receivable.

For new buildings, the authority has its own list of building contractors to ensure control over the contractor's performance and has put in place a comprehensive set of rules of administration of the list. Since April 1993 all building contractors tendering for new works projects are required to be certified to the international quality-assured standard ISO 9000.

**Table 3.3 Market survey on standard mortgage loans, October 30, 1997**
*(Hong Kong dollars)*

| *Bank* | *Pricing* | *Maximum tenor* | *Property age + tenor* |
|---|---|---|---|
| ABN AMRO Bank 2842 9169 | 10.25% (P+0.75%) | 25 years | 35 years |
| Bank of America (Asia) 2853 0480 | 10.25% (P+0.75%) for <20 yrs, 10.5% (P+1%) for >20 yrs | 25 years | 40 years |
| Bank of China 2826 6888 | 10.25% to 10.5% (P+0.75% to 1%) | 35 years | 40 years |
| Bank of Communication 2841 9611 | 10.5% to 10.75% (P+1 to 1.25%) | 30 years | 40 years |
| Bank of East Asia 2868 5151 | 10.5% (P+1%) | 30 years | 40 years |
| Chase Manhattan 2890 3020 | 11% (P+1 5%) | 20 years | — |
| China & South Sea Bank 2542 9248 | 10 25% to 10 5% (P+0.75 to 1%) | 25 years | 40 years |
| Citibank 2860 0368 | 11% (P+1 5%) | 25 years | 40 years |
| Dah Sing Bank 2507 8787 | 10.5% (P+1%) | 25 years | 35 years |
| Dao Heng Bank 2544 9292 | 10.5% (P+1%) | 25 years | 35 years |

| Maximum loan-to-value ratio (percent) | Handling fee and valuation fee | Early redemption penalty: Full redemption | Early redemption penalty: Partial repayment |
|---|---|---|---|
| 70 | 1,000<br><br>500 | 1st year: 3% of outstanding loan amount at minimum $50,000<br>2nd year: 1% of outstanding loan amount at minimum $30,000<br>3rd year. 1 month's interest (or 1 month's notice) | |
| 70 | Nil<br>1,300 | 1–6 months. 4 months' interest<br>7–12 months: 2 months' interest | |
| 60 | Nil | 1st year: 3% of original loan amount | Nil |
| 70 | 1,500 (arrangement fee)<br>1,500 | 1st year: 3 months' interest of outstanding loan amount | Nil |
| 70 | 1,000<br>Nil | 1st year: 3% of original loan amount at minimum $50,000 | Nil |
| 70 | Nil<br>1,500–2,000 | 1–6 months: 6% of loan amount<br>7–12 months: 3% of loan amount<br>13–24 months: 1% of loan amount | Nil |
| 70 | Nil<br>1,000 | 1st year: 3 months' interest of outstanding loan amount | |
| 60 | Nil<br>1,000 | 1st year. 3 months' interest of outstanding loan amount<br>2nd year: 1 month's notice | |
| 70 | Nil<br>minimum 1,000 | 1st year 1 month's interest of original loan amount | Nil |
| 70 | Nil | 1st year: 3 months' interest of outstanding loan amount at minimum $50,000 | 1st year: 2 months' interest of prepayment amount |

(table continues on next page)

**Table 3.3 Market survey on standard mortgage loans, October 30, 1997 (continued)**
*(Hong Kong dollars)*

| *Bank* | *Pricing* | *Maximum tenor* | *Property age + tenor* |
|---|---|---|---|
| First Pacific Bank 2823 9823 | | Suspending for new mortgages | |
| GE Capital 2961 1609 | 10.75% to 11 5% (P+1.25% to 2%) | 25 years | 35 years |
| Hang Seng Bank 2810 8228 | 10.5% (P+1%) | 30 years | 40 years |
| Hongkong Bank 2839 6333 | 10 5% (P+1%) | 25 years | 40 years |
| Ka Wah Bank 2748 3322 | 10 5% (P+1%) | 30 years | 40 years |
| Kwong On Bank 2815 3636 | | Suspending for new mortgages | |
| Kwang Tung Provincial Bank | | Suspending for new mortgages | |
| Liu Chong Hing Bank 2841 7459 | | Suspending for new mortgages | |
| Sanwa International Finance Ltd 2524 3011 | | Suspending for new mortgages | |
| Shanghai Comm Bank 2841 5249 | | Suspending for new mortgages | |
| SPC Credit Limited 2501 8853 | | Suspending for new mortgages | |
| Standard Chartered Bank 2886 8863 | 10.5% to 11.25% (P+1% to 1.75%) | 30 years | 40 years |
| United Chinese Bank 2523 7091 | 10.5% (P+1%) | 30 years | 40 years |
| Wing Hang Bank 2852 5111 | | Suspending for new mortgages | |

| Maximum loan-to-value ratio (percent) | Handling fee and valuation fee | Early redemption penalty: Full redemption | Early redemption penalty: Partial repayment |
|---|---|---|---|
| | | Suspending for new mortgages | |
| 70 | 2,000<br>2,000<br>discount would be given | 1st year: 3 months' interest of outstanding loan amount | 1st year: $1,000 and only allow once a month |
| 70 | 1,000<br>Nil | 1st year 3% of original loan amount at minimum $50,000 | $500 |
| 70 | Nil | 1st year: 3% of original loan amount at minimum $10,000 | 1st year: 1 month's interest of repaying amount |
| 70 | Nil | 1st year. 3 months' interest of outstanding loan amount | 1st year: 3 months' interest of prepayment amount |
| | | Suspending for new mortgages | |
| | | Suspending for new mortgages | |
| | | Suspending for new mortgages | |
| | | Suspending for new mortgages | |
| | | Suspending for new mortgages | |
| | | Suspending for new mortgages | |
| 70 | Nil<br>1,000 | 1st year: 3% of original loan amount at minimum $50,000 | Nil |
| 70 | Nil | 1st year: 3% of original loan amount at minimum $50,000 | Nil |
| | | Suspending for new mortgages | |

(table continues on next page)

**Table 3.3 Market survey on standard mortgage loans, October 30, 1997 (continued)**
*(Hong Kong dollars)*

| *Bank* | *Pricing* | *Maximum tenor* | *Property age + tenor* |
|---|---|---|---|
| Wing Lung Bank 2826 8222 | 10.5% (P+1%) | 30 years | 40 years |
| Yien Yieh Bank 2541 1601 | 10.5% (P+1%) | 25 years | 40 years |

— Not available
*Source:* Hong Kong Mortgage Corporation.

Sensitive to political forces, the authority recognized the need for tenant participation. In 1994 a pilot program called the Estate Management Advisory Committee was launched in selected estates. The membership comprises the estate housing manager and representative of residents' organizations. The main role of these committees to is advise the housing manager on priorities for expenditures on maintenance and improvements within the estate. In view of the favorable response since its implementation, the scheme is expected to extend to all estates within two years.

In 1996 there were 150,000 applicants on the waiting list for public rental housing, with an average waiting time of seven years. Every month the authority receives at least 2,000 more applications. For renter households in the private sector with incomes below the waiting list minimum of HK$16,300 per month (as of January 4, 1997), their rent-to-income ratio is at least 33 percent, which is high.

There is definitely room to abuse the subsidized rental housing scheme as a family's income and circumstances change and it no longer needs public assistance. The average number of tenants vacating public rental housing is about 15,000 a year, representing an annual moving rate of only 2 percent. Some studies show that as much as 10 percent of the tenants belong to the top 25 percent highest income group in Hong Kong. It is also believed that many tenants own private properties. This is an area that the Housing Authority must address in the coming years, though understandably it is a political landmine.

The authority plans to use several public housing schemes to address the policies and quotas outlined in the chief executive's speech last year.

## Various risks

Mortgage lending is inherently risky, but it is the way in which the risks are managed that distinguishes a successful housing finance system. Market or

| Maximum loan-to-value ratio (percent) | Handling fee and valuation fee | Early redemption penalty: Full redemption | Early redemption penalty: Partial repayment |
|---|---|---|---|
| 70 | 1,000<br>Nil | 1st year: 3 months' interest of outstanding loan amount at minimum $50,000 | $500 |
| 70 | Nil | 1st year: 3% of original loan amount at minimum $50,000 | Nil |

economic forces shape many of the risks faced by the banks in Hong Kong (including credit risk, funding mismatch, property prices, and prepayment), while other risks such as concentration or operational risk are more within the control of the banks.

Below are the various risks facing the banks in Hong Kong and the ways in which the regulator and others attempt to manage them.

*Concentration risk.* While the HKMA has not issued formal guidelines in this regard, in February 1994 it sent a circular to all authorized institutions outlining the basic principles that all institutions should follow. It is the view of the HKMA that institutions whose property exposure is above the overall industry average of about 40 percent of loans should attempt to stabilize or reduce that percentage.

In light of the current economic and property price downturn, management of this risk becomes even more important for prudent banking and stability. This applies particularly to local authorized institutions whose property exposure is also high in relation to their capital base (although it is not the intention of the HKMA to set a formal guideline in this respect). The HKMA has proposed that one way in which institutions with a higher than average percentage of property exposure can attempt to stabilize that percentage is by avoiding an aggressive pricing policy to attract new business. The HKMA intends to monitor the property exposure of authorized institutions by asking more active participants to supply figures for budgeted growth in various types of property exposure for future periods.

For this reason, several banks have suspended mortgage lending until their exposure ratio gets below the 40 percent threshold. Other ways in which an authorized institution can reduce its overall property exposure include mortgage securitization, private placement deals, the sale of mortgages to other institutions, and the sale of mortgages to the newly created Hong Kong Mortgage Corporation.

*Credit risk.* In July 1997 the HKMA reminded authorized institutions of the need to strictly apply several guidelines supporting prudent origination guidelines. These include loan-to-value ratios of 60 and 70 percent for luxury flats. Some banks have been offering "top-up" loans in relation to residential loans to increase their leverage. These are personal loans that are intended to be used for such purposes as decorating the property or buying furniture, while in practice they are often used to help finance the downpayment on the property. The HKMA has set out guidelines that will discourage the use of these loans as part of the downpayment, ensuring a strict interpretation of the loan-to-value guideline.

Other guidelines involve assessments of the borrower's ability to repay. All institutions must have a clearly defined and documented policy for assessing the repayment capability of residential mortgage borrowers. It should include the use of the debt-to-income ratio test, with the ratio no higher than 50–60 percent, though the upper end should be confined to high-income borrowers. The HKMA has specified the types of documentation the banks should obtain to substantiate solid income proof.

In the past, Hong Kong, like other economies, has been more geared to relationship banking than prudent origination and underwriting guidelines. However, with the close supervision of the HKMA, the increased number of mortgage-backed securities transactions and the creation of the Hong Kong Mortgage Corporation, Hong Kong is rapidly becoming more standardized and prudent in its lending and servicing procedures.

Banks in Hong Kong have long enjoyed low delinquency and default (more than 90 days) rates on their residential mortgage portfolios. This is attributable to appreciating property prices, positive macroeconomic factors, and cultural distinctions. Problem assets of the 32 locally incorporated Hong Kong banks at the end of September 1997 were only 1.83 percent of total loans outstanding.

However, there is concern that the current situation may cause delinquency rates to increase. For a 25-year term mortgage of HK$1.5 million, an interest rate increase from 9.75 to 11.50 percent would cause the mortgage payment to increase by 14 percent a month, which is a significant increase for the average borrower. It is worth noting again that generally banks allow for a 50 percent debt-to-income ratio.

There is always a time lag between a slowdown in the economy and its impact on the banking sector. However, as of February 1998 there has been no increase in default rates, and in 1994, during the last serious downturn in the property market, the banks did not experience an appreciable increase in defaults. Hong Kong consumers will exhaust all means at their disposal before jeopardizing their home ownership.

It is also important to point out that filing for personal bankruptcy in Hong Kong (unlike in the United States and other countries) does not allow an individual to keep his home. Defaulting owners will go through repossession proceedings. The bank can then bring suit to recover the balance of any loan not covered by the value of the property. This is another incentive for borrowers to use whatever means necessary to avoid default.

*Liquidity risk.* The balance sheets of the 33 most active banks in Hong Kong at the end of 1996 reflected residential mortgage loans totaling HK$419 billion, with an average contractual life of 15.2 years and an average actual life of three to four years. Obviously, these banks have a mismatch in the duration of their assets and liabilities, which is another impetus for a secondary mortgage market in Hong Kong.

Recently there has been even more serious concern that other banks, particularly Japanese and European banks, will cut credit lines to Hong Kong corporates more aggressively, exacerbating illiquidity. The currency crisis in other Asian countries may limit their ability to cut credit in those markets, but they may be able to do so in Hong Kong, making banks rely even more on interbank lending.

*Funding risks.* Banks primarily use interbank loans (HIBOR) to fund their residential mortgage lending. Mortgage rates are determined and adjusted based on the best lending rate or prime rate. The best lending rate is set periodically by the Hong Kong Association of Banks and is generally followed by most of the banks.

HIBOR has been extremely volatile since October 1997. On the premise that HIBOR will continue to be volatile, bank spreads are bound to narrow. Time deposit rate and bank funding costs closely track HIBOR rates. Time deposits have constituted close to three-fourths of all deposits since 1995 (73.6 percent of all deposits as of May 1997). Rates on time deposits almost exactly mirror HIBOR rates for the period January 1988–August 1997.

Hong Kong's prime rate has on average been higher than the U.S. prime rate by 34 basis points since 1989, but it has ranged up to 200 basis points higher during that period. Hong Kong HIBOR has been higher by an average of 33 basis points (and a maximum of 319 basis points) over U.S. dollar LIBOR since 1994. Using 1989 as a longer time frame, HIBOR has been about 15 basis points higher than LIBOR. The Hong Kong prime rate HIBOR spread has averaged 2.53 percent since 1989, but certainly 1997 was an exception.

Clearly, most banks are negatively affected by a rising and volatile HIBOR and, for the most part, by a level prime rate, since 72 percent of the entire funded liability base would reprice upward, as opposed to less than 53 percent on the earning asset side. The extent of the financial impact on banks will depend on the severity and length of time the HIBOR remains to be volatile, as well as whether other factors exacerbate the issue, such as decreased property values and increased delinquencies. It is believed that the gearing ratio for the banking system has increased to about 150 percent from 135 percent two years ago, making it even more vulnerable in a volatile interest rate environment.

*Pricing issues.* As stated previously, the prime rate for banks is set by a virtual cartel. Generally all banks tend to use the same best lending rate. Apart from service, the only way banks can differentiate themselves, or compete, is in the margin they charge on top of the prime rate.

While enjoying positive economic factors and high consumer demand in 1997, the banks experienced a significant increase in residential mortgage lending, which sparked a price war on margins. Before this time mortgages were priced at prime plus 175 basis points, but by June the average spread was reduced to prime plus about 25 basis points. Many mortgages were actually being originated at prime flat. A recent residential mortgage survey done by the HKMA showed that in June 1997, 79 percent of the mortgages were at spreads of 25 basis points or less. With mortgages making up about 35 percent of the loan portfolio of banks, the average profitability decreased by around 50 basis points, with banks with higher exposure having higher losses. Obviously, in 1998 the price war is over, and the average spread (for banks that have remained or reentered the mortgage business) is again about 175 or 200 basis points over prime.

*Prepayment risk.* It is difficult to obtain solid data on the actual prepayment experience of banks for the past few years. It has only been with the development of mortgage-backed securities that banks have been forced to disclose such information. However, the high growth rate in residential loans outstanding for 1997 (24 percent through October) would suggest a high prepayment rate as well. Anecdotally, banks have stated that the prepayment rate in 1997 was 30–35 percent.

From December 1995 on the median age of the mortgage portfolios of the banks declined from 19 months to 9 months due to the rapid refinancing of mortgages with higher spreads (margins). Fully 60 percent of the loans outstanding at the end of June 1997 were written in the past 12 months. Of these only one-third represent new loans, while the remaining two-thirds come from the refinancing of older mortgages at reduced margins. While the firming of margins is a positive development, along with the drop in property prices it will result in slower mortgage growth and less prepayment in 1998. Banks are stating that they expect prepayment rates to run about 18–20 percent in 1998. An important tool that the banks use to discourage prepayment is prepayment fees. Various banks have different fee structures.

*Sudden or sustained reduction in housing prices.* Ignited by the high mortgage rates and fueled by a possible increase in the supply of flats, residential property prices fell 25–30 percent in the last quarter of 1997. A deteriorating employment situation, volatile interest rate environment, and the recent stock market crash will continue to put pressure on housing prices.

While the fall in property prices along with the firming of the margins have actually had a positive influence on the overall housing finance system, they will result in slower mortgage loan growth. The fall in property prices has effectively edged speculators out of the market, which is now dominated by end users. The correction in prices has certainly improved the affordability of housing. However, for January 1998, mortgage lending dropped by 36 percent and is expected to be slower in the foreseeable future.

*Lack of technology and loan level information.* In general, banks in Hong Kong are highly automated at the retail level. But their automated systems in the area of mortgage lending are less sophisticated. Prior to the development of mortgage-backed securities and the secondary mortgage market (through the Hong Kong Mortgage Corporation), there was no real need for the banks to capture a significant amount of loan level information. However, developments in the secondary and capital markets are forcing both local and foreign banks to invest in upgrading their system capabilites. The accurate and timely transfer of funds requires most lenders to address this issue. One logical outcome of this situation may be the creation of a master servicer to provide these services to banks that do not wish to expand their resources on this aspect of their business. There are several banks (mostly foreign entities) that have the basic infrastructure or could call on their U.S. parents to augment existing systems to efficiently provide these services to other banks.

## Recommended improvements

Unquestionably, the single most important contributor to the growth and development of housing and the capital market in Hong Kong is the improved economic health of the region. While Hong Kong is not experiencing the currency crisis or problem with nonperforming assets of its many neighbors, it is nonetheless considerably affected by them.

The next most important factor will be the continued growth and expansion of the Hong Kong Mortgage Corporation. The mortgage corporation will strengthen the primary mortgage market and will quicken the development of the capital market.

Government policies that will most help the expansion of the primary mortgage market include meeting targets for the supply of new flats (both public and private), maintaining sound monetary and fiscal policies, automating the land registry system, implementing a credit bureau repository for obtaining credit history data on all potential borrowers, improving economic factors that will increase demand for housing (such as employment and tax incentives), and increasing funding for low- to moderate-income housing schemes.

Finally, there are several possible ways to link the capital market with housing finance in Hong Kong. One would be to persuade China to issue bonds in Hong Kong. As there will be a significant volume of bonds issued to fund their infrastructure and other projects, a small portion of those could be used to provide a kick start to the Hong Kong capital market. It would also help to implement the mandatory provident fund, which is currently on hold until 1999–2000 due to the economic downturn and other legal and regulatory issues that need to be resolved. Moreover, a regional clearing and settlement system is needed with various bilateral agreements (HKMA is doing some preparatory work on this). Finally, increased investor education is essential to tell the Hong Kong story. This story should not be lumped together with that of the rest of the region. It is important to differentiate Hong Kong's fundamentals and products from others in the market. This will encourage the needed long-term investment horizon for both issuers and investors.

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# 4

# New Directions in Housing Finance in India

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The demand for housing investment in India is growing rapidly and is potentially very large. The ninth five-year plan for 1997–2002 projects an investment of 150,000 crores rupees (Rs) in the housing sector, of which only Rs38,000 crores is expected to come from the formal sector. This projection highlights the need to create an enabling environment for raising large resources for housing finance. The share of the capital market in the housing sector is very small, and there is therefore a need to integrate the capital market with housing finance by developing debt instruments for investment in the housing sector. The development of a secondary mortgage market will go a long way toward mobilizing resources for housing in India.

## Current public policy and directions

At the end of 1980 the government recognized that housing should be an integral focus of efforts to promote economic development. In accordance with the global shelter strategy adopted by the United Nations, a draft national housing policy was formulated by the government in 1988 and was adopted by both houses of parliament in 1994. This document forms the basis for the new policy framework for the shelter sector. However, because housing is a state responsibility, the state governments will play a primary role in formulating action plans and programs suited to local needs and conditions. The basic objectives of the national housing policy are:

- To help all people, in particular the homeless, to secure affordable shelter through access to land, financing, and building materials and technology.
- To create a conducive environment for the housing sector by removing constraints and developing an efficient and equitable system for delivering housing inputs.
- To expand the provision of infrastructure facilities.

- To improve the access of poorer households to basic services.
- To increase the supply of developed land for housing.
- To promote a more equitable distribution of land and houses in urban and rural areas and to curb speculation in land and housing.

A basic mission of the national housing policy is to facilitate the expansion of investment in housing to meet the need for constructing new housing and upgrading and documenting the infrastructure. The central and state governments are expected to facilitate the flow of credit by mobilizing additional resources in the sector, by tapping the capital market, by devising schemes to stimulate household financing, and by increasing investment in the sector's public and private institutions. State governments are also expected to remove legal and regulatory constraints, particularly those that are obstacles to the creation of secondary mortgages, speedy foreclosure, the registration and transfer of property instruments, and the levy of taxes.

## Policy shifts in approaches to housing

India is making serious and comprehensive efforts to mobilize resources and reform the economy. The government's reform strategy aims to achieve a liberalized trade regime, with tariff rates comparable to those of other industrializing developing countries; an exchange rate system free of allocated restrictions for trade; an efficient capital and financial system operating in a competitive market environment subject to product norms and standards; an effective industrial sector, subject only to minimum regulations; and an autonomous and competitive public sector focusing on infrastructure goods and services, the development of key resources, and the social sectors. This reform process will be felt in the housing sector mainly in terms of the structural reform of the financial sector and a tighter budgetary regime to reduce the fiscal deficit.

The seventh five-year plan (1985–92) can be considered a watershed in the evolution of the country's housing policy. This plan emphasized the need for a radical reorientation of all policies relating to housing, arguing that the major responsibility for housing construction should be left to the private sector—in particular the household sector—with the government acting as a facilitator. The final report of the government-appointed National Commission on Urbanization issued in August 1988 found that:

> Forty million people (about 25 percent of India's total urban population) live in slums and under conditions of multiple deprivation—illegal land tenure, deficient environment, and kutcha shelter. In addition, a significant number live in inner-city neighborhoods with decaying buildings and deficient services. The supply of new shelter units is not adequate to meet incremental needs—leave aside the backlog. This may lead to a doubling of slum populations [to] 75 million by 2001. Nearly 60 percent of households cannot afford a conventional pucca

house and the lowest 10–15 percent cannot even afford a serviced site. Furthermore, given the resource constraints, it is not possible to provide new pucca houses for all in the near future. The emphasis of the housing policy therefore has to be on increasing shelter supply, improving and upgrading slums and conserving the existing housing stock.

The eighth five-year plan (1992–97), prepared against the backdrop of these conditions, essentially saw housing as a private activity but recognized that there was a need for state intervention. Such intervention is necessary to meet the housing requirements of the vulnerable segments of the population and to create an enabling environment to accomplish the goal of shelter for all on a self-sustaining basis. This plan recommended enhancing the flow of credit to the housing sector through housing financial institutions by introducing suitable incentives.

The policy thrust of the ninth five-year plan (1997–2002) is for governments and their agencies to act as managers of housing development. Their main task is to establish efficient delivery mechanisms and effective links between different components of the process, including public agencies, the corporate sector, the cooperative sector, nongovernmental organizations, community groups, and individuals. In addition, legal, institutional, and fiscal reforms are necessary so that housing agencies can operate successfully in the market environment after financial reforms are implemented.

## Public and private sector investments in housing

Total investment in housing has increased substantially from Rs1,150 crores under the first five-year plan (1951–56) to Rs77,226 crores under the eighth plan. However, in absolute terms investment in housing as a percentage of the total plan investment has declined, due to the shift in emphasis from major support for housing to the government's role as a facilitator in the sector. Cutting back from a level of 34.2 percent in the first plan, the eighth plan proposed a total investment of Rs77,226 crores in housing or 9.7 percent of the proposed overall investment in the economy. Of this amount, Rs7,750 crores was to be in the form of private sector investments.

In the public sector, the share of investment in housing to total investment has declined from 16 percent in 1951–56 to 1.8 percent in 1990–95. In the private sector, there has been a parallel decline from 50 percent to 19.1 percent. The gross capital formation in the housing sector, which was about 30 percent of the gross domestic capital formation during the 1950s, declined to 13 percent in the 1970s at current market prices. During 1975–76 it reached a low of 10 percent but later stabilized at the 13 percent level.

The Subgroup on Housing Finance for the eighth plan had recommended an investment of about Rs97,500 crores, of which Rs25,000 crores is expected to come from formal sector institutions. During the first three years of the eighth plan, total investment in housing by formal sector institutions was roughly Rs12,551 crores against an estimated investment of Rs15,000 crores, resulting in a shortfall of Rs2,449 crores. The Working Group on Urban Housing for the ninth plan has estimated that there will be a shortfall of Rs5,630 crores during the eighth plan period.

The working group has estimated the financial requirement of the housing sector in the period 1997–2002 at Rs150,000 crores. It has calculated that the projected cash flow of funds from formal sector institutions during the ninth-plan period will be Rs38,000 crores. The ninth-plan working group has also estimated that the interinstitutional flow of funds during 1997–2002 would amount to about Rs31,140 crores. Another Rs18,860 crores for housing should flow directly to individuals from financial institutions, and Rs2000 crores for housing building advances should come from employers. The total estimated flow of funds into the housing sector during the ninth-plan period is thus estimated at Rs52,000 crores.

According to the National Report for HABITAT-II, the backlog of new housing stock as of 1997 is estimated at 5.6 million units, marginally higher than 5.2 million in 1991. The backlog in upgrading, renovating, and extending existing housing stock is even larger: 17.7 million units in 1991, 25.8 million units in 1991, and 27.4 million units in 1997. An investment of Rs6.6 trillion is required to finance new housing over the next 25 years, with Rs803.2 billion needed in the first five years. An investment of Rs217 billion is required to clear the backlog of new units and another Rs411.3 billion to take up the backlog of upgrading and extending existing units.

The Subgroups and Working Groups on Housing Finance for both the eighth and ninth plans have stressed the securitization of mortgages and assets as instruments for mobilizing resources for the housing finance sector. Asset securitization, which was expected to generate additional resources for the housing sector during the eighth-plan period, could not take off due to legal and regulatory impediments. Since then efforts have been made to set up a secondary mortgage market in India. These efforts need to be increased so that significant resource mobilization is achieved for financing shelter. It is expected that the hurdles will be removed soon and the ninth-plan period will witness the introduction of trading in mortgage-backed securities instruments.

## The Indian financial system and capital market

The Indian financial system and, more particularly, the banking system have evolved in an environment of administered interest rates and stipulations on asset allocations. For many years the main players in India's financial system were banks and financial institutions. These entities dominated the flow of funds to firms and thus had a crucial role in allocating the resources of the country. A central trait of India's financial market is rapid institutional change. Market mechanisms that existed around 1990–92 had many structural weaknesses, and the development of the financial markets has hinged on their improvement. The best example of the rapid change in market quality is the maturing of the secondary market for equity and corporate debt.

Today the Indian financial markets are witnessing serious competition between the banking system and market mechanisms for resource mobilization and allocation, using the assets of the household sector. The contrast between the two intermediaries is striking. When a household deposits funds in a bank, the bank is forced to transfer a large fraction of these funds at market interest rates to the government because of the statutory liquidity ratio and cash reserve ratio requirement and another share into low-quality investment because of priority sector lending. Because the overall rate of return that the bank can expect is low, the rate of return that it can offer to depositors is also low. This induces depositors to seek alternative investments, a number of which are offered by Indian financial markets. In other words, the banking system has been steadily obtaining and declining a fraction of incremental savings. Thus the focus of India's financial sector is moving away from the banking system to financial markets: while the assets of the banking system have grown two or three times between 1990 and 1996, the assets of the equity market have grown about ninefold.

In this way, the capital market has emerged as an important segment of the Indian financial system. Compared to the few hundred rupees crores raised annually from the primary markets in the 1960s, as much as Rs52,100 crores was raised in 1996. But for the primary market to function smoothly, it needs to be supported by an active secondary market that provides liquidity to the scrips.

## Capital market formation

During the 1980s the Indian capital market emerged as an important source of funds for corporate units in both the private and public sectors. Between 1988–89 and 1994–95, the total volume of capital issues rose nearly fivefold. The amounts mobilized doubled between 1988–89 and 1990–91 and then quadrupled to Rs450 billion by 1994–95. The equity market has been highly active as the bulk of resources raised in the primary market take the form of direct equity or convertible debentures. In the secondary market, market capitalization of the more than 7,000 companies listed in 23 stock exchanges has risen at a very fast pace, particularly since 1990–91. At the end of December 1995 aggregate market capitalization of the stocks listed on the Bombay Stock Exchange amounted to Rs4.3 trillion, which was roughly 30 percent below its historical high of Rs6 trillion, reached in September 1994. This growth in market capitalization conceals the fact that the secondary market still operates with antiquated trading and settlement systems.

The debt market, however, has remained undeveloped due to an illiquid secondary market in such instruments. A sizable portion of household savings continues to be attracted to fixed-income financial instruments. The development of the debt market at both the wholesale and retail levels is necessary to support investments in housing and infrastructure.

With the deregulation of interest rates in the capital and credit markets, there has been significant change in issuance methods and the trading pattern of bonds. The most significant changes have occurred in the government bond market. Issuance of bonds at administered interest rates with predetermined "notified" amounts has largely been replaced by an auction system of issuance. Apart from fixed-rate bonds, the government has also issued floating-rate bonds, zero-coupon bonds, and partly paid bonds. However, liquidity continues to be thin in the secondary market, despite the changeover to screen-based trading on the National Stock Exchange. The debt market in the country has not really developed, largely due to policy constraints, some of which have now been removed.

The huge gap between investment demand and the supply of financing poses complex challenges to the different constituents of the financial system and prompts the search for alternative ways of financing these investments. For this to be successful, a coordinated approach to the development of a sound and vibrant capital market is vital.

At present, all contractual savings instruments are under the control of the government, which largely preempts their funds. If housing is to be financed through the capital market, it is necessary to initiate major reforms of contractual savings institutions. The government's program to reduce the fiscal deficit would also restrain its preempting of funds in existing institutions. More widely available contractual savings instruments providing good returns will lead to better household savings rates. A deepening and widening of the market in debt instruments through financial innovations should also go a long way toward stepping up the overall domestic savings rate. But this depends, of course, on the speed with which a conducive policy framework is established.

*The market for fixed-income securities.* A significant fixed-income securities market exists in India which, toward the end of 1997, was estimated to exceed Rs3.25 trillion or nearly double its level of Rs1.75 trillion just five years ago. The government's participation is estimated to be more than half (by value) of India's total fixed-income securities in issuance. Various trends are expected to encourage expansion of the primary market, including decreasing government deficits, stable inflation, an emphasis on infrastructure investments, the improved market environment, and capital market reforms. However, the secondary market is not developing at a commensurate rate, and this slow pace of development is retarding the creation of more dynamic markets overall.

As the preponderant debt issuer in India, the government has capitalized on its legislative and regulatory powers to gain a privileged and statutory advantage by requiring banks, insurance companies, pension funds, and other nonbanking financial institutions to make investments in its qualifying securities. The purpose is not only to direct capital toward priorities, purposes, and institutions that are favored by the government, but also to ensure the ongoing availability of capital resources by tapping the main deposits or instruments.

Among the asset-category type of instruments being traded in the debt market are government of India securities (63 percent), including treasury bills, coupon-bearing bonds, zero-coupon bonds, floating-rate bonds, and index-linked bonds; state government securities (14.3 percent), including coupon-bearing bonds; public sector undertakings (16.7 percent), including certificate of deposits, commercial paper, coupon guaranteed bonds, and public sector undertakings bonds; and corporate sector instruments (6 percent), including commercial paper, coupon-bearing debentures, floating-rate bonds, and special purpose notes and debentures.

*Major stock exchanges.* The three major exchanges—the National Stock Exchange, the Bombay Stock Exchange, and the Over the Counter Stock Exchange of India—are developing strategies to become more involved in the secondary market, regarding it as both a significant business opportunity and a defensive strategic move.

The National Stock Exchange has been trying to offer guaranteed scripless trading with clearing through the affiliated National Clearing Corporation and the National Security Depository. Counterparty risk is assumed by their mechanism, and counterparty identity is not made available since computers are used to satisfy orders. In reality the secondary debt market is a dynamic pricing telephone market where trades are reported on the stock exchange screen after being made on the phone. The National Clearing Corporation is expected to focus on public sector undertakings and development financial institutions for the wholesale market.

The Bombay Stock Exchange has been working on a real-time quote-based system, which will use an electronic terminal for dealers and banks. It is also reportedly preparing a clearing house mechanism to settle public sector undertakings and state government securities. The exchange sees this as a strategic defense.

The Over The Counter Exchange of India views the retail market as able to offer activity in its initiated debenture segment, with the plan being to guarantee trade settlement, using a fund it has set up. It has also been discussing arrangements for marketmaker funding, which is regarded as an attractive opportunity that will build on its strong regional presence and distribution capacity in at least 55 population centers.

*Foreign institutional investments.* There is growing interest in the Indian stock markets on the part of foreign institutional investors who are now permitted to invest in India. There has been a substantial inflow to this account during the past few years. In this context the government has taken steps to provide greater flexibility for foreign institutional investors and to encourage the flow of international capital into the country. The Securities and Exchange Board of India (SEBI) Foreign Institutional Investors Regulations of 1995 were amended to permit these investors to invest up to 10 percent in the equity of any company, to invest in unlisted companies, and to invest in debt securities without any requirement for investment in equity. They may also invest in dated government securities within the framework of guidelines for investing in debt instruments for 100 percent debt funds. For the purpose of balance of payments management, investment by foreign institutional investors through the 100 percent debt route will come within the overall level of external commercial borrowing. The list of eligible investors was expanded to include endowment funds, university funds, foundations, and charitable trusts or societies with good track records. Proprietary funds will also be permitted to make investments under the condition that they are regulated at home or are registered with their tax authorities.

*Money market mutual funds.* In order to provide an additional short-term avenue to individual investors, a scheme of money market mutual funds was introduced by the Reserve Bank in April 1992. As the initial guidelines were not attractive, the scheme did not make headway. To make the scheme more flexible and to provide greater depth and liquidity to the money market, the Reserve Bank permitted certain relaxations in November 1995. Institutions in the private sector are now allowed to set up money market mutual funds in addition to banks and public financial institutions. The earlier ceiling of Rs50 crores on the size of the funds has been withdrawn. Limits on investments have been deregulated, except for exposure on commercial paper issued by an individual company, which is not to exceed 3 percent of the resources mobilized by the concerned fund. Since April 1996 these funds may issue units to corporates and others on par with other mutual funds. The minimum lock-in period for investment in money market mutual funds has been reduced from 46 days to 30 days since July 1996.

Twenty private sector sponsors have been approved to set up mutual funds. In accordance with regulations, these sponsors are now in the process of establishing separate asset management companies, trustee companies, and independent custodians. The regulations introduced by SEBI have led to a visible improvement in the disclosure standards of mutual funds.

## Financial market development

The Indian economy has passed through a highly rewarding phase of transition over the past five years. There has been wide-ranging restructuring of financial markets of real sector determinant. Indian capital markets are undergoing sweeping changes and many recently introduced instruments such as debentures with warrant option, zero-interest debenture, deep discount bonds, option bonds, and secured premium notes, which combine different features of existing securities with those developing in the capital market. This contributes to an excellent environment for strengthening India's secondary market. As a result, average GDP growth overall is at 5.5 percent and inflation has been brought down to about 6.5 percent

In the context of financial restructuring, restructuring of institutions, and an evolving, more diverse range of products, decontrol of the banking system continued during 1996–97. The interest rate of term deposits of more than one year was deregulated. Recently banks have been given full freedom to design their own products and determine rates of interest without any prior approval from the Reserve Bank of India. As a result, overall interest rates in the Indian economy have come down by one to two percentage points on both the deposit and lending sides. The rules for obligatory consortium lending were liberalized by the Reserve Bank of India in October 1996 and selected credit controls on a number of commodities were eliminated during the same period. Competition in the banking sector has increased gradually as 10 new private sector banks have started functioning. The Reserve Bank has issued guidelines for setting up a new local private bank with jurisdiction over three contiguous districts. From October 1996 banks were permitted to provide currency-denominated loans based on their foreign currency reserve accounts.

There has been a steady improvement in the capital adequacy of public sector banks over the past few years. The process of tightening the standards of bank operations also continues. Recovery proceedings are gradually being streamlined with the functioning of six tribunals and an appellate tribunal.

Disbursement by development financial institutions has been growing at a rate of 16–17 percent per year. To raise resources, most of these institutions issued bonds during 1995–96. They also began charging market-based interest rates in the face of increasing competition for term loans by banks. Nonbank financial companies, which have been defined as including any company whose principal business is receiving deposits under any scheme or manner of lending, have been brought under the regulatory purview of the Reserve Bank. All such companies are required to meet net worth and capital adequacy criteria. The Reserve Bank is presently working out accounting, income recognition, and other standards, which existing nonbank financial companies will have a transitional period of three years to meet.

Credit rating has assumed greater importance for individual investors, brokers, and financial advisors with the deepening and widening of the money and capital markets, and there are at present three credit rating agencies approved by the Reserve Bank of India.

## Capital market reforms

An array of capital market reforms was introduced in 1996–97, encompassing primary and secondary markets, equity and debt, and foreign institutional investment. Primary market reforms are aimed at imparting greater flexibility in the issuance process and strengthening the criteria for access to the securities market. Reforms in the secondary market are aimed at improving market transparency, integrity, and trading infrastructure. Among the reforms undertaken were:

- The Depositories Act of 1996, which provides a legal framework for recording ownership details in book-entry form and facilitating the dematerialization of securities. This is expected to help in reducing settlement risks and removing some of the infrastructure bottlenecks. Amendments to the law in 1997 will allow banks, mutual funds, and the Industrial Development Bank of India to dematerialize their scrips.
- The SEBI Depositories and Participants Regulations of 1996, which allow SEBI to regulate the establishment and functioning of depositories and to protect investors interests.
- The tightening of entry norms for equity issue by companies to improve their quality.
- An end to the vetting of public issue offer documents by SEBI to encourage self-regulation. SEBI's comments (if any) must be sent within 21 days of filing.
- Permission for debt issues not accompanied by an equity component to be sold entirely by the book-building process.
- Permission for issuers to list debt securities on stock exchanges even if equity is not listed.
- Permission for foreign institutional investors to invest up to 10 percent in the equity of any company, to invest in unlisted companies, to set up pure (100 percent) debt funds, and to invest in government securities.
- Modification of eligibility criteria for foreign institutional investors, to allow endowment funds, university funds, foundations, and charitable trusts or societies to register.
- The introduction of a stock lending scheme that will not attract capital gains.
- The SEBI Mutual Funds Regulations of 1993, which provide for portfolio disclosure, standardization of accounting policies, and valuation norms for determining net asset value and pricing.
- Approval of a modified takeover code, which requires a mandatory minimum public offer of 20 percent purchase when the threshold limit of 10 percent equity holding is crossed. Those in "control" are permitted to purchase 2 percent of shares per year up to 51 percent. To discourage frivolous attempts, acquirers will have to deposit a certain value of cash and assets in an escrow account. The escrow deposit will be higher for

conditional public offers unless the acquirer agrees to acquire a minimum of 20 percent.

- SEBI approval of almost all recommendations of the Committee for Improving the Workings of the Over the Counter Exchange of India.

## The housing finance system

The housing finance system originated in India in 1971 with the establishment of the Housing and Urban Development Corporation Ltd. (HUDCO) in the public sector. HUDCO provided technical and financial assistance to state-sponsored undertakings, housing and urban development institutions, and the cooperative sector. Apex-level cooperative societies were set up in almost all states to provide financial assistance to primary cooperative societies. These apex cooperative societies were in turn funded by state governments and finance institutions such as the Life Insurance Corporation, the General Insurance Corporation, and so on. Commercial banks' involvement in housing was limited to investment in HUDCO and housing boards and loans given to its own employees.

Although there were large numbers of institutions and agencies, mostly in the private sector, providing direct finance to individuals for housing construction, there was no well-established housing finance system that was integrated into the main financial system of the country. In 1977 the Industrial Credit and Investment Corporation of India took the initiative and set up the Housing Development Finance Corporation. The International Finance Corporation and the Agha Khan Fund for Economic Development also contributed toward the share capital of Housing Development Finance Corporation. The corporation lends to individuals, groups of individuals, and members of cooperative societies, mainly for new residential housing. In addition, there are several housing finance companies operating in the private and joint sectors. Important among these are Gujarat Rural Housing Finance Corporation, Dewan Housing Development Finance Ltd., Hind Finance Industries and Investment Ltd., and Canfin Homes Ltd. The Life Insurance Corporation and General Insurance Corporation have also set up housing finance companies, as have several public and private sector banks.

The government of India established a high-level group in 1986 to address the housing problem in the country. The group classified the institutions into two segments, formal and informal. The formal sector includes budgetary allocations of central and state governments; financial institutions such as the Life and General Insurance Corporation, commercial banks, and provident funds; and specialized housing finance institutions such as HUDCO, apex and primary cooperative societies, and housing finance companies. The informal sector includes households and public and private sector employers providing housing loans to their employees. The group recommended that a network of specialized housing finance institutions be created to mobilize additional savings and provide financing for housing construction. Two types of institutions were envisaged as belonging to this network: local-level institutions, which would mobilize household savings and provide home loans, and regional Housing Development Finance Corporation-type institutions with wider territorial jurisdictions, which would mobilize household savings and provide housing finance to middle- and higher-income groups.

### The National Housing Bank

The National Housing Bank was established by parliament in July 1988 as a wholly owned subsidiary of the Reserve Bank of India, to function as an apex bank along the lines of the Industrial Development Bank of India and National Bank for Agriculture and Rural Development. The National Housing Bank is the principal agency for promoting housing finance institutions at the regional and local levels and for providing financial and other support to institutions involved in housing and human settlements. Specifically, parliament empowered the bank to provide guidelines to housing finance institutions to ensure sound management and growth, make loan advances and other forms of financial assistance to scheduled banks and housing finance institutions, and formulate schemes for mobilizing resources and extending credit for housing.

The National Housing Bank further set for itself the following major objectives:

- Promoting a sound, healthy, viable, and cost-effective housing finance system catering to all segments of the population.
- Establishing a network of housing finance outlets adequately serving different regions and income groups.
- Promoting savings specifically for housing.
- Making housing more affordable and of better quality.
- Augmenting the supply of land and building materials for housing.
- Encouraging public agencies to become facilitators and suppliers of serviced land.
- Encouraging the flow of credit and real resources to lower-income individuals.

Since its establishment the National Housing Bank has undertaken many initiatives to fulfill its mandate. With the continued deregulation of the financial sector, the regulatory mechanism of the National Housing Bank aims to encourage the confidence of investors, depositors, and borrowers in the housing finance system by setting standards for housing finance companies and promoting their credibility. The National Housing Bank has introduced capital adequacy norms, prudential norms, and income recognition asset classification. To mobilize household savings, the National Housing Bank is also operating a home loan scheme through scheduled commercial banks and select housing finance companies as a loan-linked saving scheme. The bank has also initiated an analysis of the existing portfolios of select housing finance companies, the development of uniform underwriting standards, and a documentation and management information system.

## Sources of housing finance

Following are profiles of the main formal and informal sources of housing finance.

*Central and state governments.* The central and state governments support building activities through institutions in the housing sector. The central government has introduced various schemes for giving financial assistance for social housing to state governments and public sector undertakings. It also provides support to HUDCO and guarantees the bonds and debentures that HUDCO issues. State governments implement social housing schemes, provide funds for the construction of employees' rental housing, and provide loans to housing boards and other agencies for the construction of housing for the general public.

*Life Insurance Corporation of India.* The share of housing in the total investment of the Life Insurance Corporation went up from 13 percent in the mid-1960s to more than 60 percent in the 1990s. Besides subscribing to bonds and debentures of HUDCO and state housing board development authorities, the Life Insurance Corporation gives loans to state governments for their housing programs, to state apex cooperative bodies for lending to their primary societies, and to housing finance companies. It also contributes to the loan resources of the National Housing Bank and HUDCO. The corporation is channeling a major portion of its resources earmarked for housing through its subsidiary housing finance companies.

*General Insurance Corporation of India.* Under the existing guidelines the General Insurance Corporation earmarks 35 percent of its annual accretions of investable funds as loans to state governments for economically weaker sector housing, to their housing subsidiaries, and to HUDCO. Based on present levels of investments, the corporation is expected to contribute about Rs700 crores during the eighth-plan period. In 1993–94 its total contribution to housing was Rs236 crores: Rs101 crores to state governments, Rs105 crores to HUDCO, and Rs30 crores to housing finance companies. In 1994–95 its total contribution to housing declined to Rs163 crores.

*Scheduled commercial banks.* Scheduled commercial banks mobilize 40 percent of household savings. They provide housing loans on terms fixed by the Reserve Bank and also contribute to housing finance institutions as well as debentures floated in the housing sector. The present guidelines require that the banks allocate at least 1.5 percent of incremental deposits in the previous year for lending to the housing sector, or about Rs2,600 crores. The Working Group on Finance for the eighth plan suggested that this ratio be changed to a percentage. To induce the banks to provide direct loans to individuals, loans up to Rs5 lakhs will be considered under priority sector lending. During 1996–97 housing finance extended by these banks increased from Rs799.17 crores to Rs1,418.88 crores, which can be attributed to various initiatives taken by the government to increase the flow of housing finance.

*Pension and provident funds.* Pension and provident funds mobilize 19 percent of household financial savings. The regulatory provision regarding the investment of these funds stipulates that 85 percent be invested in the government's special deposit scheme. Thus a good portion of the funds is utilized as a budgetary resource. The contribution of provident funds to housing is currently by way of loans to its members. At present, the percentage share of housing loans to total public provident fund collections is about 16 percent. The amount of housing advances given from provident funds has risen from Rs129 crores in 1983–84 to Rs478 crores in 1990–91, and it was estimated that Rs3,900 crores will be contributed during the eighth plan.

*National Housing Bank.* Cumulative financing extended by the National Housing Bank up to June 1997 was Rs3,103.85 crores. Of this amount,

**Table 4.1 Disbursements by the National Housing Bank, 1994–97**
*(Rupees crores)*

| | *1994–95* | | *1995–96* | |
|---|---|---|---|---|
| *Item* | *Disbursement* | *Outstanding* | *Disbursement* | *Outstanding* |
| *Housing finance companies* | | | | |
| Direct | 268.79 | 1530 06 | 248.38 | 1668 54 |
| LDSP | 6.76 | 73 60 | 0.00 | 50.79 |
| Ad hoc | 0 00 | 0.00 | 0.00 | 0.00 |
| Subtotal | 275.55 | 1603.66 | 248 38 | 1719 33 |
| *Banks* | | | | |
| Direct | 3 07 | 17.21 | 11.49 | 26 94 |
| LDSP | 0 65 | 64.89 | 0 00 | 38 56 |
| Subtotal | 3 72 | 82.10 | 11.49 | 65 50 |
| State cooperative | 0 00 | 26.28 | 10 23 | 35.55 |
| Urban cooperative | 0 00 | 1 43 | 0.00 | 0.68 |
| Apex cooperative | 12 12 | 91 74 | 25.11 | 111.15 |
| *ARDB (SRHDs)* | | | | |
| Direct | 26 44 | 123.24 | 38.47 | 155.59 |
| Ad hoc | 0.00 | 0 00 | 0 00 | 0.00 |

*Source.* National Housing Bank.

Rs2,475 crores (79.8 percent) was for housing finance companies (mostly for direct housing loans to the financial institutions), Rs437 crores (14.0 percent) for cooperative institutions, and Rs190 crores (6.2 percent) for scheduled commercial banks. The disbursements over the past few years are shown in table 4.1.

It was expected that the National Housing Bank would mobilize substantial resources by tapping capital market and public deposits. It has been the case, however, that the bank draws on major sources by borrowing from other institutions and thus it does not add anything to resource mobilization.

While its mandate is very broad, HUDCO is expected to direct 55 percent of its loans for housing to financing lower-income groups and economically weaker areas—an obligation that the corporation has consistently met. It does not provide direct support to individual borrowers but funds projects of public agencies, such as housing boards, development authorities, slum clearance boards, municipalities, cooperatives, and nongovernmental organizations. It also gives funds for infrastructure and urban development projects. Apart from equity support from the central government and its own earnings, the corporation receives funds from the Life Insurance Corporation, the General Insurance Corporation, the National Housing Bank, and some international agencies, and it raises funds in the capital market through bonds and public deposit schemes.

| *1996–97* | | *Cumulative* |
|---|---|---|
| *Disbursement* | *Outstanding* | *Disbursement up to June 1997* |
| 327.69 | 1867 81 | 2356.34 |
| 0.00 | 25.56 | 118.95 |
| 0.00 | 0.00 | 0.00 |
| 327 69 | 1893.37 | 2475.29 |
| 4.53 | 28.42 | 37.08 |
| 0 00 | 19.36 | 100.00 |
| 4.53 | 47.78 | 137.64 |
| 1 23 | 33.50 | 49.89 |
| 0.00 | 0 34 | 2 84 |
| 73 22 | 177.47 | 215 11 |
| 38 68 | 186.22 | 222.08 |
| 0.00 | 0.00 | 0.00 |

*Housing finance companies.* A large number of other housing financing companies providing loans to individuals and state agencies have been established over the past four to five years. There are now more than 370 such companies that have housing finance as their principal objective, although the majority of them play an insignificant role. These companies give financial assistance to individuals for constructing and acquiring new houses as well as for repairs and upgrades. They also lend money to the cooperative sector for constructing housing for its members and to professional developers and cooperative housing societies for land development and shelter projects.

**Table 4.2 Housing finance companies approved by the National Housing Bank**

*(Rupeess crores, approximate)*

| *Housing finance company* | *Paid-up capital* | *Net own funds* | *Deposits* |
|---|---|---|---|
| HDFC | 169 | 1,663 | 6,526 |
| HUDCO | 350 | 813 | 2,451 |
| Life Insurance Corporation Hs. Finance Ltd. | 75 | 339 | 2,539 |
| General Insurance Corporation Hs. Finance Ltd. | 18 | 72 | 329 |
| Can Fin Homes | 20 | 62 | 504 |
| Dewan Hs Finance Ltd. | 28 | 55 | 415 |
| SBI Home Finance Ltd. | 15 | 37 | 378 |
| GRUH Finance Ltd | 30 | 291 | 214 |
| Global Hsg finance Ltd. | 22 | 23 | 0 |
| PNB Hs. Finance Ltd. | 10 | 24 | 141 |
| Ind Bank Hsg. Finance Ltd. | 10 | 15 | 214 |
| Peerless Abasan Finance Ltd. | 11 | 14 | 38 |
| Cent Bank Home Finance Ltd. | 10 | 14 | 68 |
| BOB Hsg. Finance Ltd. | 8 | 14 | 68 |
| AB Home Finance Ltd | 9 | 13 | 58 |
| Vysya Bank Hsg Ltd. | 5 | 12 | 74 |
| Home Trust Hsg. Finance Ltd. | 10 | 12 | 28 |
| Vijay Homes Loans Ltd. | 7 | 9 | 19 |
| GLFL Hsg. Finance Ltd | 8 | 11 | 73 |
| Vibank Hsg. Finance Ltd. | 6 | 6 | 3 |
| Parshwanath Hsg. Finance Ltd. | 3 | 3 | 14 |
| Livewell Home Finance Ltd. | 4 | 4 | 10 |
| Saya Hsg. Finance Ltd. | 3 | 3 | 1 |
| Orissa Rural Hs. Dev. Ltd. | 5 | 7 | 35 |
| Weizmann Hsg. Ltd. | 3 | 13 | 8 |
| Mercantile Hsg. Finance Ltd. | 4 | 5 | 0 |

*Note* The housing finance companies listed have been approved by the National Housing Bank for financial assistance as of March 31, 1997

*Source* National Housing Bank

To obtain loans from housing finance companies, individuals are required to show clear title to land and evidence of repayment ability. As a result these financing schemes have benefited the middle- and higher-income groups. While the National Housing Bank provides refinancing to finance companies, the facility is available only to the housing finance companies that meet specific guidelines. As of 1997 there were a total of 26 companies recommended by the National Housing Bank for financial assistance (table 4.2).

*Cooperative sector.* The cooperative housing finance system finances through the apex cooperative housing finance society at the state level and the

| *Loans outstanding* | *Sanctions 1996–97* | *Disbursements 1996–97* | *Number of branches* |
|---|---|---|---|
| 5,709 | 2,522 | 2,101 | 13 |
| 4,841 | 2,470 | 1,539 | 17 |
| 2,605 | 738 | 668 | 68 |
| 326 | 164 | 143 | 15 |
| 484 | 131 | 103 | 33 |
| 421 | 58 | 64 | 29 |
| 282 | 151 | 170 | 22 |
| 96 | 79 | 11 | 9 |
| 10 | 11 | 3 | |
| 34 | 38 | 20 | 11 |
| 147 | 21 | 25 | 14 |
| 24 | 8 | 7 | 8 |
| 68 | 19 | 24 | 11 |
| 75 | 25 | 21 | 18 |
| 82 | 24 | 22 | 13 |
| 79 | 45 | 35 | 13 |
| 36 | 21 | 19 | 5 |
| 21 | 7 | 7 | 15 |
| 60 | 35 | 29 | 7 |
| 8 | 9 | 8 | 4 |
| 17 | — | — | 3 |
| 12 | 7 | 7 | 3 |
| 3 | — | — | 7 |
| 15 | 29 | 20 | 1 |
| 11 | 10 | 8 | 5 |
| 2 | 2 | 2 | 1 |

primary cooperative society at the local level. The major sources of funding in the private sector comes through the Life Insurance Corporation, supplemented by state governments, HUDCO, the scheduled commercial banks, and refinance extended by the National Housing Bank to its apex cooperative societies. At present there are 25 state apex cooperative housing federations and about 9,000 primary cooperative societies, with about 60 million members. The primary societies have a cumulative working capital of Rs4,500 crores.

*Informal sector.* The informal sector has played a significant role in extending financial assistance for housing, especially to the poor and to low-income groups. Borrowing from friends and relatives without formal security is quite common. A high percentage of households also borrow at zero interest rate from shopkeepers, moneylenders, and landlords. But the implicit rate of interest generally turns out to be quite high, due to the high prices charged to the borrowers for the commodities purchased, borrowers' contractual obligations, or the free labor they must provide. Nevertheless, the absence of cumbersome formalities and flexibility in repayment terms makes the informal sector quite popular. Since the share of the informal sector is much greater than that of the formal sector, it is not feasible to replace it completely. However, the possibility of integrating the informal sector with the formal sector and mobilizing its financial assets and other resources needs to be examined so that the funds available to the informal sector can increase.

## The development of a secondary mortgage market

The domestic capital market for equity has grown significantly over the past decade, but missing in the capital market is an active secondary market in debt instruments. The need to create a secondary market in debt has become more urgent given the massive increase in demand, on the one hand, and pressures to globalize the Indian financial system, on the other. In recent years there has been an increase in nonbanking financial institutions competing for the limited resources available, making resource mobilization a key issue.

To meet the projected demand for resources it is necessary to integrate the capital market with the national financial system. The securitization of housing loans, for instance, and the creation of secondary markets are corollary developments. The emergence of a secondary market in debt will serve two purposes. First, in a rapidly changing environment, financial institutions and banks will depend on the commercial soundness of the financial system to sustain their level of operations. In the absence of appropriate market mechanisms such as a secondary market in debt and related instruments, restructuring asset composition is extremely difficult. Second, the emergence of a massive middle class with substantial purchasing power has created a new market for consumer finance. However, the ability of financial institutions and banks to cater to this segment is restricted by the lack of an active secondary market in debt.

In the Indian context the predominant instrument has been equity or equity-based, although during the past few years hybrid instruments such as partly convertible debentures have also gained acceptance. The equity component induces investment in long-term debt with a coupon rate that is below market value.

India has a relatively well-developed and diversified primary network of financial institutions covering the corporate and private sectors. With the dismantling of the advocated system of credit it is these institutions that will need greater access to the capital market than before. Given the strength of the primary network, it is conceivable that with an appropriate banking system these institutions could form the primary pool from which to create an active secondary market.

## The benefits of securitization

The creation of the secondary mortgage market should lower the cost of mortgage credit through the more efficient allocation of risk and use of capital. Securitization will also reduce the transaction costs of mortgage lending through the standardization of mortgage loan documentation, underwriting, and servicing, as well as the creation of standard securities. Finally, an active market will enhance the marketability of securities and reduce the risk of investment. It can also be a catalyst for the development of a bond market for the housing sector.

For the issuer securitization offers the following advantages:

- *More attractive cost of funds.* The issuer has an opportunity to raise funds at a cost significantly lower than the commercial rate of borrowings.
- *Improve capital adequacy ratio.* In an issue of asset-backed securities, the portfolio is stripped off the books of the issuer and the profits are booked up front. Asset securitization is thus a valuable tool for raising resources by off-balance sheet financing.
- *Enhanced leveraging opportunities.* Because the profits on the securitized assets are booked up front, the originator is able to leverage on the net worth.
- *High liquidity.* The originator is able to capitalize on the cash flows generated by the securitized assets by transforming illiquid assets, such as receivables, mortgages, and lease and hire-purchase receivables into liquid cash.
- *Better asset liability match.* Securitization passes on the risk of prepayment to the holder of the securities and results in a better asset liability match for the originator.
- *Improved financial performance.* Since the profits on the securitized asset are booked up front, the originator is able to access funds at a lower coupon rate than the funds originally generated, improving profitability and financial ratios.

For the investor the advantages include:

- *High yield*, allowing the investor to diversify its portfolio.
- *High safety*, ensured by the rating of a credit rating agency.
- *Good liquidity*, resulting from the normally high rating of the credit rating agency.

The secondary mortgage market has yet to be developed in India. The initial tranche of securitized loans would probably be offered to investment institutions and banks. These instruments could ideally be used by investing institutions to satisfy their allocations for housing to provide the initial fillip needed for the secondary market. The establishment of a secondary mortgage market would in turn effectively position housing finance companies in the capital market to raise additional resources.

## Key players

It was envisaged that the main participants of the secondary mortgage market would be the National Housing Bank, acting as a bridge between the housing finance sector and the broad financial center in its regulatory and facilitating role; housing finance companies, as originators of securitized housing loans; an intermediary institution, issuing mortgage-backed securities in the form of participation certificates and, in its capacity as a market-maker, integrating the housing finance companies with the overall financial system; a special-purpose vehicle or trustee company, representing the interests of both mortgage originators and investors; and, of course, the investors.

The role of the National Housing Bank and housing finance companies has already been profiled. Several other key players are described below.

*Special-purpose vehicle.* Because the housing finance system has yet to acquire the desired degree of maturity and resilience, a relatively simple model of the special-purpose vehicle is suggested. The Federal National Mortgage Association (Fannie Mae) in the United States is the appropriate role model for the National Housing Bank in India.

The special-purpose vehicle should have the flexibility to sell or securitize a wide range of mortgage types. It should also have access to wholesale funds. The price at which the special-purpose vehicle issues papers should be competitive and in proportion to mortgage rates. Since the special-purpose vehicle will be purchasing mortgages, it should have the ability to undertake credit enhancement activities. As it will also issue securities backed by the underling pool of mortgages received from the housing finance companies, it will act as a conduit representing the interests of mortgage originators and investors or as a link between the primary and secondary markets. By virtue of its position in the system, the National Housing Bank is most suited to act as a special-purpose vehicle.

*Intermediary institutions.* Intermediary institutions would purchase the loans from the housing finance companies and would in turn issue PCs.

The tenor of these PCs would be coterminous with the maturity of the underlying housing loans and secured on a back-to-back basis. Initially, it is expected that the placement of PCs will be made on a one-to-one basis with investment institutions, banks, and other institutional investors. As the market matures the PCs could be placed with individual investors. They would then become an alternative tradable debt instrument for investors.

In any issue of this nature it is necessary that the initial transactions incorporate an undertaking from the loan originator, either to cover loan losses or to provide for a mechanism whereby the loan would be sold back to the originator under specified circumstances. Even after the loans are securitized, the servicing of individual loans would remain the responsibility of the loan originator. The loan servicing function would include maintenance of the loan accounts, collection of repayment installments, and enforcement of security, as necessary.

*The investors.* For the successful development of the secondary mortgage market, it is important to develop a broad investor base and, therefore, to ensure that the securitized paper becomes investor-friendly. Potential investors in securities debts include finance institutions, mutual funds, commercial banks, cooperative banks, finance companies, insurance companies, pension and provident fund trusts, private and charitable trusts, and foreign institutional investors.

Among the long-term institutional investors in India, pension and provident funds along with insurance companies and mutual funds will assume the lead in investing in mortgage-backed securities, including the riskier, partially insured ones. In view of the maturity profile of mortgage-backed securities, life insurance companies appeared to be better positioned. Mutual fund income schemes with long maturities will also find the maturity of mortgage-backed securities matching the tenor of their liabilities. However, SEBI guidelines are restrictive in this regard, and growth schemes and income schemes are currently allowed to invest no more than 10 percent and 40 percent respectively of the corpus in securitized debt.

Nevertheless, mortgage-backed securities appeal to a wide variety of investors because they are able to fit unique needs. The key to success in an emerging market would be an instrument that is secured and credit enhanced. It should have liquidity and transferability. The yield should be higher or at least comparable with quality debt of the appropriate tenor and the instrument should be rated.

## Major challenges

The following issues will have to be addressed to establish an efficient secondary mortgage market in India.

*Credit enhancement.* The housing finance market in India currently operates on lending techniques and guidelines that are institutional specific and have evolved through a process of trial and error. Consequently, there is little consistency in the appraisal techniques of the housing finance companies, leading to loan portfolios of varied quality. This fact will assume greater significance as the pace of securitization picks up and more institutions enter the market to securitize their portfolio. The National Housing Bank could play an important role in the securitization process by providing credit enhancements to the securitized loan portfolios, either through a letter of credit or guarantee. The National Housing Bank could, with the implicit backing of the Reserve Bank of India, provide guarantees for the payment of interest and principle to investors on the same lines as Fannie Mae in the United States. The Infrastructure Development Finance Corporation also proposes to introduce financial guarantees in the Indian market by promoting an AAA-rated financial guarantee company.

In the emerging market, it is crucial that the secondary market instrument be standardized in terms of quality and specifications, irrespective of which housing finance company has originated the loan. To achieve such standardization, the National Housing Board could provide credit enhancement for varying levels of first-loss cover, depending on the institution involved.

The extent of credit enhancement could be based on an internal appraisal conducted by the bank or an assessment by an external credit rating agency. The National Housing Bank could charge a credit enhancement commission ranging from 5 percent in the case of housing finance companies with sound and profitable operations to as much as 50 percent in the case of emerging institutions whose operation policies are found to be less than fully adequate.

Overcollateralization or stand-by arrangements can also be used for credit enhancement. The extent of collateral security depends on the recovery record of the originator and the quality of the asset portfolio. With an average default rate varying from 0.5 percent to less than 5 percent, overcollateralization in the 15 percent range will give credibility to the instrument. Credit enhancement can also be provided by the deposit of cash with an acceptable bank equal to several equated monthly installments and a bank guarantee from an acceptable bank. Credit enhancement can also take the form of mortgage insurance and financial guarantees from insurance companies. The insurance sector has not yet opened up and intervention in the insurance sector should be encouraged. Once this happens, major institutions such as the National Housing Bank, the Infrastructure Development Finance Corporation, and similar institutions could set up a guarantee insurance company.

*Liquidity.* In the absence of other liquidity mechanisms, such as stock exchange listings, investors in secondary mortgage instruments will require a facility for divesting their holdings on short notice. It is expected that intermediary institutions will act as marketmakers for the PCs. As the market matures, other institutions, including banks and corporations, should also enter this market.

Because the intermediary institution will have the responsibility of quoting two-way prices and ensuring a stable market, it is essential that it be on a sound financial footing. Besides laying down capital adequacy norms and determining the eligibility of such institutions, the National Housing Bank could also provide backup or standby lines of credit to ensure the liquidity of these institutions. In a sense, the National Housing Bank would be providing discretionary finance to ensure liquidity in the market. However, intermediary institutions such as the Discount and Finance House of India and the Securities Trading Corporation of India can provide two-way quotations for treasury bills and government of India bonds, thus giving the comfort of liquidity to the investors.

To increase the liquidity of mortgage-backed securities in the secondary market, it is necessary to analyze both the likely volume of mortgages to be offered for sale and the number of probable investors and the extent of their demand. A minimum level of activity is required to provide investors with the liquidity they seek. Homogeneity of the terms under which mortgages are being written will enhance mortgage-backed securities, thereby increasing the number of traders for each type of instrument.

In light of the recent development relating to the financial and capital markets, perhaps the secondary market for debt instruments will in general become significantly liquid in the near future. However, housing finance debt products may remain illiquid in the absence of an effective central agency. The National Housing Bank, by virtue of its position in the sector, will ideally fill this slot as a wholly owned subsidiary of the Reserve Bank of India. The implicit support of the Reserve Bank and the government will not only improve the marketability of the instrument but will also help the rating of the papers issued by this central agency.

*Credit ratings.* There is no experience in India for rating mortgage-backed securities. Ratings will be based on the strength of the cash flows and the mechanism designed to ensure full and timely payments, as well as by the process of selecting loans of high credit quality. The credit rating of the instruments backed up by the mortgages will be influenced by such factors as the delinquency, the extent of homogeneity, and the seasoning period. Cherry-picked mortgages with good payment records will be pooled, and the rating will be tailormade to support the instrument. The investors will seek information on the risk factor up front. Mortgage-backed securities will eventually have to be listed on the stock exchange, and credit ratings will become mandatory for developing investor confidence in the instrument. While credit enhancement may compensate somewhat for deficiencies in credit risk evaluation, the long-term solution lies in a sound credit rating mechanism for mortgage-related investment products. Transparency in the credit rating system will also help in pricing the product.

*Yield and pricing.* The yield on mortgage-backed securities will initially be determined by the interest rates available on the underlying mortgages. Eventually the yield will have to be comparable to alternate instruments available in the market. The yield is also related to the maturity period of the instrument issue. The fixed-income security market earlier operated under an administered rate structure, but these restrictions are being eliminated. Consequently, there will exist a need to better integrate the term finance sector and the rest of the financial system, with rates on term loans set to accord with the commercial lending rates.

The pricing of securities is extremely important in the open market to ensure that resources can be raised to support and expand lending for housing. For the housing sector to attract funds from the Indian financial market while maintaining current mortgage interest rates, it will need a variety of instruments to suit different market segments. The difference between the pricing of the instrument and the mortgage lending rates should cover intermediary costs, which could be the prepayment risk premium, a secondary facility (to cover operating expenses), and other expenses as necessary. Intermediary costs may vary between 2.5 and 3.0 percent. With the current mortgage rates ranging from 15 to 15.5 percent, mortgage-backed securities will offer a yield of not more than 13 percent to the investor, which may not be acceptable, particularly when the security is a new instrument and the investor is not familiar with it. The effort will therefore have to be made to minimize intermediary costs and agencies.

*Mortgage insurance.* Privatization of the insurance sector has already been accepted as a necessary reform measure for stepping up the sector's performance in tune with the policy of liberalization. At the same time, it is necessary to initiate measures for setting up a mortgage insurance system. Mortgage insurance is a long term and viable credit enhancement measure, and it will enhance the confidence of the financing institutions as well as the investor community. In the initial stages, it will be worthwhile for the public sector insurance companies to provide leadership in this area and set the ground rules for the eventual participation of private insuring agencies.

*Government guarantee.* Much along the lines of Fannie Mae, the National Housing Bank will act as the intermediary between the primary and secondary markets. Its charter of is essentially that of the government, and its agenda includes organizing the housing finance system on sound lines and mobilizing resources for the housing sector. For accomplishing the two objectives, the National Housing Bank's presence in both the mortgage market and the capital market is a prerequisite. The government must consider providing guarantees to the bank's mortgage-backed securities. This would constitute the single most effective way of boosting investor confidence in mortgage-related debt instruments.

*Standardization*. There is a fundamental need to develop standardization lending terms and documentation procedures, which will help the investor make investment decisions. Standardization will also facilitate in the process of rating and evaluating borrowers' ability and willingness to pay. While it is not mandatory for housing finance companies to follow these standards for their entire portfolio, loans to be secured need to meet these standards. Standardization will also help in the collection of mortgage payments and the periodic remittance of these payments to investors.

*Prepayments*. People in India are generally debt-averse and prefer to pay off loans well before maturity. While this may upset lending institutions, the mortgage-backed securities issued against the expected repayments cannot suddenly be retired in the event of prepayment. The investment instrument backed by a particular pool should be discounted by the prepayment risk factor.

*Foreclosure laws*. The existing set of foreclosure regulations is inefficient. The National Housing Bank is taking steps to make foreclosure laws more effective so that defaults can be recovered as arrears of land revenue, without recourse to the lengthy legal proceedings. In addition, an agency for recording credit histories and rating the creditworthiness of the individuals needs to be established. These initiatives need to be expedited as they will assist the development of secondary market significantly.

*Stamp duty*. The prevailing high stamp duties in various states will hamper the creation of mortgage-backed securities in India because they add to the cost of securitizing housing loans and transferring the securities. Some state governments have taken a step in the right direction by reducing stamp duties to 0.1 percent. However, transaction and securities should not be limited by geographical boundaries, and therefore such moves need to be rationalized all over the country.

*Urban Land Ceiling Act*. The Urban Land Ceiling Act currently stipulates maximum limits for land holdings by any entity in specified towns and cities. Intermediary institutions undertaking securitization transactions and the mortgage trust company would come under the purview of the act and need to be specifically exempted. The legal framework for such an exemption is available.

*Accounting treatment.* Since securitization is an unknown process in India, there are no set guidelines for accounting. The benefits of securitization are available only if the assets securitized are removed from the balance sheet and the risks and rewards of ownership have been transferred. Alternatively, the mortgages can be created and held on behalf of outside agencies without forming part of the originating institution's asset portfolio as reflected in the balance sheet. Standard accounting treatment of mortgage-backed securities will promote uniformity in approach and wider acceptance among various agencies.

*Tax treatment.* The originator of the mortgage loans is the primary receiver of interest payments and principal from the borrowers. Accordingly, the interest in his hands will be taxable. In the event of securitization of mortgage loans, all cash flows are assigned or transferred to a special-purpose vehicle. It is open to question whether the originator now ceases to be taxable on the interest income and whether the special-purpose vehicle is a taxable entity. It will be useful to clearly define the incidence of taxation to avoid double taxation and protect investors' interests.

## Trends of securitization in the Indian market

To begin developing a secondary mortgage market system in India, the National Housing Bank is working on a pilot issue of mortgage-backed securities. The size of the issue will be about Rs75 crores. The selection of mortgages will be made from the portfolios of housing finance companies with a good record of recoveries. Seasoned mortgages with 12 to 18 months of regular payment will be purchased by the National Housing Bank to provide liquidity to the housing finance companies. Once purchased these mortgages will be taken off the balance sheet of the companies and put on the balance sheet of the bank. The securities will then be sold to institutional investors in the form of pass-through certificates, without any recourse to the National Housing Bank or the housing finance companies. Pass-through securities have been chosen for the pilot issue because repayments from borrowers will be received as equated monthly installment for repayment of the loan and interest, whereas a pay-through structure (where cash flows are reinvested and payments are made at specific intervals) would entail parking the funds at returns that are significantly lower than the underlying yield of the instrument.

The bank has already selected several housing finance companies for this pilot project: the National Bank of Agriculture and Rural Development, the Life Insurance Corporation of India, the Home Loan Account of the National Housing Bank, CanFin Homes, and Dewan Housing. As the track records of these companies are mixed, the National Housing Bank has decided that these mortgages will not be pooled together but will be sold to the investors independently, with an indication of the name of the originating company. This is important as the pricing of these mortgages will be different depending on the investors' perception of risk. The National Housing Bank will also undertake an audit of mortgages before their selection. The mortgages of different companies may have different ratings and, depending on the creditability, performance, and rating of the company in the market, the yield offered to investors may vary.

Until stamp duties are rationalized, mortgages will be purchased by the National Housing Bank from the states of Maharashtra, Kerala, Karnataka, Pondicherry, and Goa, as they impose a negligible (0.1 percent) or no stamp duty applicable to mortgage-backed securities. The bank will not provide any credit enhancements. However, it has been proposed that extra collateralization up to 15 percent of the amount of mortgages purchased be provided to be used for replacing bad mortgages in the case of default of payment. On average, the default rate has been estimated to vary from 0.5 percent to not more than 5 percent.

The mortgages purchased by the National Housing Bank will continue to be kept in custody with the housing finance companies, with housing finance companies acting as a trustee and holding the mortgages on behalf of the National Housing Bank. The companies will continue to hold the rights of recovery and will be responsible for servicing the mortgages. As each mortgage will be purchased at the coupon rate of the housing loans given to the borrowers, the National Housing Bank does not propose to pay any service charges to the housing finance companies. It is expected that there may be an overlap of not more than 15 days from the date of receipt of equated monthly installment to the actual disbursal to the investors.

These pass-through certificates will be sold to selected investors on a private placement basis in the initial stages. There will be no buy-back facility from the National Housing Bank. However, to provide liquidity to investors, the certificates will be transferable on endorsement and delivery. They will have a face value of Rs50,000 or Rs100,000. The bank is also proposing to involve intermediary institutions to provide two-way quotations, as is the case with treasury bills and government of India bonds.

The likely investors will be institutions that require regular cash flows to meet their obligations, such as provident and pension funds and mutual funds. With the declining trend in interest rates, investors may be comfortable with a yield of about 13–13.5 percent. This will leave a margin of 1–1.5 percent for the bank. These funds will be lent to participating housing finance companies at preferential rates of interest.

The National Housing Bank is in the process of finalizing the scheme and preparing documentation for the issue of the pass-through certificates. It is likely that the pilot issue may be opened by the beginning of 1998.

HUDCO is also planning a pilot issue, in the form of structured debt obligations, for its infrastructure project. The size of the first issue will be about Rs100 crores. Initially project loans with a good performance record and ratings from Urban Development and Infrastructure Agencies have been identified for the instrument. HUDCO has selected 26 projects for the portfolio with a total project cost of Rs548.41 crores and loan sanctions of Rs343.23 crores. The average rate of mortgages varies from 11.5 percent for socially oriented schemes to 19.5 percent. All of these loans are backed up by state government guarantees toward the payment of principal and interest on loans extended by HUDCO.

As HUDCO loans for infrastructure projects are long tenure, the intention is to issue structured debt obligations as fixed-income, medium-tenor bonds varying from 5 to 10 years depending on the nature of the project and its repaying capacity. There are linked legal, regulatory, tax, and accounting issues that will take longer to resolve. HUDCO is therefore proposing to set up a trust for credit enhancement and to develop confidence on the part of investors. HUDCO as an originator will sell fixed-income bonds and will continue to service the loans by receiving payment of principal and interest from the borrowers and in turn servicing the obligations with the regular payment of interest and the principal amount on maturity. As HUDCO receives equated monthly installments against the loan, the principal component of the repayment will be used for further lending on infrastructure projects. All the receipts from the project will be transferred to the general pool of HUDCO, from which the maturity will also be paid.

The trustees' function will be to provide credit enhancement to the bonds to ensure the repayment of interest and the maturity when they fall due. Whenever there is a default in repayment, HUDCO will use its own resources to make payments to the investors. If HUDCO fails to do so, the trustee, under an agreement with HUDCO, will ensure that the investors get their dues in time. To facilitate the servicing of the bonds, the trustee will have a negative lien on all accounts receivable of HUDCO and will therefore claim the funds from HUDCO's general resources.

The structural debt obligations, when issued to investors in the form of fixed-income bonds, will carry the name of the organization whose assets back them up. Investors' perception about the performance and creditability of the borrowing agencies will be the deciding factor in the yield pattern of individual obligations. It may also be necessary for the borrowing agencies and instruments to be rated. As the structural debt obligations will be issued on a private placement basis, there is no buy back provision and investors will have to retain them until maturity. However, the development of a secondary market will increase the liquidity of such instruments. With the mortgage rate on infrastructure loans at 15–16 percent, it may be possible for HUDCO to issue structural debt obligations at the rate of 12–13 percent with five years' maturity. The bonds may also be issued for a 15-year tenor with a buy-back provision every five years, with put and call options. The present declining trend in interest rates may create enough interest for investors.

Possible initial investors in structural debt obligations include provident and pension funds and scheduled commercial banks. Charitable trusts, the Life Insurance Corporation, the General Insurance Corporation, and other mutual funds may also grow interested if the yield is attractive. The demand in the public sector may also increase if these instruments are classified as approved securities for investment.

Depending on its success with structural debt obligations, HUDCO may also consider securitizing its mortgages on project loans to public housing agencies, which are secured either by state government guarantees or equitable mortgage of the assets being created under these loans. HUDCO may then consider setting up a special-purpose vehicle in the truest sense, which will service loans and mortgage-backed securities. The special-purpose vehicle will act as a servicing agency and will therefore receive repayments, maintain accounts, distribute the interest, and pay the principal amount on maturity to the investors. But to set up a special-purpose vehicle as a subsidiary company of HUDCO will be a time-consuming process and it is therefore expected that the National Housing Bank will take a lead in establishing a special-purpose vehicle and developing the secondary mortgage market. Subject to a suitable environment evolving for mortgage-backed securities in India, HUDCO may consider participating in the establishment of a mortgage insurance company and a line of credit for intermediaries, thus acting as a marketmaker for such securities.

The potential investors in mortgage-backed securities are institutions, banks, provident funds, gratuity funds, mutual funds, and insurance companies. However, they are all subject to certain statutory restrictions on their investment patterns. Institutional investors, other than mutual funds, require long maturity security to match the tenor of the products, while life insurance companies, provident funds, special funds, and charitable and other trusts require investment products having maturities of up to 15–20 years. Mortgage-backed securities are also long-term in nature and can be designed to suit the interest and needs of the institutional investors. To induce the insurance companies and other institutional investors to invest in them, such products must be declared approved investments under the Insurance Act.

## Recommendations

The following specific recommendations are meant as a first step in addressing the challenge of establishing a secondary mortgage market in India:

- The transfer of property in relation to securitization should be treated not as a conveyance but as an independent transaction. Such a provision should find acceptance since no registration is required for a mortgage by deposit under the Transfer of Property Act.

- A uniform stamp duty for mortgage-backed securities should be accepted by all states in India to promote housing as an economic activity.
- Tax laws should be harmonized with reference to the persons who are likely to be taxed in the process of securitization.
- Standards for contracts, the evaluation of borrowers, and the rating of mortgage-backed securities should be developed at the national level by rating agencies.
- Potential investors such as institutions, banks, and pension and provident funds should be freed from restrictive provisions that currently prevent them from investing in mortgage-backed securities.
- The Institute of Chartered Accountants of India should evolve accounting standards for transactions arising out of securitization.
- SEBI should evolve guidelines for regulating for mortgage-backed securities.
- The National Stock Exchange should define parameters for the listing of mortgage-backed securities.
- The central government should enact comprehensive legislation for summary disposal of cases of delinquent borrowers. The foreclosure process should be quick and decisive.
- The central government and the Reserve Bank of India should consider formalizing the role of the National Housing Bank as a counterpart of Fannie Mae in the United States.
- The National Housing Bank should act as an active intermediary between borrowers, lenders, and the national program for housing. The agency should also play a leading role in providing trained personnel to the mortgage industry.
- The government should encourage credit enhancement by the National Housing Bank and extend support to this national apex body to systematically generate investor confidence. In the longer run the government may initiate measures to extend the mortgage insurance operation to private sector insurance companies.
- A database on the historical performance of mortgages, prepayment patterns, geographical and income groups, the incidence of delinquency and default, recovery patterns, the nature of securities offered, and so on would provide transparency to the process of securitization and assist in credit ratings. A process for developing uniform loan documentation, underwriting standards, and account treatment should also be started.

# 5

# Housing Finance and Capital Markets in Indonesia

*Masatake Seki and Masakazu Watanabe*

With a population of almost 200 million people, a population growth rate in 1996 of 1.5 percent, a poverty rate of almost 14 percent, and 79 percent of its population classified as low income, Indonesia faces a tremendous challenge in its housing markets—a challenge to the government, as regulator and basic promoter; to property developers, as producers and suppliers; and to financial institutions, as key partners in the provision of viable housing finance to the general population or primary market.

The total annual demand for new houses in Indonesia for the coming 10 years will be around 1.2 million, including simple and very simple houses. To ensure that people at low and very low income levels have favorable access to the supply of new houses, the government has made it compulsory for developers to adopt a "1:3:6" principle: for every high-income house, developers must build a minimum of three middle-class houses and six simple or very simple houses.

In the current Five-Year Development Plan, known as REPELITA VI (covering the period April 1, 1994–March 31, 1998), the government plans to supply 500,000 simple houses and very simple houses, a 47 percent increase over the 340,000 units realized under the previous plan, REPELITA V. The majority (60 percent) of the targeted number of low-cost houses under REPELITA VI is to be produced by the private sector and cooperatives.

At the end of 1996 loans for housing finance reached 16.6 trillion rupiah (Rp), or 3.1 percent of GDP, through the main housing finance vehicles: the banking sector (Bank Tabungan Negara), a specialized bank for low-cost housing finance wholly owned by the government; Bank Papan Sejahtera, whose target clientele is the middle class; 15 general commercial banks engaged in low-cost housing finance; the contractual savings sector; and the subsidized housing program.

At the end of November 1997 the amount of outstanding bonds of Bank Tabungan Negara and Bank Papan Sejahtera was Rp 1.45 trillion, representing only 8.5 percent of the estimated outstanding mortgage loans in Indonesia, which amounted to Rp 16.6 trillion. The low dependence of housing finance on the capital market in Indonesia is due in large measure to the slow development of the bond market.

While stock market development has been phenomenal, the bond market lags far behind. Total capitalization of the Jakarta Stock Exchange was Rp 215.03 trillion at the end of December 1996, or 40.7 percent of GDP, up from Rp 24.84 trillion, or 9.6 percent of GDP at the end of 1992. However, bond market development has been minimal, with only 38 bonds listed on the main Surabaya Stock Exchange, with a total nominal value of Rp 8.63 trillion, or 1.6 percent of GDP for 1996. The reluctance of the major potential investors (pension funds, insurance companies, and mutual funds) to invest in capital markets, insufficient supply, and illiquidity have held back investment in rupiah-denominated bonds.

High bank deposit rates and the absence of benchmarks for long-term funds are the main reasons for the slow development of the bond market. With interest rates on bank deposits high and widely fluctuating, the average life of bonds has been five years. The absence of benchmarks for long-term money has fueled a preference for floating-rate notes (based on the interest rate of three- or six-month bank deposits) rather than fixed-rate bonds. The Ministry of Finance has been trying to establish a secondary mortgage facility since 1993, but legal problems in the securitization process have delayed the launch of the secondary mortgage structure.

## The structure and performance of the capital market

The Indonesian stock exchange was established in 1912 by the Dutch colonial government and was operated by the Association of Securities Trade in Jakarta. It ceased operations at the outbreak of World War II. In 1952, seven years after independence, the capital market in Jakarta reopened with the trading of stocks and bonds formerly issued by Dutch companies. This exchange again closed when the government nationalized foreign companies in 1958.

In 1977 the capital market was reopened yet again, operated by the Capital Market Executive Agency (Badan Pelaksana Pasar Modal, or BAPEPAM) under the Ministry of Finance. But the growth of its activities was very slow and the capital market was not well known by its participants. Some regulations of BAPEPAM were felt by participants to be non-supportive of the development of the capital market.

However, the capital market reached a turning point with the issuance of deregulation measures in December 1987, October 1988, and December

1988. The main features of these three regulations supporting the development of the capital market are summarized in table 5.1.

## The stock exchanges

In 1992 BAPEPAM transferred its executive function to the Jakarta Stock Exchange, which since has been owned and operated by a private body consisting mainly of securities companies. Based on decree 52/1990 of the president and decree 1548/KMK.013/1990 of the minister of finance, BAPEPAM has retained only its supervisory functions. The central effort of the Indonesian government and industries to develop the capital market has clearly concentrated on developing the equity market, and they have not been as eager to develop the debt market. The number of companies listed on the Jakarta Stock Exchange as well as their market capitalization value

**Table 5.1 Deregulation of the capital market, 1987–88**

| *Measure* | *Benefit* |
|---|---|
| *December 1987 Package* | |
| • Removal of requirement of minimum 10 percent profit against equity. | • Helps companies intending to go public even if the profit won't reach 10 percent of equity. |
| • Granting of permission to foreign investors to purchase up to 49 percent of listed stocks[a] | • Increases the demand for stocks by increasing the number of investors. |
| • Introduction of bearer stocks. | • Adds to the variety of securities traded. |
| • Opening of the Indonesian Parallel Stock Exchange aimed at assisting small to medium-size companies. | • Gives new companies with insufficient profit a chance to raise funds from the capital market as long as they have good prospects |
| • Removal of maximum 4 percent limit in daily price fluctuations. | • Allows market mechanism to fix its own price |
| *October 1988 Package* | |
| • Imposition of 15 percent withholding tax on interests of bank deposits. | • Equalizes tax treatment for investment in banking products and capital market facilities |
| • Imposition of limits on amount of credit granted for individual debtors to maximum 20 percent, and for group debtors to maximum 50 percent of net worth | • Encourages banks or debtors that have reached or exceeded the limits to increase capital or improve capital structure, for example, by selling stocks in the capital market. |
| • Determination of conditions for minimum equity to establish banks. | • Makes capital market an alternative for increasing equity. |
| *December 1988 Package* | |
| • Creation of opportunity for private sectors to establish and operate private stock exchange out of Jakarta. | • Gives choice to companies of capital market in which to list their stocks or bonds. |

a Effective September 4, 1997, foreign investors have generally been able to purchase up to 100 percent of listed stocks (Ministry of Finance Decree 455/Kmk.01/1997)

*Source*. Authors' summary.

have grown quickly, in contrast to the number of listed bonds, which has declined in the past three years.

Officially starting operations in June 1989, the Surabaya Stock Exchange was established to implement the government's program as the place for fundraising and trading by medium-size businesses and investments in eastern Indonesia. To enhance its efficiency and strengthen the Indonesian capital market structure, the Indonesian Parallel Stock Exchange was merged with the Surabaya Stock Exchange in June 1995, so that there are now only two stock exchanges in Indonesia.

By the end of December 1996, the number of companies listed on the Surabaya Stock Exchange had increased 3.6 times, from 57 in 1989 to 208, while market capitalization expanded more than 44 times, from Rp 4.30 trillion to Rp 191.57 trillion (table 5.2). Against this rapid growth the market for bonds has barely moved: in the same period the number of listed bonds increased 3.3 times, from 21 to 69, and the nominal value of outstanding bonds increased more than 15 times, from RP 0.55 trillion to RP 8.63 trillion.

Although there has been significant growth in the number of listed stocks and their market capitalization on the Surabaya Stock Exchange, Surabaya has lagged behind the Jakarta Stock Exchange in listed companies and market capitalization. However, in terms of the number of listed and outstanding bonds, the growth of the Surabaya Stock Exchange has been faster than the Jakarta Stock Exchange, especially since 1992.

At present approximately 95 percent of the bonds issued in Indonesia are listed solely on the Surabaya Stock Exchange. Therefore, the bond market in Surabaya is representative of the bond market in Indonesia as a whole. In connection with the fast growth of bond trading in Surabaya, in August 1996 the Surabaya Stock Exchange established a fixed-income dealers club

**Table 5.2 The growth of stocks and bonds on the Surabaya Stock Exchange**
*(Trillions of rupiah)*

| | Stocks | | Bonds | | | Nominal value as |
|---|---|---|---|---|---|---|
| Year | Listed companies | Capitalization value | Listed bonds | Nominal value | GDP | percentage of GDP |
| 1989 | 57 | 4.30 | 21 | 0 55 | 167 49 | 0.33 |
| 1990 | 123 | 13.19 | 27 | 0.79 | 197.72 | 0.40 |
| 1991 | 141 | 18.90 | 32 | 1.07 | 227.45 | 0.47 |
| 1992 | 148 | 23 80 | 43 | 2.00 | 259.88 | 0 77 |
| 1993 | 158 | 54.10 | 54 | 3.89 | 329.78 | 1.20 |
| 1994 | 180 | 103.70 | 46 | 4.41 | 382.22 | 1 15 |
| 1995 | 199 | 158.69 | 54 | 6.35 | 452.39 | 1.40 |
| 1996 | 208 | 191.57 | 68 | 8.63 | 528.96 | 1.63 |

*Source* Surabaya Stock Exchange 1997, Bank Indonesia 1996–97 consisting of bond-dealing banks and security companies. This is an informal organization meant to formulate the infrastructure for the secondary bond market and other fixed-income instruments (over-the-counter fixed-income service). Although all the transactions are conducted over the counter among the members, all transactions are reported and published by the Surabaya Stock Exchange.

## Asset allocation of pension funds, insurance companies, and mutual funds

The assets of Indonesian pension funds and investments by insurance companies are growing fast, and their presence on the capital market as the two largest institutional investors is increasing. Despite a steady effort by the government and relevant industries, their investments are concentrated in bank deposits and short-term money market papers, and their capital market investments remain relatively small. However, at the end of 1996, 54 percent of such funds were in time deposits and 20.1 percent in capital market facilities (10 percent in listed bonds and 10.1 percent in stocks) (table 5.3). Pension fund assets as a percentage of GDP remain small.

Along with DPPK (a company pension management institution) there are social insurance and pension systems: P.T. (Persero) Asuransi Kerugian Jasa Raharja, P.T. (Persero) Astek, P.T. (Persero) Askes, P.T. (Persero) Taspen, and Perum Asabri. Based on Law 3 of 1992, P.T. (Persero) Astek administers a social pension program called Jamsostek, which is required for companies with more than 10 employees or a monthly payroll of more than Rp1 million at the end of 1995. Astek's assets reached Rp 3.6 trillion and its

**Table 5.3 Asset allocations of employers' pension funds**
*(Millions of rupiah)*

| Type of investment | 1995 Amount | 1995 Percent | 1996 Amount | 1996 Percent |
|---|---|---|---|---|
| Deposits | 5,300,970 | 51.0 | 6,580,470 | 54 0 |
| Deposit certificates | 22,158 | 2.0 | 6,617 | 0.0 |
| Listed stocks | 1,005,810 | 9.0 | 1,244,520 | 10 1 |
| Bonds | 970,483 | 8.3 | 1,229,735 | 10.0 |
| Other commercial paper | 4,634 | 0.0 | 1,766 | 0.0 |
| SBPU[a] | 85 | 0.0 | 250 | 0.0 |
| Direct placement | 1,160,794 | 10.0 | 1,331,639 | 10.8 |
| Credit | 39,173 | 0.2 | 91,690 | 0.6 |
| Certificate of Danareksa | 0 | 0.0 | 3,245 | 0.0 |
| Mutual funds | 74,998 | 0 6 | 60,028 | 0.5 |
| Land and buildings | 1,721,761 | 16.9 | 1,605,717 | 13 0 |
| Other | 264,366 | 2.0 | 5,745 | 0.0 |
| Total | 10,184,822 | 100.0 | 12,271,773 | 100.0 |

a. SBPU = Short-term securities issued by commerical banks to be discounted by Bank Indonesisa.
*Source: Pension Fund Directory 1997*

investments reached Rp3.4 trillion. At the end of 1995 the investments of 99 non-life insurance and reinsurance companies reached Rp3 trillion, while the investment assets of 48 life insurance companies reached Rp3.4 trillion. At the same time investment in capital market instruments by these companies amounted to only 4.6 percent and 8.6 percent of their total investments. Bond investments by the two groups were only 2.7 percent and 5.3 percent. Meanwhile, placements in time deposits at the end of 1997 were as high as 70 percent and 50.4 percent. The main reasons for domestic institutional investors' strong preference for putting their assets in bank deposits are as follows:

- The interest rates on short-term bank deposits are attractive enough to investors, especially in the absence of alternative instruments and securities.
- The withholding tax rate is the same as that for bonds.
- There is enough variety in quality and offered rates.
- It is difficult to find liquid, high-quality bonds in the market.
- There are almost no long-term bonds with a life of more than five years.

Based on Capital Market Law 8 of 1995, which went into effect on January 1, 1996, and 16 other relevant decisions by the chairman of BAPEPAM, 66 open-ended contract-type investment funds have been offered. Their total managed funds reached Rp7.1 trillion at the end of July 1997. Based on their assets allocation, the funds are classified as equity

**Table 5.4 Property credit, 1992–April 1997**
*(Billions of rupiah)*

| | 1992 | 1993 | | 1994 | |
|---|---|---|---|---|---|
| *Sector* | *Amount of credit* | *Amount of credit* | *Growth (percent)* | *Amount of credit* | *Growth (percent)* |
| Construction | 9,700 | 10,038 | 3 48 | 13,366 | 33.15 |
| Collectible | 8,533 | 8,674 | 1 65 | 11,590 | 33 62 |
| Bad debt | 1,167 | 1,364 | 16 68 | 1,776 | 30 21 |
| Real estate | 2,909 | 5,513 | 89.52 | 9,715 | 76.22 |
| Collectible | 2,706 | 5,069 | 87 32 | 9,147 | 80.45 |
| Bad debt | 203 | 444 | 118.72 | 568 | 27.93 |
| Housing finance | 3,766 | 6,157 | 63.49 | 10,110 | 64.20 |
| Collectible | 3,528 | 5,960 | 68.93 | 9,840 | 65.10 |
| Bad debt | 238 | 197 | -17.23 | 270 | 37 06 |
| Property credit | 16,375 | 21,708 | 32.57 | 33,191 | 52 90 |
| Collectible | 14,767 | 19,703 | 33.43 | 30,577 | 55 19 |
| Bad debt | 1,608 | 2,005 | 24 69 | 2,614 | 30.37 |
| Total credit | 138,270 | 163,250 | 18 07 | 239,735 | 46 85 |
| Collectable | — | — | — | 211,861 | — |
| Bad debt | — | — | — | 27,874 | — |

— Not available
*Source:* Infobank 1997

funds, fixed-income funds, balanced funds, and money market funds. Because of the large demand from the mutual funds, 21 bonds amounting to Rp6.4 trillion were issued from January 1, 1997, to July 31, 1997, with 38 additional issues in the pipeline. These figures indicate how the open-ended type of mutual funds exerted a significant impact on the development of the bond market in Indonesia. However, the current Asian currency turmoil has adversely affected this development. Between July 1997 and November 10, 1997, the total investment funds of the 66 open-ended funds decreased Rp1.5 trillion. Nine new open-ended funds amounting to Rp221 billion were launched during October–November 1997, and another eight new funds are reportedly in the pipeline. This is very encouraging for the further development of the mutual fund industry and bond market.

## Housing finance in Indonesia

From 1972 to 1996 overall credit grew at an average annual rate of 25 percent, while property credit (including housing finance) grew at 37.5 percent. Analysis indicates that the development of credit in the property sector has been speedier than in other sectors. Property credit consists of construction credit, real estate credit, and housing finance (table 5.4). In comparison to construction and real estate, housing finance holds the smallest portion of the total, at 28.2 percent in 1996 and 27.2 percent until April

| *1995* | | *1996* | | *1997* |
|---|---|---|---|---|
| *Amount of credit* | *Growth (percent)* | *Amount of credit* | *Growth (percent)* | *Amount of credit* |
| 15,637 | 16 99 | 21,847 | 39.71 | 23,063 |
| 13,820 | 19.24 | 19,753 | 42.93 | 20,845 |
| 1,817 | 2.31 | 2,094 | 15.24 | 2,218 |
| 13,456 | 38.51 | 20,356 | 51.28 | 24,255 |
| 12,853 | 40 52 | 19,600 | 52.49 | 23,194 |
| 603 | 6.16 | 756 | 25.37 | 1,061 |
| 13,700 | 35 51 | 16,594 | 21.12 | 17,696 |
| 13,327 | 35 44 | 16,098 | 20.79 | 17,047 |
| 373 | 38.15 | 496 | 32.98 | 649 |
| 42,793 | 28.93 | 58,797 | 37 40 | 65,014 |
| 40,000 | 30.82 | 55,451 | 38.63 | 61,086 |
| 2,793 | 6.85 | 3,346 | 19.80 | 3,928 |
| 267,805 | 11 71 | 331,291 | 23 71 | 349,775 |
| 239,917 | 13.24 | 304,167 | 25.95 | 317,483 |
| 27,888 | 0.05 | 29,124 | 4 43 | 32,292 |

1997. But at 46.1 percent, the average growth of housing finance from 1992 to 1996 is higher than the average growth of property credit (38 percent) in the same period.

## The main players

There are three participants with a direct interest in the development of housing finance in Indonesia: the public, as the party needing housing and funds to finance the acquisition or construction of their houses; banks, as the providers of funds; and the government, as a supervisor, regulator, and promoter. Besides these three parties, developers also have an indirect interest in the development of housing finance because of their function as producers.

As the supervisor, regulator, and promoter, the government has a dominant role. The government makes rules that aim to protect the public and ensure the continuity of housing finance and housing construction under the influence of market conditions.

As is shown in table 5.4, bad debts in housing finance are lower than in any other sector. Thus almost all banks in Indonesia (including foreign banks such as Citibank) provide housing finance, although those for which it is the core business are Bank Tabungan Negara and Bank Papan Sejahtera. Besides banks, other finance companies are also beginning to be interested in housing as products for financing.

Although there is no direct relationship between developers and housing finance, there is a significantly close link. Developers as housing suppliers have an interest in seeing housing finance developed to satisfy a larger portion of the public's demand for housing units through affordable long-term finance.

Cash flows from banks to lenders and finally to developers. In practice this can cause difficulties for the involved parties, including the public. From the bank's perspective, the funds should be drawn only after the collateral (the ownership document of the house to be funded) has been received, while in the developer's opinion, the house ownership document should be submitted only after payment for the purchase is received. This difference of interest between banks and developers is a potential barrier to developing housing finance. To overcome this conflict, developers and banks usually cooperate with each other, with the government functioning as supervisor and regulator.

The relationship between banks and homebuyers in housing finance amounts to a credit agreement without delivery of either funds or collateral. Banks receive the house ownership document from the developers as collateral, and developers receive the funds directly from banks. The homebuyer receives the house physically after signing the credit agreement with banks; there is no transfer of the house ownership document at the time of delivery of the house, because the ownership document is submitted directly to banks as collateral on their loan. Eight out of ten banks in Indonesia have connections with developers though ownership or management.

## General conditions of housing finance

Generally, banks offer mortgage loans from 1 to 15 years, although there are a few banks that offer loans up to 20 years. The maximum loan-to-value ceiling is 80 percent of the value of the collateral, requiring buyers to have equity at 20 percent of the value of the house. This may be paid first to developers as a down payment, with the remaining 80 percent settled by the loan from banks through suitable escrow arrangements. Otherwise, there are significant transactions risks to the parties involved.

The amount of installment payments should not normally exceed one-third of monthly net income. To fulfill this regulation, the life of the loan can be extended to reduce the size of the installments. This regulation was made for the safety of banks in extending the credit and for the interest of debtors, who in addition to the installment payments have other expenses to pay.

Because of the security it offers and its interest rate prospects, almost all banks in Indonesia offer facilities for housing finance. The advantages of housing finance over other types of credit involve the purpose of the credit and the source of payment. In distinction to other types of commercial credit, the purpose of which is to fund a higher risk business, the purpose of housing finance is to own a house. Thus credit repayment is not made possible by credit but comes from sources that have been prepared beforehand. Furthermore, banks do not have to make feasibility studies on the debtors' business but need only to ascertain the truth of their net monthly income report. The fixed monthly repayment makes it easier for banks to estimate the capacity of debtors to repay the credit and easier for debtors to estimate their monthly cash flow.

Finally, the loan-to-value ratio usually is set at around 80 percent of the appraised value, and the collateral (the purchase of the house that is to be funded) is also marketable. This makes it easier for banks to find solutions when debtors face repayment difficulties in comparison to other types of loans. The solution is usually to sell the collateral or to overcredit. Overcrediting means transferring the collateralized right and obligation (credit repayment) from an old to a new debtor.

## Specific regulations of housing finance

The following regulations refer specifically to land ownership and the pledge of collateral.

*Government Regulation 41 (1996).* This regulation aims to give legal certainty to house ownership by foreign persons located in Jakarta whose presence benefits the development of Indonesia. These individuals are able to possess a house to reside in either on the basis of "land usage rights" to state land or on the basis of an agreement with the holder of rights to the land. For this purpose the agreement must be made for a maximum of 25 years and can be lengthened thereafter for 25 years as long as the foreign person is still located in Indonesia.

*Law 4 (1996).* This law regulates the relationship between debtors and creditors vis-á-vis the land that is the credit collateral. Because of this law creditors as the holders of the mortgage rights can reserve the right to sell the collateralized land at public auction when the debtor misses a payment. This right takes precedence over other creditors' rights.

*Decision of Minister of Public Housing 04/KPTS/1995.* As amended by Decision 05/KPTS/1995, this decision helps low-to-middle income households by providing government subsidies of ownership credits for ready-to-build parcels of land and very simple houses. Subsidized funds are made available through executor banks, which are supervised and controlled by government.

*Bank Tabungan Negara.* Established on October 16, 1897, Bank Tabungan Negara is wholly owned by the government. Based on the Minister of Finance letter B–49/MK/IV/I/1974 (January 29, 1994), the bank has been appointed as the institution that absorbs funds for housing, which reached Rp7.9 trillion in 1996, covering 86.5 percent of total loans of Rp9.1 trillion. The average growth of loans from 1992 to 1996 was 36.6 percent a year, and net profits increased 77.9 percent. Bank Tabungan Negara has three main funding sources: subsidized funds from the government and funds mobilized from the World Bank, public deposits, and bond issues. From 1989 to 1997 the bank had only eight bond issues. To complete its mission to help the low- to middle-classes of society, the bank has received loans at subsidized interest.

*Bank Papan Sejahtera.* Bank Papan Sejahtera was established in 1980 as a non-banking financial institution by Bank Indonesia, the International Finance Corporation, and other organizations, with the objective of providing housing finance for the middle class. Shares of the bank are now listed, and major shareholders include P.T. Tunasmas Paduarta, Bank Indonesia, Masyarakat (public), and Chase Manhattan-Singapore. Until 1992 Bank Papan Sejahtera channeled its credit solely to the housing finance sector. But since 1993, when the bank changed its status to foreign exchange bank (bank devisa), it has focused on two main areas: consumer banking and corporate banking. Corporate banking supports real estate developers that want to offer integrated services to developers and home buyers. At the end of 1996 Bank Papan Sejahtera was estimated to hold a

4 percent share of the total outstanding mortgage market of Rp16.6 trillion. The bank has also introduced a three-year fixed-rate mortgage housing finance product with 15 percent interest in a joint effort with developers. Its main sources of funds are savings from the public (Rp253 billion), proceeds from bond issuances (Rp25 billion), credit from third parties (Rp337 billion), and contributions from affiliates (Rp180 billion each).

## The government's role in supporting market development

The major impediment to the expansion of housing finance at more affordable terms for borrowers in Indonesia is the lack of long-term funding for housing. Since 1993 the Ministry of Finance has been exploring possibilities for creating a secondary mortgage facility with the assistance of international institutions and experts. The proposed facility can help expand housing finance by raising long-term funds from capital markets through bond issues and then lending these funds to primary market lenders on a long-term basis. The creation of a secondary mortgage facility can both foster home ownership and help develop an active bond market.

The major source of funding for private banks continues to be short-term deposits. As a result, there is ongoing concern about the potential liquidity risks associated with mortgage lending and a desire for longer-term financing. There is also increased interest in off-balance sheet financing (or securitization), reflecting the planned phase of higher capital requirements for banks. The Indonesian bond market remains thin and illiquid. New issues are purchased and held by institutional investors with little secondary trading. These long-term investors still hold a disproportionate share of their assets in short-term form. The major elements of the proposed decree for establishing a secondary mortgage facility are summarized in table 5.5.

To enable the separation of assets from their originator and to realize near perfect securitization, the legal concept of a "contract for collective investment" has been conceived by BAPEPAM and the Ministry of Finance. Reportedly, BAPEPAM has almost completed drafting a decree to establish such a contract.

The concept of a contract has been introduced to replace the concept of a trust, a change that is indispensable for establishing a special-purpose vehicle for securitized papers. A contract for collective investment is a contract between investment managers and custodian banks, which binds asset-backed securities holders and gives investment managers the authority to manage the portfolio of the securities and to custodian banks the authority to conduct collective depositing.

Asset-backed securities are a participation unit of the contract for collective investment, with a portfolio consisting of financial assets in formal claims or accounts receivable. The only investors able to possess asset-

**Table 5.5 Decree recommendations for secondary mortgage facility**

| *Issue* | *Recommendation* |
|---|---|
| Charter | New institution type in the financial sector: limited liability company |
| Governance | Board of commissioners . one-third public, one-third shareholder borrowers, one-third other private<br>Chairman: Bank Indonesia representative |
| Supervision | Ministry of Finance, director general of financial institutions |
| Ownership | 10% Bank Indonesia, 90% private. 10% limit on individual shareholding<br>Purchase requirement for borrowers (up to 1% of residential mortgage portfolios)<br>Shares nontransferable for first five years |
| Capitalization | Authorized. Rp 200 billion<br>Initial paid-in: Rp 50 billion |
| Lending authority | Loans to mortgage lenders secured by permanent residential mortgage portfolios and government-related debt securities |
| Loan treatment | Exempt from reserve requirement |
| Investment authority | Government and state-owned enterprise securities, deposits in banks |
| Debt issuance | Bonds, credit securities |
| Treatment of debt | Eligible investment for banks and institutional investors; 20% risk weight for bank investors |
| Capital requirements | Subject to bank risk-based capital requirements |
| Information requirements | Access to regulatory and audit reports<br>Repository of housing and mortgage market information |

*Source* Authors' summary

backed securities are institutional investors. The originator is a party that transfers the assets to the portfolio of the contract's asset-backed securities, which are received by the originator because of the credit, sales, and other services that have a relationship with its business. The servicer is the party responsible for processing and supervising the payments by debtors. The obligations of custodian banks are, among others:

- To oversee the collective depositing and safekeeping of all valuable documents related to the contract's asset-backed securities.
- To deposit funds that form the assets in the contract's portfolio of securities.
- To receive fees as determined in the contract, which are paid for from the portfolio assets.

The custodian banks can be changed by BAPEPAM.

The controller agents are banks already registered as controllers by BAPEPAM in the role of trustees, accountants, legal bureaus, and so forth. Controllers have the obligation:

- To control the implementation of the duties of investment managers, custodian banks, legal bureaus, accountants, and other service providers.
- To report the results of their control to BAPEPAM and asset-backed security holders.
- To represent the asset-backed security holders in claims against the parties mentioned above, in case they have caused losses to the asset-backed security holders.

## Recommended improvements in existing markets

The annual demand for new housing for the coming 10 years is estimated at 1.2 million units, including the simple and very simple houses promoted by the government. However, only 8.5 percent of total mortgage credit is being raised in the bond market, which has lagged behind the stock market in terms of development. Following is a summary of the main obstacles to capital market financing of housing, along with recommendations for improvement.

- *Low coverage of housing in the capital market.* Out of Rp17 trillion in housing finance loans, only Rp1.4 trillion or 8.5 percent is covered by the proceeds of bond issues. Except for government subsidies, all other funds are covered by short-term bank deposits, with resultant mismatch, liquidity risk, and other risk problems when banks give mortgage loan financing.
- *Low level of outstanding amount of bonds.* At the end of 1996 the outstanding amount of rupiah bonds on the Surabaya Stock Exchange stood very low, at Rp191 trillion, or 1.68 percent of GDP.
- *Nonexistence of government bonds.* The best way to activate the bond market is by continuous issuance of high-quality bonds in a large volume. The most suitable issues for this purpose are bond issues of the government, especially in connection with its infrastructure projects.
- *Need to explore issuance of TELKOM subscriber bonds.* The second best approach for activating the bond market would be the issuance of subscriber bonds by TELKOM, the state-owned telephone and telegraph company. This has not happened thus far, despite intensive studies by TELKOM, reportedly because of legal or structural barriers.
- *Need to promote tax-free investment allowances for bonds.* Along with the issuance of subscriber bonds by TELKOM, another way to bring individuals' funds into the bond market is to give special tax-free investment allowances up to a certain amount—say, Rp15 million—if invested in long-term bonds with a life of five years or longer. This tax-free investment framework for individual investors could also be extended to government bonds in the future. This tax-based incentive, however, must assume that individual and particularly institutional investors are tax-paying entities. Moreover, it will require a calculation of the trade-off between the benefits derived from the development of the bond market vis-á-vis the fiscal costs of the tax break.

- *High interest rates on bank deposits.* This is a major obstacle for long-term bonds. High and widely fluctuating interest rates on bank deposits and equal tax treatment continue to present major competition for investment by pension funds and insurance companies. Consequently, a major portion of the investible funds of pension funds and insurance companies are in bank deposits. For example, of Rp12.2 trillion in employers' pension funds, 54 percent is in deposits and 10 percent in bonds. Similarly, out of Rp3.4 trillion at A.K. Jasa Raharja and Astek, 59 percent is in bank deposits, and 10.1 percent in bonds.
- *Necessity for intensified training.* There is insufficient technical know-how for bond dealing. The government and relevant private sectors should jointly endeavor to train staffs in the public sector for better supervision and in the private sector for better investing and trading of bonds and their derivative products.
- *Need to support Surabaya's initiatives.* The initiative of the Surabaya Stock Exchange, backed by BAPEPAM, to promote bonds trading through the establishment of a fixed-income dealer club, should be welcomed. Surabaya is trying to link up with CEDEL-Luxembourg for the international settlement of bonds, which is important given global trading tendencies. Surabaya is also intensifying dealings in derivatives, which are increasingly important. Currently it is difficult to hedge an investment in rupiah bonds because of the lack of derivative products.
- *Lack of benchmark rates.* The lack of benchmarks for longer-term funds is a decisive factor in the nonexistence of bonds with maturities of more than five years. To solve this problem there is a proposal to issue rupiah-denominated bonds by the International Finance Corporation or Asian Development Bank as capital market development bonds. There are also opinions favoring the issuance of long-term certificates of Bank Indonesia for benchmark purposes. Surabaya is also working hard to introduce bonds indexes for various maturities, which could function as corresponding benchmarks.
- *Need for a trust concept.* A trust concept is necessary for setting up a special-purpose vehicle for securitized papers. It would help in the creation of a secondary mortgage facility, the introduction of the concept of contract for collective investment, and by the effort in private circles to realize securitization through existing legal structures.

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# 6

# The Japanese Experience in Housing Finance and Capital Markets

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The purpose of this paper is to review the housing finance and financial system in Japan, with special attention to the bond market, with the aim of drawing lessons that may be useful for developing economies in the region. The financial sector has made a significant contribution to Japan's national economy as it developed into one of the biggest financial markets in the world, comparable in size if not sophistication to those of New York and London. Efforts to reform the capital market in Japan, developing it into financial markets with separate systems of banking and securities, have successfully promoted financial liberalization and internationalization as well as the securitization of financing.

Although Japan's Government Housing Loan Corporation is the largest mortgage institution in the world, virtually all of its mortgage lending operations are funded from the postal savings system by means of government funding allocations through the Trust Fund Bureau, administered by the Ministry of Finance. The Government Housing Loan Corporation has also been able to issue (though only to a rather limited extent) housing loan bonds and similar securities to augment its available funding sources. There now exists an important opportunity for securitization of the mortgage loan assets of the corporation, which would help to expand and diversify the product mix of the Japanese capital market. However, the corporation's ability to expand its program at a consistent pace will be limited by three factors: the postal savings system funding allocations that the corporation receives from the Trust Fund Bureau through financial institutions; the behavior of its housing finance interest rates relative to commercial banks' variable rates and long-term prime rates, which will affect demand and choice behavior of housing finance borrowers; and the competitiveness of its overall funding costs relative to the housing finance lending rates it can charge.

A major component of the housing finance system was the *jusen*—special non-deposit-taking housing loan subsidiaries of banks established to provide mortgages for homebuyers. When the jusen were first conceived, the Ministry of Finance promoted their establishment and encouraged private financial institutions to become major shareholders. Together with officials of the shareholder-sponsoring banking institutions, the Bank of Japan and the Ministry of Finance put their own former executives and officials in the management structure. During 1990–91 housing loan companies were excluded from Bank of Japan and Ministry of Finance directives, particularly those concerning limits on construction and real estate loans, which provided the jusen with an important operating and market advantage for increasing their loan portfolio. A subsequent change in policy, which enabled commercial banks to enter the market for construction and real estate loans, severely undercut the competitive position of the jusen. Seven jusen housing loan companies went bankrupt, which had serious repercussions for other financial institutions, including the savings and credit cooperatives, which had loans and investment exposures to the jusen. Although a liquidation and rescue plan has been devised with the creation of the Jusen Resolution Corporation, this development has had important implications for the Japan Deposit Insurance Corporation and the national budget.

Japanese securitization markets are finally beginning to show noteworthy development after a period of sluggish growth. The slow growth during the early stages of securitization was due to a substantial decline in interest rate levels, which made bank financing more attractive and less complicated, as well as the prolonged recession of the Japanese economy and the initial reluctance of some regulatory authorities to establish the necessary regulatory infrastructure. Now the increasing openness of financial and capital markets along with the pressures of market mechanisms are likely to create demands for new supporting financial infrastructure, such as wider application of credit rating systems and greater transparency in financial transactions.

Recently, however, securitization has begun to grow at an unprecedented pace as the securitization law (Law for the Regulation of Business Relating to Specified Claims) was amended to allow for issuance of asset-backed securities and asset-backed commercial paper in 1997. Following international trends, there has also been growing interest in collateralized bond obligations and collateralized loan obligations, which would allow commercial banks to take advantage of off-balance-sheet treatment of securitized assets. While this is a vast market—there are about 300 trillion yen (¥) of outstanding bank loans for just 10 city banks—the current legal framework of the civil code is not conducive to securitization because it requires either notice to or consent from the loan borrower.

## Development of the Japanese financial system

The development of Japanese housing finance mirrors the lights and shadows of the Japanese financial system. The postwar financial system owed much to its wartime and early postwar institutional heritage. Although lending practice, the direction of policy-based finance, and the structure of the financial system changed over time, a constant feature during that period—particularly in the three decades after the war—was the emphasis by the authorities on developing internationally competitive industries. Principal aspects of this policy were the close cooperation of government agencies with the private sector and a reliance on privately owned and managed corporations for achieving industrial objectives.

While the Japanese economy and Japanese industry changed very rapidly during the three decades of postwar reconstruction and high growth, the Japanese financial system evolved at a much slower pace. Its evolution to a more sophisticated, integrated, and balanced system was held back by the regulatory policies applied by the authorities. Efforts to reverse the fragmentation and segmentation of the financial system were negligible, due to the greater emphasis on industrial development and the greater control over the allocation of financial resources that a segmented and less sophisticated financial system conferred on the authorities.

While change in the financial system was much slower than in industry, the system was not static—both the financial system and policy-based finance changed considerably over time. Although the underdevelopment of the Japanese financial system justified reliance on indirect finance and the application of directed credit policies, this underdevelopment was due to the qualitative structure of the system (particularly the limited role played by securities markets and long-term institutional investors), rather than its quantitative aspects. The Japanese financial system has always been very large relative to GNP, benefiting from a high rate of household saving and a strong liquidity preference. In the postwar period households continued to save at very high rates, and inasmuch as investment in housing was constrained by the limited availability of household credit facilities and the high price of new housing, the result was a massive accumulation of financial assets.

The foundations of the Japanese financial system lie in several distinct institutional characteristics: the importance of indirect finance, the overloaned position of large commercial banks, overborrowing by industrial companies, and the artificially low level of interest rates as a result of government policy. Several other important features resulted from government policy and instruments, including segmentation and fragmentation of the financial system, the underdevelopment of the capital market and institutional investors, the close relations between banks and industry, the differentiated roles given to debt and equity, the importance of the main bank system, the financial intermediary role of large conglomerate groups (especially general trading companies) in channeling financing to smaller firms, and the role of policy-based finance institutions.

The main bank system and *keiretsu* groups are two of the most distinctive features of the Japanese financial structure. While the two features are not identical, they are closely related. The main bank system, the keiretsu groups, and the financial intermediary role of the general trading companies are considered unique to Japanese economic development. Other Asian countries have emulated the Japanese experience and attempted to develop similar, locally adapted institutions.

These features developed in the broad context of high savings rates and the large accumulation of financial assets, mobilized through deposit institutions, including the postal savings system, and transformed into short- and long-term and high-risk loans through commercial and long-term credit banks as well as specialized government financial institutions. It was only in the mid-1970s that the capital market started to play an important role as a source of finance for private and public sector entities, while the impact of institutional investors—mainly insurance companies and pension funds—is of even more recent origin. The issuance of short-term commercial paper for short-term finance, for instance, was not allowed until 1987.

The operation of policy-based finance favoring industrial growth and export expansion and its interaction with the financial system resulted in, among other things, restrictions on housing loans, consumer credit, and real estate development finance during the 30-year period of reconstruction and high growth. This had two important implications for the housing finance system. First, households had no choice but to maintain a high savings rate, inasmuch as the lack of access to consumer credit required personal and household savings accumulation to cover down payments on the purchase of durable consumer goods and housing. Second, higher levels of household savings through the banking system became available for lending to industry, thereby financing the large investment funding needs of the high-growth period. The success of the authorities in protecting the safety of bank deposits and other traditional financial assets from bank failures and the impact of inflation enhanced the willingness of Japanese households to invest in low-yielding financial assets (even when the yen was not appreciating). This largely explains the absence of a capital flight problem in Japan, in contrast to other countries in the region.

In the mid-1960s the principal sources of credit for households were trade credit for consumer goods and employer loans for housing finance, which nonetheless required higher amounts of "own funds" from borrowers as down payment or equity. Loans to households comprised only 3 percent of total lending by financial institutions and corresponded to only 4 percent of GNP in 1965. Housing finance and consumer credit started to increase in the 1970s, corresponding to 17 percent of GNP by 1975 and 30 percent by 1985. Housing and consumer loans reached the equivalent of 12 percent of total loans by 1975 and 16 percent by 1985. At the same time the importance of small enterprises became more pronounced, accounting for an increase in the percentage of total loans from 33 percent in 1975 to 57 percent in 1990, while the proportion in total loans of lending to larger enterprises fell during the same period from 61 percent to 30 percent.

The principal objective of Japanese industrial and financial policy through most of the postwar period was to promote rapid industrialization and economic development and thus catch up with the economically and technologically more advanced countries of Europe and North America. Industrialization took priority over development of the financial sector, which was tightly regulated to ensure an adequate supply of industrial funds at reasonable cost. Regulations that had an impact on the direction and pace of financial sector development and that led to fragmentation and segmentation of the financial system included controls over bank mergers and branching, ceilings on interest rates, tight restrictions on bond and equity issues, controls on foreign exchange transactions, and restrictions on consumer credit and housing finance. Additionally, government financial institutions established under the special laws and regulations (prominently, the postal savings system, the Japan Development Bank, and the Export-Import Bank, which relied on the Trust Fund Bureau for allocations) and policy-based finance institutions were funded from the Fiscal Investment and Loan Program through the Trust Fund Bureau.

Two important effects of the main bank system were increased cross-subsidization (cross-ownership) among companies in a keiretsu group and increased exposure of banks to problem loans for companies with relatively poor performance within the group. This may partly explain the rapid expansion of Japanese industrial companies to eurocurrency and eurobond markets in the 1980s. The availability of lower-cost funds, in terms of both lower coupon payments and fewer managerial restraints, served to weaken the close ties of keiretsu groups and subsequently diminish their importance in the main bank system.

Large city banks benefited from the tight regulation of deposit interest rates, but they were in turn effectively prevented from mobilizing a much larger volume of deposits by restrictions on mergers and branching designed to protect the position of regional and mutual banks. Thus city banks increasingly relied on financing from the Bank of Japan to complement their deposit funds and to meet the large demand for loan funds by the large industrial firms that were their main customers.

Throughout the postwar period there were more post offices accepting deposits than all head offices and branches of city banks, regional banks, long-term credit banks, *sogo* banks, and *shinkin* banks combined (sogo banks and sinkin banks are similar to savings and loan institutions in the United States). It was not until 1990 that branch offices of banks finally outnumbered post offices in accepting deposits. This situation reinforced the primary importance of the postal savings system and, as explained below, the effectiveness of policies taken by government to direct economic development. Controls and restrictions imposed on the opening of branches effectively prevented city banks from increasing their market share in deposit mobilization and, more important, reinforced the segmentation of the banking and deposit market. This was instrumental in repressing interest rates and in making the system of compensating balances work effectively.

In the nonbank sector, insurance companies were better established than other institutional investors, such as company-funded pension schemes. However, insurance companies were highly regulated and tightly restricted in terms of the businesses they could enter into and, more important, the investments they could make. Only after a change in regulatory orientation and increased emphasis on financial liberalization did the growth of separately funded company pension schemes and other institutional investors surge.

Thus the capital market played a very limited role in the reconstruction and growth era and started to expand only toward the end of the 1970s, when the government resorted to long-term bond finance to address its large deficit in a noninflationary manner, while banks increasingly objected to having to hold large accumulations of government bonds until maturity. Until the regulatory orientation began to change, companies were effectively discouraged from raising new equity by the requirement that they price new shares at par rather than current market values, which raised the effective cost of additional equity through new issues. Most equity issues were rights issues and warrants. Crossholdings among keiretsu companies were encouraged and shareholdings by foreign investors had wisely been restricted. Most importantly, the corporate bond market had been subjected to very tight restrictions with respect to collateral security, issuance commissions, coupon rates, size of issue, and other issue terms.

The capital market became a major source of finance for the large national and regional companies during the 1980s. The use of convertible bonds and bonds with equity warrants in the domestic and international markets permitted Japanese companies to expand productive capacities and operations at comparatively lower funding costs. However, excessive fund mobilization also contributed to the speculative bubble that was a feature of the Japanese economy in the second half of the 1980s. Subsequently, the collapse of stock prices in 1990, combined with the expiration of warrants and conversion periods, resulted in the exposure of Japanese firms to substantial increases in their funding costs at a time when sales revenues and profits were subjected to downward trends due to continuing appreciation of the yen and economic recession in Europe and the United States.

## International perspectives

Japan has one of the world's highest rates of urbanization. At 77 percent in 1980 and 80 percent by 1995, its urbanization rate is higher than in the United States and Latin America, but lower than in Germany, the United

Kingdom, and the region's then-city-states of Hong Kong (now part of China) and Singapore. Of the country's more than 42 million dwellings in 1988, the majority—just over 61 percent—were owner-occupied. The tenure ratio has remained more or less constant since the 1960s, despite the rapid growth in the housing stock. As of 1995 there were more than 50 million residential dwellings in Japan. More than 94 percent of housing starts were private sector initiated and have grown at an average of 4.7 percent annually since 1992. In spite of the recent fall in property prices, Japanese housing prices remain among the highest in the world because of robust residential investment and the shortage of buildable land.

An important characteristic of the housing finance market in Japan is that public financial institutions such as the Government Housing Loan Corporation play a major role. As private financial institutions began to participate actively in the housing finance market side-by-side with public agencies, the market has developed significantly. However, housing finance from public sector institutions do not serve as supplements for financing available from private sector institutions. Thus securitization of housing finance will be a necessary condition for collaboration between public sector and private sector financial institutions in housing finance. Moreover, the foundation of securitization is in the operation of true market mechanisms, which can improve the quality of housing and real estate loans and minimize the incidence of bad loans.

Among Asian economies, the housing finance market of Japan is the largest, with housing mortgages constituting 33 percent of GDP in 1995. While this proportion is about two-thirds the proportion of the United States and the United Kingdom, in Asia only Hong Kong, with mortgages at 31 percent of GDP, comes close. The size of the mortgage market is an important determinant of the feasibility of securitizing housing finance, assuming that other components and participants in securitization are favorable.

A bird's-eye perspective of the size and degree of the development of institutions, instruments, practices, and public sector intervention in Japan in comparison to other countries is shown in table 6.1. As can be seen, the Japanese economy is highly monetized in terms of the ratio of several variables to GDP. The degree of monetization (M2 to GDP) at 111 percent is the highest of all countries in the sample. Another indicator of the financial system is the large proportion of bank assets to GDP, which at 152 percent is roughly three times that of the United States and 60 percent larger than the average of 92 percent for the countries of East Asia.

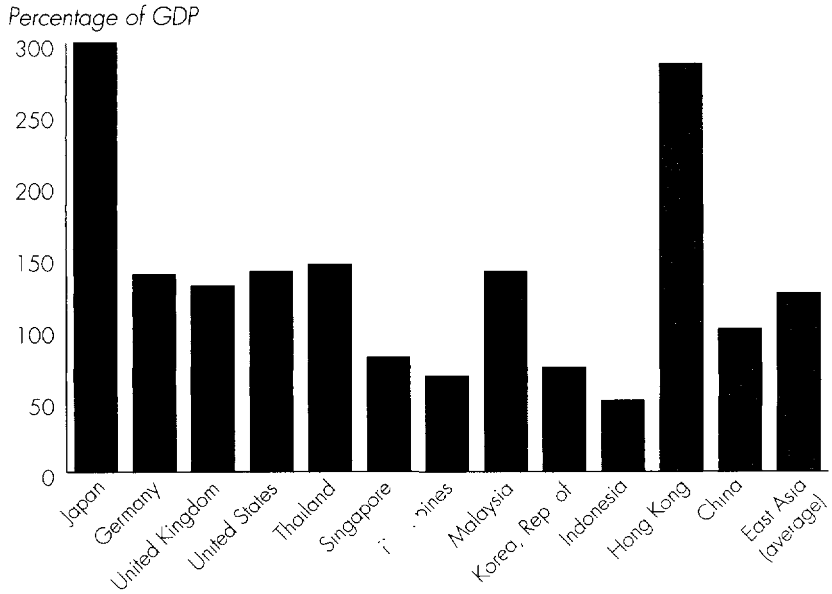
Yet another important indicator is the credit provided by the banking sector in relation to GDP. In 1995 credit provided by the banking sector in Japan was equivalent to 300 percent of GDP—more than double the ratio for the United States, Germany, and the United Kingdom, and about two and a half times the average ratio for the developing countries in East Asia (figure 6.1).

**Table 6.1 Key indicators of selected financial markets, 1994**

| | *M2* | | *Bank assets* | | *Equity market* | | *Bond market* | |
|---|---|---|---|---|---|---|---|---|
| *Economy* | *Billions of US$* | *Percent of GDP* | *Billions of US$* | *Percent of GDP* | *Billions of US$* | *Percent of GDP* | *Billions of US$* | *Percent of GDP* |
| Japan | 4,633 | 111 | 7,106 | 152 | 3,720 | 80 | 3,443 | 74 |
| Germany | 1,184 | 65 | 3,255 | 169 | 471 | 25 | 1,719 | 90 |
| United Kingdom | 885 | 96 | 2,257 | 216 | 1,210 | 116 | 366 | 35 |
| United States | 4,013 | 64 | 3,620 | 54 | 5,082 | 75 | 7,429 | 110 |
| East Asia | | | | | | | | |
| China | 519 | 88 | 388 | 76 | 44 | 9 | 33 | 7 |
| Hong Kong | 119 | 109 | 257 | 195 | 270 | 205 | 11 | 9 |
| Indonesia | 69 | 48 | 90 | 57 | 47 | 30 | 9 | 6 |
| Korea, Rep. of | 139 | 42 | 283 | 75 | 192 | 51 | 161 | 43 |
| Malaysia | 54 | 88 | 70 | 100 | 199 | 283 | 40 | 56 |
| Philippines | 22 | 42 | 34 | 54 | 56 | 87 | 25 | 39 |
| Singapore | 51 | 92 | 115 | 186 | 135 | 217 | 45 | 72 |
| Thailand | 98 | 79 | 153 | 110 | 132 | 94 | 14 | 10 |
| Total | 1,071 | 74 | 1390 | 92 | 1073 | 71 | 338 | 22 |

*Source* World Bank 1995

**Figure 6.1 Credit provided by banking sector, 1995**




*Source* World Bank 1995.

The result of Japan's predominant reliance on bank credit is a comparatively lower level of bond market capitalization as a percent of GDP, which at 74 percent is lower than that of the United States and Germany, although it is twice the proportion of the United Kingdom and about three times the average ratio for the developing countries in East Asia, which is roughly 22 percent.

## Japan's housing finance system

In 1988, 61 percent of more than 42 million dwelling units in Japan were owner-occupied. By 1995 there were more than 50 million residential dwelling units, but the tenure ratio has remained fairly constant since the 1960s.

The majority of new housing in Japan continues to be developed by the private sector. In 1994 more than 94 percent of all housing starts were originated by the private sector. In spite of the adverse impact of the Japanese recession on housing starts, they have increased since 1992 at an impressive annual rate of 4.7 percent.

Long-term capital at subsidized rates of interest for the construction and purchase of housing primarily by middle-income households continues to be provided mainly by the Government Housing Loan Corporation, which has financed some 13.84 million housing units—equivalent to 30 percent of Japan's entire housing stock. Until late 1993 the Government Housing Loan Corporation's housing finance rate (which is effectively a subsidized rate) was lower than—and thus had a cost advantage over—the fiscal investment rate, commercial banks' variable rate, and commercial banks' long-term prime rate. Since mid-1996, however, the Government Housing Loan Corporation's lending rate has been higher than the fiscal investment rate, commercial banks' variable rate, and long-term prime rate, which is equivalent to a fixed mortgage lending rate. The behavior of the term structure of interest rates in recent years has therefore placed the Government Housing Loan Corporation in an uncompetitive and financially unfavorable position.

Public sector institutions provide the majority of mortgage funding in Japan. In 1993 more than 54 percent of new mortgage loans were originated by public sector institutions, of which 82 percent were originated by the Government Housing Loan Corporation, which is now the largest mortgage institution in the world (see table 6.2 at end of chapter). The Government Housing Loan Corporation continues to receive the vast majority of its funding from the postal savings system, augmented by a rather small volume of housing and housing-related bonds issued by the corporation. In 1994 more than 85 percent of new mortgage loans, or ¥7.8 trillion, was lent by the Government Housing Loan Corporation to individuals. More than 92 percent of this amount was for the purchase of new homes, and the balance of 8 percent was for home improvements and property accumulation housing (since an integral part of the Government Housing Loan Corporation's mandate is to improve the quality of housing). In terms of the corporation's loan portfolio, 2.4 percent of loans approved and disbursed were for urban development projects and 11.7 percent were channeled to the development of rental housing units, industrial workers' housing, public facilities, and housing site development.

Mortgage loan terms vary according to the particular program under which a borrower applies for a loan, although the main criteria are based on the region, type of structure, and total floor size of the housing unit to be purchased. Fixed-rate and adjustable-rate mortgage loans are available. Loan terms are fairly conservative. While loan-to-value ratios have a ceiling set at 80 percent, the reference point value is conservatively defined, with construction cost rather than market and comparable appraisal values as the basis. This results in a loan-to-value ratio that effectively ranges between 50 and 60 percent. While this provides the lender with a more than reasonable cushion, it does place a greater financial burden on the prospective home loan borrower to generate the larger equity stake. Borrower underwriting of housing loans has been likewise conservative, with the typical amortization payment-to-income ratio averaging 20 percent.

For private sector mortgage financing, banks, credit associations, insurance companies, and housing loan corporations also play a large role, originating 46 percent of total housing loans in Japan in 1993. Commercial banks provided the bulk of mortgage loans—63 percent of the total private sector-sourced mortgage financing—while credit associations and housing loan corporations provided 16 percent and insurance companies and other financial institutions provided the remaining 21 percent of the private sector mortgage lending.

## The role of the government

A major characteristic of the housing finance market in Japan is that public financial institutions such as the Government Housing Loan Corporation play a dominant role. Nonetheless, the growing participation of private sector financial institutions has implications for the development of the housing finance market as a whole.

Another important characteristic of the housing finance market is its dependence on the traditional housing loan system, which thus far has not been heavily influenced by market mechanisms. A greater role for market-based mechanisms is considered to be an important component for improving the Japanese real estate market and the quality of housing and real estate loans. Such mechanisms would allow the problem of bad loans to be dealt with systematically.

The main objective of housing policy in Japan has been to provide people with good-quality housing. Major policy tools have been housing units produced by the public sector, a housing supply generated by urban development agencies, loans from the Government Housing Loan Corporation, and tax credits for the acquisition of housing units. Loans from the Government Housing Loan Corporation provide long-term (25–30 year) low-interest funds for housing acquisition or construction.

There are still significant obstacles to securitization in Japan. First, the concept of off-balance sheet treatment of assets is not clearly defined. More fundamentally, the basic concept of assets and liabilities is not clearly stated in Japan's commercial code or securities and exchange law. Also, laws to protect investors in securitized assets need to be strengthened at the same time that current regulations, which have prevented the entry of new institutions and the introduction of innovative financial instruments such as derivatives, need to be updated and liberalized. Finally, policy approaches to cost of funds and interest rates have not been favorable to the development of securitization.

Despite the rapid growth of the financial markets in terms of trading volumes and amounts, the bond market has been characterized by domination by government bonds, closed and unclear operations, and a high degree of government administrative control over the market. These characteristics stem from the government's policy of holding interest rates to a low level to control its own costs of funds covering increasing shortfalls in public sector revenue, while also assisting highly leveraged Japanese companies.

## The role of the private sector

The participation of private sector institutions in housing finance can be traced back to the 1960s. Housing loans were aggressively promoted in 1983, when floating-rate loan products were developed and introduced to the market. A subsequent development in 1994 was the liberalization of interest rates for housing loans, which resulted in a greater variety of housing loan products for borrowers. For instance, loans at prime rates for the short term could be combined with either fixed or floating interest rates after a certain period (for example, 3, 5, or 10 years) of a fixed-rate term.

During this liberalization private financial institutions regarded housing loans as financial products targeted to individuals, and they therefore tailored the interest rate structure, repayment terms, mortgage conditions, and so forth, to the needs of the individual client. While the original intent of the Government Housing Loan Corporation program was to provide low-interest funds to households that could not afford higher interest rate loans from private sector financial institutions, housing loan borrowers have maximized the portion of a housing loan funded from the corporation and combined it with funding from private sector financial institutions. Thus low interest rates have been diffused, and there has been a significant level of prepayment of high interest loans from the private sector institutions, which has exacerbated the liquidity and interest rate risk management problems of affected private sector institutions.

In Japan there are certain types of loan products and instruments specifically related to housing finance: the housing loan credit trust and the housing mortgage debenture. There are also two systems for housing loan credit trust: the repurchase system, which is unique to Japan, and the outright sales system, which is similar to that in the United States. However, financial instruments related to housing finance, such as the housing loan bond and housing mortgage debentures, have not had wide issuance or distribution.

## The Government Housing Loan Corporation

The Government Housing Loan Corporation has generally been the largest of specialized government financial institutions instrumental in the segmentation of the financial system. Government financial institutions were expressly prohibited from competing with banks and other private sector financial institutions, since their purpose was to provide finance for projects and borrowers unable to obtain funds from commercial sources at satisfactory terms. The corporation provides long-term (25–30 year) funds at low interest rates for housing—3.1–3.3 percent a year for the first 10 years and 4.0 percent a year from the eleventh year on. The corporation has an estimated 40 percent share of the market for housing finance, while private sector financial institutions have a corresponding 30 percent share. Because the interest rates charged by the Government Housing Loan Corporation for its financing of mortgages is at the low rate set by government policy, mortgage loan borrowers maximize the amount they borrow from the corporation's programs while borrowing the remainder from private sector financial institutions charging higher, market-based rates.

Since its establishment in 1950 as the sole government financial institution for housing in Japan, the Government Housing Loan Corporation has been responsible for supporting through financing the construction of some 16.3 million housing units, equivalent to about 31 percent of all housing construction in the postwar era. Nearly 60 percent of new housing construction starts (for owner-occupancy) are financed by the corporation.

The corporation began to provide funds for individual housing construction in 1950 through general loans, special loans, and cooperative loans. In the same year it also started to provide financing for private developers of rental housing units. In 1954 the corporation began to provide financing for the construction and purchase of houses for sale from the Housing Supply Corporation, for the construction and purchase of high-quality housing, for the purchase of condominium units and ready-built and pre-owned houses, and for housing site development by public sector institutions and private sector firms. The corporation also began to provide financing for housing unit enlargement, remodeling, and repairs in 1965, for urban renewal projects in 1971, for improvements and acquisition of homes for salaried workers under the workers property accumulation housing program in 1977, and for the construction and purchase of second houses in 1987.

Financing for the construction and development of medium- and high-rise residential buildings in urban areas commenced in 1957, the same year that financing to disaster victims to rebuild, reconstruct, and repair their homes was introduced. In 1966 the corporation started to make loans to local public entities and corporations to finance public facilities and services related to housing complex development. A housing loan insurance product was introduced in 1955, and the corporation started issuing housing and housing lot bonds in 1982 to expand its resource capability to promote housing finance.

Almost all of the corporation's funds have been raised through the fiscal (treasury) investments and loans program, although some portions are generated through loan repayments and recoveries, private loans, housing lot bonds, and property accumulation housing bonds. In 1995 the corporation had an allocation of ¥106.5 billion, equivalent to 20.7 percent of the ¥513.6 billion available from the fiscal investments and loans program. Private loans and the various bond issues generated an additional ¥5.5 billion.

Taking into consideration the size of the corporation and the mortgaged assets it holds, there appears to be a strong potential to introduce securitization into the housing finance system. Such a development would serve to broaden and diversify the capital market beyond the relatively small size of housing and housing-related bond issues from the corporation thus far.

A very important development in recent years is the behavior of interest rates, particularly with respect to the Government Housing Loan Corporation lending rate, compared to the official discount rate, the fiscal investment rate, and commercial banks' variable rate and long-term prime rate, which is the same as the commercial bank's fixed mortgage rate. For the period up to late-1993, the corporation's rate was lower than the fiscal investment rate and more advantageous to housing finance borrowers than the commercial banks' variable rate and fixed mortgage rate. However, since the beginning of 1994, except for a brief period from mid-1994 to early 1995, the term structure of interest rates adversely changed, with the Government Housing Loan Corporation's lending rate staying at levels higher than the fiscal investment rate and commercial banks' variable and fixed mortgage rates. This situation will very likely be addressed by monetary policymakers because it clearly places the corporation's housing finance operations and pricing practices in a radically different light. This may possibly be a major factor behind the upsurge in prepayments of the corporation's mortgage loans.

## The jusen

The jusen are specialized non-deposit-taking housing loan companies organized as subsidiaries of commercial banks in Japan. They were established in the 1970s to provide mortgage financing for homebuyers. The establishment of the jusen was greatly promoted by the Japanese government. The

Ministry of Finance encouraged private financial institutions to be major shareholders of the jusen and together with participating shareholder banks and the Bank of Japan was able to effectively influence their operational direction. Generally, the chief executive officers of jusen were former executives or officials of the Ministry of Finance or the Bank of Japan.

As real estate price levels climbed in the mid- to late 1980s, the government tried to lessen the impact by encouraging banks and other private sector financial institutions to provide low-cost mortgage loans to households. During this bubble economy the low-interest-rate loan policy of the government served to promote competition for mortgage lending among banks and cut into the natural market base of the jusen, threatening their financial viability. As many Japanese corporations started to take advantage of low funding costs and raised funds through international capital markets, commercial banks were obliged to diversify loans to small and medium-size companies that were not eligible to tap into the capital market and to individuals, the majority of whose loans were mortgage lendings.

Following the adverse turn of events in 1989, the Ministry of Finance issued a directive in March 1990 instructing all financial institutions to limit loans to real estate companies, construction firms, and nonbank financial institutions. The directive, however, exempted real estate loans made by the housing loan companies, thereby giving the jusen a substantial edge in mortgage loans compared to commercial banks, which now faced limits on real estate lending. Thus even after Japan's economy experienced a growth reversal in 1989, the jusen continued to extend new loans to the construction and real estate sectors. The Ministry of Finance directive thus triggered a flow of money from parent companies into the jusen and their lending operations.

Even though the jusen were established to provide mortgage loans for households and facilitate the acquisition of personal residences, the largest borrowers from the jusen were in fact real estate companies and developers. Seven jusen were declared bankrupt and had $77 billion in problem loans on June 30, 1995, equivalent to 76 percent of their total outstanding loans, with $59 billion considered nonrecoverable. Among the 20 top debtors of the seven bankrupt jusen, 18 were real estate companies based in Tokyo and Osaka.

When the Ministry of Finance conducted its initial inspection of jusen in 1991 and 1992, a number of them already had bad loans amounting to more than 50 percent of their total loan portfolio. And while the sponsoring banks and the Ministry of Finance undertook two reconstruction plans, they did not stop the jusen from making further loans. The decision not to liquidate or restructure the jusen in 1992 allowed the problem to worsen. Consequently, the level of bad loans of the jusen doubled over the next three years, creating a major public policy problem for the Japanese government and its leadership.

While subsequent events exposed weaknesses in the organizational structure of the jusen, their establishment in the 1970s had resulted from a policy orientation that favored the financing of industry and exports over consumer and housing finance. The creation of the jusen allowed the private sector to be involved in the provision of loans for housing and real estate under circumstances in which the commercial banks would not have directly provided such mortgage financing.

Resolving the bad loans problem of the jusen, especially those of the seven that are bankrupt, has become a major public policy problem in Japan. Admittedly, straightforward liquidation of the bankrupt jusen and even of the jusen system in 1993 might have resulted in a crippling paralysis of the entire financial system. At that time the founding banks might have had the resource capability to write off their loans and equity in the jusen without impairing their solvency and capital adequacy. However, many of the agricultural cooperatives that provided funding support to the jusen through institutional loans do not have the same resource capability and capital adequacy to absorb the necessary write-offs without risking bankruptcy.

The Ministry of Agriculture has an agricultural bank and a separate institution that provides deposit insurance for agricultural cooperatives. It appears that the ministry's agricultural bank failed to warn the agricultural cooperatives of the increasing riskiness of further loans to the jusen. Resolving the nonrecoverable loan and investment exposure of the agricultural cooperatives in the jusen has become an intensely political issue. Many of Japan's political leaders, especially from the Liberal Democratic Party, depend on rural votes for support, and Japan's agricultural interests have convinced its political leaders that a government bail-out of the agricultural cooperatives is necessary. The blame is put on the Ministry of Finance because of its role in promoting the establishment of the jusen, in excluding the jusen from the 1990 directive limiting loans of banks and financial institutions to the construction and real estate sectors, and in doing nothing about the jusen companies plagued with bad loans after the initial review in 1991–92.

The consequence of these developments for public policy is that the problem of jusen insolvency and liquidation is being handled by the Japanese government bureaucracy, rather than the bankruptcy courts and market mechanisms. In January 1996 the government formulated a plan for the liquidation of the seven insolvent jusen. Originally submitted as part of the budget for fiscal year 1996, the liquidation plan was subsequently separated out from the budget and passed separately in June 1996 because of intense opposition from the general public to the use of public funds to bail out the agricultural cooperatives from their bad loans and investments to the jusen.

In December 1995 the cabinet approved a plan to resolve jusen problem loans. Under the liquidation plan a newly created Jusen Resolution Corporation is to take over all assets of the seven bankrupt jusen, which had an estimated ¥6.27 trillion in unrecoverable loan losses (most of which had been written off by the lending banks), together with negative net worth of approximately ¥140 billion. The Jusen Resolution Corporation is to assume ¥6.6 trillion in loans with some recoverable value from the seven bankrupt jusen and undertake a loan recovery operation jointly with the Japan Deposit Insurance Corporation.

The founding banks will renounce all of their claims on the jusen to the amount of about ¥3.5 trillion, while regional banks will similarly renounce their claims on underlying jusen assets to the amount of about ¥1.7 trillion. To make the liquidation plan viable, the agricultural cooperatives will have to extend ¥530 billion in loans to the Jusen Resolution Corporation, while the Japanese government will provide ¥685 billion from the budget for fiscal year 1996 for the jusen account that it is opening with the Japan Deposit Insurance Corporation.

The Japan Deposit Insurance Corporation has two funds for the resolution plan: an emergency financial stabilization fund, which is funded by the government, and a financial stabilization fund, which is funded by the private sector founding and lending financial institutions. The government and the Bank of Japan provide the funds for the capital subscription to the equity of the Japan Deposit Insurance Corporation. Under the guidance of the Japan Deposit Insurance Corporation, the Jusen Resolution Corporation will try to realize value on the assets in cooperation with legal professionals and specialists in real estate transactions through judicial procedures. Proceeds from the disposal and liquidation of assets will be passed through by the Jusen Resolution Corporation to the Japan Deposit Insurance Corporation and then on to the government.

In order to allay intense public opposition to the liquidation plan, the government decided to establish a 15-year investment fund in the Japan Deposit Insurance Corporation, to be financed by ¥900 billion in interest-free loans from Japan's financial institutions, ¥100 billion from the Bank of Japan, and the remainder from securities and insurance companies. An estimated ¥600 billion in interest earnings generated by the fund would be returned to the financial institutions that made the interest-free loan. In essence, the banks (and their shareholders) are required to bear a financial burden larger than their exposure to compensate for the imprudent overlending by the agricultural cooperatives to the jusen.

## Japan's bond market

As in the United States, the United Kingdom, and Germany, bonds constitute a significant segment of the market for financial assets in Japan. Although there are broad similarities in patterns of bond market development across the four countries, there are significant differences in the organizational structure. The common financial instrument setting the pace in each market is government securities. However, the role of government has varied according to the institutional priorities and stage of financial sector development in each country.

The Japanese capital market has made a large contribution to the national economy of Japan and has developed into one of the world's biggest markets. While progress in the liberalization, internalization, and securitization of financing has created conditions favorable to a financial market with separate systems of banking and securities, many problems remain. Benefiting from the internalization and liberalization of financing, investors and issuers can now choose from the most advantageous domestic and overseas markets. However, it is also necessary to maintain the attractiveness of the Tokyo market if issuers and investors are to give it proper consideration. Among the reform measures still needed are changes to rules that have prevented issuing corporations from entering the domestic capital market.

The Japanese bond market grew from $47.4 billion in 1970 to $3,442.7 billion in 1994, rising from 23 percent to 74 percent of GDP (table 6.3). Government securities continue to be the mainstay of the Japanese bond market, comprising 56.8 percent of total bonds on the market in 1993 (43.1 percent in 1970, 64.2 percent in 1980, and 59.3 percent in 1990). Corporate bonds constitute the next most important component of the Japanese bond market, comprising 33.4 percent of total bonds in 1993 (54 percent in 1970, 31.1 percent in 1980, and 32 percent in 1990). Municipal bonds have accounted for 2–3 percent of total bonds during 1970–93. International bonds consisting of foreign bonds and euro yen bonds have grown in relative importance, from 1.7 percent of total bonds in 1980 to 6.4 percent in 1990 and 7.3 percent in 1993. Unlike the U.S. market, there are no mortgage bonds in the Japanese, German, or U.K. bond markets. In the United States, mortgage bonds increased from $400 million in 1970 to $1,600 billion in 1993, or more than 21 percent of the fairly diversified U.S. bond market.

Owing to the remarkable growth of the Japanese economy over the long term, the Japanese bond market has also expanded rapidly to become one of the world's leading markets. In the mid-1970s the Japanese government began issuing bonds in large quantities to finance the increasing shortfall in public sector revenue. To facilitate and attract subscription to these bonds, financial institutions—including banks—were allowed to sell government bonds to the public, as well as become dealers in these bonds. This is a prime example of the government's move to deregulate the primary and secondary markets for government bonds, and the policy has had a major impact on the capital market as a whole. The volume of outstanding bonds has grown at an average annual rate of 19 percent, while secondary trading over the counter has increased by more than 10 times.

From the 1950s until quite recently the Japanese government took an active role in promoting a bank debenture market, setting the stage for estab-

**Table 6.3 Japanese bond market profile, 1989–94**
*(Billions of yen)*

| | *1989* | *1990* | *1991* | *1992* | *1993* | *1994* |
|---|---|---|---|---|---|---|
| National government | 153,957 | 156,427 | 161,117 | 166,108 | 173,878 | — |
| State government | 6,958 | 7,210 | 7,379 | 7,667 | 8,286 | — |
| State enterprises | 19,973 | 19,992 | 19,847 | 19,965 | 19,717 | — |
| Central bank | 0 | 0 | 0 | 0 | 0 | — |
| Corporate | 83,827 | 94,957 | 103,231 | 110,036 | 113,588 | — |
| Total | 269,715 | 284,342 | 2,897,761 | 310,275 | 322,886 | 343,375 |
| Total (billions of US$) | 1,880 | 2,116 | 2,378 | 2,487 | 2,887 | 3,443 |
| Total bonds as percent of GDP | 65.5 | 72.2 | 71.0 | 67.9 | 68.5 | 73.7 |
| Bonds as percentage of equity market capitalization | 42.8 | 72.5 | 76.0 | 103.7 | 96.2 | 92.5 |
| Bonds as percentage of bank assets | 42.4 | 40.8 | 42.0 | 43.3 | 45.5 | 48.5 |
| *Memorandum items* | | | | | | |
| GDP (billions of US$) | 2,872 | 2,932 | 3,350 | 3,662 | 4,214 | 4,673 |
| Equity market capitalization (billions of US$) | 4,394 | 2,918 | 3,131 | 2,399 | 3,000 | 3,720 |
| Stock market as percentage of GDP | 153.1 | 99.6 | 93.5 | 65.5 | 71.2 | 79.6 |
| Total bank assets | 4,432 | 5,183 | 5,668 | 5,741 | 6,338 | 7,106 |
| Bank assets as percentage of GDP | 154.3 | 176.8 | 169.2 | 156.7 | 150.4 | 152.1 |

— Not available
*Source:* World Bank 1995

lishing a bond market. The bank debenture market started at a time when massive amounts of long-term capital were needed for reconstruction. Capital markets had not yet been developed, and market-based long-term funding was perceived as too risky by both investors and financial institutions.

Bank debentures were introduced under a special law in 1952 with the designation of six banks. Although all six were commercial banks, three specialized in long-term credit and the other three served specific sectors of the economy. The banks had a broad ownership base, with one-third of shares held by individuals and two-thirds by financial institutions and industrial corporations. None of the banks had a dominant shareholder and no single shareholding exceeded 5 percent. Combined with implicit support and sponsorship by the government, this broad ownership factor was important for maintaining consistent creditworthiness across all six institutions. The bank debenture instrument had the same coupon or discount rate and was adopted by the six issuers, with all carrying the same implicit credit ratings.

The government developed a strong institutional investor base by providing attractive incentives for these institutions to invest in the debentures. The Japanese experience shows that official support can take a variety of forms without necessarily distorting the structure of interest rates. Important support mechanisms included the Bank of Japan's use of debentures in open market operations, which encouraged commercial banks to buy them; tight regulations on competing security issues; special tax preferences for individual investors; and interest rate and related regulations to preserve a rising yield curve. The purchase of debentures presented an opportunity for leveraged cofinancing, since a commercial bank purchasing debentures could ask the long-term credit bank to provide a long-term loan to a designated industrial corporation, generally for an amount twice the value of the debentures.

Japan's government was especially successful in creating and promoting a liquid debenture market. The experience shows that it is possible to create a government-supported benchmark in the securities market even if the government itself may not be borrowing to finance deficits. Most important, the evolution of the bank debenture market over four decades in Japan shows the advantages of starting with a simple instrument and strong official support for market development, which can gradually be phased out.

## Impact of tight regulation

A high degree of government administrative control over the capital market was in place from the mid-1970s through the 1990s, particularly with respect to the government bond market. One of the most visible forms of this tight regulation was in the government's new bond issues. The existence of a fixed underwriting syndicate has enabled the government to sell its new issue from time to time at nonmarket yield levels. Thus there is truth in the observation that many interest rates in Japan's capital markets have not been true market-determined rates.

*Primary bond market.* The primary bond market is characterized by complicated procedures. An institution wishing to float a new bond issue must enter into an agreement with a commissioned bank (typically a commercial bank), which maintains a register of bond holdings, makes coupon and principal payments, and performs the same general role of a trustee bank in eurocurrency financings. The issuer must also enter into an underwriting and subscription agreement with an underwriting syndicate comprising dozens of underwriters.

Banks are not permitted by law to participate in underwriting except in the case of government, government guarantee agency, and municipal bonds. However, as a result of the deregulation of the capital market, a subsidiary of commercial and long-term credit banks is permitted to underwrite bonds as of 1996 and can also underwrite equity issues beginning in 1998. In addition, there is a selling group of nearly 100 securities companies, of which slightly more than half have underwriting licenses. Investors interested in subscribing to a new issue must transact through members of the group of securities dealers and reserve a subscription allotment in advance of an issue.

*Secondary bond market.* Secondary market trading takes place over the counter on the securities exchanges in Tokyo and other large cities and in the brokerage market. Many Japanese bonds are not listed on the exchanges, and over-the-counter trading overwhelmingly dominates exchange trading for most issues. The reasons for this are the very large number of bonds outstanding (making it technically difficult to list them all on the exchanges) and the fact that bond trading typically involves institutional investors dealing in large blocks, often on several issues at the same time.

Over-the-counter prices of listed government bonds are held close to prices on the exchanges, through regulations established by the stock exchange and the Securities Dealers' Association of Japan. Selected over-the-counter prices are reported by the Securities Dealers' Association of Japan in its daily bid-ask quotation and weekly standard quotations.

*Corporate bond market.* Because of the unfavorable conditions of the Japanese bond market, the corporate bond market was severely undermined by the shift of fundraising activity by Japanese corporates away from the domestic market toward the eurobond market in the 1980s. The Securities and Exchange Advisory Council moved to lift controls on the issuance of corporate bonds, institute a system for ratings of bond issues, and introduce the overhaul of the trustee bank system. Due in large part to these measures, the shift of primary market activities to the euro market has slowed down in recent years and domestic primary activities have picked up. However, while reforms succeeded in eliminating quantitative restrictions on the amount of bonds that companies could issue and helped in reducing the costs of floating an issue, nothing was done to encourage or facilitate experimentation with new products or methods for issuance. Consequently, the Japanese bond market has continued to lag behind the more innovative bond markets of the United States and Europe.

Reflecting the improved financial standing of Japanese corporations, eligibility criteria for both secured and nonsecured bonds have been eased. At the same time, while rating services are carried out by more professional agencies, ratings have been used more often to establish eligibility. At the present time the minimum rating required to issue a secured convertible bond is a double B—a junk bond rating in U.S. markets. Issuers rated triple B or higher are allowed to issue straight bonds and secured bonds with warrants. Approximately 90 percent of listed corporations in Japan are eligible to issue secured convertible bonds and approximately 70 percent are eligible to issue secured straight bonds. Most corporations that are ineligible to issue bonds under these criteria will also not be able to raise capital through public subscription, as their earnings level and dividend payout ratios are not high enough. Approximately 90 percent of convertible bonds have been issued as debentures since the criteria for unsecured debentures were substantially relaxed.

The government responded to the growing need for bond issuance by revising the commercial code provision on the statutory ceiling for corporate bond issues in June 1990. The ceiling, which had consisted of the lower of two amounts—a corporation's total capital and reserves or the value of outstanding net assets in the most recent balance sheet—was modified to be the value of outstanding net assets in the most recent balance sheet only. Additionally, in 1991 the Law Concerning Temporary Measures for a Ceiling on the Total Amount of Issues of Corporate Bonds, which sets the total corporate bond issue amount at double the amount permitted in the commercial code, was amended to include bonds with warrants, straight bonds, convertible bonds, and corporate bonds offered overseas in current provisions.

Corporate bonds of varying maturities have been introduced to better respond to the diverse needs of issuers. At present an issuer can choose a maturity ranging from 4 to 15 years, in contrast to the previous practice of redemption at fixed dates to ensure redemption of the principal and maintain sound corporate financing. In practice, more than the required amount was redeemed annually, based on agreements between the transacting parties in the market after the bonds had been floated. Due to the diversification of corporate fundraising schemes and relatively easier credit, funds became more readily available and blue chip corporations were afforded the option of redeeming in full at maturity, even in the case of corporate bonds with maturities of 10 years or longer. At the present time, almost all corporate bond issuers choose to redeem in full at maturity.

As discussed briefly above, the corporate bond issue market in Japan has undergone extensive revision, with significant improvement made to the disclosure system, rating services, and methods for determining the issuing conditions of straight bonds and the coupon rates of convertible bonds and bonds with warrants. However, it has been noted that the issues of straight bonds in the domestic market, especially by industries other than Nippon Telegraph and Telephone and electric utilities, have decreased substantially in recent years. This hollowing out of the straight bond issue market in Japan has been attributed to the extremely low comparative fundraising cost for equity financing.

*Benchmark issue.* An important requirement for the efficient functioning of the bond market, particularly the secondary market, is the presence of benchmark issues. There are variations in practices designating benchmark issues. In the United States the yield on 30-year bonds is used as the key benchmark. In contrast, in Japan the key benchmark is government bonds with an original maturity of 10 years, even though these bonds may not be the most recently issued.

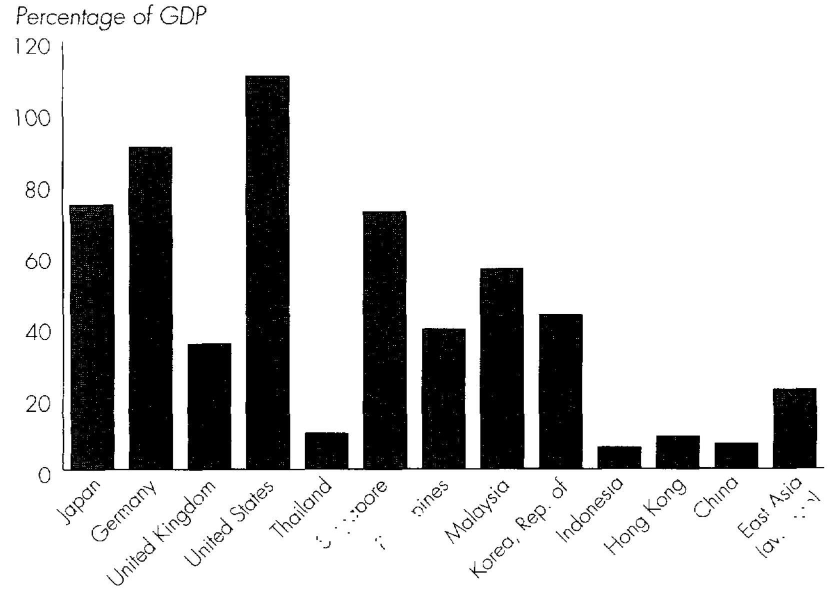
*Some international comparisons.* Bond market development in the United States has been autonomous, responding to profit incentives and aiming to minimize transaction costs in the financing of investment. At the other end of the spectrum is the Japanese experience, in which the government has assumed an active role in shaping the profile and texture of bond market development to make it conform to its economic development strategy. Figure 6.2 shows bond market size for a group of industrial and East Asian economies.

## Reforms in the legal and regulatory environment

Japan based its 1947 Securities and Exchange Law on the United States model. Within the Ministry of Finance, the Securities Bureau administers the law. A Securities Exchange Council was formed in 1952, with members appointed by the Ministry of Finance to provide policy advice on matters related to the capital market. The Securities Bureau supervises Japan's capital market, but self-regulation plays an important role in the supervision of market practitioners.

Although disclosure principles are well established, merit regulation (as opposed to disclosure standards and requirements and the adequacy of accounting practices and principles) has been widely practiced in the new issues market. Commission rates on the Tokyo Stock Exchange remain fixed—unlike in the United States and the United Kingdom, where they are deregulated. While obvious differences exist in the administration and

**Figure 6.2 Bond markets, 1995**




Source: World Bank 1995

enforcement of securities laws, Japan and the United States both rely on a system of self-regulation coupled with strong government oversight. Nonetheless, the capital market in Japan has traditionally been subject to government management.

The main framework of the Japanese financial system has not undergone substantial change since the end of World War II. One area that is being reviewed closely is the role of commissioned banks, and proposed revisions in their role are best considered in the context of the ongoing debate over the separation of banking and securities businesses. The role of trustee institutions in the United States is basically limited to administration immediately after flotation—a passive role as long as no defaults occur. Corporate bondholders in the United States have to initiate action themselves when their rights are jeopardized as a result of radical changes in the issuing corporation's financial standing. In contrast, commissioned banks in Japan play a more active role, taking appropriate measures to safeguard corporate bonds and to ensure that the interests of corporate bondholders are fully protected in an indenture. Commissioned banks likewise monitor bond issuers' performance after flotation so that the terms and conditions of the indenture will be satisfied and fulfilled. Thus they perform an important role in protecting the investor and the stability of the market as a whole.

## Linkages of the capital market to housing finance markets

The securitization market is finally showing significant development after a period of sluggish growth, largely as a result of the amendment in April 1996 of the Securitization Law to allow issuance of asset-backed securities and asset-backed commercial paper in the local Japanese market. Japanese banks are interested in taking advantage of the opportunities available from the off-balance sheet treatment of securitized assets. However, despite the pressing desire of banks to try these new approaches to securitization, only a few transactions have been realized. Constraints are faced by the banks in perfecting the assignment of bank loans, which has to be carried out in accordance with the civil code, which requires notice to or consent from the loan borrower. Thus further reforms are needed to speed up the pace of modernization and sophistication in the securities markets.

As the largest mortgage institution in the world, the Government Housing Loan Corporation has the portfolio size, standardized mortgage loans, and financial standing to securitize its loan assets (provided that interest rates and yields in the financial markets are favorable and conducive to securitization) and thereby introduce new financial products and instruments to the capital market. The liquidation of the jusen and the operation of the liquidation plan through the Jusen Resolution Corporation may give impetus to the emergence of new institutions that are market-driven and market-responsive, by providing new channels of access to housing finance from the private sector. Such new institutions, responding to market demand, will need to access funding from the Government Housing Loan Corporation, which, in turn, has the ability to require market-based standards in the underwriting and servicing of mortgage loans. It would seem that, in the Japanese context, any such institutional evolution will be a response to overall developments in the securitization markets, rather than an independent or autonomous development.

## Lessons for other Asian countries

The Japanese experience in promoting public and private sector institutions for housing finance markets and broadening capital markets can provide useful lessons for other Asian economies, which may be inordinately rushed to develop their financial systems. It must be noted that Japan carefully and consistently followed an overall economic development strategy that emphasized economic development and export growth, even if the overall development of the financial sector may seem (in hindsight) to have lagged. Thus Japan's financial system development might be classified as a "demand-leading" rather than a "supply-leading" model, in that industrial growth and development preceded—and in some cases dictated or at least influenced—financial sector development. Six principal lessons for other Asian countries may be outlined.

- There is virtue in starting with simple instruments and structures and with strong official support for market development, rather than with sophisticated, complex instruments and systems that do not respond to market needs. For instance, the new bond rating system was introduced from the top down rather than emerging from the efforts of entrepreneurs to respond to market demands (as was the case in the United States). Consequently, the bond rating system is not being used as originally envisioned. Another example is the successful evolution of the liquid bank debenture market in Japan, which effectively paved the way for the subsequent development of the government bond market.
- The experience of Japan shows the possibility of establishing a government-supported benchmark in the securities market, which is crucial for setting the base for long-term lending and borrowing and the operation of a secondary market. Until Japan started issuing government bonds in 1965, bank debentures were used by the Bank of Japan for open market operations and served as a market benchmark. Subsequently, the 10-year government bond has served as the market benchmark.
- Although the institutional mission, organizational structure and operation, base-line standards and criteria for housing units, and funding mechanisms used by the Japanese government through the Government Housing Loan Corporation have been effective, it must be kept in mind that the corporation is an important component of policy-based finance. In many respects the corporation's institutional, operational, and funding

structure is a clear example of a classic directed credit system. Obviously, in the allocation and pricing of credit, including housing finance, there are serious contradictions between a directed credit system and the subsidies it entails, on the one hand, and, on the other, the market-based systems that many countries in Asia are interested in developing as they move away from government-owned and -supported public housing finance schemes.

- The advantages and weaknesses of Japan's jusen system, which has counterparts in other countries in Asia, need to be reviewed carefully for important lessons, particularly regarding the overall supervision, governance, and regulation of financial conglomerates that have subsidiary or affiliate companies subject to regulatory and supervisory guidelines. One lesson is to ensure that the conglomerate/subsidiary/affiliate structure is not misused or abused to avoid regulation and supervision.
- The jusen liquidation and resolution plan now in the process of implementation should also provide lessons for other countries in Asia in dealing with similar public or private sector housing finance institutions with high levels of delinquent loans and nonperforming assets. This is especially the case regarding the true costs of any asset losses or resolutions borne by the general public through direct budget allocations and deposit insurance fund contributions. The liquidation approach for the jusen might be compared with the costs and results obtained with the Resolution Trust Corporation in the United States, which was established in the aftermath of the savings and loan crisis.

In some respects the development of the capital market and securitization in Japan might seem piecemeal in the sense that measures to liberalize, deregulate, internalize, and modernize were not taken all at the same time or as a total package, but discretely in response to market demand. A number of Asian countries have been following the Japanese model of industrialization and export-led economic growth, with adaptations made for local conditions, or have been increasingly tied to the pace and pattern of Japan's economic and financial sector development. The importance of a balanced perspective about both development and the necessary legal and regulatory reforms cannot be overlooked.

**Table 6.2 Housing loans outstanding**

*(Cases in thousands; values in billions of yen; change and share in percent)*

| | 1992 | | | | 1993 | | | | 1994 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Institution* | *Cases* | *Value* | *Change* | *Share* | *Cases* | *Value* | *Change* | *Share* | *Cases* | *Value* | *Change* | *Share* |
| Total | | 1,326,102 | 4 4 | 100.0 | | 1,412,352 | 6.2 | 100.0 | | 1,512,065 | 7.1 | 100.0 |
| *Public institutions* | | 550,681 | 8.8 | 41.5 | | 619,238 | 12 4 | 43.8 | | 704,403 | 13 8 | 46.6 |
| Housing Loan | 6,652.2 | 485,361 | 9.5 | 32 9 | 6,724 5 | 553,121 | 14.0 | | 6,799.6 | 644,903 | 16 6 | |
| Corporation | 6,600.7 | 435,942 | 8 9 | | 6,665.3 | 491,695 | 12.8 | 34 8 | 6,734 0 | 570,034 | 15.9 | 37.7 |
| Housing and Urban | 100.3 | 20,183 | 3.8 | 1.1 | 90.8 | 19,845 | -1.7 | | 81 7 | 19,307 | -2.7 | |
| Development Corporation | 98.0 | 15,020 | 2.5 | | 88.6 | 14,104 | -6.1 | 1 0 | 79.5 | 13,149 | -6.8 | 0.9 |
| Local public bodies | | 9,528 | 5.8 | 0.7 | | 9,269 | -2.7 | | | 8,852 | -4.5 | |
| | | 9,528 | 5.8 | | | 9,269 | -2.7 | 0.7 | | 8,852 | -4.5 | 0.6 |
| Pension Welfare Service | 1,976 6 | 87,503 | 9.9 | 6.3 | 2,044.4 | 96,720 | 10 5 | | 2,053.4 | 103,384 | 6 9 | |
| Public Corporation | 1,969.7 | 84,131 | 10 3 | | 2,038.4 | 93,469 | 11.1 | 6 6 | 2,048.4 | 100,217 | 7.2 | 6.6 |
| Employment Promotion | 33.6 | 3,921 | 32.1 | | 40.7 | 4,793 | 22.2 | | 45.9 | 5,403 | 12.7 | |
| Corporation | | | | | 38.4 | 4,135 | | 0.3 | 43.8 | 4,707 | 13.8 | 0.3 |
| Okinawa Development | 84.2 | 6,607 | 5.6 | | 87.0 | 7,158 | 8 3 | | 90.8 | 8,082 | 12.9 | |
| Finance Corporation | 79.3 | 6,060 | 5.6 | 0.5 | 81.9 | 6,566 | 8.3 | 0.5 | 85.6 | 7,444 | 13.4 | 0.5 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Private institutions* | | 775,421 | 1.5 | 58 5 | | 793,114 | 2.3 | 56.2 | | 807,662 | 1.8 | 53.4 |
| Banks | 4,586.2 | 440,807 | 0.9 | 33.2 | 4540.2 | 446,941 | 1.4 | 31.6 | 4,566.6 | 457,415 | 2.3 | 30.3 |
| City banks | 1,648.0 | 251,400 | −0.2 | 19.0 | 1856.0 | 252,064 | 0.3 | 17.8 | 1,841.0 | 253,352 | 0.5 | 16.8 |
| Regional banks | 1,413.7 | 99,518 | 3.9 | 7.5 | 1416.4 | 103,381 | 3.9 | 7 3 | 1,485.5 | 106,529 | 5.0 | 7.2 |
| Second regional banks | 736 7 | 54,745 | 0 5 | 4.1 | 708.3 | 56,512 | 3.2 | 4 0 | 701.8 | 59,989 | 6.2 | 4.0 |
| Trust banks | 42.7 | 1,858 | −0.4 | 0.1 | 40.6 | 2,015 | 8 4 | 0.1 | 38.1 | 2,159 | 7.1 | 0.1 |
| Long-term credit banks | 100.3 | 4,890 | 2.2 | 0.4 | 97.5 | 4,874 | −0.3 | 0 3 | 101.3 | 5,157 | 5.8 | 0.3 |
| Trust accounts | 444.9 | 28,395 | 1.8 | 2.1 | 421.4 | 28,094 | −1.1 | 2.0 | 393.8 | 28,227 | 0.5 | 1.9 |
| Credit associations | 926.7 | 76,020 | 6.3 | 5.7 | 928.4 | 80,039 | 5.3 | 5 7 | 954.0 | 84,803 | 6.0 | 5.6 |
| National Federation of Credit Associations | 12.8 | 1,239 | 16.9 | 0.1 | 12.4 | 1,333 | 7.6 | 0.1 | 12.0 | 1,345 | 0 9 | 0.1 |
| Credit cooperatives | 137.4 | 9,582 | 8.8 | 0.7 | 137.5 | 9,997 | 4.5 | 0.7 | 140.4 | 10,618 | 6.2 | 0.7 |
| National Federation of Credit Cooperatives | 13.6 | 1,587 | 4.2 | 0.1 | 13.2 | 1,602 | 0.9 | 0.1 | 12.5 | 1,553 | −3.1 | 0 1 |
| Labor credit associations | 351.3 | 19,846 | 11.8 | 1.5 | 363.8 | 22,382 | 12.8 | 1.6 | 375.7 | 24,957 | 11.5 | 1.7 |
| Agricultural cooperatives | | 30,002 | 12.1 | 2.3 | | 32,561 | 8.5 | 2.3 | | 33,900 | 4.1 | 2.2 |
| Mutual insurance federation of agricultural cooperatives | 579.8 | 230 | −17.0 | 0.0 | | 187 | −18.7 | 0.0 | | 134 | −28.3 | 0.0 |
| Life insurance companies | 33 6 | 63,642 | 9.7 | 4.8 | 569.2 | 65,225 | 2.5 | 4.6 | 560.7 | 76,191 | −1.6 | 4.2 |
| Non-life insurance companies | | 5,626 | −2.3 | 0.4 | 36.4 | 5,818 | 3.4 | 0.4 | 38.3 | 5,960 | 2 5 | 0.4 |
| Others | | 126,860 | −6.8 | 9.6 | | 127,037 | 0 1 | 9.0 | | 122,786 | −3.3 | 8.1 |

*(table continues on next page)*

**Table 6.2 Housing loans outstanding (continued)**

*(Cases in thousands; values in billions of yen; change and share in percent)*

| | 1995 | | | | 1996 | | | |
|---|---|---|---|---|---|---|---|---|
| *Institution* | *Cases* | *Value* | *Change* | *Share* | *Cases* | *Value* | *Change* | *Share* |
| Total | | 1,593,121 | 5.3 | 100.0 | | 1,650,014 | 3.6 | 100.0 |
| *Public institutions* | | 699,272 | -0.8 | 43.9 | | 757,839 | 8.4 | 45.9 |
| Housing Loan | 6,104.2 | 647,362 | 0.4 | | 6,009.6 | 701,063 | 8.3 | |
| Corporation | 6,043.0 | 572,466 | 0.4 | 35.8 | 5,948.0 | 624,509 | 91.0 | 37.8 |
| Housing and Urban | 61.2 | 15,655 | -18.9 | | 54.1 | 14,903 | 4.8 | |
| Development Corporation | 59.4 | 10,052 | -23.6 | 0.6 | 52.0 | 9,248 | 8.0 | 0.6 |
| Local public bodies | | 8,797 | -0.6 | | | 8,835 | 0.4 | |
| | | 8,797 | -0.6 | 0.6 | | 8,835 | 0.4 | 0.5 |
| Pension Welfare Service | 1,719.1 | 97,897 | -5.3 | | 1,745.0 | 104,396 | 6.6 | |
| Public Corporation | 1,787.3 | 95,131 | -5.1 | 6.0 | 1,742.8 | 101,909 | 7.1 | 6.2 |
| Employment Promotion | 52.8 | 5,657 | 4.7 | | 51.1 | 5,815 | 2.8 | |
| Corporation | | 5,097 | 8.3 | 0.3 | 49.7 | 5,301 | 4.0 | 0.3 |
| Okinawa Development | 88.2 | 8,369 | 3.5 | | 86.3 | 8,655 | 3.4 | |
| Finance Corporation | 83.3 | 7,729 | 3.8 | 0.5 | 81.6 | 8,036 | 4.0 | 0.5 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Private Institutions* | | 893,849 | 10.7 | 56.1 | | 892,175 | 0.2 | 54.1 |
| Banks | 4,804.4 | 525,175 | 14.8 | 33.0 | 5,044.7 | 565,199 | 3 1 | 34 3 |
| City banks | 1,998 9 | 284,414 | 12 3 | 17.9 | 2,099.0 | 303,725 | 6.8 | 18.4 |
| Regional banks | 1,585.6 | 136,555 | 25 8 | 8.6 | 1,664.8 | 149,823 | 9.7 | 9.1 |
| Second regional banks | 51 1 | 71,890 | 19.8 | 4.5 | 784 7 | 78,183 | 8.7 | 4 7 |
| Trust banks | 53.2 | 3,957 | 83.3 | 0.2 | 59 0 | 5,203 | 31.5 | 0 3 |
| Long-term credit banks | 97.3 | 4,963 | −3 8 | 0.3 | 90.2 | 4,641 | 6.5 | 0 3 |
| Trust accounts | 354.4 | 23,476 | −16.8 | 1.5 | 347.0 | 23,632 | 0.7 | 1.4 |
| Credit associations | 1,015.5 | 95,965 | 13.2 | 6.0 | 1,059 6 | 103,467 | 7.8 | 6.3 |
| National Federation of Credit Associations | 12.5 | 1,467 | 9.1 | 0.1 | 12 0 | 1,537 | 4.8 | 0.1 |
| Credit cooperatives | 146.5 | 12,045 | 13.4 | 0.8 | 153.0 | 13,047 | 8.3 | 0.8 |
| National Federation of Credit Cooperatives | 12.4 | 1,610 | 3.7 | 0.1 | 12.0 | 1,686 | 4.7 | 0.1 |
| Labor credit associations | 415.5 | 32,220 | 29.1 | 2.0 | −145.0 | 36,432 | 13 1 | 2.2 |
| Agricultural cooperatives | | 38,170 | 12.6 | 2.4 | | 52,035 | 36.3 | 3.2 |
| Mutual insurance federation of agricultural cooperatives | | 91 | −32.1 | 0.0 | | 55 | 39.6 | 0.0 |
| Life insurance companies | 546 8 | 64,505 | 0 5 | 4.1 | 536.0 | 61,462 | 4 7 | 3.7 |
| Non-life insurance companies | 39.5 | 5,961 | 0 0 | 0.4 | 43 0 | 6,169 | 3.5 | 0.4 |
| Others | | 116,640 | −5.0 | 7.3 | | 51,066 | 58.2 | 3.1 |

*Source:* Japan Housing Loan Corporation 1997

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# 7

# Restructuring the Housing Finance System and Broadening the Linkage with Capital Markets in the Republic of Korea

*Joong-hee Lee and Sohan Lee*

The modern housing finance system in the Republic of Korea came into being with the establishment of the Korea Housing Bank in 1967. The government established the bank to promote funding for housing and the efficient allocation of funds. As a legal entity the Korea Housing Bank was a public enterprise, a deposit money bank, and a specialized mortgage lender. (Figure 7.1 depicts the structure of of the Korean housing finance system.)

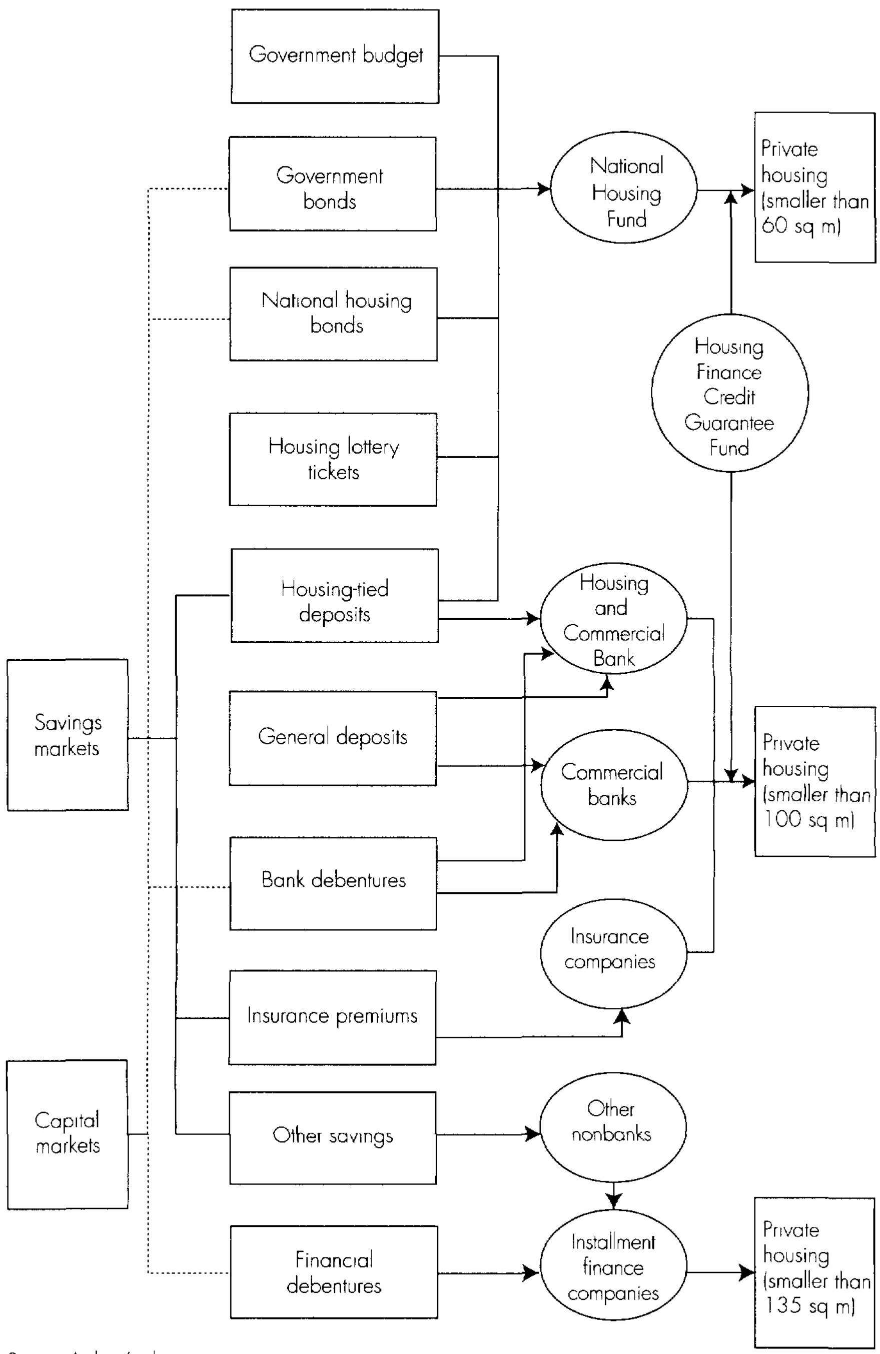
The bank raised funds mainly by taking contractual savings from potential homebuyers and general deposits in the retail savings markets, and secondarily by issuing bank debentures in the capital markets. By providing long-term, low-interest mortgages for low- and middle-income households, the bank played a key role as a public housing finance institution during the early years of the Korean housing finance system.

In 1981 the government created the National Housing Fund to promote the construction of homes and provide low-interest mortgages for low-income households. With the establishment of the fund, a dual housing finance system came into being: the public sector system, serviced by the National Housing Fund, and the private sector system, serviced by the Korea Housing Bank.

Management of the fund was entrusted to the Korea Housing Bank because the fund does not have its own staff or branch network. All mortgages of the fund were thus delivered through the branch network of the Korea Housing Bank. Even after the fund was established, the government, its biggest shareholder, forced the Korea Housing Bank to conduct its business in a quasi-public manner by providing mortgages at below-market interest rates.

This kind of direct government intervention resulted in a highly monopolistic market structure, the segregation of housing finance from the rest of the financial market, nonmarket pricing of loans and the distorted allocation

**Figure 7.1 The housing finance system in the Republic of Korea**




*Source*. Authors' schematization

of funds, and the coexistence of a small formal market with a large informal market, known as the *chonse* system.

## The housing finance system in transition

The financial system began to change with the establishment of the Housing Finance Credit Guarantee Fund in 1988. It was created to guarantee mortgage lenders against default by borrowers and to give greater access to credit to those who apply for mortgages but do not have sufficient collateral. The resources of this fund are raised mainly through contributions from the government and approved mortgage lenders and also through profit reserves. Mortgage lenders must contribute 0.1 percent of their outstanding mortgage loans annually until 2000. Out of total outstanding contributions, the public sector accounted for 54 percent and the private sector for 46 percent in 1997.

The government has been responsible for the Housing Finance Credit Guarantee Fund because its share, which includes the National Housing Fund's share, is larger than those of private lenders. The government provides a back-up guarantee to the fund's possible losses, and the fund is thus recognized as a government fund. Its operation is, however, entrusted to the Housing and Commercial Bank. The fund provides guarantees to homebuyers, home builders, and employers who purchase or build homes to sell or rent to their employees. The guarantee fees are 0.3 percent to 0.5 percent a year for homebuyers and 0.5 percent for builders and employers.

Due to the very low loan-to-value ratio in Korea, the subrogation of the Housing Finance Credit Guarantee Fund for the lenders is also small. The subrogation rate, which is defined as the ratio of cumulative subrogated amounts to cumulative guaranteed amounts, was 0.148 percent for homebuyers and 0.027 percent for home builders in 1997.

The Housing Finance Credit Guarantee Fund has yet to play an important role, because it only guarantees the amounts of loans in excess of the equity in homes that are mortgaged; because mortgage lenders have little need of a guarantee against default since the loan-to-value is very low and there has been hardly any decline in incomes or residential real estate prices; and because government regulations prohibit coverage of eligible homes, borrowers, and lenders.

In recent years, however, the Korean housing finance system has been changing in other fundamental ways. The ultimate objective of reform is to make the housing finance system competitive, integrated, market based, and finance focused. Major changes that have already been completed or are due to be implemented in the near future are:

- *The shift from a monopolistic system to a competitive system.* To make the system more competitive, commercial banks were allowed to provide long-term mortgages after December 1996; installment finance companies opened for business in January 1997; and the Korea Housing Bank was privatized and renamed the Housing and Commercial Bank in August 1997.

- *The shift from a segmented system to an integrated system.* The change to a more integrated system was signaled when commercial banks as well as the Housing and Commercial Bank were permitted to issue debentures through the capital markets in February 1997. At about the same time the government announced its plan to enact a special law for creating a secondary mortgage market in 1998.
- *The shift from a government-controlled system to a market-based system.* A market-based system will develop as the underwriting and pricing of mortgages grows increasingly responsive to consumers' needs and competitors' strategies and the privileges and restrictions on housing finance institutions are completely abolished.
- *The shift from a housing-focused system to a finance-focused system.* A finance-focused system will emerge when the low level of the mortgage interest rate, which has been maintained to hold down housing costs for low-income families, is upwardly adjusted to reflect financial factors, including funding costs and the risks to lenders in long-term mortgage lending. The limit on the maximum size of homes eligible for mortgages, which was set to allocate more funds to low-income families, is also due to be relaxed soon.

## Trends in the housing market

The housing finance market is the link between the housing market and the finance market, so its development depends heavily upon what happens to the other two markets. Affecting the housing market are the following trends.

First, there has long been a serious shortage of housing in Korea. It resulted from a rapid growth rate in the number of households—brought about as the economic development led to the breakdown of the extended family—and relatively low investment in housing. However, in recent years, the housing shortage has been greatly reduced because of the widespread construction of housing since the late 1980s. The housing supply ratio, which is defined as the ratio of the total number of dwellings to the total number of households, rose from 72 percent in 1990 to 89 percent in 1996. It is expected that the housing supply ratio will rise to 100 percent by 2002, ending the country's overall housing shortage.

Second, there was a housing boom and housing price inflation in Korea during the late 1980s. The consumer price index rose 6 percent annually between 1987 and 1990, but the housing price index went up 14 percent annually over the same period, a rate 2.3 times higher. However, due to the huge increase in the supply of housing, housing prices consistently declined after 1990, bottoming out in 1995. The housing price index fell

0.5 percent annually between 1991 and 1996, while the consumer price index rose 6 percent annually over the same period.

Third, Korea's three main types of housing tenure—owner occupancy, monthly tenancy, and chonse tenancy—create a two-track system. The chonse is a rental contract for housing for a period of one or two years, under which the tenant prepays the landlord a deposit that normally amounts to about half the price of the house. The tenant does not pay monthly rent during the period of the chonse contract, and the landlord gives back the deposit to the tenant when he or she moves out of the house. It is uncommon for monthly tenants to become owner-occupants. Most people buy their own homes after spending many years as chonse tenants. Korean tenants prefer chonse to monthly tenancy because they can use the chonse deposit as a down payment when they buy their own homes. Thus the chonse is the stepping stone for most people to become owner-occupants, but monthly tenancy is not.

In 1995 owner occupancy accounted for 53 percent of all housing tenures, while chonse tenancy accounted for 30 percent. The home ownership ratio steadily declined until 1990. However, due to a huge increase in the housing supply and the stabilization of housing prices in the early 1990s, the home ownership ratio turned upward in 1995.

## Size, structure, and performance of the mortgage market

The mortgage market in Korea is relatively small compared with those of other countries. The ratio of outstanding mortgages to GNP was only 11.5 percent at the end of 1996, whereas the ratio was more than 30 percent in Japan and more than 50 percent in the United States and the United Kingdom. The ratio of new mortgages to GNP in Korea was only 2.9 percent in 1996 (table 7.1).

Two factors account for the relatively small size of the Korean mortgage market. First, over the past three decades, the government has restrained banks from providing mortgages and has channeled the lion's share of available finances toward industry to encourage faster economic growth. Second, the chonse system created a huge informal housing finance market and thereby reduced the size of the formal market. Chonse contracts accounted for about 30 percent of all housing tenures in 1995.

Because chonse tenants use chonse deposits as down payments when they buy their own homes, their need to take out mortgages from housing finance institutions is relatively low. This implies that as long as the chonse system exists, the formal Korean mortgage market will remain relatively small compared to those of other countries. Its size should depend on the relative volume of chonse deposits.

Nevertheless, the size of the formal mortgage market has steadily increased in recent years. At the peak of the housing boom in 1990 the volume of outstanding mortgages recorded a remarkable growth of 44 percent

**Table 7.1 Size and growth rate of the mortgage market, 1990–96**
*(Billions of won, percent)*

| | *1990* | *1991* | *1992* | *1993* | *1994* | *1995* | *1996* |
|---|---|---|---|---|---|---|---|
| *Outstanding mortgages* | | | | | | | |
| Volume | 16,391 | 20,581 | 25,265 | 30,376 | 35,141 | 38,846 | 44,971 |
| Percentage of GNP | 9.1 | 9.5 | 10.5 | 11.4 | 11.5 | 11.1 | 11.5 |
| As a ratio of money supply | 23.9 | 24.6 | 26.2 | 27.0 | 26.4 | 25.2 | 25.2 |
| Growth rate | 43.5 | 25.6 | 22.7 | 20.2 | 15.7 | 10.5 | 15.8 |
| *New mortgages* | | | | | | | |
| Volume | 5,514 | 5,473 | 6,791 | 6,927 | 7,265 | 9,761 | 11,193 |
| Percentage of GNP | 3.1 | 2.5 | 2.8 | 2.6 | 2.4 | 2.8 | 2.9 |
| Growth rate | 73.3 | –0.7 | 24.1 | 2.0 | 4.9 | 34.6 | 14.7 |
| *Memorandum items* | | | | | | | |
| Gross national product | 179,539 | 215,734 | 240,392 | 267,146 | 305,970 | 351,295 | 389,979 |
| Money supply (M2) | 68,708 | 83,746 | 96,259 | 112,447 | 133,179 | 153,945 | 178,288 |

*Source:* Housing and Commercial Bank; Bank of Korea

(table 7.1). It has maintained double-digit growth since then, even though the housing market has been in recession for almost seven years.

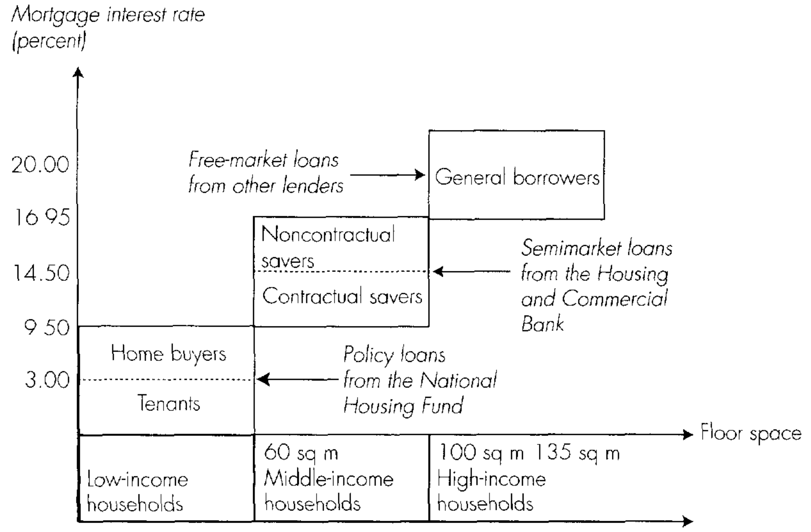
The public and private sectors accounted for 54 percent and 46 percent respectively of all outstanding mortgages in 1996. The shares of the National Housing Fund and the Housing and Commercial Bank were 51 percent and 34 percent. However, since the fund's loans have been delivered through the branch network of the Housing and Commercial Bank, the bank accounted for an 85 percent market share.

Commercial banks and life insurance companies accounted for respective market shares of only 7 percent and 3 percent in 1996. More than 80 percent of the Housing and Commercial Bank's loans were in the form of mortgages, whereas only 2–4 percent of loans by commercial banks and life insurance companies were mortgages between 1994 and 1996.

The new installment finance companies began to operate in 1997 and accounted for a 2.6 percent market share in only one year. Their remarkable success was due both to their provision of mortgages to consumers rejected by banks because they did not hold contractual savings accounts, and their permission to provide mortgages for houses with floor spaces of up to 135 square meters. Banks are allowed to extend mortgages only for houses with floor spaces of up to 100 square meters.

*Types and characteristics of mortgages.* There are three broad types of mortgages in Korea: policy loans from the National Housing Fund, semi-market loans from the Housing and Commercial Bank, and free market loans from other private lenders (figure 7.2).

**Figure 7.2 Segmentation of the mortgage market, January 1998**




*Source.* Authors' schematization

Policy loans of the National Housing Fund are provided for low-income tenants or homebuyers and carry the lowest interest rates in the country. The interest rate is 3 percent a year for the construction of rental homes and 7.5–9.5 percent for the construction of homes for sale. The maximum term of loans is 20 years, and the maximum floor space of homes eligible for the loans is 60 square meters.

Semimarket loans of the Housing and Commercial Bank are generally provided to middle-income households. There are two types of semimarket loans: loans for contractual savers and loans for other borrowers. Until 1996 the bank provided long-term loans only to contractual savers, but it now provides mortgages for anyone who wants to borrow. There are two tiers of interest rates on the Housing and Commercial Bank's mortgages: 14.5 percent for contractual savings account holders and 16.95 percent for all others. The aim of the policy is to compensate account holders for their contribution to fundraising. However, the bank's interest rates for savers who do not hold contractual savings accounts are still lower than other lenders' interest rates. The maximum term of the bank's loans is 25 years, and the maximum floor space of homes eligible for loans is 100 square meters.

Free-market loans of other private lenders are mainly provided to middle- and high-income households. The interest rates are determined by the market, based on funding costs and the risks involved in long-term mortgage lending. The level of interest rates is 17–20 percent, and the maximum term of loans is 30 years. The maximum floor space of homes eligible for the loans is 100 square meters, if the loans are issued by banks or insurance companies, and 135 square meters, if they are issued by installment finance companies.

Prepayment is allowed without penalty by the National Housing Fund, the Housing and Commercial Bank, and other commercial banks. Installment finance companies, however, charge a penalty of up to 2 percent of the outstanding amount of the mortgage. Mortgages are basically amortized by the method of monthly level payments of principal and interest. Assumption is generally allowed if the home in question is sold to a new owner.

*Affordability of housing.* The affordability of housing to homebuyers can be measured by various indicators, but the price-to-income ratio and the loan-to-value ratio are most widely used. These measures indicate that the affordability of housing in Korea was very low until 1990, due to the high level of home prices and the relative unavailability of mortgages.

The price-to-income ratio, which is defined as the ratio of urban housing prices to urban workers' annual incomes, was 11.6 in 1990. And the loan-to-value ratio, which is defined as the ratio of the volume of mortgages provided by housing finance institutions to housing prices of newly built homes, was only 12 percent in 1990.

However, housing has become dramatically more affordable to the public since 1990, due to the stabilization of housing prices, a rise in incomes, and the increased availability of mortgages. In 1995 the price-to-income ratio fell to 5.3 and the loan-to-value ratio rose to 22 percent. These positive trends will continue in the future, both because housing prices are expected to remain stable and because the lending capacity of mortgage lenders will be greatly enhanced by the deregulation of the housing finance sector.

*Fundraising for mortgages.* There have been important changes in funding for housing over the past few years. The most important change is that the proportion of housing-related funds to total funds raised has greatly declined. The National Housing Fund and the Housing and Commercial Bank, the dominant players in the mortgage market, have traditionally raised a large portion of funds from housing-related savings schemes, which were closely tied to the government's housing policies.

However, the proportion of housing-related funds has sharply declined in recent years, due to the stabilization of housing prices and the recession in the housing market. The portion fell at the fund from 65 percent in 1990 to 22 percent in 1996, and at the bank from 50 percent in 1990 to 27 percent in 1996.

It is also expected that housing-related funds will become less important as housing policies and the market situation change. Accordingly, the National Housing Fund and the Housing and Commercial Bank will have to raise more funds through capital markets to satisfy the increasing demand for housing loans.

*The pricing of mortgages.* The pricing of mortgages in Korea has traditionally been adjusted to policy objectives, especially to the reduction of the cost of housing for low-income households. As a result, the Housing and Commercial Bank's long-term interest rate on mortgages has been set below market interest rates, proxied by the benchmark three-year corporate bond yield.

It has also not varied flexibly with changes in the market interest rate. Between 1990 and October 1997 (except during 1992), the bank's mortgage interest rate remained at 11.5 percent, whereas the corporate bond yield fluctuated sharply between 11.7 percent and 19 percent. Recently, however, the bank's mortgage interest rates rose to 14.5–16.95 percent and the corporate bond yield went up to 23.5 percent, due to the acute credit crunch and very high interest rates required under the International Monetary Fund program.

Moreover, pricing has been conducted with little consideration of the risks involved in mortgage lending. In the future, however, it is expected that pricing will be based on the market principle. Accordingly, the Housing and Commercial Bank's mortgage rate will gradually rise to roughly the same level as at other banks. There will also be an increasing need to take risks into account when pricing mortgages.

The default risk of mortgages in Korea has been low in comparison with that of other commercial loans. This could be explained by the facts that the loan-to-value ratio has been kept at a low level; there has not been a sharp decline in housing prices; and household incomes have steadily increased.

At the end of June 1997 the ratio of nonperforming loans to total loans at the Housing and Commercial Bank was only about 1.7 percent, while it was about 5.5 percent on average at other commercial banks. The Housing and Commercial Bank allocated more than 80 percent of its total funds raised to mortgages, whereas commercial banks allocated only 2–3 percent. The ratio of nonperforming loans for mortgages was only 1.16 percent, which is far lower than for all other types of loans.

The default risk is, however, expected to increase because the loan-to-value ratio has steadily gone up. The liquidity risk will also increase, because the terms of mortgages are becoming longer as the terms of deposits become shorter. In addition, the prepayment risk will increase, because interest rates are expected to fall in the future and borrowers will be able to more easily refinance their mortgages.

The interest rates on mortgages in Korea have been adjusted at the discretion of lenders whenever funding costs and market interest rates have changed substantially. This practice is attributable to the volatility of the Korean economy and the absence of a reliable benchmark rate of interest.

## Growth potential of the housing finance market

It is widely believed that the housing finance market in Korea will grow steadily in the coming years. This prediction is based on the following facts.

First, the demand for mortgages will steadily increase due to the rise in the construction and renovation of houses and the lifting of restrictions on the floor spaces of houses eligible for loans. There is likely to be much more widespread renovation of existing houses or redevelopment in urban areas, because houses in Korea have relatively short life cycles and land is increasingly scarce. The lifting of regulations on the maximum size of houses eligible for mortgages will generate greater demand among middle- to upper-income families.

Second, the supply of mortgages will increase due to rapid changes in financial markets. The Housing and Commercial Bank plans to focus primarily on housing finance in the future, and commercial banks will actively expand their mortgage operations to deal with greater disintermediation and the increasing burden of nonperforming loans from the business sector. The lending capacity of banks will also greatly increase as the government allows them to issue debentures in the capital markets.

Third, the informal housing finance market will gradually be absorbed into the formal housing finance market as access to credit is widened. Due to the low loan-to-value ratio, Korean homebuyers depend heavily on informal sources of funds, such as returned chonse deposits, proceeds from the sale of previous houses, and other savings. This implies that there is enormous growth potential for the mortgage market in Korea if the informal housing finance market can be absorbed.

Finally the loan-to-value ratio will steadily go up due to several factors, including the enhanced lending capacity of mortgage lenders, stabilized housing prices, and the improved affordability of housing. If the loan-to-value is increased to 50 percent or 60 percent, the volume of the mortgage market will double, even if the number of households receiving mortgages does not increase.

## Funding for housing through the capital market

The bond market in Korea has gradually developed since the 1950s, when the government first issued bonds to finance reconstruction after the Korean War. However, bond trading did not play an important role in the capital market until the late 1960s, because both the government and the corporate sector relied mainly on foreign borrowings and bank loans for financing.

In the late 1960s the government recognized that bond and stock issues were good methods of fundraising, and it promulgated the Capital Market Promotion Act in 1968. This act was designed to develop both the stock and bond markets. The Korean Investment Corporation was established to facilitate the issuance, distribution, underwriting, dealing/brokerage, and marketmaking of securities; to supervise public offerings; and to engage in the investment trust business.[1] Among other things, the Korean Investment

Corporation first introduced a guarantee system for corporate bonds in 1972, which helped to develop the bond market. Under this system, a bank, a securities company, or the Korea Credit Guarantee Fund guaranteed payment of the interest and principal of bonds.[2] As a result, bond issues exceeded the amounts raised through equity financing during periods of prolonged stock market stagnation.

In 1980 floating-rate, long-term corporate bonds were introduced, and in 1984 bond transactions under repurchase agreements were initiated. Meanwhile, the growing preference of individual investors for bonds as an investment tool and the introduction of various bond-related financial products promoted the expansion of the bond market. With the amendment of the Capital Market Promotion Act in November 1987, the types of corporate bonds available were diversified into convertible bonds and "participating" bonds (or bonds whose holders participate in the profits in addition to receiving a specified rate of interest if the issuer makes more than a certain amount of profit).

To help internationalize the Korean securities market, the government announced a long-term blueprint for opening the capital market in 1981. As a first step, two open-end investment trusts for foreigners were set up in November 1981. The Korea Fund, a closed-end international investment vehicle that invests primarily in the Korean stock market, was subsequently established in May 1984. The government announced its blueprint for financial liberalization and market opening in June 1993, which set out a schedule for opening the domestic financial market in the period up until 2000. In July 1994 the bond market was partly opened to foreigners by allowing them to buy nonguaranteed convertible bonds issued by small and medium-size companies and to underwrite government and public bonds. Since June 1995 international financial organizations such as the Asian Development Bank and the International Monetary Fund have been permitted to issue won-denominated bonds.

## The structure and performance of the bond market

There are three major types of bonds in Korea: government bonds, public bonds, and corporate bonds. Public bonds include municipal bonds and bonds issued by enterprises or institutions established under their own special acts. Government bonds are issued after approval by the National Assembly. The approval of the Minister of Home Affairs is required for the issuance of municipal bonds after a resolution by a municipal council. The total amount of bonds outstanding at the end of June 1997 was 182.3 trillion won (table 7.2).

The total amount of bonds outstanding accounted for 43.5 percent of nominal GDP at the end of 1996, a much lower percentage than in industrial countries. Among the three bond types, corporate bonds are the largest, accounting for 44.7 percent of all bonds outstanding.

**Table 7.2 Size of the bond market, 1992–94**
*(Billions of won)*

| *Bonds* | *1992* | *1993* | *1994* | *1995* | *1996* | *June 1997* |
|---|---|---|---|---|---|---|
| *National government bonds* | | | | | | |
| National management fund | — | — | 1,125.5 | 2,958.7 | 4,868.7 | 5,376.1 |
| Investment finance security | 11 3 | 11 3 | 11 3 | 11.3 | 11 3 | 11 3 |
| National fund | 7.4 | 10.0 | — | — | — | — |
| National housing I | 4,163.4 | 5,091.1 | 6,165.5 | 7,311.1 | 8,493.5 | 9,171.0 |
| National housing II | 2,028 3 | 2,331 9 | 2,548.9 | 2,735 0 | 2,883 0 | 3,017 0 |
| National housing fund | 240 0 | 390.0 | 390.0 | 390.0 | 270.0 | 270.0 |
| Public land compensation | — | 8.3 | 40.9 | 54.9 | 60.3 | 48.5 |
| Grain security | 5,051.3 | 6,200.5 | 6,020 5 | 4,870 5 | 4,870.5 | 4,820.5 |
| Treasury bill | 1,579.7 | 630.1 | 100.0 | — | — | — |
| Farming and fishing development | 945.7 | 1,125.0 | 952 2 | 5,482.0 | — | — |
| Farmlands | 437.7 | 552 7 | 425.0 | 215.0 | — | — |
| Foreign exchange fund | 5,483.3 | 4,483.3 | 4,200.0 | 4,200.0 | 4,200.0 | 4,048.9 |
| Subtotal | 19,948.1 | 20,825 2 | 21,979 8 | 23,294.7 | 25,657 3 | 26,764.3 |
| *Municipal bonds* | | | | | | |
| Subway fund | 1,384 3 | 1,735 3 | 2,127.1 | 2,453.7 | 2,684 0 | 3,000.0 |
| *Special bonds* | | | | | | |
| Telegraph and telephone | 300.0 | 300.0 | 150.0 | 520.0 | 410.0 | 1,110.0 |
| Small and medium finance | 1,693.8 | 2,901.7 | 3,462.3 | 4,591.8 | 6,121.3 | 6,519.3 |
| Electronics | 1,212.0 | 1,822.0 | 1,699 0 | 2,188.9 | 3,577.8 | 4,824.3 |
| Land development | 2,741.6 | 3,426.5 | 3,229.6 | 3,863.9 | 3,785.9 | 3,716.0 |
| Industrial finance | 7,326.8 | 9,618.1 | 11,261.5 | 13,075.2 | 15,116.8 | 16,526.4 |
| Housing | — | 51 0 | 125 4 | 182.3 | 252 8 | 590 3 |
| Technology development | 217.0 | 370 9 | 623 1 | 1,160.5 | 1,516 0 | 1,755.0 |
| Long-term credit | 4,737.7 | 5,846.7 | 7,743.3 | 9,292.6 | 9,001 6 | 9,698.0 |
| Foreign exchange finance | 231 9 | 106.1 | 100.0 | — | — | — |
| Monetary stabilization bond | 20,264.0 | 24,201.8 | 25,340 4 | 25,824 8 | 25,030.0 | 26,360.8 |
| *Subtotal* | 38,724.8 | 48,644.8 | 53,734.6 | 60,700.0 | 64,812.2 | 71,100.1 |
| *Corporate bonds* | 35,384.0 | 39,890.0 | 47,928.7 | 61,286.9 | 76,326.9 | 81,485.7 |
| Total | 95,441.2 | 111,095.3 | 125,770.2 | 147,735 3 | 169,480.4 | 182,350.1 |

— Not available

*Note* Entries reflect outstanding balance as of the end of period unless otherwise noted

*Source* Hanhwa Economic Research Institute 1997; Ministry of Finance and Economy 1997

The maturities of government and public bonds vary according to bond type and range, from one year or less for treasury bills and most monetary stabilization bonds to 20 years for type II national housing bonds.[3] However, the maturities of most government and public bonds are in the one- to five-year range. The interest accruing on short-term bonds is usually paid at time of issuance in the form of a discount, but in the case of medium- or long-term bonds, it is paid either as a lump sum at maturity or at fixed intervals up until maturity.

Monetary stabilization bonds account for the largest share of all government and public bonds outstanding, amounting to 26.4 trillion won (see table 7.2). These are special bonds issued by the Bank of Korea to control the money supply. The Korean bond market is underdeveloped, and there are few securities available by which open market operations can be effectively executed. Thus the Bank of Korea has not been able to conduct open market operations as extensively as the central banks of industrial countries. Instead, the Bank of Korea has usually depended on repurchase agreements using the monetary stabilization bonds to absorb the excess liquidity. These bonds can be issued without the approval of the National Assembly.

The system of managing government bond issuance has several shortcomings. First, a sufficient supply of government bonds is necessary to the development of the Korean bond market. However, the total amount of government bonds outstanding represented only 15.1 percent of nominal GDP as of the end of 1996, a much lower percentage than in industrial countries. Second, Korean government bonds have different names according to their specific purposes. They include treasury bills, foreign exchange fund bonds, grain securities, and type I and II national housing bonds. Although some have the same maturities, they all have different interest payment schedules. This gives rise to extreme complexity in secondary market trading. In addition, since the issuance cycles are irregular, it is difficult for investors to expect or predict future issuance. Third, because most government bonds are short term, the cost of managing government bonds is higher than it would be otherwise. Fourth, government bonds are not sold at market-determined prices. Since government bonds, including monetary stabilization bonds, are somewhat mandatorily distributed to financial institutions, a yield differential always exists between primary bond rates and secondary market yields.

Government bonds are issued according to a competitive bidding method. This is the sealed multiple price auction, whereby an exclusive syndicate of 102 financial institutions is permitted to participate in the bidding process. The bid is awarded in the order of the lowest rate of return to the highest rate of return. The highest rate must be lower than the rate set by the government. If the total awarded amount is lower than the total planned amount, the syndicate is obliged to buy the remaining supply of bonds at an interest rate lower than the average bid-awarded rate. A problem arises, however, in that the preset rate is in most cases lower than the market interest rate. Thus the total amount of the bid award falls short of the total planned amount. This in turn means that the remaining supply of bonds must be assigned to the syndicate members at an interest level lower than the average bid-awarded rate. Obviously, the issuing rate does not reflect the real market rate.

Corporate bonds, which were introduced in 1972, are classified as either guaranteed bonds or nonguaranteed bonds. The greater share of corporate bonds is issued in the form of fixed-rate coupon bonds, guaranteed by financial institutions such as commercial banks, the Korea Credit Guarantee Fund, merchant banks, and securities companies. More than 85 percent of the corporate bonds issued during the past several years have maturities of less than four years. Domestic companies have gradually been issuing more equity-linked bonds like convertible bonds.

Most corporate bond issues are offered to the public through underwriters. Securities companies, securities investment trust companies, commercial banks, and merchant banks are all entitled to engage in securities underwriting in the primary market, but on a practical level most underwriting has been handled by securities companies. The Corporate Bond Coordinating Committee of the Korea Securities Dealers Association sets the overall issue amount each month, but the issuance of corporate bonds is liberalized in principle.

Interest rates on nonguaranteed bonds have been freely determined since November 1984, and those for convertible bonds since May 1985. In November 1991 interest rates on guaranteed bonds with maturities of two years or more were deregulated, and in November 1993 the rates were deregulated for bonds of all maturities.

Compared with its stock market, Korea's secondary market for bonds is quite underdeveloped. The turnover ratio (ratio of total trading volume to bonds outstanding) has been at 48 to 78 percent during the past five years. The level of actual trading in the secondary market has been quite insignificant.

The secondary market comprises the standardized and organized exchange (located at the Korea Stock Exchange) and the over-the-counter market. Even though listed bonds on the exchange account for more than 80 percent of bonds outstanding, most transactions (more than 95 percent) occur on the over-the-counter market. This prevalence of over-the-counter market transactions is mainly due to the fact that there are too many different kinds of bonds issued, which renders difficult the listing and trading of various bonds on the exchange. Bonds, unlike stocks, cannot easily be absorbed by individual investors. Thus most bonds are absorbed by financial institutions, and prearranged trading in the over-the-counter market is more common than competitive trading on the exchange. This also indicates that listing is largely a formality designed to enhance the acceptability of bonds, since most institutional investors are not permitted to invest in unlisted securities.

Except for government and public bonds, approval must be obtained from the Securities and Exchange Commission for the listing of bonds on the exchange. The Minister of Finance and Economy has ordered the listing of government and public bonds on the exchange for the protection of investors. For the listing of corporate bonds the issuer must have a minimum paid-in capital of 0.5 billion won, the par value of the bonds to be issued must be at least 0.3 billion won, and the bonds must be listed within one year of their issuance.

On the Korea Stock Exchange there are two means of transactions: regular transactions and cash transactions. Regular transactions are settled on the second business day after the settlement of the contract, and the cash transactions on the day of contract. The cash transaction method was adopted to avoid the inconveniences that investors encountered in the regular transaction method and to increase bond liquidity. Cash transactions have been conducted daily since March 1982. On the over-the-counter market only cash transactions are allowed.

Currently, information about the bond market is announced daily through a publication of the Korea Securities Dealers Association, the Bond Market Official List. Price quotations are not readily available to the public in real time, but are provided through the windows of the securities companies. It may therefore be possible for one bond to have multiple prices when transactions take place at different windows at the same time.

Although the bond market has grown in recent years, the investor base remains small. The dominant share of outstanding bonds is held by a relatively small number of financial institutions and institutional investors. Bond prices are therefore often set by a handful of large, institutional investors. The investor base must be expanded to promote more competitive and transparent bond market conditions. Low liquidity gives rise to large spreads between bid and offer prices, which means high transaction costs, in turn keeping individual investors from participating in bond trading.

The credit rating system in Korea does not work effectively since both the principal and interest payments on most corporate bonds are guaranteed by financial institutions. There are three credit rating agencies in Korea, which are owned by banks and other financial institutions. The three credit rating agencies currently evaluate commercial paper and nonguaranteed corporate bonds only. No rating is done on any other type of debt security (for example, guaranteed corporate bonds or special bonds). Also, the issuance of commercial paper and nonguaranteed corporate bonds below B grade and BBB grade is prohibited. This is what is called the "issue qualification test."

Recently, the government announced a credit rating system improvement plan, according to which financial debentures (issued by banks and other financial institutions and classified as special bonds) will, along with commercial paper and nonguaranteed corporate bonds, be rated by the credit rating agencies. The issue qualification test will also be abolished. Also, the government's accreditation of credit rating agencies will be made transparent, and new entrants, including overseas credit rating agencies, will be accredited.

## Opening the financial market

The government had announced a schedule to completely open up Korea's financial market. However, the International Monetary Fund (IMF) has called for a more accelerated opening. Many steps were taken to allow for greater foreign participation in the financial market in December 1997, and more steps will be taken in the near future.

By March 1998 foreign institutions will be allowed to establish bank subsidiaries and brokerage houses. The ceiling on aggregate ownership by foreigners of listed Korean shares was raised in December 1997 from 26 percent to 55 percent and will be completely removed by the end of 1998. The ceiling on ownership of listed shares by individual foreign investors was also raised from 7 percent to 50 percent.

Of greatest significance, the bond markets were completely opened to foreigners at the same time. Before then, foreigners had been allowed to buy only nonguaranteed corporate bonds with maturities of three years or more and convertible bonds issued by small- to medium-size companies, only under tight restrictions. As of December 1997 foreign holdings of corporate bonds remained at only 230 billion won. The opening of the bond market enabled foreigners to buy all kinds of bonds freely, marking a historic advance in the liberalization of the country's capital market. Foreigners were able to hold as much as 30 percent of each bond offering, and the ceiling will be abolished by the end of 1998. In addition, the government will unveil its market opening schedule for commercial paper, certificates of deposit, and other short-term financial instruments in January 1998.

The IMF program calling for a faster opening of the bond and money markets will likely have positive as well as negative effects on the economy. The opening of the bond and money markets should provide valuable opportunities for foreign investors to cash in on the interest rate differentials. Analysts say that Korea's money market rate will hover at more than 16 percent over the next several years under the IMF program, and if they are correct, foreigners will be able to profit from an interest rate differential of at least 2 percentage points, even after factoring in funding costs and investment risks. Hot money, which intrinsically moves in search of short-term windfalls, can therefore be expected to flood the local debt market and capitalize on the interest rate differentials. Difficulties could be encountered in managing the speculative capital flows, because they can easily disturb the domestic macroeconomic variables. On the other hand, internationalization of the Korean bond and money markets will help synchronize domestic markets with foreign markets. Most important, the investor base for bond and money markets will be enlarged, leading to the substantial expansion and development of the bond and money markets. The opening of these markets will mean greater and more diversified sources of financing, contributing to a lower cost of capital and enhancing the price competitiveness of domestic firms.

## Future directions: Creation of a secondary mortgage market

In a narrow sense, the secondary mortgage market denotes the market in which the sale and purchase of mortgages take place, typically through the vehicle of securitization. In a broad sense, it is defined as the market in which, additionally, mortgage-related bonds are issued. Although there have been many studies and discussions on the creation of a secondary mortgage market in the broad sense, it has not yet come into being in Korea, due both to the lack of need and to various obstacles.

In recent years, however, the need for a secondary mortgage market has increased, and obstacles have diminished. From the viewpoint of lenders, the need for a secondary mortgage market is twofold. First, a secondary mortgage market in which the sale and purchase of mortgages take place is necessary to expand the supply of funds for housing, improve risk management, allow institutions to more easily meet the capital adequacy standards of the Bank for International Settlements, and rectify the imbalance in funds among financial institutions. Second, a secondary mortgage market in which mortgage-related bonds are issued is necessary to supplement the supply of funds for housing when they are not sufficient through other routes. For instance, banks may lose their competitiveness in taking deposits due to the competition among financial institutions and the development of direct financing. In that case, banks need to raise funds for housing through the capital markets by issuing mortgage-related bonds.

There are three sets of prerequisites for creating a secondary mortgage market in Korea: primary market prerequisites, capital market prerequisites, and legal and regulatory prerequisites.

In a primary mortgage market the mortgage rates should be high enough to cover both the funding costs through the capital markets and various risks involved in long-term lending. Since 1990, however, mortgage rates have been lower than bond yields. This negative interest margin has been the most daunting obstacle to the creation of a secondary mortgage market. Between 1990 and 1996 the negative interest margin narrowed substantially, and many believed that it would disappear in the future. Recently, however, it has widened again due to a sharp rise in the bond yield caused by the ongoing financial crisis. But this may be a temporary development.

A secondary mortgage market is a system of funding for housing through the capital markets. This means that the demand for mortgage-backed securities, mortgage-backed bonds, or whole loans is determined by investors in the capital markets, while their supply is determined by mortgage lenders in the housing finance market. The development of the capital markets, especially the bond market, is therefore absolutely essential for the creation of a secondary mortgage market.

The development of the Korean bond market has lagged behind other financial markets. The bond market is very small, and most bonds are short-term bonds. Moreover, the bond market is dominated by a few institutional investors, so bond yields have been highly volatile. But the demand for long-term bonds in Korea has been rising since the beginning of interest rate liberalization in 1993, and the government has issued long-term bonds with maturities of 7 to 10 years since 1995. The bond market is now expected to develop steadily and facilitate the creation of a secondary mortgage market.

There is great need to streamline the legal process of mortgage transfers if a secondary mortgage market is to be created. According to Korean civil law, lenders who intend to sell mortgages or to issue mortgage-related bonds must make notification of the transfer of mortgages to borrowers or obtain consent from obligors by a "deed with a fixed date" or both (article 450). In addition, they must register the transfer of ownership of mortgages through an "additional entry registration" (article 348). This is, however, a time consuming and costly process. There are two possible solutions to the problem: the omission of registration of the mortgage transfer and separate transfer of loan credit from the mortgage. These two alternatives, however, mean amending the basic principles of the civil law or legislating a new special law. Thus it is generally believed that the creation of an efficient legal framework would prove to be a difficult and drawn-out affair.

There are also many other issues that need to be addressed. For instance, there should be a legal foundation regarding special-purpose vehicles or trusts for the issuance of mortgage-backed securities and bonds. To that end the commercial law and the trusts act need to be amended, or a new special law on a secondary mortgage market should stipulate relevant clauses.

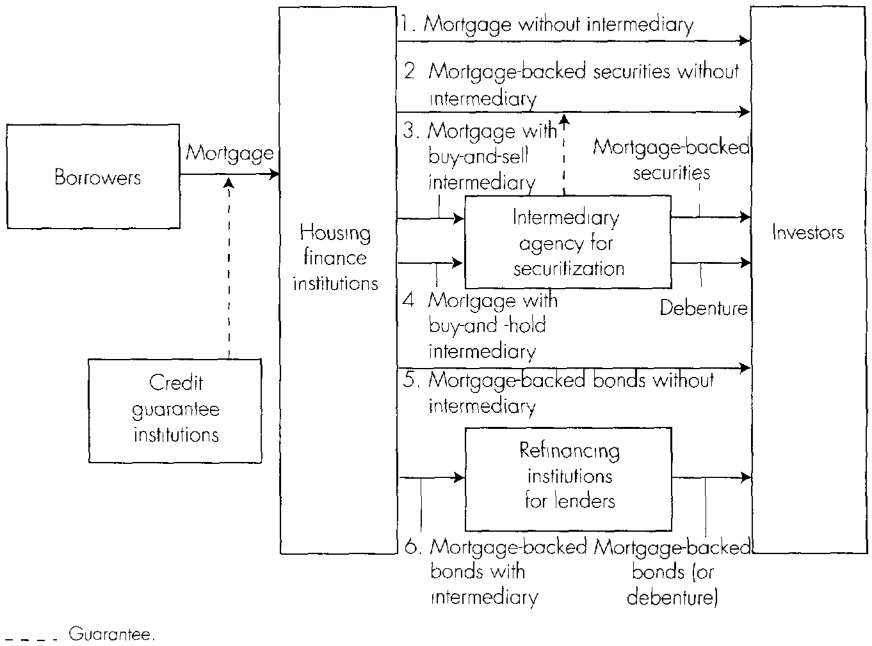
There should be a legal foundation for the issuance, listing, and circulation of mortgage-backed securities and bonds and for the protection of investors. It is also very important to establish accounting standards for off-balance sheet financing, the recognition of profits or losses, and taxation rules about withholding taxes, value-added taxes, stamp duties, and so on. Clearly, much work remains to be done to form the legal and regulatory framework.

## Which model is appropriate for Korea?

There are many different models of secondary mortgage markets. While it is not easy to categorize the various models, because each has been tailored to the unique conditions in each country, there are roughly six models of secondary mortgage markets (figure 7.3).

Models 1 to 4 are for liquidating mortgages, and models 5 and 6 are for issuing mortgage-related bonds. More specifically, models 1 and 2 are liquidating models without an intermediary, whereas models 3 and 4 are liquidating models with an intermediary. Model 5 is a bond-issuing model with-

**Figure 7.3 Various models of secondary mortgage markets**




*Source* Authors' schematization

out an intermediary, whereas model 6 is a bond-issuing model with an intermediary.

The most important difference between models 1 and 2 is the method by which mortgages are sold. In model 1 lenders sell mortgages in the form of whole loans, whereas in model 2 lenders issue mortgage-backed securities and sell them to investors. In issuing mortgage-backed securities, lenders generally use special-purpose vehicles or trusts and enhance the credit of the mortgage-backed securities by obtaining a guarantee or insurance from the government or financial institutions.

Examples of model 1 are the Japanese "mortgage securities system" created in 1931 and the "mortgage deed system" introduced in 1974. Examples of model 2 include, in the United States, commercial banks or thrifts, which issue and sell mortgage-backed securities and the Government National Mortgage Association, which guarantees the timely payment of the principal and interest on the mortgage-backed securities. In Canada commercial banks issue and sell mortgage-backed securities, and the Canadian Mortgage and Housing Corporation guarantees the timely payment of principal and interest on them.

The most important difference between models 3 and 4 is whether or not an intermediary sells mortgage pools to investors. In model 3, an intermediary buys mortgages from lenders, issues mortgage-backed securities, and sells them to investors. In model 4, however, an intermediary buys mortgages from lenders with funds raised by issuing unsecured bonds and holds them as a part of its assets. In short, intermediaries "buy and sell" mortgages in model 3 and "buy and hold" mortgages in model 4. Model 3 is the most widely used model in industrial countries. Examples are the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation in the United States. Example of model 4 include the Cagamas in Malaysia and the Mortgage Corporation in Hong Kong.

In model 5 lenders issue mortgage-backed bonds as their own debt, using mortgages as collateral, and sell them to investors in the capital markets. Examples are the German mortgage bank system, called Hypothekenbanken, and the French mortgage market system, called Marché Hypothecaire. In model 6 refinancing institutions raise funds by issuing unsecured bonds or mortgage-backed bonds and lend the funds to mortgage lenders. Examples of model 6 are the Federal Home Loan Bank system in the United States and the Caisse de Refinancement Hypothecaire system in France.

The reason we have reviewed alternative models of secondary mortgage markets is to determine which is the most appropriate for Korea. The merits and flaws of each model should be evaluated based on four fundamental principles that must be met when a secondary mortgage market is created in a country where the financial markets are not yet fully developed: clarity, simplicity, feasibility, and efficiency. The first two principles are especially important.

Clarity means that the purpose of the market should be clear: Is it for the sale of mortgages? Is it for the issuance of bonds? If the sale of mortgages is a major objective, an appropriate model can be found among models 1 to 4. For bond issuance, models 5 or 6 are more appropriate. According to the principle of simplicity, a developing country should adopt a simple model rather than a more complex model that has been developed and tested in industrial countries (Pollack 1994).

Considering the merits and flaws of each model as discussed by Lea (1997), model 4 would seem to be an appropriate model at an initial stage in Korea. The reasons we support model 4 are based on the major flaws of the other models.

For instance, in model 1 the negotiability of mortgages is low due to the absence of a trustworthy intermediary. In addition, the frequent registration of mortgage transfers is time consuming and costly. In model 2 it is not easy for individual lenders to issue mortgage-backed securities and sell them directly to investors. Model 3, in which intermediaries buy and sell mortgages, seems too advanced and complicated to introduce at an initial stage. In models 5 and 6 lenders cannot realize the benefits of asset sales.

Even though model 4 seems most appropriate at an initial stage, it should be transformed into model 3 in the long run. However, we do not preclude other alternative models. For instance, model 2 could be a candidate if a government-sponsored agency such as the Housing Finance Credit Guarantee Fund guarantees the timely payment of principal and interest on the mortgage-backed securities issued by individual lenders. Until now, the Korean government has not made any decision about the specific model it will introduce.

## The role of the government in the new financial environment

The housing finance system and capital markets in Korea are on the verge of fundamental reform, and the role of the government should change accordingly. Historically, the Korean government has intervened in the housing finance market through the National Housing Fund, which is under its direct control. The rationale for the government's provision of mortgages in earlier years was twofold. First, there was an urgent need to resolve the worsening housing shortage. Second, there was little participation by commercial banks in the mortgage market.

In recent years, however, there have been significant changes in the housing and mortgage markets. The housing shortage has been greatly reduced, and commercial banks are actively expanding their mortgage operations. New lenders called installment finance companies entered the market in 1997 and have rapidly expanded their operations, making mortgages much more widely available. In this new environment the government has the following responsibilities.

First, the government must facilitate the mortgage market. The government should no longer serve as a direct provider of mortgages but instead should encourage private financial institutions to increase the availability of mortgages by expanding the infrastructure necessary for enhancing the function of primary and secondary mortgage markets. More specifically, the government needs to remove the remaining regulations on the mortgage business, vitalize the Housing Finance Credit Guarantee Fund's credit guarantee against default risks of borrowers, and create a secondary mortgage market as soon as possible.

Second, the government must provide back-up guarantees against default risks. One of the most important roles of the government in a market-based housing finance system is to guarantee lenders and investors against default risks. Even in the United States the government shares default risks with private sector institutions by providing explicit guarantees (on loans insured by the Federal Housing Administration and guaranteed by the Veterans' Administration, as well as on mortgage-backed securities securitized by the Government National Mortgage Association) and by providing implicit guarantees (on the mortgage-backed securities securitized by the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation).

In Korea the Housing Finance Credit Guarantee Fund explicitly guarantees approved mortgage lenders against the default risk of borrowers. Thus the fund plays a role similar to that of the Federal Housing Administration in the United States. The share of mortgages guaranteed by the Housing Finance Credit Guarantee Fund out of total outstanding mortgages was 13 percent at the end of 1996.

Although the Housing Finance Credit Guarantee Fund's credit guarantee has steadily increased in recent years, the government should further vitalize the role of the fund because the default risks of mortgages are expected to increase significantly with the anticipated slowdown in economic growth under the IMF program, which will translate into a decline in incomes, a possible decline in housing prices, and a rise in the loan-to-value ratio.

One more important question remains to be answered: Which institutions will guarantee the timely payment of principal and interest on mortgage-backed securities when the secondary mortgage market is created? One sensible scheme is that the Housing Finance Credit Guarantee Fund play the role of intermediary, in addition to its present role as guarantor in the primary mortgage market, like the Canadian Mortgage and Housing Corporation. In this case the credit rating of mortgage-backed securities guaranteed by the fund could be greatly improved because it is a central government fund.

Of course, insurance and guarantee companies in the private sector can play the role of guarantor. However, as suggested by Renaud (1996), it is essential at the initial stage for the government to guarantee mortgage-backed securities, especially in those developing countries where financial systems are unstable. At the same time, the back-up guarantee of the government should be explicit. In the case of implicit guarantees, the issuers of mortgage-backed securities cannot fully receive the benefits, whereas the government's obligation does remain.

Third, the government must create the secondary mortgage market. In a country where capital markets are underdeveloped, both mortgage lenders and investors are unfamiliar with the concept of a secondary mortgage market. The government should therefore take the initiative and decide the following basic issues. First, which model should be introduced? Second, who should own and who should manage the intermediary agency? Third, what kinds of support and regulations should be provided?

In theory there might be three ownership structures for an intermediary agency: wholly government owned, jointly owned by both government and private sector, and wholly privately owned. In practice, however, only the first two are common. Examples of wholly government-owned intermediaries are the Government National Mortgage Association in the United States, the Canadian Mortgage and Housing Corporation, and the Mortgage Corporation in Hong Kong. Examples of joint ventures are the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation in the United States and the Cagamas in Malaysia.

Since each model has its merits and flaws, it is important to choose an appropriate ownership structure by taking into account the intermediary's mission and the local economic conditions. In Korea it has been proposed that the Housing Finance Credit Guarantee Fund play the role of an intermediary in the secondary mortgage market, in addition to its present role as guarantor in the primary mortgage market. In such a case ownership would be shared between the government and private mortgage lenders. It seems appropriate to set up the intermediary as a public corporation with managerial autonomy, led by private financial specialists rather than government officials to avoid the so-called X-inefficiency common to public enterprises.

However, the government should still serve the important role of supervisor. It should clearly specify the mission of the intermediary, monitor its performances, and set capital adequacy standards and management guidelines based on comparable standards of commercial banks.

The government also should play the role of sponsor for participants in the secondary mortgage market. Above all, the government should try to create investor demand for mortgage-backed securities issued or securitized by the intermediary. The most effective way to create this demand is to guarantee investors against the default risks of the mortgage-backed securities. Furthermore, the government should provide investors with some tax privileges.

The government also should provide mortgage lenders with privileges to induce them to participate in the market. In this respect, Malaysia offers an interesting example. The Malaysian monetary authority exempts mortgage lenders from liquidity and statutory reserve requirements when lenders sell mortgages to the intermediary (for example, Cagamas). Also, mortgage lenders are appointed as servicers, trustees, and custodians for the purpose of streamlining the process of mortgage transactions.

In the capital market the government has until recently stuck to the policy of "competitiveness first, market opening later," which means that it did not intend to open Korea's financial markets until domestic financial institutions gained sufficient international competitiveness to face foreign competitors successfully. Accordingly, it recommended that the domestic bond market not be opened until it had matured. However, this policy of opening the financial market gradually is not possible, especially under the IMF program. Korea now faces the imminent and complete opening of the bond markets, and there is no time to lose. The first priorities should be to build a sound bond market structure and to develop the capabilities of financial institutions.

The following measures should be taken to develop the Korean bond market.

- The government must standardize both the names of bonds and methods of interest payment and normalize new issues according to maturity. At present, there are too many different types of issues of government bonds for too many special accounts and funds. This reduces the marketability and liquidity of government bonds. Such a measure would help to simplify trading and facilitate the formation of fair prices in the secondary market.
- A system should be set up that enables government bonds to be issued at market interest rates.
- The Bank of Korea's monetary stabilization bonds, which are currently the main instrument for open market operations, should be replaced by government bonds, such as treasury bills and treasury bonds.
- The trading system in the secondary market needs to be improved. Although bid and offer price quotations have been available in the over-the-counter market, the system does not function efficiently or transparently. Quotations are not available in real time, but only as ex post facto announcements of bond trading. There is a serious need to organize a bond market information system that disseminates current price information on a real-time basis.
- The government and corporations should be encouraged to issue bonds with longer maturities. This would help to develop meaningful yield curves and would provide the basis for efficient investment and financial decisionmaking. This would also allow business firms to raise more long-term capital and would allow individual and institutional investors to invest more effectively according to their investment horizons.
- The credit rating system should be upgraded. All marketable debts, in addition to commercial paper, nonguaranteed corporate bonds, and financial debentures, should be properly rated by the credit rating agencies.

## Conclusion

Korea's financial industry is undergoing unprecedented change. Under the IMF program, real and somewhat radical financial reforms will be implemented. Financial deregulation will cause competition to heat up enormously and will therefore improve productivity. In particular, the market principle will be firmly established so as to raise the effectiveness of the financial sector. Above all, Korean financial institutions will be forced to compete without government help with their foreign counterparts, which possess huge amounts of capital and advanced financial know-how. Until now, domestic financial institutions have been virtually placed under the government's protection. The changes imposed by the IMF program may at first glance seem to threaten Korea's financial institutions, but it is an important opportunity for Korea's financial industry to improve its international competitiveness.

The IMF's call for an earlier than scheduled opening of the bond market should have positive as well as negative effects. Speculative hot money, which is expected to flood the local debt market, may cause an increase in the volatility of market prices. It could be very difficult to manage speculative capital flows, and these flows may disturb the domestic macroeconomic variables. On the other hand, the participation of foreign investors will increase the size, activity, and efficiency of the bond market. The inflows of foreign capital will cause interest rates to decline in the long run, allowing Korean companies much cheaper financing.

Over the past three decades, the housing finance system in Korea has been controlled by the government, and it was highly monopolistic, segmented, and housing focused. Today it is being rapidly transformed into a truly competitive, integrated, market based, finance-focused system. Structural changes will be accelerated in the process of the current financial reforms.

Although the housing finance market is not yet fully developed, it is expected to grow steadily due to the several factors. For instance, the demand for mortgages will increase until the housing shortage is fully resolved. The lending capacity of mortgage lenders will be enhanced as financial markets are liberalized and more widely opened. The informal housing finance market will be gradually absorbed into the formal market as tenants are granted greater access to credit.

However, the housing finance market is expected to shrink in the short run due to the current financial crisis. The demand for mortgages will be diminished by soaring interest rates and a precipitous decline in incomes. The supply of mortgages will also be diminished as mortgage lenders curtail their lending because of more stringent capital adequacy standards and a reduced lending capacity caused by the current credit crunch.

Funding for housing through the bond market has been stagnant until recently due to the negative interest margin between mortgage rates and bond yields and the underdevelopment of the long-term bond market. In the future it will steadily increase, as the linkage between the mortgage and capital markets is broadened.

Foreign investor demand for Korean bonds should increase with the complete opening of the bond market, causing bond yields to drop significantly in a few years. If this occurs, mortgage lenders will make greater use of capital market funding for housing. Moreover, the problem of the negative interest margin will be resolved and a secondary mortgage market can be more easily developed. The legal and regulatory framework could be provided in a relatively short period if the economic preconditions are satisfied.

## Notes

1. The Korean Investment Corporation was a direct public substitute for private capital market service providers. In 1977 it was dissolved and part of it was converted into a securities investment trust company (Daehan Investment Trust Company).

2. The Korea Credit Guarantee Fund was established in 1976 under the Credit Guarantee Fund Act to extend credit guarantees for the liabilities of small and medium-size companies, many of which lack tangible collateral to obtain funds from financial institutions. The credit guarantee services provided by this fund include credit guarantee for bank loans, corporate bond issuance, commercial bills, and so on.

3. National housing bonds are issued according to Article 15 of the Housing Construction Promotion Act to raise funds for the construction of housing. National housing bonds are the main funding source of the National Housing Fund and are classified as either type I or type II. Agencies seeking to obtain commercial licenses and construction permits, bid for contracts on national construction projects, or register real estate must purchase an assigned quantity of type I national housing bonds. Anyone selected as a purchaser after subscribing for apartments built in speculative areas must purchase an assigned quantity of type II national housing bonds.

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# 8

# The Secondary Mortgage Market and Capital Markets in Malaysia

*Huang Sin Cheng*

The secondary mortgage market in Malaysia originated with the start of operations of Cagamas Berhad in 1987. The name Cagamas actually means national mortgage corporation. The company was established to function as an intermediary between primary lenders and investors of long-term and fixed-income securities, by purchasing housing and other mortgage loans and issuing debt securities to fund these purchases. Today Cagamas is the only securitizer of housing and other mortgages in Malaysia and is by far the largest issuer of private debt securities in the country. It accounted for 29.3 percent or 13,227 million ringgit (RM) of outstanding private debt securities (with a maturity period of more than one year), amounting to RM 45,188.7 million at the end of 1996.

Cagamas was originally set up to alleviate the liquidity problems of primary lenders by narrowing the difference between the maturity structure of their sources of funds and the maturity structure of their housing loans; to reduce interest rate risks faced by the primary lenders by making longer-term fixed-rate funds available to them; and to help the financial sector by creating new investment options, especially fixed-income securities.

## Current policy directions

Cagamas's activities have played an important role in encouraging home ownership in Malaysia. It is the government's policy to encourage a house-owning democracy. As shown in table 8.1, some 800,000 housing units have been targeted to be developed by the government in the five-year plan between 1996 and 2000. The emphasis is on promoting home ownership among lower-income groups.

With this objective in mind, the Central Bank of Malaysia has established a rule to forbid commercial banks and finance companies from charging more than 9 percent yearly interest on housing loans granted to finance the

**Table 8.1 Housing targets under Malaysia plans, 1986–2000**

| Cost of houses[a] | 1986–90 Number of units | 1986–90 Percent | 1991–95 Number of units | 1991–95 Percent | 1996–2000 Number of units | 1996–2000 Percent |
|---|---|---|---|---|---|---|
| Low | 495,000 | 70 | 343,800 | 60 | 235,000 | 29 |
| Medium | 180,200 | 26 | 200,500 | 35 | 480,000 | 60 |
| High | 26,300 | 4 | 28,700 | 5 | 85,000 | 11 |
| Total | 701,500 | 100 | 573,000 | 100 | 800,000 | 100 |

a According to definitions of the Economic Planning Unit, Prime Minister's Department
*Source* Malaysia Plan, various years.

purchase of houses costing RM 100,000 or less. All commercial banks and finance companies are assigned a quota by the central bank to ensure that a sufficient number of small loans with this interest rate cap are granted.

It was also for the purpose of encouraging home ownership that the secondary mortgage market was established. The development of this market has enabled financial institutions to have access to more liquidity at a competitive price, which has encouraged them to grant more end-financing at an affordable cost.

It is the government's policy to develop a strong private debt securities market, both to mobilize funds and to enhance the efficiency of monetary flows, as well as make available long-term investment instruments, particularly fixed-rate securities for investors. Given the growth of the economy, the need for funds to finance productive activities will continue to increase. Cagamas was set up to assist in achieving this objective. Cagamas's operations have not only enabled funds to be provided at a competitive cost for the purpose of encouraging home ownership, but have also enabled a large volume of high-grade mortgage-backed bonds and short-term notes to be made available on the market for investors.

To further promote the secondary mortgage market in Malaysia, the following measures have also been taken by the authorities:

- Funds received by financial institutions from the sale of housing loans to Cagamas are exempt from statutory reserve and liquidity ratio requirements, thus lowering the cost of funds to the seller in comparison to the funds received in the form of deposits.
- Cagamas securities have been recognized as liquid assets by the central bank. This has the effect of lowering the yield for Cagamas debt securities because it creates strong demand from the financial institutions. The relatively low cost of funds is passed on by Cagamas to the primary lenders thus enhancing their ability to grant more loans at an affordable cost, particularly smaller loans subject to the interest cap of 9 percent a year.
- Housing and industrial property loan transactions have been exempted from stamp duties. This exemption has been granted by the government

for transactions with Cagamas and dealings in Cagamas debt securities. This has the effect of lowering the transaction cost of securitization.

- Issuance of debt papers has been exempted from the requirement of obtaining the Securities Commission's prior approval. This expedites the securitization process.
- The Registry of Companies is exempt from the requirement of issuing a prospectus for companies issuance of debt securities.
- The issuance of debt securities is exempt from the requirement of having to obtain the central bank's prior approval

Cagamas has been granted permission by the central bank to borrow and lend funds in the interbank market. This is also important in promoting the securitization process.

## The structure and performance of the capital market

The Malaysian capital market is basically divided into three segments: the stock market, the government bond market, and the private debt securities market.

Financing through the capital market has risen significantly since 1990, accounting for a share of 35 percent of total financing in Malaysia during 1990–96, compared to only 10 percent during 1980–85.

Net funds raised by the government declined progressively by 69 percent from 1980–85 to 1990–96. In contrast, the private sector emerged as the largest mobilizer of funds in the capital market, where the total net funds raised increased by 95 percent during the same period. At the end of 1996 Cagamas and other private debt securities accounted for 38.5 percent of the outstanding capital market instruments.

The corporate bond market in Malaysia emerged only after the mid-1980s, when the inherent structural and regulatory constraints and disincentives were removed to develop an efficient and reliable private debt securities market.

Some of the key measures introduced to develop the capital market were:

- Establishment of Cagamas Berhad, which was set up in 1986 to issue mortgage-related bonds with a view to stimulating the private debt securities market. At that time there were hardly any private debt securities in the bond market, which was composed only of government debt papers.
- Introduction of guidelines on the issue of private debt securities in December 1988 by the central bank of Malaysia (Bank Negara Malaysia).
- Provision of tax incentives for resident individual investors.
- Establishment of a network of principal dealers in 1989, to underwrite the primary issues of government papers and Cagamas bonds and to provide two-way quotations in the secondary market.
- Implementation of the Scripless Securities Trading System and Interbank Funds Transfer System in 1990 by the central bank, as a trading and set-

tlement infrastructure for private debt and government securities in a paperless environment.

- Founding of two rating agencies, the Rating Agency Malaysia Berhad (1990) and the Malaysian Rating Corporation Berhad (1995), to enhance confidence in the private-debt securities.
- Establishment of the Securities Commission in 1993, to assume and centralize the functions of regulating and supervising the capital market.
- Implementation in 1997 by the central bank of the fully automated system for tendering and the bond information and dissemination system, to widely disseminate information on private-debt securities and especially to enhance transparency in the trading of debt securities in the secondary market.
- Deliberate efforts by the Khazanah Nasional Berhad to issue bonds in 1997, with the objective of developing benchmark bonds.

Apart from the debt and equity market, the money market also plays a vital role in the mobilization and distribution of funds. The money market comprises the interbank market and the market for short-term money market papers. Major market players are the Central Bank of Malaysia, the Securities Commission, and the Registry of Companies (regulators), Cagamas Berhad (mortgage bond issuer), commercial banks, finance, companies, merchant banks, discount houses, and selected institutions (market players); as well as money brokers, insurance companies, institutional investors, provident and pension funds, and private debt securities issuers. A huge volume of business is done in the money market every business day.

The first major move by the authorities to promote a private debt securities market was to set up Cagamas Berhad in 1986. The success of Cagamas in issuing private debt securities has encouraged other large corporations (with good credit standing) to raise funds by issuing debt securities on a floating- or fixed-rate basis.

Funds raised through debt securities rose from RM 225 million in 1987 to RM 609 million in 1988 and RM 577 million in 1989. The volume of private-debt securities rose sharply to RM 1.7 billion in 1990, with more companies resorting to private-debt securities as a means of financing. By the end of 1996 it was estimated that RM 13.6 billion of net funds were mobilized through private-debt securities, including net funds of RM 4.4 billion raised by Cagamas.

In the past years two futures markets—the Kuala Lumpur Options and Financial Futures Exchange for share index futures and the Malaysian Monetary Exchange for interest rate futures—have also been set up to enable corporations and institutions to manage their risk exposures in a more efficient and cost-effective manner.

To facilitate the orderly development of both the primary and secondary markets for private-debt securities, the Central Bank of Malaysia introduced a set of guidelines in December 1988 to streamline approval and administrative procedures for the issuance of such securities. Among the criteria set out in the guidelines are that the minimum shareholders' funds of issuers must total RM 25 million and the minimum size of an issue must be RM 50 million (reduced to RM 25 million as of January 1, 1990).

Moreover, all private debt securities issues must be rated as of May 1992, when approvals have to be sought from the central bank. A public company is also required to seek approval from the Securities Commission for any proposal to issue debt securities. If the issue is a public issue, approval of the Registry of Companies must also be sought on the prospectus and the trust deed.

## The housing finance system

Until the early 1970s building societies were the largest originators of housing finance. Commercial banks and finance companies emerged as originators only in the late 1960s and became significant only in the mid-1970s. At that time, the Treasury Housing Loans Division also emerged as a major player in the housing loans market, providing end financing to public sector employees at a subsidized rate.

### Market shares today

At the end of 1996 commercial banks were the largest single group of housing loan originators, accounting for about half of the total housing loans granted in Malaysia. Finance companies originated another 17.8 percent. By this time the building societies' share had declined sharply in significance, providing only 2.8 percent of total end financing for houses.

The average maturity of housing loans has increased from 10–15 years in the 1970s to 20–25 years at present due to the availability of funds from Cagamas. As of the end of 1996 a total of RM 59,960 million of housing credit was made available, representing an increase of RM 41,874 million or 231 percent from RM 18,086 million a decade earlier.

The establishment of Cagamas was undoubtedly a major factor in the vast enhancement of commercial banks and finance companies in providing housing loans. There are four main benefits derived by these two groups of institutions in selling their housing mortgages to Cagamas.

First, the commercial banks and finance companies are able to obtain additional liquidity through the sale of their housing loans to grant more loans. Second, the selling institutions are able to reduce the mismatch in the maturity profile of their housing loans, which are of a long-term maturity, and their deposits, which are of much shorter term. Third, the lower cost of refinancing these loans reduces the financial burden of the institutions, particularly in making mandated lending for housing, which is subject to an interest cap. Finally, the position of Cagamas enables it to raise funds at a favorable rate in the market, and this cost advantage is passed on to the financial institutions. The availability of relatively low-cost funds also enables the loan originators to price their housing loans competitively, which encourages the growth of the housing loans and the housing market.

By the end of 1996 Cagamas securitized RM 16.1 billion of housing loans, mainly originated by the commercial banks, finance companies, and the Treasury Housing Loans Division. The total loans sold to Cagamas accounted for 35.3 percent of the volume of housing loans originated in Malaysia. There is therefore still considerable room for the securitization of housing loans.

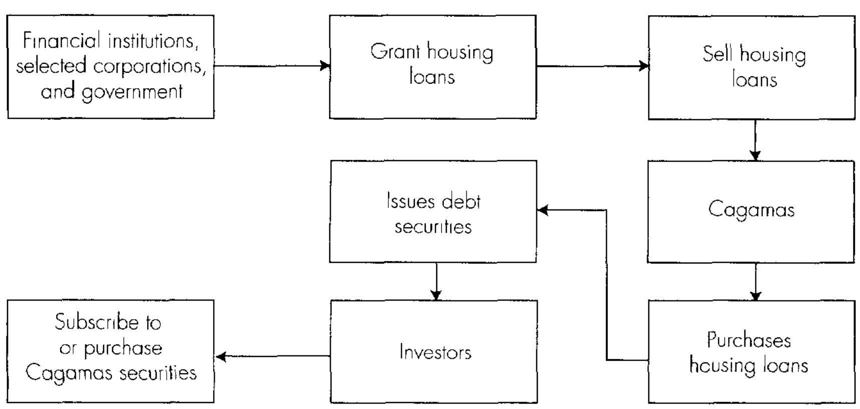
## The Cagamas securitization process

In the Cagamas securitization process the primary lenders grant housing loans to house purchasers and subsequently sell their loans to Cagamas (figure 8.1). Cagamas then raises funds from the market to finance these purchases by issuing debt securities in the form of longer-term Cagamas bonds and shorter-term Cagamas discount notes. Cagamas securities are issued through a panel of financial institutions by way of tender. Some debt securities are sold by the successful bidders in the secondary market.

Cagamas therefore effectively converts a long-term illiquid asset in the form of housing loans into debt securities, which can be traded in the secondary debt market. This process enables the investors to earn an income from Cagamas debt securities, which is basically derived from the mortgage interest paid by house buyers on their housing loans.

Cagamas currently offers five types of mortgage purchase facilities to primary lenders fixed rate mortgage purchase facility; floating-rate mortgage purchase facility; convertible-rate mortgage purchase facility; Islamic house financing debt purchase facility; and industrial property loan purchase facility. Mortgages are purchased by Cagamas subject to price review periods of three, five, or seven years, at the option of the selling institution. At the end

**Figure 8.1 The Cagamas securitization process**




*Source.* Author's schematization.

of the review period the seller has the right to repurchase the loans if they do not agree to the new price offered by Cagamas.

Cagamas only buys housing loans from financial institutions that are regulated by the Central Bank ofMalaysia, selected large corporations that are majority owned by the government, and the government itself. The primary lender acts as the servicer, trustee, and custodian for Cagamas on selling its loans and is also responsible for collecting the monthly housing loan installments and remitting them to Cagamas. In return the lender earns a service fee.

The sale of housing loans to Cagamas is made with full recourse, that is, the selling institution is required to repurchase any housing loan that is subsequently found to be below the minimum quality specified by Cagamas. To ensure that the housing loans it purchases are of the highest quality, Cagamas has specified the following criteria that the loans must meet to be eligible for sale:

- The loans must be for financing or refinancing the purchase, construction, or renovation of residential properties costing no more than RM 150,000.
- They must be fully disbursed.
- They cannot be more than three months in arrears at the time of sale.
- They must have a remaining life that expires on or after the price review date.
- They must be secured by a first charge or assignment of rights over the mortgaged property.
- They must comply with other criteria as specified.

These eligibility criteria have helped to ensure a low default rate for the loans sold to Cagamas, which from the company's start of operations until 1996 has not exceeded 1.9 percent.

Before the selling institutions can offer their mortgage loans for sale to Cagamas, they have to execute a revised master sale and purchase agreement with Cagamas. Cagamas then purchases the housing loans based on their book value. The sellers undertake to transfer the security documents in favor of Cagamas, whenever Cagamas requires them to do so. Thus in its present mode of operations, Cagamas is only the beneficial owner of the loans it purchases.

Cagamas funds its purchase of loans mainly by issuing private debt securities and, to a lesser extent, by borrowing from the money market. Cagamas currently issues three types of conventional debt securities: fixed-rate bonds, floating-rate bonds, and short-term discount notes. In addition, Cagamas also issues a small amount of Mudharabah (profit sharing) bonds to finance its acquisition of Islamic house financing debts.

Cagamas securities are unsecured obligations of the company. They are issued scripless and are tradable electronically in book-entry form through an electronic clearing house. At end of 1996 the total amount of Cagamas bonds with an original maturity of more than one year issued and outstanding amounted to RM 13.2 billion, or 11.3 percent of the total volume of debt instruments (including government securities) in the capital market against a total of RM 4.3 billion or 5.3 percent issued and outstanding at the end of 1992.

## The role of the government in the housing finance system

The government considers the development of the capital market to be a priority. The housing sector has been a government priority thanks to its aim of promoting a house-owning democracy. Accordingly, a wide range of supportive actions have been taken by the government as well as the private sector to enhance housing development.

The federal government sets housing targets to be achieved by both the public and private sectors, with emphasis on the construction of low-cost housing. Apart from fixing the price at which low-cost housing units can be sold by the public and private sectors, the federal government also provides the following forms of indirect and direct financing for the construction of houses:

- A large revolving fund for the construction of houses for the urban hardcore poor.
- An abandoned housing projects fund to revive housing projects abandoned during the recession period.
- A revolving low-cost housing development fund to finance the development of low-cost housing projects.
- Funds to assist developers accelerate construction of low-cost houses.
- Interest-free, end-financing facilities to low-income groups to supplement other sources of funds for building their own houses. For this purpose free building materials are also provided by the government.
- End-financing for eligible candidates to purchase houses built by the federal and state governments under the public low-cost housing program.
- Housing loans at a subsidized rate to land settlers to acquire their own houses.

In Malaysia the National Land Code of 1965 governs legal and administrative procedures for transfer and charging landed properties. The code is based on the Torrens system of land registration, which includes registration of instruments and transfer of charges.

*Registration of instrument.* The legal framework for housing finance in Malaysia is confined to instruments of charge in instances where alienated lands issued with individual land titles are offered as securities for the repayment of housing loans or banking facilities. In effect, a mortgage as known under English law is broadly similar to the registered charge on land as provided by the National Land Code, both of which are predominantly used to secure loans or advances given by a lender. Such instruments bind only the parties to the instruments of dealing in land under the doctrine of privity of contract. Strangers to such instruments are not bound.

Properly created instruments of charge that have been duly registered by the relevant registration authorities become Torrens charges, which bind the world at large. They are registered encumbrances that are carved out of the respective registered land titles. Only registered owners can encumber their alienated land.

The creation of a Torrens charge, apart from its mandatory registration under Torrens law, must be prepared in prescribed statutory form and duly executed and attested. In addition, the creation must not infringe on any other existing laws.

*Transfer of charges.* There is no special-purpose vehicle under the present mode of securitization adopted in Malaysia. Financial institutions sell their mortgage loans to Cagamas pursuant to the master sale and purchase agreements signed between the selling institutions and Cagamas. The agreement sets out general terms and conditions governing the sale of mortgage loans to Cagamas and incorporates a declaration by the financial institution that it holds in trust for Cagamas, the mortgage loans purchased by Cagamas, the mortgage instruments, and all moneys received but not paid to Cagamas. Consent is not required from the borrower (chargor) for the sale of housing loans, because normally there is a provision in the charge instruments that allows the financial institution to transfer the charge or assign all its rights and interest to another party.

The charge over the property used to secure the housing loan continues to be registered in the name of the financial institution, and the assignee of the rights to the property is the financial institution. In addition, the financial institution appoints Cagamas and its assignees to be its attorney upon execution of the master sale and purchase agreement. For each sale of a housing loan, the financial institution executes a purchase contract by which the financial institution sells and assigns the loan to Cagamas. By virtue of such sale and assignment the financial institution conveys, assigns, and transfers the beneficial interest in the loan to Cagamas.

## Development of the existing market

Although the private debt securities market and the secondary mortgage market in Malaysia are quite well established and a large volume of mortgages is securitized regularly, there is still room for improvement. Further progress depends on finding solutions to various issues and problems currently faced by Cagamas and, particularly, by the debt securities market in Malaysia. Solutions to these problems would further promote the growth of the capital market and securitization as a means of financing.

### Growth potential of the capital (debt) market

Several factors have impeded the growth of the private debt securities market. The most prominent are discussed here.

*Lack of benchmark bond.* Trading of Cagamas debt securities, as of the Malaysian government securities and treasury bills, has been rather slow and inconsistent over the years. As a result, there is no benchmark bond available. While a few financial institutions do provide quotations on bond prices, due to the paucity of secondary market transactions there is uncertainty as to whether these quotations truly reflect actual market prices. The availability of a market-based benchmark would facilitate financing and investment decisionmaking by issuers and investors and is essential if the Malaysian private debt securities market is to progress further.

*Insufficient information on bond trading.* Lack of information on bond trading creates uncertainty and therefore reluctance on the part of investors (especially foreign investors) to participate in the market. The central bank has, however, taken action to rectify this by setting up an electronic bond information and dissemination system, whereby information on bond prices, the volume of secondary market transactions, and so forth is reported by dealers and made available almost instantaneously to the market participants from a centralized electronic source.

*Inadequate supply of bonds due to captive market.* In well-developed bond markets, the banks and, to an extent, the fund managers are normally the active short-term traders in bonds, whereas institutional investors are longer-term holders of bonds. Other financial intermediaries who actively mobilize their deposits to invest in money market instruments and engage in lending activity have not ventured into investing or trading in bonds, principally due to high reserve and liquidity costs as well as the lack of opportunities for hedging. Institutional investors such as the Employees Provident Fund and insurance companies are the longer-term investors in bonds. Given the more rapid expansion of their supply of funds relative to the growth of suitable investable instruments, these institutional investors have been willing to take up any issue of good-quality bonds at the right price.

An insufficient supply of bonds also deters secondary market trading. While the supply of such securities has been growing strongly over recent years, it is still insufficient to generate a sustained volume of trade. This problem is compounded by the fact that the bulk of the debt papers issued by Cagamas are recognized as liquid assets by the central bank for the purpose of compliance with the liquidity requirements by the financial institutions. This has led to reluctance on the part of financial institutions that have a liquidity ratio to maintain to sell their holdings of Cagamas securities. This factor is further compounded by the downsizing of government borrowings through a reduction in the issuance of Malaysian government securities. This has put Cagamas debt securities in even greater demand, thus depressing their yields.

*Underdeveloped bond futures market.* The development of a market in bond futures will help to reduce or eliminate the reserve and liquidity costs and will also help reduce the interest rate risk premium by improving opportunities for hedging. The lack of a bond futures market and resulting liquidity has discouraged speculators. An active bond futures market would enable the transfer of risks to those who are willing to bear them.

*Narrow investor base.* The narrow investor base is another factor that impedes the potential growth of the private debt securities market. At present, the financial institutions are holding the bulk of the debt securities issued by Cagamas. On September 30, 1997, commercial banks, finance companies, merchant banks, and discount houses collectively held 87.3 percent of these securities. There is therefore a need to educate other institutions, such as the pension funds, mutual funds, insurance companies, cash-rich corporations, as well as wealthy individuals, about the advantages of investing and trading in bonds, including mortgage-backed papers, rather than just leaving their surplus funds in fixed deposits or shares. Allied to this problem is the need to change the present bond issuance and trading process, which is currently geared for wholesale transactions, to a structure which would make the bond market more liquid and more easily accessible to retail investors. An increase in the number of market participants would stimulate a larger supply of bonds as well as enable a high and sustained volume of trading on the secondary market.

*High liquidity and reserve costs.* In the early days the central bank was the only institution that attempted to play the role of the marketmaker. There were no primary dealers as such and the central bank attempted to make a market in Malaysian government securities by quoting two-way prices. As Malaysian government securities prices were fixed by the central bank and the amount of bonds it was prepared to buy or sell was entirely within its discretion, its marketmaking role was a limited one. This consideration, along with the perception that a captive market made for a low yield, compounded the liquidity problem.

In 1989 a system of principal dealers as set up by the central bank for Malaysian government securities and Cagamas bonds. The principal dealers are required to bid at auctions of all primary issues of Malaysian government securities of up to 10 years, with each of them bidding for not less than 5 percent of each issue. For Cagamas bonds, the principal dealers are required to bid at least 10 percent of the nominal issue. The bids need not be at par value—that is the principal dealers are allowed to quote their own bid prices. With new issues made by way of auction, the allocation can be related directly to the bid prices received.

This consideration and the fact that principal dealers are allowed to make the bid either at a premium or discount implies that the issue size and yields should be market-determined, unlike the situation under the previous advance subscription system. All principal dealers are required to quote a two-way price for the bonds within a 15 sen or RM 0.15 spread. This should help ensure that a secondary market exists for bonds.

Under the current regulatory environment and stage of market development, the cost and risk of carrying a Malaysian government securities inventory is high, the profit opportunities are limited, and, accordingly, there is little or no incentive for the principal dealer to make a secondary market for bonds.

*Sluggish borrowing and short selling.* The borrowing and short selling of papers has not been institutionalized and is in fact discouraged by existing guidelines. This is another important reason why the cash bond market is illiquid. A liquid cash market in bonds can be created if market players are able to borrow securities for short selling. This should be possible since a repo market has been in existence in Malaysia since 1979. A well-developed market in repos and reverse repos enables an institution to borrow cash against the collateral of readily marketable money and bond market instruments and to borrow securities against the collateral of cash.

Presently in Malaysia the use of the repos to borrow securities against the collateral of cash is almost unheard of. In more developed financial markets both cash and securities can be borrowed. If the borrowing of securities can be introduced and institutionalized through such an agreement, it will make for a more active and liquid cash market in instruments such as Malaysian government securities papers, because it will enable market players to run a long- or short-bond position with or without having the required instruments in their physical possession. To make this leap, no approval is required from any regulator. For this reason, market players and certain marketmakers should actively look into this matter to take market development in Malaysia to its next logical stage.

### Steps to make securitization a viable financing source for lenders

Following are specific recommendations for enhancing the development of the secondary mortgage market.

*Longer-tenor bonds.* The development of the secondary mortgage market can be enhanced by lengthening the tenor of mortgage-backed bonds in the market. Currently, Cagamas issues bonds with maturities of up to seven years to match the price review periods of the housing loans it purchases. As mentioned earlier, housing loans are sold to Cagamas based on an agreed price review period of three, five, or seven years. At the end of the review period the price of the transactions is reviewed and the selling institution has the option of repurchasing its housing loans from Cagamas if it feels that the price offered by the company to roll over the transaction is not sufficiently attractive. The average life of outstanding mortgage-backed bonds in the market at the end of 1996 was, in fact, considerably shorter than seven years, with the bulk of the bonds concentrated in the three-year tenor. This is because the bulk of the housing loans purchased by the company is for a price review period of three years and bonds issued by Cagamas consequently reflect this tenor. Cagamas is currently planning a new securitization product that would enable longer-term bonds to be issued.

*Market-based benchmark.* In the context of securitization operations, the lack of benchmark issues makes it difficult for Cagamas to quote an accurate price to potential sellers of housing loans. Because the loans are purchased by Cagamas prior to the issuance of debt securities to fund such purchases, it is vital that reliable information on the price of Cagamas bonds be available at all times, both to enable competitive quotations to be provided and to enhance secondary market trading of mortgage-backed securities.

*Transferability of legal documents.* Another issue concerns administrative practices and laws pertaining to landed properties in Malaysia. For the secondary mortgage market to move beyond its present stage of development, the security documents of housing loans must be capable of being readily transferred from the primary lender to a third party, such as Cagamas, or to trustees for the bondholders, in the case of pass-through securities.

At present, when a house title contains a restriction on the right to charge, deal, or dispose of the property, the prior written approval of the relevant land authority must be obtained by each borrower to charge the property to a primary lender. If an existing charge with such a restriction is to be transferred from a primary lender to a secondary mortgage market institution such as Cagamas, the approval of the relevant land authority is also required. The securitization of housing loans secured by titles with such restrictions is therefore difficult because of the time required to obtain the approval of the authorities for the transfer of charges. It is also uncertain whether the relevant authorities will ultimately approve the transfer.

Consequently, housing loans with a restriction on the transfer of charges are currently not eligible for securitization by Cagamas. This means that there is a limit on the pool of housing loans eligible for sale to Cagamas. To further expand the secondary mortgage market, it is therefore essential that restrictions on the transfer of charges be removed, at least for securitization purposes.

*Clearer transfer of charges.* A further issue concerns restrictions imposed by various laws on the transfer of charges involving Malay Reserve land and customary land. Cagamas has been authorized in most laws to accept charges over such land. However, these laws do not specifically refer to the transfer of charge. In the absence of such reference, it is not clear whether Cagamas, having been permitted to accept charges on Malay Reserve land, is also permitted to receive the transfer of existing charges on such land from other charges. In the case of the State of Selangor, for example, the authorities have interpreted the law restrictively to mean that a party that has been authorized to take a charge on Malay Reserve land cannot accept a transfer of an existing charge on the property.

There is therefore a need for the authorities to clear up this ambiguity so that an institution that is authorized to take a charge over Malay Reserve land can automatically also accept a transfer of charge over such land. If this issue is not resolved, it will be a deterrent to the securitization of housing loans granted for the purchase of houses on Malay Reserve land.

*Quicker foreclosure proceedings.* The time taken to auction properties as well as to receive the auction proceeds is another factor hampering the development of the secondary mortgage market. Under the current practice, procedures for auctioning a piece of property following default on a housing loan can take a year or longer from the date of commencement of foreclosure proceedings. Thereafter it may take yet another year or even longer for the auction proceeds to be released by the high court. This long time lag in the realization of a charge is a cost that has to be factored in when securitizing housing loans, particularly if the housing loans are sold to Cagamas on without-recourse basis. This hinders the development of a market for pass-through securities. Ideally, the land laws should be amended specifically to accommodate securitization transactions.

*Shorter bond issue approval process.* At present it takes about four to nine months to bring private-debt securities issues to market because private-debt securities are subject to certain regulatory guidelines. For example, a rating agency in Malaysia has to rate the issue and approvals have to be sought from the central bank and the Securities Commission. Public issues need approvals from the Registry of Companies of the prospectus and the trust deed and from the Kuala Lumpur Stock Exchange for listing equity-linked issues. Market conditions can move against the interest of the issuer due to the long approval process. Changes should be made in the regulations or a one-stop agency should be set up to expedite the approval process. Reducing approval time would certainly reduce the interest rate risks associated with debt issues.

For Cagamas, the bond issue process has been shortened from three months to seven days, since Cagamas obtained exemption by virtue of being a prescribed corporation under Section 38(7)(b) of the Companies Act of 1965. It can now issue debt securities without publishing a prospectus.

*Stamp duty exemption.* Stamp duty in Malaysia is imposed on the sale and transfer of assets. As securitization involves the sale of assets from the loan originator to the special-purpose vehicle, it is not cost effective for there be stamp duty on the transaction. Therefore, special consideration ought to be given for stamp duty exemption if the securitization process is to be cost effective. Cagamas has already received such an exemption from the government for its activities.

*Sufficient assets for securitization.* Financial institutions in Malaysia grant housing loans based primarily on adjustable mortgage rates that move in tandem with the market rates. These primary lenders are therefore not exposed to interest rate risks and under normal liquidity conditions feel no urgency to sell their loans to Cagamas, since they can always pass on any increase in their cost of funds to the borrowers. In this situation there is a limit to the securitization of housing loans. Ideally, the primary lenders, rather than the borrowers, should bear the interest rate risk. This will occur only if the housing loans are based on fixed interest rates.

Under this scenario, fixed-rate housing loans would, as a matter of course, be securitized by the primary lenders to minimize their interest rate risks. The originators would regard themselves only as the servicers for the loans, earning a fee income for the service, while the long-term bond investors provide the financing and undertake the interest rate and credit risks. Cagamas has therefore embarked on a campaign to encourage financial institutions to grant fixed-rate housing loans, both to provide house buyers with an additional choice for the end financing of their homes and to enhance the securitization of housing loans. Several institutions have recently begun offering such fixed-rate financing facilities, and there are early indications of a positive response from potential borrowers to such loans.

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# 9

# Rationalizing Housing Finance and Developing Capital Markets in the Philippines

*Joselito Gallardo*

In the Philippines as elsewhere, the development of housing markets is closely tied to the broader objectives of promoting social welfare and developing financial and capital markets. Housing concerns have a prominent place in the Philippine government's social reform agenda which provides active support for the housing sector through such direct interventions as housing development, mortgage and construction lending, housing rental regulations, and the provision of insurance and guarantees. In 1995 the government accounted for 71 billion pesos (₱) or 30 percent of outstanding construction and real estate loans; ₱42 billion in outstanding guarantees on non-low-income housing finance; and ₱3–5.5 billion in off-budget interest subsidies for low-income housing finance (National Economic and Development Authority 1996; World Bank 1997c). The government is moving toward performing the role of enabler and facilitator, rather than being the major direct provider of housing, and it is also inducing the private sector to be more involved in the production of housing units and the provision of housing finance. This conscious shift traces its origins to programs for deregulation and privatization and, to some extent, fiscal constraints on subsidy programs. The focus of the government's National Shelter Program continues to be families in the lower- to middle-income levels, using non-budget subsidy schemes to make housing mortgage loan amortization payments affordable for buyer-borrowers, while offering a combination of interest margins, access to funding, and tax-based incentives to encourage builders, developers, and housing finance providers and servicers to participate in the program.

The housing finance assistance programs for low- to middle-income homebuyers use a formula-lending approach. A housing mortgage loan is based on a precomputed multiple of the monthly income of the prospective borrower, who must be a member of the pension fund systems of the

Social Security System, the Government Service Insurance System, or the provident fund system (known as the Pag Ibig Fund). The formula-lending approach eliminates the need for a lender to judge the borrower's ability and willingness to pay, but it is an unnecessarily risky, bureaucracy-driven loan underwriting process.

Overall, the Philippines' socialized housing programs need to be reformed so that intended support can be targeted more efficiently and cost effectively. One problem is that the off-budget subsidy schemes and tax incentives of the housing assistance programs cannot possibly reach families below the ninth decile (Llanto and others 1997).

Families in the lowest 30 percent of income distribution spend about 7 percent of their income, or about ₱180 per month, on housing. The monthly amortization payment for a loan as low as ₱50,000 is ₱556—three times greater than what the families can afford to pay. Families at the ninth decile of the income distribution scale spend 12.6 percent of their income, or about ₱1,400 per month, on housing. In contrast, the monthly amortization for a low-income mortgage loan of ₱150,000 with all possible subsidies is *higher* at ₱1,666.67. The obvious conclusion is that only the middle- and higher-income groups in the tenth decile of income distribution or families with members in the government-mandated pension and provident funds can afford the amortization payments for subsidized and assisted housing mortgage loans. Worse, the interest rate ceilings that are the cornerstone of off-budget subsidy schemes discourage the wider participation of the banking sector, inhibit the ability of financial institutions to create securities based on mortgage loans, and stunt the capacity of the pension and provident fund institutions to support the development of markets for mortgage-backed securities. This is because the same institutions are mandated to channel investable funds for subsidizing housing finance.

A second problem with the government's low- to middle-income assistance program, the Unified Home Lending Program, which affects the creation of securities for investors in the secondary markets, is the extent of loan delinquency. The high incidence of loan delinquency in the program is troubling—particularly because the data indicate that loan delinquency goes up as the size of the mortgage loan increases. The share of delinquent loans in the ₱150,000–225,000 loan bracket is double that at ₱150,000 and below, even though the share of delinquent loans in the ₱225,000–375,000 bracket is less than that at ₱150,000–225,000 (Llanto and others 1997).

## Macroeconomic environment and financial structure

Substantial gains in macroeconomic indicators in the Philippines have been achieved in the past five years, and the trend is expected to continue over the next 10 years. The investment rate (GDI/GDP) rose by 66 percent from

15.3 percent to 24.9 percent, and the savings rate (GNS/GDP) improved by 25.8 percent. However, the recent economic and financial crisis in the region has affected the Philippines and prompted significant policy adjustments affecting the behavior of currency exchange, inflation, and interest rates and causing shifts in expectations and actual results for the behavior of principal macroeconomic and sectoral variables.

During the second half of 1997 the Philippine peso declined by about 60 percent against the U.S. dollar, from ₱26.50 at the beginning of July to ₱42.50 in January. Prevailing short-term interest rates have adjusted to new levels which, at 22–26 percent, are currently 33 percent higher than the stable but declining interest rate levels of the previous 12–18 month period. Predictably, medium- to long-term financing has become more costly and has virtually disappeared on a broad sectoral basis. Following are the most important policy measures taken by the government to enable the economy and its different sectors to adjust to the substantially changed economic environment.

- Higher minimum capitalization levels for expanded and regular commercial banks, including a higher capital-to-risk weighted assets ratio. Over a two-year period beginning in 1997 expanded commercial banks are required to increase their qualifying capital to a minimum of ₱4.5 billion. Ordinary commercial banks and Manila-based thrift banks are required to have minimum qualifying capital of ₱2.0 billion and ₱250 million respectively.
- A new and formalized limit on loan-to-value ratios (60 percent of appraised value) and a ceiling of 20 percent of the total loan portfolio for real estate-related loans. Mortgage loans under the National Shelter Program are exempted from these ceilings and limits.
- Substantially higher minimum capitalization levels, from ₱20 million to ₱300 million, for investment houses, together with an increase from 40 to 60 percent in the limit on foreign equity participation and the elimination of the Philippine citizenship requirement for directors.
- Liberalization of domestic borrowing by foreign-owned firms, including the removal of ceilings on debt-to-equity ratios for foreign-owned firms in 1997.
- Liberalization of regulations on trust operations, including the elimination of the mandatory six-month profitability test period imposed on banks and financial institutions wishing to engage in trust operations.

The liberalization of the financial system, the deregulation of exchange rates, the privatization of public-sector-owned institutions, and the offering of shares of private companies to the public have formed the basis for further development of the capital markets. The debt markets are still dominated by public sector issues and have a short-term orientation, even though the volume of private sector debt and security issues is growing at a steady pace.

## Structure of the financial sector

The size of the Philippine financial sector, measured by the value of total assets, is estimated at ₱2.3 trillion (about US$85 billion) as of the end of 1995. Banking institutions and nonbank financial intermediaries under the supervisory authority of the Philippine central bank dominate the sector, accounting for 82 percent of the total asset base. The remainder is held by the contractual savings sector, an important component of the financial system because of the longer-term profile of its asset base.

Commercial banks dominate the banking sector, holding 77 percent of total assets. Privately owned thrift banks, whose lending and investment portfolios lean more heavily toward housing mortgage loans than those of commercial banks, account for 10 percent of the banking sector's asset base. In the nonbank financial intermediaries sector, investment institutions and other financial intermediaries, subject to central bank prudential regulation, along with funds under trust management account for 37.5 percent of the sector's total asset base. Together with securities dealers and investment banks, this component could be an important participant in the capital markets in terms of marketmaking and origination. The principal source of long-term funds is the contractual savings sector, which has two components: public sector institutions, mostly consisting of the social security institutions, the mandatory provident fund (the Home Development Mutual Fund, or Pag Ibig Fund), and other public occupational (armed forces, government financial institutions, teachers, judges) pensions plans; and private sector institutions, consisting of private insurance companies, pre-need plans, and private occupational pension plans.

The capital market is dominated by government debt, of which a substantial portion is held by deposit money banks. The national government is the largest issuer of debt; one-third of the government's budget is used to service the national debt, including external loans. The central bank has been the next largest issuer, raising more debt than any other entity—public or private—in 1991. The impact of public sector borrowing has been to crowd out private sector debt from accessing the capital markets. Total public debt outstanding has tended to be larger than total commercial bank lending and has almost continuously exceeded equity market capitalization. More significantly, public sector debt has been generated to support old debt or bad loans, resulting in high interest rates that hold back economic development.

The fundamental characteristics of the financial markets are a short-term orientation; the slow but steady development of the domestic debt market; encouragement by the government of the more rapid development of domestic bond markets; and continued growth in secondary market trading.

The principal institutional players are:

- The privately-owned commercial banks, whose assets account for 54 percent of the total assets of the financial system and whose loan portfolio comprises 69 percent of total loans of the financial system.
- The thrift banks, which account for only 7 percent of the total assets of the entire financial system.
- Public and private pension funds, insurance companies, mutual funds, unit trusts, and retail investors, which constitute the backbone of the emerging domestic investor base in a broad spectrum of countries in Asia. The Philippines is no exception, even though the importance of each component differs significantly from that of its counterpart in other Asian countries.
- The contractual savings sector, which comprises 18 percent of total assets of the financial system but is the equivalent of only 33 percent of the asset base of commercial banks. This sector, which is dominated by the public sector social security and provident fund institutions, has been used as the principal source of funding support for the low-income and economic housing finance programs promoted by the government.

The principal financial instruments consist of:

- Treasury bills, or short-term obligations of the government, issued by the Department of Finance in weekly auctions managed by the central bank.
- Treasury notes and bonds, or medium-term fixed- and floating-rate national government debt with maturities of one week to five years. In April 1997 the national government successfully floated ₱2.0 billion (US$75 million) of 20-year treasury bonds, the longest-dated domestic issue ever (Ramos and Bayron 1997).
- Overseas bond issues of the national government, government corporate entities and financial institutions, and private sector corporations.

**Table 9.1 Key indicators of selected financial markets in East Asia, 1994**

*(Billions of U.S. dollars; percentage of GDP)*

| | *M 2* | | *Bank assets* | | *Equity market* | | *Bond market* | |
|---|---|---|---|---|---|---|---|---|
| *Economy* | *Amount* | *Percent* | *Amount* | *Percent* | *Amount* | *Percent* | *Amount* | *Percent* |
| China | 519 | 88 | 388 | 76 | 44 | 9 | 33 | 7 |
| Hong Kong | 119 | 109 | 257 | 195 | 270 | 205 | 11 | 9 |
| Indonesia | 69 | 48 | 90 | 57 | 47 | 30 | 9 | 6 |
| Korea, Rep of | 139 | 42 | 283 | 75 | 192 | 51 | 161 | 43 |
| Malaysia | 54 | 88 | 70 | 100 | 199 | 283 | 40 | 56 |
| Philippines | 22 | 42 | 34 | 54 | 56 | 87 | 25 | 39 |
| Singapore | 51 | 92 | 115 | 186 | 135 | 217 | 45 | 72 |
| Thailand | 98 | 79 | 153 | 110 | 132 | 94 | 14 | 10 |
| Total | 1,071 | 74 | 1,390 | 92 | 1,073 | 71 | 338 | 22 |

*Source:* World Bank 1995

- Municipal bonds, issued by local governments and underwritten by private banking and financial institutions. There have only been two issues of local government bonds.
- Short-term commercial paper, the main instrument used in the private sector to raise debt, with a maturity of less than 365 days, transferable, and able to be sold with or without recourse.
- Long-term commercial paper, also used by the private sector to raise mostly medium-term debt, generally of two- to three-year maturity, although a few issues of seven-year maturity have been issued by the best local firms.

Corporate bonds of private sector institutions have yet to develop because of the short-term focus of Philippine capital markets, the disadvantageous tax incidence (20 percent of capital gains on redemption plus regular income tax), and the rigorous regulatory infrastructure and requirements for issuing bonds. Nonetheless, corporate bonds are gaining ground as a means of raising longer-term funds at rates lower than short-term bank funds. There were 32 issues in 1997, amounting to US$1.20 billion.

Mutual funds constitute a very small component of the capital markets. The mutual funds industry in the Philippines is the smallest in the region, consisting of seven mutual funds with a market capitalization of ₱1.5 billion (US$60.0 million) offered to investors. At this stage, retail investors prefer to invest directly in stocks. Derivatives are also only beginning to make their appearance on the Philippine capital markets, and the development of an interest rate swap or currency swap market faces serious obstacles because of the dominance of short-term funding options for borrowers and the lack of critical mass in medium-term debt instruments. Only a few of the very best names have ventured into issuing derivative securities related to the underlying value of equity positions in subsidiary and affiliate companies.

## The flow of funds to housing finance

The flow of funds for housing finance has been compartmentalized by the concentration of real estate and housing loans by banking institutions. Housing finance has tended to focus more on middle- to high-income groups and high-rise multifamily condominiums—that is, the upscale segment of housing markets.

Housing finance for low- to middle-income households is supported principally by funding resources channeled by the government-controlled pension and provident fund institutions. Private sector banking and financial institutions also participate, particularly the thrift bank sector as accredited participating financial institutions under the Unified Home Lending Program or the Economic Housing Loan Program (EHLP) housing finance programs of the government. Participating financial institutions may use a small part of their own resources for mortgage loans under these programs, since the bulk of the funds are borrowed from the funding institutions. For loans of the thrift banks to middle-income mortgage loan borrowers, own funds are utilized. Funding support from the Social Security System, the Government Service Insurance System, the Home Development Mutual Fund, and the National Home Mortgage Finance Corporation to the Unified Home Lending Program accounts for 30 percent of total construction and real estate lending and 46 percent of the total loan portfolio of the public sector institutions.

## Housing finance segmentation

The demand for housing finance in the primary market has two components: individual buyers/owners who want to finance their purchase or construction of a housing unit through a first mortgage loan, and corporate institutions that want to finance the development, construction, and inventory of land plots or finished housing units through short- to medium-term loans.

The housing finance markets for mortgage loans for individual borrowers and homebuyers are composed of discrete segments demarcated by household income levels, borrower's equity levels, interest rates, packages of subsidies, and institutional sources of funding. The overall impact of these factors is the fragmentation of the housing finance market into segments with discrete boundaries, which hinders market integration and full participation by private sector financial institutions through market-based instruments.

Corporate institutions, or the construction and real estate development companies involved in the segmented housing markets, require institutional financing for ongoing projects, inventories of finished housing units awaiting sale, and sales of housing units awaiting take-out financing. The participation of private sector builders and developers is generated through an intricate network of subsidies, guarantee schemes, and tax incentives, which protect the producer's gross margin.

Overall, in 1990 almost 83 percent of the total 11,407,262 households were in owner-occupied dwelling units. Some 76 percent of urban households were in owner-occupied dwelling units, in contrast to rural areas, where 90 percent of households lived in owner-occupied dwelling units. In urban areas 15 percent of households lived in rented dwelling units, while in the rural areas only 1 percent of households lived in rented dwelling units. Among urban households, 87 percent lived in single-family homes and 10 percent lived in multi-family housing units. In contrast, 97 percent of rural households lived in single-family homes, while 1 percent lived in multifamily housing units.

There were 12.8 million households in the Philippines in 1994. The annual growth of the population and its age structure, together with an estimated 2.5 percent annual growth in the number of households, constitute the base for growth in housing demand, which is estimated at 634,000 housing units yearly. At this rate the aggregate shortage in housing units would reach 3.8 million housing units by 1998 (IUHFI 1995). The demand configuration underscores the urgent need to develop secondary market structures to ease the flow of funds to housing finance.

The affordability of housing units and housing finance has a significant impact on whether or not demand can be satisfied. An analysis of available data suggests that several categories of households will never be able to afford housing units or benefit from housing finance schemes targeted at the lower-income levels if the prevailing prices and amortization payment levels continue. Moreover, private financial institutions will find it virtually impossible to provide housing finance to those households when the mortgage loan rates are below market. A significant number of primary mortgage loans will not be susceptible to securitization because of their below-market interest rates and resulting low or inadequate cash flows from periodic amortization payments.

## The boundaries and structure of segmentation

The segmentation of the housing finance market for individual mortgage loan borrowers is based on income level and loan amount. The segmentation boundaries are most pronounced for very low and low- to middle-income mortgage loan borrowers. Segmentation is brought about by a combination of income level thresholds together with mortgage loan amount ceilings as qualification barriers and a structure of below-market fixed interest rates on the loans. These below-market fixed interest rates differentiate mortgage loans in these segments from the middle- to high-income markets, where mortgage loans have market interest rates that feature review and adjustment periods. However, while the below-market interest rate subsidy scheme has a loan ceiling of ₱225,000 for mortgage loan borrowers, tax-based and liquidity-oriented incentives for housing finance providers and housing unit producers are provided through the Home Insurance and Guarantee Corporation guarantee schemes for mortgage loans up to ₱3 million.

The segmentation is reinforced by subsidies and incentives to housing finance providers and housing unit producers. These direct and indirect subsidies and incentives are not provided for in the national government's budget.

- Producers can avail themselves of developmental and cash flow guarantees of the Home Insurance and Guarantee Corporation. Revenues from sales of housing units under the United Home Lending Program are exempt from corporate income taxes. Thus by analyzing the income statements of a producer-developer, it is possible to determine if the composition of the producer's construction and development portfolio is predominantly low-income housing or if it is changing into economic and middle-income housing. The indicator is the effective corporate income tax rate—the relationship between corporate income taxes paid and gross revenues.

- Housing finance providers of mortgage loans covered by Home Insurance and Guarantee Corporation guarantees are exempt from taxes for the first 8.5 percent of interest income and thus have an income statement benefit. Because mortgage loans covered by Home Insurance and Guarantee Corporation guarantees are exempt from classification as risk assets, the housing finance provider also benefits from capital adequacy and liquidity considerations in the balance sheet.

Mortgage loan borrowers from low-income households, households with various forms of subsidies, and higher-income households are effectively segregated, which requires differentiated financial institutions and nonsubstitutable financial instruments. More importantly, there appears to be a middle-income segment of households that is effectively excluded from the mortgage loan markets because their incomes exceed the ceilings set for the subsidy-supported programs, while they are unable to afford the mortgage loan products offered by the private financial institutions.

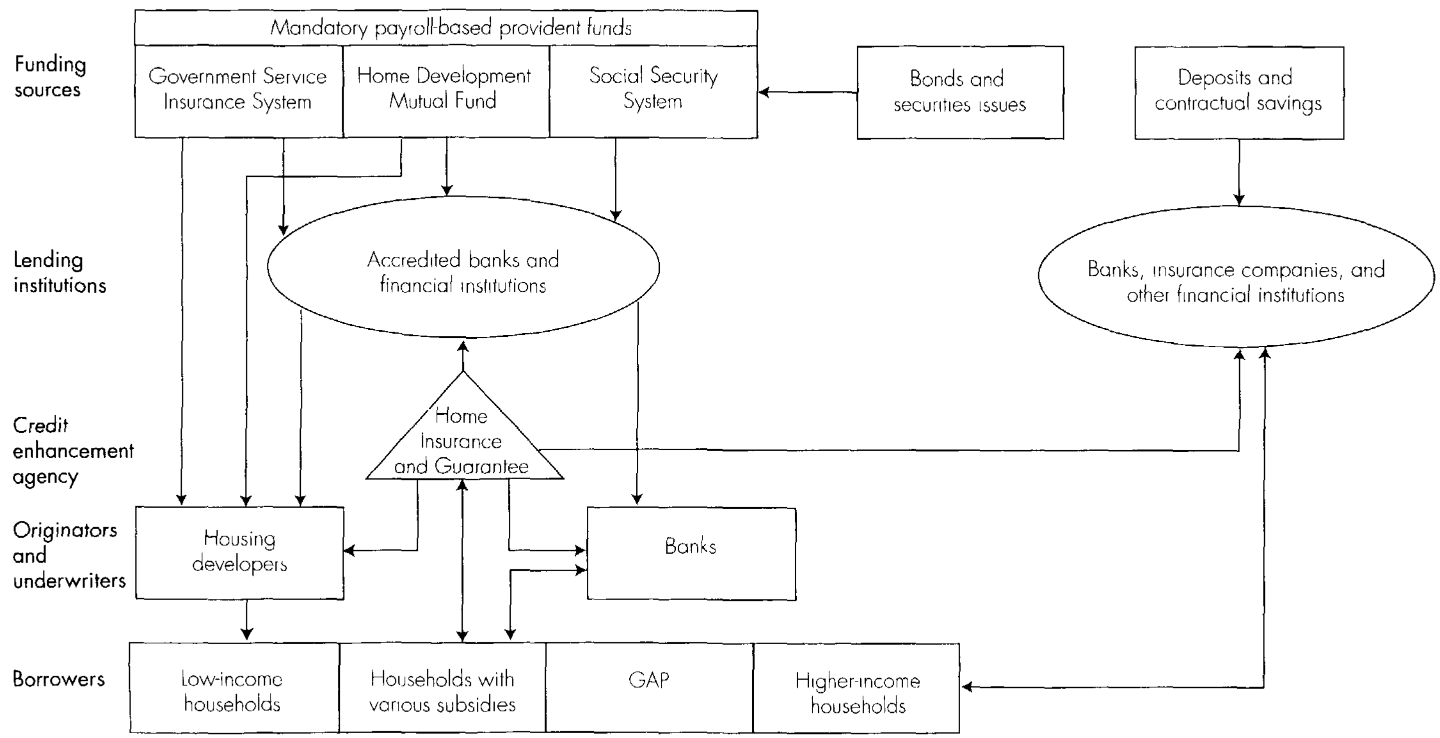
## Institutional sources of funds and instruments

Housing finance for mortgage loan borrowers in low- to middle-income households must depend principally on flows of funds from the government-controlled pension and provident funds.

Principal institutional sources of funds for housing finance in the different segments consist of commercial and thrift banks, insurance companies, and the government-controlled pension and provident funds—the social security system, the government service insurance system, the Pag Ibig Fund, the Home Insurance Guarantee Corporation (which provides tax-driven guarantee incentives to housing finance providers), and the National Home Mortgage Finance Corporation (which until 1996 was utilized as the channel for housing finance funding provided by the three public contractual savings sector institutions) (figure 9.1).

*Commercial and thrift banks.* The data on commercial and thrift banks' loans for housing mortgages do not provide a clear picture of the extent of exposure of these regulated financial institutions, simply because prior to 1997 loan classification and reporting requirements of the central bank did not require separate, specific classification of housing-related loans. Instead, these loans were included under the general classification of construction and real estate, which includes construction loans, mortgage loans, loans to developers, and bridge financing in the context of contract-to-sell arrangements. Some 18.2 percent (₱138.5 billion) of commercial banks' loan portfolios were in construction and real estate loans, comprising 60 percent of total loans for construction and real estate provided by private sector financial institutions. In comparison, thrift banks had 23.5 percent (₱18.2 billion)

**Figure 9.1 Housing finance segmentation**




*Source* Author's schematization

of their total loan portfolio in construction and real estate and accounted for 11.35 percent of the aggregate construction and real estate loans funded by the private sector. Insurance companies had 8 percent of their loan portfolios in construction and real estate loans.

*Social Security System.* Created in 1954, the Social Security System is responsible for administering the full range of social security benefits available to nongovernment employees and for providing a variety of employee loans. These loans, made at below-market rates, are similar to loans made against life insurance policies in other countries. The Social Security System may invest its funds within prescribed limits in interest-bearing securities of the government; loans or interest-bearing advances to the government; deposits or securities in any domestic bank doing business in the Philippines; direct housing loans to covered employees; short- and medium-term loans to covered employees, such as salary, educational, calamity, and emergency loans; and other income-earning projects secured by first mortgage, bonds, debentures, and preferred and common stocks (World Bank 1994).

Both the Social Security System and the Government Service Insurance System (which covers government employees) are defined benefit programs based on pay and contributory service, with contribution levels set to generate adequate income to provide for these benefits and administrative expenses. As of March 1994 the Social Security System was serving more than 14.6 million members and about 500,000 pensioners. In 1993 the system collected contributions totaling ₱13.4 billion and paid out ₱14.0 billion in benefits. The level of benefit payments is increasing rapidly: the rate of growth was 34 percent yearly in 1987–93, compared to 30 percent yearly for contribution income and 27 percent for operating expenses. This places much pressure on maintaining accumulated reserves and on using investment income to cover current expenses.

*Government Service Insurance System.* Created in 1936, the Government Service Insurance System is currently responsible for the full range of social security benefits available to government employees, as well as additional programs of life and nonlife insurance for members and the self-insurance program for government properties. It administers a variety of membership loan programs that have come to be viewed as salary supplements for government employees. As of 1993 the Government Service Insurance System was providing services to more than 1.4 million members. Member contributions rose from ₱4.85 billion in 1989 to ₱10.85 billion in 1993, rising at 22.3 percent yearly, while benefit payments grew at 25.8 percent yearly. While benefit payments have historically been low, they are expected to double in the future because of aging policyholders and members. Its rate of return on investment portfolio during 1989–93 averaged 11.8 percent compared to 17.8 percent for the Social Security System and 20.4 percent for the Armed Forces Retirement and Separation Benefits Fund (World Bank 1994).

*Pag Ibig Fund.* The Home Development Mutual Fund, or Pag Ibig Fund, which constitutes the provident fund pillar of the contractual savings system, consists of a government-administered mandatory defined contribution scheme for middle- and high-income workers in the formal sector. Contributors include both private and public sector employees and independent workers. Contributed funds are administered by the Home Development Mutual Fund, a state-managed provident fund dedicated to housing. At present members can receive the value of the accumulated funds in their accounts at the end of 20 years from the date of their first contribution in the form of a lump sum at a guaranteed compound yield in nominal terms (presently 6 percent). Since Pag Ibig began operations in 1981, the first payments to contributors will be due in 2001 (World Bank 1994).

The Home Development Mutual Fund had a membership base of 3.3 million in 1995 and an asset base of ₱45.3 billion. The fund has emerged as an important housing finance institution. To date it has released more than ₱37.8 billion in mortgage financing and development loans—equivalent to some 382,000 housing units. In 1996 the fund released a total of ₱13.7 billion for housing finance, of which ₱7.9 billion was channeled to the government's Unified Home Lending Program, the single most important housing program of the government (although it is only one of 15 programs involving loans to homeowners or developers for low-income housing; Pag Ibig Fund 1997).

*Home Insurance and Guarantee Corporation.* This corporation has the responsibility of providing a viable system of guarantees, loan insurance, and other incentives to encourage the private development and financing of low-income housing. It has made guarantees available to lenders on both loans to homebuyers (through retail guarantees) and loans to developers (developmental guarantees). The agency's other programs include guarantees on dormitory construction loans, asset participation certificates, and the Abot Kaya Pabahay Fund; rehabilitation of properties, project management, and acquired assets disposition; origination of Community Mortgage Program projects and interim funding of land purchases under this program; project management and guarantees for cooperative housing projects; and appraisal and valuation services. Guarantee commitments of the agency exceeded ₱58 billion in 1996. For home mortgage finance underwriters, the principal impacts of its guarantee are a significant tax break on interest income, which has a beneficial effect on the income statement, and the classification of the loan as nonrisk assets, which has a beneficial impact on the balance sheet and capital adequacy of housing finance providers that purchase the guarantees.

*National Home Mortgage Financing Corporation.* This agency was created in 1979 to purchase home mortgages from accredited originators and provide liquidity to the housing finance sector. It was originally designed to become a secondary mortgage institution, purchasing and securitizing mortgages and integrating the housing finance system into the broader financial system, including the capital markets. The absence of a successful primary mortgage market nullified these objectives and in 1985 it was declared insolvent. Though subsequent government action the agency was restructured and recapitalized in 1987, becoming the administrator of the Unified Home Lending Program and the main recipient of funds borrowed from the World Bank to purchase mortgages from the National Housing Authority and from private sector mortgage lenders. However, the overall structure of the Unified Home Lending Program combined with problems resulting from the corporation's reliance on developers and real estate brokers as originators, led to its inability to pursue capital market operations. By 1992 its financial condition had deteriorated despite technical assistance provided by the World Bank to help upgrade the quality of its loan portfolio. It had concentrated on being the channel for funds provided by the Social Security System, the Government Service Insurance System, and Pag Ibig, which were used to take out mortgages originated by developers, brokers, and some financial institutions. In March 1996 the National Home Mortgage Finance Corporation was technically insolvent and irreversibly illiquid and had stopped its mortgage loan take-out operations. It concentrated instead on collecting current loans and the growing number of past due loans, notwithstanding a dismal 63 percent collection rate (total collections relative to total portfolio). As of that date bad loans amounted to ₱20.8 billion and operating losses for the first three months of 1996 stood at ₱340.4 million (World Bank 1997a). As the mortgage loans taken out are registered not in its name but in that of the fund providers, a significant impact is that the investment portfolios of the Social Security System, the Government Service Insurance System, and Pag Ibig would be saddled with a fairly large quantum of nonperforming loans.

The primary financial instruments for housing finance are promissory notes with deed of first mortgage and contract-to-sell arrangements.

For first mortgages, mortgage loans originated by private commercial and thrift banks for middle- to upper-income borrowers differ greatly from those under the Unified Home Lending Program. They are at market interest rates, rather than the program's subsidized interest rates, and are typically adjustable-rate mortgages, as opposed to the program's fixed-rate mortgage loans. While they are called adjustable-rate mortgages, they are not indexed, even to banks' own indices, and are therefore revisable rather than truly adjustable. Three types of adjustable-rate mortgages are common: one, two, and five years. The rates are reset after the prescribed number of years, but no common index is followed since each bank establishes its own rates. As of August 1996 pricing was 16 percent for a one-year, 18 percent for a two-year, and 20 percent for a five-year adjustable-rate mortgage.

Loan-to-value ratios are usually at 60–70 percent, compared to as much as 100 percent under the United Home Lending Program. Properties are appraised by in-house appraisers, rather than by the Home Insurance Guarantee Corporation on behalf of National Home Mortgage Finance Corporation, as in the Unified Housing Loan Program. Loans are underwritten based on the borrower's ability and capacity to pay, rather than on a system of formula lending specified under the United Home Lending Program. They are processed in two to four weeks, compared to the four to six months that it took the National Home Mortgage Finance Corporation to take out the developers or originators.

Contract-to-sell instruments provide bridge financing from a private commercial lender to a prospective housing unit buyer for a period of 90 days to two years until the government funding agency takes out the developer or commercial lender. The commercial lender retains title to the property until the mortgage loan take-out is completed, at which time the funding agency can register its first mortgage on the property and the title is transferred to the buyer. In other cases the contract to sell functions effectively as a lease with option to purchase. What further complicates this instrument is the Realty Installment Buyer Protection Act (Maceda Law), which obliges a seller-lender to partially recompense the buyer who defaults after making at least two years of installment payments. The contract to sell instrument cannot be used to register a first mortgage lien on the property and hence cannot be used in a securitization transaction. Developer-lenders that use the contract to sell to generate sales of housing units assign them and the underlying cash flows to "collateralize" accounts receivable-based loans from their financiers.

The continued use of the government-controlled pension and provident fund institutions in the contractual savings sector to support mortgage loan take-outs in below-market interest rates segments for low- and low-middle income households will deplete the capability of these institutions to continue supporting these segments, because contributions from new and existing members will have to grow higher and faster than the volume of new mortgage loan take-outs. Furthermore, the financial viability of the pension and provident fund institutions is threatened by below-market interest rates and loan delinquencies on the investment yields required to meet future claims of pension and provident fund beneficiaries. Such an arrangement will stunt the growth of the capital markets and the development of long-term financial instruments by tying up the investable resources of these long-term contractual savings institutions in mortgage loan instruments that are difficult to sell or trade because of their low fixed-interest rates high loan delinquency rates. The effect will be to discourage other institutions from investing in long-term housing finance instruments.

## Obstacles to the integration of housing finance and the development of capital markets

The development of a secondary mortgage market framework can proceed only if the primary mortgage market is rationalized and strengthened to reduce transaction costs as well as credit and other risks in the origination of mortgage loans. The main primary constraints to streamlining the primary mortgage market and developing a secondary market are as follows:

- The system of subsidies, incentives, and guarantees that encourages segmentation and fragmentation through non-market-based differences in pricing.
- Foreclosure laws, procedures, and tax provisions that constitute barriers to securitization.
- Regulatory procedures and processes that limit the classes of assets available for securitization, nonbank issuance of mortgage-backed securities, and the types of available asset- and mortgage-backed security credit enhancements, and that discriminate against certain types of mortgage-backed securities or favor other types of securities, especially for institutional investors.
- The absence or deficiency of supporting infrastructure, such as a central credit monitoring and reporting system, standardized property appraisal and valuation procedures, private mortgage insurance, title insurance services, master servicers, and a centralized automated title and deed verification system.

The impediments to the development of a secondary market for asset- and mortgage-backed securities include tax structures, legal issues, and the regulatory treatment of securitization procedures, assets, and transactions.

Tax issues related to asset- and mortgage-backed securities are fairly complex in all developed markets, and the Philippines' tax regime governing securitization is no exception. The rationalization of tax treatment must remove uncertainties and undue additional tax loads with respect to the actual tax burden on issuers, servicers, and investors in asset- and mortgage-backed securities. The magnitude of the rationalization task is reflected in three schedules: tax revenues collected from the financial sector, taxes and tax rates applicable to institutions in the financial sector, and the tax liabilities likely to be created from the issuance of a mortgage-backed security.

The existing legal framework places restrictions on investments, especially by the "natural" institutional investors, in mortgage- and asset-backed securities. The demand for mortgage- and asset-backed securities is based on a number of factors, including the financial instruments' pricing, the relative risk of the underlying security, and regulatory requirements. Restrictive regulatory requirements can affect transaction costs and reduce the yield, transferability, and marketability of the instruments. Legal and regulatory restrictions need to be streamlined if a secondary market in asset- and mortgage-backed securities is to develop and function efficiently.

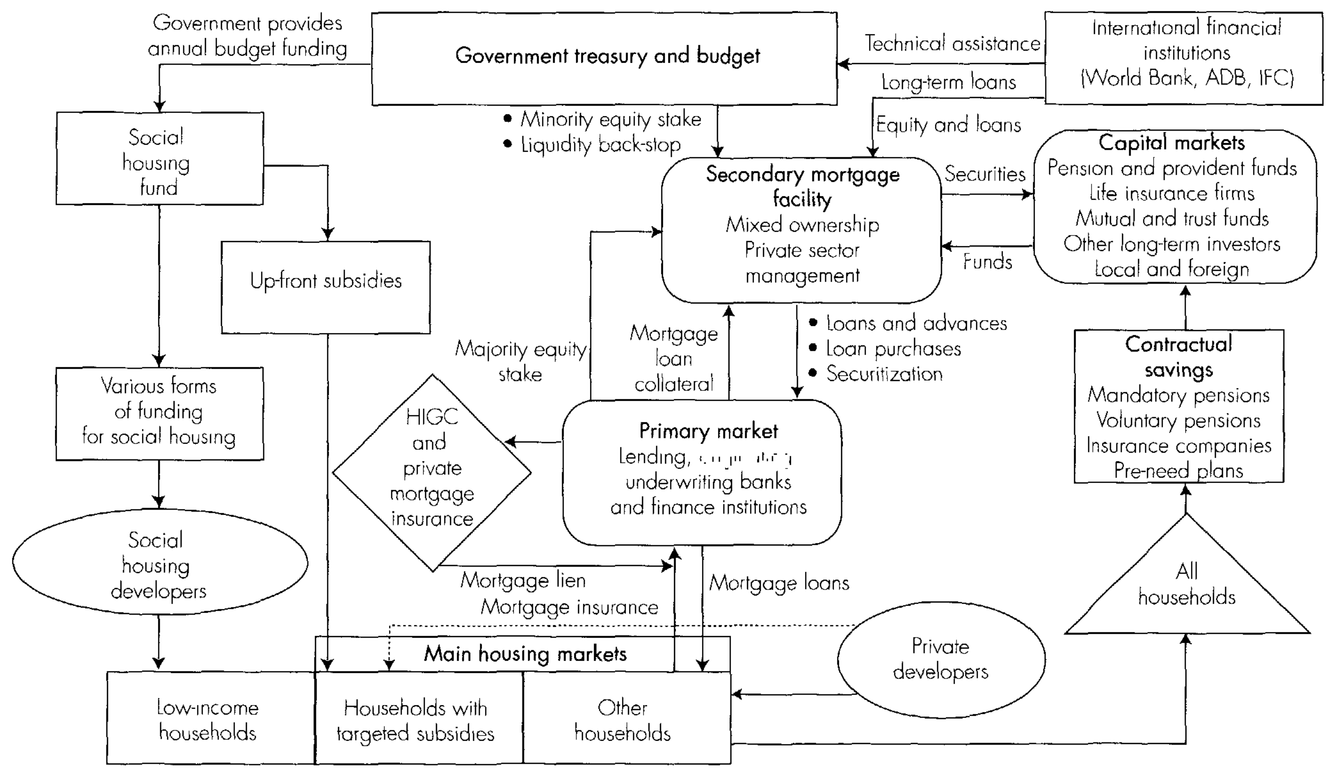
The current classification and treatment of secondary market instruments such as asset- and mortgage-backed and new financial products and services in the prudential regulatory framework of the supervisory authorities—the central bank, the Securities and Exchange Commission, and the Office of the Insurance Commissioner—create very strong impediments to the development of a secondary market by making the instruments less attractive for issuers, servicers, primary investors, and secondary investors.

Institutional restructuring and policy reform measures that must be taken to strengthen the primary mortgage market follow.

- The government's shelter policy and objective should be redefined.
- The housing finance agencies, particularly the Home Insurance and Guarantee Program, the Home Development Mutual Fund, and the National Home Mortgage Finance Corporation should be rationalized.
- The subsidy and assistance structure should be changed from indirect credit cost-based assistance to direct transparent subsidy schemes, to move toward unification of the different market segments.
- The appropriate tax, legal, and regulatory framework should be established.
- An infrastructure for providing ancillary financial services for mortgage loan origination and underwriting should be installed.
- The establishment of a secondary mortgage institution with majority ownership and management by the private sector should be supported.
- A liquidity backstop facility to promote the transformation and generation of long-term funds should be established.

The reform of the housing finance system is being planned by the government in consultation with the World Bank (figure 9.2). Appropriate measures that will have to be taken by government to rationalize the housing finance system and further develop the capital markets include integrating all household-income segments into the housing finance market, even though the shelter needs of lower-income households will have to be met through directly budgeted assistance schemes; broadening the types of housing products available to the market, to include rental units that are privately developed and provided; establishing a secondary mortgage market facility; and shifting the loans and investment orientation of public sector pension and provident funds institutions away from direct housing loans to individual borrowers and toward investments in finan-

**Figure 9.2 Housing finance reform**




*Note:* HIGC = Home Insurance and Guarantee, ADB = Asian Development Bank; IFC = International Finance Corporation
*Source.* Author's schematization.

cial securities that support housing finance transactions. At the same time capital markets must develop so that housing finance on a market-oriented basis is provided principally by private sector financial institutions.

## Conclusions

True long-term housing finance is still generally unavailable in the Philippine primary mortgage market; most mortgage lending banks originate adjustable rate mortgages. The slow growth in housing finance and the reluctance of the private sector to participate in residential real estate lending can be attributed to the government's substantial presence through direct subsidized lending and guarantee schemes, as well as to the lack of an effective legal and regulatory framework governing mortgage contracts. The factors create disincentives for the development of key ancillary financial services required for efficient primary and secondary mortgage markets. They also distort the risks that commercial lenders must face and lead to a misallocation of risks between private and public sector players in the primary mortgage market.

Rationalizing the legal and regulatory framework; improving loan information, underwriting, and asset quality; and redefining the role of government in the primary market will be crucial to improving the management of risks and transaction costs in the housing finance market and priming that market to become an integral part of the capital markets. Reform of the primary market is indispensable for developing a secondary market structure, which will, in turn, help to mitigate risks associated with credit, interest rates, cash flow, liquidity, agencies, and the political situation. These various risks are peculiar to the Philippines.

In the area of credit risk, the removal of subsidized interest rates and their substitution with direct transfer schemes, standardized mortgage loan underwriting, and modern technology in the processing and servicing of mortgage loans could make commercial lending in the ₱180,000–375,000 loan brackets financially more viable for private sector mortgage lenders. These measures will have to be combined with the elimination of formula lending in favor of basic assessment of credit risk and the ability and willingness to pay, combined with standardized appraisal methods. Finally, reforms in legal processes will be necessary to perfect security interests, record liens, and make foreclosure procedures more predictable, less time consuming, and less costly.

In the area of cash flow risks, there is currently no market in which to immunize against interest rate duration mismatches associated with mortgage loans. Existing mortgage loan instruments such as adjustable-rate mortgages result in negative amortization due to inflation, and there does not currently exist a real index related to widely accepted costs of funds. These risks can be mitigated by a secondary market institution, even though experience has shown that in developing countries a properly structured secondary market institution has been more important—especially in the initial years—to mitigating credit, liquidity, and political risks.

In the area of prepayment risks, there is no data available for measuring prepayment risk, and there are no instruments such as mortgage-backed securities or collateralized mortgage obligations through which to share such prepayment risks. Clearly, the contribution of a secondary mortgage market institution to mitigating this risk would be precisely by generating and making available suitable investment-grade instruments. The risk of prepayment arises from the borrower's income-level and -earning characteristics as well as the incidence of default. The current experience in the country indicates an average mortgage life of about seven to eight years.

In the area of liquidity risk, other than the public sector pension plans, the mandatory provident fund, the occupational pension plans, and government financial institutions, there are currently no natural providers of liquidity with technical and market know-how and proper incentives. A secondary market institution would begin to create access to long-term funds through term transformation and a wholesale liquidity facility.

In the area of agency risk, while capital adequacy and prudential supervision processes and standards are being improved, the monitoring of real estate and related exposures still needs strengthening. A secondary market institution's operations provide the impetus for the market-oriented assessments of participating agencies and institutions, complementing the oversight of regulatory authorities.

In the area of systemic and political risk, strong political pressures for government intervention can be expected to continue from developers and builders to protect their margins, incentives, and subsidies captured. Systemic risk is intensified by direct Home Insurance and Guarantee Corporation and other implicit guarantees, as well as by the structure of contract-to-sell arrangements. A properly functioning secondary market structure directs transactions toward a market orientation, accommodates changes in the economic environment for housing development and housing finance, and allows for a significant reduction in the role of government.

## Medium- to long-term potential for growth of capital markets

The development of ancillary financial services such as title and tax verification and recording, primary mortgage insurance, central credit information and reporting systems, improved and standardized property appraisals, payment and settlement systems, private mortgage insurance, and related master servicer networks will help reduce risks in mortgage origination and underwriting by imposing self-discipline on participants in the housing finance system. A set of complementary legal, tax, and regulatory reforms will foster the development of mortgage-backed securities and provide the incentives and impetus for banks and financial institutions to generate standardized information. These are indispensable to improving the ready availability of loan information and the quality of mortgage loan assets, which can be securitized for transactions on the capital markets.

While precision in projecting future demand levels for residential mortgages is difficult to achieve, it is not unreasonable to conclude that the demand for mortgage funds will need to be accompanied by an increasing supply of housing units produced by the private sector. The banking system is not likely to be able to meet potential demand without increasing portfolio concentration and liquidity risks beyond the ceilings set by Bangko Sentral ng Pilipinas. The solution in the past to cover the expected shortfall in the supply of housing finance has been to channel long-term savings, such as public pension and mandatory provident funds, to the targeted mortgage loan borrowers. However, these institutional sources of long-term funds should not be considered as natural investors in the primary mortgage market, because of the rigidity in interest rates and the illiquidity of individual housing mortgage loans.

As a wholesale institution, a secondary mortgage entity can play a strategic role in the intermediation of long-term funds in a safe and efficient manner and thereby facilitate the establishment of a deep and liquid secondary mortgage market that enhances home ownership. The secondary mortgage entity can help ensure the availability of housing mortgage finance, which, in turn, can alleviate potential upward pressure on mortgage loan interest rates. The secondary mortgage institution being planned by the Philippines directly addresses the efficiency of the financial and capital markets rather than the efficiency of housing production and supply, although supply is an indirect benefit.

The secondary mortgage institution will use its capital base to issue and market its own unsecured debt instruments, which can be of different maturities and at market-determined yields, to individual and institutional investors. The cash that is raised in this fashion can then be used to purchase pools of mortgages from banks and other financial institutions as mortgage loan originators and underwriters, providing them with fresh funds for new mortgage loans. The secondary mortgage institution will insist on certain standards of asset quality, particularly with respect to appraisal valuation, title and tax verification, nondelinquency, and the like. In this situation the home mortgage loan borrowers can continue to be serviced by the banks and financial institutions that originally granted them the loans but are now acting as mortgage loan servicers.

The individual and institutional investors will be looking at the financial standing and credit reputation of the secondary mortgage institution as the issuer of the debt instrument, instead of the individual mortgagors, assuming that there is an opportunity to purchase individual or pooled mortgage loans directly from the originating banks and financial institutions. The same criteria of financial standing and credit reputation are at the heart of liquidity risk mitigation issues revolving around the transferability and marketability of the secondary mortgage institution's commercial debt paper.

Thus the secondary mortgage institution will perform a crucial role in broadening and deepening the debt market by supplying investment-grade instruments in the form of either unsecured debt securities or mortgage-backed securities. When the secondary mortgage institution has accumulated a critical mass of pooled mortgage loans, it will be able to create and issue mortgage-backed securities and enhance these with a guarantee of timely payment of principal and interest. This represents a second stage of intermediation where individual and institutional investors look at mortgage-backed securities instead of debt instruments issued by the secondary mortgage institution itself. Both the credit risk and cash flow risk are mitigated by the guarantee of timely payment of principal and interest issued by the secondary mortgage institution in favor of investors. The liquidity risk is mitigated by the transferability and marketability of mortgage-backed securities that the secondary mortgage institution would establish.

### Impediments to securitization as a viable financing methodology

Although the Philippine capital market experienced remarkable growth in the past three to four years, it is still very small compared with capital markets in other countries in the region, such as Malaysia and Singapore, which have higher levels of GDP and thus enjoy a greater potential for the capital market to function as the engine of growth for the economy. A number of policy, legal, and regulatory measures are under way to create an environment that is conducive to more vibrant capital market growth and development. The comprehensive tax reform package, modernization in payments and settlement systems, changes to the General Banking Act, and regulatory treatment of securities-related transactions will help to speed up growth of the capital markets.

As far as the stock market is concerned, the unification of the Manila and Makati Stock Exchanges together with the passage of the Stock Transactions Tax Law in 1994 have enhanced the development of a healthier equity market. The equity market continued to experience rapid growth and market capitalization, which increased from $13.7 billion in 1992 to $55.5 billion in 1994, continued to grow significantly, reaching a level equal to 87 percent of GDP in 1995. The prospects appeared bright for substantial expansion in daily trading value, turnover ratio, and market capitalization until the onset of the regional financial and currency crisis.

The contractual savings sector, which is dominated by the public sector-controlled social security and mandatory provident funds, has a major role to play in accelerating the development of the capital market. The liabilities of these institutions are long-term but their assets for the most part have a short-term maturity profile. While these contractual savings institutions are currently the most important sources of funding for the government's socialized and low-income housing finance programs, it is clear that the overall rates of return realized in their loans and investment portfolios are significantly below those achieved by other public and private contractual savings institutions.

Improvements in their portfolios' rates of return are achievable and may not be inconsistent with the development of a significant market for long-term government securities in the near future and more varied investment grade securities in the medium- to long-term. Most government securities carry maturities of less than one year, although efforts to float medium- to long-term government securities have been successful. There may be room to achieve the objective of a market for long-term government securities that is consistent with adequate funding for housing finance at market-based rates and terms and with the establishment of a secondary market institution.

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# 10

# Integrating Housing Finance and Capital Markets in Thailand

*Virach Aphimeteetamrong and Ballobh Kritayanavaj*

The Thai financial system comprises 13 different kinds of financial institutions and two main regulatory agencies—the Bank of Thailand, which is the central bank and regulates and supervises commercial banks, finance companies, and credit foncier companies; and the Securities and Exchange Commission, which was established by the Securities and Exchange Act of 1992 to regulate and supervise securities companies, mutual fund management companies, and stock exchanges.

The majority of financial institutions are privately owned. Commercial banks are by far the most important financial institution in terms of total assets, total savings mobilized, and total credit extended (table 10.1). Finance companies are the second largest and fastest growing group of

**Table 10.1 Composition of the Thai financial market**
*(Billions of baht; percentage of GDP)*

| | | Banks and finance companies (loans outstanding) | | Equity market (market capitalization) | | Debt market (bond outstanding) | |
|---|---|---|---|---|---|---|---|
| Year | GDP | Amount | Percent | Amount | Percent | Amount | Percent |
| 1988 | 1,559.8 | 1,019.6 | 65.4 | 223 6 | 14.3 | 223.6 | 14 3 |
| 1989 | 1,857.0 | 1,362.8 | 73.4 | 659 5 | 35.5 | 213.4 | 11 5 |
| 1990 | 2,186.0 | 1,805.9 | 82.6 | 613.5 | 28.1 | 213.4 | 9 7 |
| 1991 | 2,507.0 | 2,220.2 | 88.6 | 897.2 | 35.8 | 200.9 | 8.0 |
| 1992 | 2,827.2 | 2,727.7 | 96.5 | 1,485.0 | 52.5 | 215.2 | 7.6 |
| 1993 | 3,179 5 | 3,421.1 | 107.6 | 3,325.4 | 97.2 | 301.2 | 9.5 |
| 1994 | 3,634.8 | 4,410.3 | 121.3 | 3,300.8 | 90.8 | 344 6 | 9 5 |
| 1995 | 4,194.6 | 5,531.9 | 131.9 | 3,564.6 | 85 0 | 414 9 | 9.9 |
| 1996 | 4,689.6 | 6,313.2 | 134.6 | 2,559.6 | 54.6 | 514.8 | 10.9 |

*Source* Bank of Thailand; Stock Exchange of Thailand, Securities and Exchange Commission institutions. Other groups of private financial institutions include life insurance companies, credit foncier companies, agricultural cooperatives, savings cooperatives, and pawnshops.

In addition, there are several specialized financial institutions, which were established to promote the government's policy for national economic development. Their basic functions are indicated by their names. All of these institutions, except the Industrial Finance Corporation of Thailand and an additional specialized financial institution, the Small Industry Finance Cooperation, are government owned.

- The Government Savings Bank was established in 1946 under the Savings Bank Act. It was primarily designed to mobilize savings from domestic households for financing government spending on various development projects. However, since 1994 it has been allowed to concentrate on commercial business.
- The Bank for Agriculture and Agricultural Cooperatives was established in 1966 under the Bank for Agriculture and Agricultural Cooperative Act. Its main purpose is to provide financial assistance to farmers, agricultural institutions, and agro-businesses.
- The Government Housing Bank was set up in 1953 under the Government Housing Bank Act. Its main purpose is to provide financial assistance to individuals needing housing and private low-cost housing projects.
- The Industrial Finance Corporation of Thailand was founded in 1959 and was originally named the Industrial Bank. The present name has been used since the Industrial Finance Corporation of Thailand Act was adopted in 1969. Essentially a development bank for the country, it is now a public company listed on the Stock Exchange of Thailand.
- The Export and Import Bank was founded in 1993. Its primary objective is to assist exporters of Thai products and importers of capital goods through low-cost financing.

Other parts of the institutional infrastructure in the Thai financial system are the Stock Exchange of Thailand, the major secondary market for listed companies; the Bangkok Stock Dealing Centre, another new secondary market for small and medium-size companies; the Bond Dealers' Club, the trading place for debt instruments; and the Thai Rating and Information Services, the only credit rating agency in Thailand. There are also eight mutual fund management companies.

The formal Thai financial system started with the opening of first the Bangkok branch of the Hong Kong and Shanghai Banking Corporation in 1888, which was followed by the arrival of several other foreign banks. Their purpose was mainly to serve international trade financing and foreign fund transfer. The first Thai commercial bank was established in 1906. Commercial banks expanded rapidly after the Second World War. The Bank of Thailand was set up as the central bank in 1942 to establish a strong foundation for the growth of financial institutions and the stability of the country's currency. A comprehensive Commercial Banking Act enacted in 1962 was aimed at controlling the banking industry and gearing it to match the high rate of growth of the real economic sector. This act has been amended several times to make sure that commercial banks conform to international practice and to increase the stability of the banking system by widening the scope of the authorities' powers of control and supervision.

The finance and securities companies began operations in 1969. The Finance, Securities, and Credit Foncier Act of 1979 provides a regulatory framework similar to that for commercial banks, ensuring that finance and securities companies as well as credit foncier companies operate in an orderly and stable manner. Several amendments to the act empower the Bank of Thailand to intervene in the internal operations of these institutions when there are serious problems or the public's interests need protection.

During 1984–85 several financial institutions faced serious problems of liquidity management. The Financial Institutions Development Fund was established as a combined effort of the private sector and the government to rehabilitate the financial system and restore solvency and stability. The fund manager is responsible for undertaking corrective measures to assist ailing financial institutions and for monitoring developments in the money and capital markets with possible implications for the sector.

## Development of the bond market

The bond market in Thailand is small but growing rapidly, with bonds outstanding at about 11 percent of GDP. In the past domestic bond market activities were confined largely to the issuance of government bonds to finance budget deficits. These government long-term bonds, with maturities of 5 to 10 years, were purchased mainly by the captive group of commercial banks and finance companies, which held the bonds until maturity as part of their reserve requirements. The total amount of government bonds began to shrink in 1991, when the government generated fiscal surpluses and no longer issued new bonds.

State enterprises are the major issuers of debt instruments. Because of the ceiling imposed on offshore loans, state enterprises are encouraged to raise funds from domestic financial markets to meet their investment requirements. Therefore, the amount of state enterprise bonds has increased dramatically since 1991. State enterprise bonds have maturity periods of 5 to 10 years, and they have accounted for more than 50 percent of the domestic bond market since 1993.

Corporate bonds are relatively new in the bond market. Historically, the debt instruments issued by private firms were mostly short-term promissory notes and bills of exchange, guaranteed by commercial banks. Prior to 1992 only public companies and companies listed on the Stock Exchange of Thailand were allowed to issue bonds, and the number of private firms issuing bonds was therefore quite limited. However, after the enactment of the Securities and Exchange Act in May 1992, limited companies were allowed to issue debentures. Now many qualified companies have begun to issue debentures as a means of mobilizing funds. Maturity periods are typically three to seven years. The size of corporate debentures has increased significantly, and they accounted for about 36 percent of the domestic bond market in 1996 (table 10.2).

In 1995 the Bank of Thailand started issuing bonds (called BOT Bonds) with the primary objective of establishing open market operations. Maturity periods vary from one month to two years. However, the issuance of these bonds remains minimal.

The issuance of domestic bonds has increased significantly since 1992, from only 31.1 billion baht to about 230 billion baht in 1997. Government bonds, comprising Bank of Thailand bonds, Financial Institution Development Fund bonds, and Property Loan Management Organization bonds, were more than 60 percent of the total issues during 1996–97.

Until recently the only active market for debt instruments was the repurchase market organized by the Bank of Thailand, where government and state enterprise bonds are traded by commercial banks and finance companies. The main purpose of this market is to provide a vehicle for the Bank of Thailand to control the liquidity available in the money market and adjust the liquidity of the financial institutions.

In September 1994 the Bond Dealers' Club was established within the organizational structure of the Association of Securities Companies. Originally founded with 62 members, it currently includes 87 commercial banks, finance companies, and securities companies. The Bond Dealers' Club started trading on November 1, 1994. The debt instruments traded can be government, state enterprise, or corporate bonds with a minimum issue

**Table 10.2 Composition of the domestic bond market, 1988–96**
*(Billions of baht)*

| *Issuer* | *1988* | *1989* | *1990* | *1991* | *1992* | *1993* | *1994* | *1995* | *1996* |
|---|---|---|---|---|---|---|---|---|---|
| Government | 213 0 | 210.4 | 195 2 | 150.8 | 133.9 | 100.7 | 66 2 | 43.0 | 54.0 |
| | (95) | (94) | (91) | (75) | (62) | (38) | (19) | (10) | (10) |
| State enterprise | 10 5 | 12.0 | 18.2 | 50.2 | 76.2 | 134 9 | 190.4 | 238.3 | 278.4 |
| | (5) | (6) | (9) | (25) | (35) | (52) | (55) | (58) | (54) |
| Corporate | .. | .. | .. | . | 5.1 | 26 3 | 88 | 133.6 | 182.4 |
| | | | | | (3) | (10) | (26) | (32) | (36) |
| Total | 223.5 | 213 4 | 213.4 | 201.0 | 215.2 | 261.9 | 344.6 | 414 9 | 514.8 |
| | (100) | (100) | (100) | (100) | (100) | (100) | (100) | (100) | (100) |

Negligible.
*Note:* Numbers in parenthesis are percentages of total.
*Source.* Bank of Thailand; Securities and Exchange Commission

size of 100 million baht. Bond trading is conducted over the counter through a scripless system. In July 1997 the Bond Dealers' Club submitted an application to the Securities and Exchange Commission for a license to officially operate a market for debt instruments. When the license is granted, the Bond Dealers' Club will become an exchange center known as the Thai Bond Dealing Centre. The bond trading activities of the Bond Dealers' Club increased significantly in 1996 in terms of the number of issues and turnover. Monthly average turnover increased from 4.3 billion baht in 1995 to 16.7 billion baht in 1996. However, due to the economic slowdown and financial crisis in 1997, the turnover in that year (from January to November) shrank significantly and the monthly average fell to 9.5 billion baht.

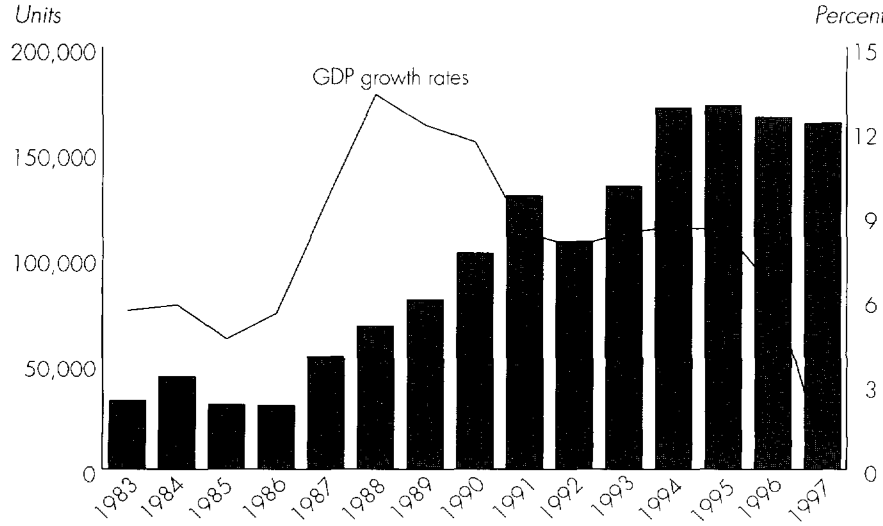
## The current housing market

In 1996–97 investments in the housing industry in Thailand expanded at a much slower rate than in previous years, signalling the start of a downward trend that is likely to continue for the next few years. This slump is due mainly to the severe downturn of the economy overall. The present housing market is a buyer's market, and housing developers have to compete aggressively to sell their houses. House prices remained stable in 1996 but are expected to decline in 1997–99. Many developers are facing serious cash flow problems and are unable to repay debts to mortgage lenders, severely affecting the financial liquidity of many banks, finance companies, and credit foncier companies. The tight liquidity of several financial institutions—particularly finance companies—is now shaking the stability of the financial sector generally.

The growth rate of housing completion declined in 1996 and 1997 after a boom from 1987 to 1990 (figure 10.1). During this period private developers played a leading role in housing production, with the share of developer-built housing increasing from only 12 percent in 1984 to 83 percent in 1996. From 1987 to 1995 housing completion in the Bangkok metropolitan region expanded at a rate of 16 percent a year. Although new housing projects have decreased sharply in the past two years, the number of housing units offered for sale in the present market is extremely high, due to the excessive number of new projects introduced in 1993–94 and the large number of vacant housing units released by speculators. In the Bangkok metropolitan region alone, a total of about 755,000 new housing units were completed during 1992–96, whereas the forecasted demands were for only 376,000 units during this period. It was estimated by the Government Housing Bank that about 300,000 housing units in the Bangkok metropolitan region, or about 14 percent of the total housing stock, were unoccupied at the end of 1995. This number is likely to increase from 1995 and to peak by 1998.

This severe slump in the housing market in 1997 meant that most housing developers were vulnerable and pulled down housing finance lenders, as well as related sectors such as construction contractors and building

**Figure 10.1 Annual housing completion in Bangkok metropolitan region, 1983–97**




*Source* Government Housing Bank, Bank of Thailand

materials suppliers. Sales fell dramatically because of the weak demand and oversupply. With less cash flow coming in from sales, many developers faced serious liquidity problems and were unable to repay debt to the lenders. The situation worsened when developers could not get further loans from financial institutions due to the overall liquidity crunch in the financial system. Many developers simply discontinued or stopped construction, leaving many homebuyers distressed.

At the same time most developers were unable to increase house prices even though the interest burden and construction costs continued to rise. Moreover, due to the excessive oversupply in housing and the lower purchasing power of homebuyers, land and house prices in Bangkok and many areas of the country dropped at least 10 percent in 1997 and will fall further in the next few years. The financial crisis will force finance companies to sell collateralized property at steep discounts, thus aggravating the supply situation and creating a serious negative effect not only for the developers but also for mortgage lenders. It is likely that more developers will be vulnerable to distress selling and will eventually collapse. Mortgage lenders will increasingly be faced with negative equity problems.

## The housing finance system

An important prerequisite for a well-functioning housing finance system is the ability of the financial system to allocate sufficient resources for housing project development as well as for home mortgage financing. In Thailand the allocation process is through market forces—that is, mortgage interest rates reflect market rates. Thus housing finance in Thailand is well integrated into the overall financial system, with no constraints on resource allocation.

There are six major financial institutions that provide credits for home loans in Thailand: commercial banks, finance companies, credit foncier companies, life insurance companies, the Government Savings Bank, and the Goverment Housing Bank.

The Government Housing Bank was established under the Government Housing Bank Act of 1953 as a wholly owned special-purpose financial institution under the Ministry of Finance, with an initial capital of 20 billion baht. As of the year ending December 31, 1996, total capital was 13.7 trillion baht and total assets were 210 trillion baht. The Government Housing Bank is the leading housing finance institution and has played a central role in the rapid development of private sector housing in Thailand. Its market share of total home loans has expanded rapidly from 19 percent in 1990 to 24 percent in 1995 and reached 30 percent of the total financial system as of June 30, 1997, the highest of any single financial institution.

The Government Housing Bank has successfully mobilized substantial inflows of funds from deposits, domestic borrowings, offshore borrowings, and bond issuance. The number of branches has increased rapidly during the past five years and the bank has been able to provide mortgage lending services throughout the country since 1994. The Government Housing Bank operates efficiently and continues to provide the lowest lending rates in the market, forcing other financial institutions to lower their interest rates. Moreover, loans for smaller amounts carry lower interest rates, which are cross-subsidized from larger loans. Thus the bank has made borrowing more accessible and housing more affordable for a large number of lower-income groups. This policy has promoted housing demand, enabling private developers to expand lower-cost housing production.

## Housing finance and the overall economy

Home mortgage lending expanded only during the past decade. In 1981 the total outstanding home mortgage loans were almost insignificant, accounting for only 3 percent of the total credit outstanding and expanding marginally to 4 percent in 1985. However, during the housing boom of 1986–90, home loans expanded dramatically, increasing to 7.0 percent in 1990. At the end of 1996 total outstanding mortgage loans stood at about 700 billion baht or 9.8 percent of the total credit outstanding.

The total outstanding mortgage loans of all financial institutions expanded dramatically at a compounded annual rate of 34 percent from 1985–90 and an average 33 percent per year during 1990–95. In addition to the Government Housing Bank, the most significant market share growth is that of commercial banks, which expanded from about 40 percent in 1981 to 69 percent in 1990 and declined to 59 percent in June 1997. It is noticeable that commercial banks and the Government Housing Bank have dominated the Thai home-loan market with a combined market share of about 89 percent at the end of June 1997. Other financial institutions have played an insignificant role.

The average growth rate declined to about 23 percent in 1996, with a total amount of about 700 billion baht. This accounts for about 15.4 percent of the value of the gross national product, compared to 6.4 percent in 1990.

## Key features of mortgage lending

Mortgage rates in Thailand are typically floating rates, which fluctuate in accordance with the money market. Mortgage interest rates gradually increased in the latter half of 1997, and the present mortgage lending rates of commercial banks and other financial institutions range from 12.75 to 15 percent, whereas those of the Government Housing Bank are between 11.25 percent and 12.75 percent, the lowest in the market. There is currently intense debate about whether the government should force financial institutions to reduce mortgage rates to encourage housing demand.

The mortgage lending criteria of each mortgage lender vary according to its internal policies. However, the typical underwriting criteria are as follows.

- *Loan amount.* Most mortgage lenders do not establish clear limits on loan amounts, relying instead on the demand of borrowers. However, most commercial banks and finance companies concentrate their lending to medium- and high-income groups of borrowers, whereas the Government Housing Bank offers loans to all income groups, particularly those with lower incomes.
- *Maximum loan-to-value ratio.* Various types of properties are subject to different limits on loan-to-value ratios, which normally depend on the property market situation and lending policy of each financial institution. Typical ratios are 80 percent of the appraised value of land and house or its selling price, whichever is lower; 75 percent of the appraised value of the condominium unit or its selling price, whichever is lower; or 70 percent of the appraised value of a residential plot or its selling price, whichever is lower. Some banks (such as the Government Housing Bank) will lend up to 90 percent of the appraised value of land and house if the employer and employee agree to pay the loan installments by deductions from the borrower's monthly salary.
- *Maximum loan relative to income.* The maximum loan amount is normally limited not only by the collateralized property value but also by the income of borrowers. In the case of the Government Housing Bank, it cannot exceed 30 times the monthly income of a borrower with a regular income, or 15–20 times the monthly income of a borrower who is

self-employed and has irregular income. Some banks have adopted a scoring system to analyze the creditworthiness of the borrowers for different types of employment. Other criteria of creditworthiness, such as savings, property holdings, and so on, are also taken into account.

- *Maximum payment to income ratio.* The ratio of the monthly installment payment to household income cannot normally exceed 30 percent. However, this ratio can be higher for higher-income borrowers as justified by credit analyses.
- *Fixed or floating rate.* Most of financial institutions in Thailand offer only floating-rate mortgage loans. A few banks, including the Government Housing Bank, offer both fixed- and floating-rate (reviewable- or variable-rate) loans. However, most Thai borrowers still prefer variable rates.
- *Loan repayment period.* The repayment period of most financial institutions is normally 10–20 years. Only the Government Housing Bank offers a repayment period of up to 25 years. Typically borrowers prefer to borrow for a term of about 15–20 years.
- *Maximum repayment period relative to age of borrower.* The period of the loan plus the borrower's age typically cannot exceed 65 years.
- *Monthly installment payments.* Loans are normally repaid through the constant amortization method, or fixed monthly installment payments consisting of both interest and principal, with the portion attributable to principal gradually increasing over the life of the loan, resulting in a declining principal balance and eventual payment in full. However, the monthly installment payment for floating-rate loans by some banks is calculated at 1 percent higher than the actual interest rate charged. This is done so that in the event of small interest rate increases, the installment amounts do not have to be changed.
- *Method of payment.* Borrowers can repay the monthly installment in cash or by check directly at a counter of the bank's branches.

The pricing of mortgage loans in Thailand depends mainly on the interest rates charged to borrowers. The rates vary according to the financial market conditions and from institution to institution. The rates charged by big commercial banks are normally lower than those at smaller banks and finance companies. They can also depend on the loan size. All property pledged as collateral for the loan is required to be appraised (for a fee) either by the bank's staff or by an outside professional valuer. Most mortgage lenders charge a prepayment penalty for the privilege of paying off a loan prior to maturity, which is intended both to compensate the lender for loss of income in future years as well as discourage borrowing for speculative buying.

In the 1980s mortgage lenders had remarkably low credit losses, and in the 1990s most financial institutions competed aggressively to book mortgage loans. However, in the aftermath of the economic downturn and real estate crisis in 1996 the mortgage default level should increase in the next one to three years. Although statistics on the level of mortgage default are not available, it was estimated that mortgage default rates (of more than three months) were about 3–5 percent before the real estate crisis. It is expected that more than 10 percent of total mortgage loans are in default at the end of 1997.

Most commercial banks and financial institutions in Thailand mobilize funds from deposits made by the general public as well as short-term funds borrowed both domestically and offshore.

The Government Housing Bank also mobilizes funds from domestic long-term borrowings (from, for example, the Government Savings Bank and the Bank of Thailand) and offshore borrowings. However, since most of the bank's customers seek mortgage loans with the repayment period of 15–20 years, the bank has put greater emphasis on long-term funding mobilization through the issuance of bonds. The bank's bonds are normally guaranteed by the Ministry of Finance with the maturity of 3–10 years. As a result, the bank's funding from bond issuance has increased from only 14 percent in 1992 to about 34 percent in 1996. In 1996 six issues of Government Housing Bonds totaling 16 billion baht were marked at a rate of 8.25–9.05 percent, with a maturity of six to eight years. The yields on these bonds are almost the same as on other state enterprise government bonds.

There are several major weaknesses in the Thai housing finance system. One of the most important is that funding for housing finance relies mainly on short-term funds from the money market, which could easily lead to the liquidity risks of funding-lending mismatching. This was clearly shown from the problems of many finance companies. Moreover, there is neither a sound standard of mortgage underwriting among financial institutions nor a central credit reporting agency to collect information on the debt and repayment records of borrowers. Underwriting criteria (including the verification of income and debt of borrowers) needs to be improved to reduce default risks.

A third problem is that property valuation in Thailand has been carried out by a large number of unqualified valuers. Professional valuers and valuation standards of practice need to be developed. Fourth, foreclosures of defaulted mortgages are still governed by slow property seizure procedures and regulations. The laws regarding foreclosure and bankruptcy need to be improved to speed up proceedings.

## The development of a secondary mortgage market

Amid the strengths and weaknesses of the primary mortgage market, it is notable that the Thai housing finance system is beginning to evolve to a more direct link to the capital market through the development of a secondary mortgage market and securitization. The secondary mortgage market, particularly the securitization technique of packaging pools of mortgage loans into mortgage-backed securities, has been proposed in Thailand for nearly two decades as a supplementary funding strategy for mobilizing funds for the Government Housing Bank. The prospects for the mortgage securitization business in Thailand recently improved with the passage of the two emergency decrees regarding asset securitization in June 1997: the Emergency Decree on Special-Purpose Vehicle for Asset Securitization and the Emergency Decree on the Secondary Mortgage Corporation. The main purpose of these decrees is to create a more favorable securitization business environment, bring stability to the residential mortgage market, and increase the funds available for housing loans on a continuing basis.

According to the Emergency Decree on Special-Purpose Vehicle for Asset Securitization, the issuer of an asset-backed security must be established as a special-purpose vehicle in the form of either a company limited, a public company limited, or a mutual fund. Permission to issue is granted by the Securities and Exchange Commission. The special-purpose vehicle purchases financial assets or receivables from the originator and issues securities backed by these receivables to investors. The proceeds of the issue are then used by the vehicle to pay the originator the purchase price for the portfolio. The special-purpose vehicle will be separated from the originator and will be self-supporting so as to be isolated from the originator's risk of the bankruptcy. It is noteworthy that a special-purpose vehicle can carry out only one securitization program (or can issue and offer for sale only one series of asset-backed securities) throughout its lifetime. When the vehicle has completely paid out all moneys in accordance with the securities sold to investors, it shall dissolve its business and the approval granted shall be deemed terminated.

According to this law, the assets to be securitized must be loan claims or any receivable rights that will generate future cash flow over a certain period of time. Thus the securitizable assets under this law are not restricted to mortgage loans but can also include nonmortgage assets, such as auto loans, consumer loans, vehicle and equipment leases, and credit card receivables.

According to the Emergency Decree on Secondary Mortgage Corporation, the Secondary Mortgage Corporation will be established as a government organization (or state enterprise) with initial capital of one billion baht allocated by the Bank of Thailand. Its main purpose is to run a business promoting the secondary market facilities for residential mortgage loans. The Secondary Mortgage Corporation will be administered by a board of directors composed of five representatives of the public sector and five appointed by the minister of finance. It is anticipated that total government ownership of the Secondary Mortgage Corporation will significantly facilitate its recognition and acceptance by the market and will help it raise funds at a more favorable cost, thus enabling it to operate profitably under prudent principles.

As of January 1998 only the board of directors and the president had been appointed. The corporation is in the process of recruiting staff and is waiting for funds to be transferred from the Bank of Thailand. It has plans for eventual privatization and it is likely that foreign participation will be allowed.

The Secondary Mortgage Corporation will operate similarly to the Federal National Mortgage Association (Fannie Mae) or the Federal Home Loan Mortgage Corporation (Freddie Mac) in the United States or the Mortgage Corporation in Hong Kong, China. It will carry out one or both of the following types of business:

- *Secondary mortgage portfolio business.* The corporation will purchase pools of residential mortgage loans from primary market lending institutions and hold the loans in its own portfolio. It will fund its mortgage purchases through the issuance of bonds or other unsecured debt securities and will earn income from the spread between the yield earned on the purchased mortgage loans and the costs of funds, including administrative costs.
- *Mortgage securitization business.* The corporation will package the mortgage loans from its own portfolio or from loan originators and structure them into mortgage-backed securities for sale to investors in the capital market. The corporation may guarantee to the investors the timely payment of principal and interest on these securities.

The Secondary Mortgage Corporation plans to purchase the first lot of residential mortgage loans valued at 500 million baht from the Government Housing Bank for its own portfolio by the middle of 1998 and to undertake ongoing operations with the purchase of portfolios from other financial institutions. It is a longer-term objective of the corporation to securitize mortgages and sell them to investors.

These laws establishing the Secondary Mortgage Corporation and special-purpose vehicles will help promote the secondary mortgage market and securitization in Thailand, providing significant benefits to the Thai housing finance system. First, the creation of the secondary mortgage market will increase the flow of funds from the capital market to the housing finance sector. As wholesale secondary institutions, the Secondary Mortgage Corporation or special-purpose vehicles will play a crucial role as intermediaries between the capital market and home lending institutions, channeling capital funds and long-term savings, such as pension funds, provident funds, and insurance funds, to the housing finance system.

Second, they will provide more liquidity to primary lenders and will ensure a constant flow of capital to mortgage lenders (such as finance companies and credit foncier companies), particularly during tight money situations, such as at present, when financial institutions face severe liquidity problems.

Third, the Secondary Mortgage Corporation and special-purpose vehicles can offer funds at a lower cost to originators. Many financial institutions in

Thailand, particularly finance companies and credit foncier companies, have higher costs of funding than depository institutions such as commercial banks or the Government Housing Bank. They thus have to originate home loans at higher interest rates. Through the secondary mortgage market, these originators can sell their pool of mortgage loans to the Secondary Mortgage Corporation or special-purpose vehicles as an alternative source of funding. It is likely that the cost of funding in an off-balance sheet treatment may well be less than the cost of funding in traditional ways.

Fourth, they improve equity capital management. The securitization business will provide considerable relief from the pressure that most financial institutions are currently facing regarding their capital bases. When an originator such as a bank or finance company sells its mortgage loans to a secondary institution, these mortgage assets will be removed from its balance sheet. The off-balance sheet structure will reduce capital reserves as required by the Bank of Thailand (according to the Bank of International Settlements capital adequacy requirements). Some of the capital need no longer be set aside to cover the risk assets of the originator, freeing it for further lending. As a result, the return on capital will be increased.

Fifth, risk management for originators is improved. The interest rate risk incurred by the Thai housing finance system is relatively small, because the overwhelming majority of mortgage loans are on a floating-rate term, matching the originators' funding, which is also on a floating-rate basis. However, many mortgage lenders are facing other risks associated with mortgage lending, particularly in funding and liquidity. Financial institutions will be able to manage their liquidity by choosing to hold liquid mortgage-backed securities instead of illiquid mortgage loans.

Sixth, the secondary mortgage market promotes standardization for operations of primary lenders. Neither documentation nor underwriting criteria in Thai mortgage lending have been standardized until now. However, the Secondary Mortgage Corporation and special-purpose vehicles will work cooperatively with mortgage originators and servicers to standardize mortgage design and loan documentation. Standardization will occur because the secondary institution in any country usually requires the purchased mortgage loans to be uniform in credit characteristics, which enables the secondary institution to act as a mortgage conduit to reduce transaction costs as well as the restructuring and administration costs of the mortgage-backed securities. In addition, the securitization business will encourage the standardization of loan documentation.

Seventh, sound mortgage lending criteria will result. The Secondary Mortgage Corporation or the special-purpose vehicle will also help establish sound lending criteria or prudent loan origination standards, as only mortgage loans of reasonable quality will be purchased by a secondary institution. This will eventually force loan originators to be more cautious in lending. The underwriting process will improve, thereby ensuring that a borrower has both the ability and willingness to repay the debt and that the property provides sufficient security for the mortgage in case of foreclosure. Sound underwriting policies will eventually help decrease loan defaults and delinquency levels and will thus help improve the health of originators in particular and the stability of the banking system in general.

## The role of the government in the housing finance system

A key component of any shelter strategy is housing finance, and it is the responsibility of the government to ensure that an environment is created that is conducive to the mobilization of funds. The objectives of such an effort are to promote and mobilize savings, to reduce the cost and improve the efficiency of financial intermediation, and to promote the free movement of capital through the national economy.

The improvement of the housing finance system in particular and of the housing sector in general was facilitated by various supportive government policies, including the following measures:

- In 1986 the government enhanced the effective demand of homebuyers by making a portion of their home mortgage interest expenses income-tax deductible.
- In 1986, to encourage commercial banks to participate more actively in home mortgage lending, the Bank of Thailand permitted commercial banks to consider only 80 percent of home loans for low-income groups as risk assets that must be covered by a capital adequacy of 8 percent.
- In 1990 the Bank of Thailand ruled that the maximum mortgage rate that commercial banks could charge low-income homebuyers (with loans of less than 750,000 baht) could not be more than the minimum lending rate. However, this requirement was abolished in 1992.
- Since 1993 the Bank of Thailand has adopted the rules of the Bank of International Settlements, which permit commercial banks and other financial institutions to regard home loans as 50 percent risk assets. This measure enhanced the attractiveness of housing finance for home mortgage lenders.
- Since 1996 the Bank of Thailand has redefined the definition of home loans for low-income groups as below 1 million baht.
- The government encouraged the Government Housing Bank to expand home loans to regional cities by opening more branches. The number of branches increased from only 10 branches in 1990 to 169 at the end of 1996.

In 1991 the Housing Finance Association of Thailand was founded by the government as a professional association. It comprises members from the Bank of Thailand, the Government Housing Bank, the National Housing Authority, commercial banks, finance companies, credit foncier companies, life insurance companies, and universities. Its objectives are to provide and distribute information regarding housing finance, to promote technical knowledge in loan processing and servicing, to promote cooperation and good relations among home mortgage lenders, to contribute ideas and recommendations to the authorities regarding housing finance policies, and to act as a center for coordinaiton with foreign housing finance organizations. Since its establishment the Housing Finance Association has carried out such activities as training courses and seminars on housing finance issues and newsletters and journals distributed to its members. The Housing Finance Association is helping to promote housing finance professionalism in Thailand.

The government has also stepped in to help the housing and property sector, realizing that the property crisis would damage the financial sector as well as the nation's whole economic foundation. On January 14, 1997, the cabinet approved a package of measures to bail out the property sector. Their aims were to:

- Induce financial institutions to lengthen loan repayment periods and adjust interest rates for financially troubled developers.
- Encourage financial institutions to establish a 50 billion baht Resolution Property Trust Fund to buy property loans at a discount price.
- Promote the establishment of Property Mutual Funds.
- Accelerate enactment of the securitization laws.
- Waive capital gains on property transfers made within 10 years of the purchase, provided that the purchase was made in 1997.
- Launch a 20 billion baht loan program through the Government Housing Bank and the Government Savings Bank.
- Allow government agencies and state enterprises to buy or rent premises or housing units that already exist in the private sector market.
- Establish the Secondary Mortgage Department at the Government Housing Bank through financial support from the Bank of Thailand.
- Extend the share of condominium ownership permitted for foreigners.
- Reduce the property transfer fee as much as possible for property transferred to the Property Trust Fund or the Property Mutual Funds.

Since no financial institution was willing to establish a Resolution Property Trust Fund in response to the government policy, the government established the Property Loan Management Organization in May 1997. Its purpose was to ease liquidity restraints for property developers unable to complete their projects because of a lack of funds. As of September 1997 the organization had 35 financial institutions as members. Although many financial institutions were interested in selling property loans to the organization, only three property loans from three housing projects were actually approved and received funds totaling 461 million baht.

In February 1997 the Government Housing Bank established the Secondary Mortgage Department as an additional department to buy home loans from other financial institutions. Although some finance companies applied to sell their mortgage loans to the department, no actual transactions took place because the Government Housing Bank stopped its operations after the enactment of the Law on Secondary Mortgage Corporation in June 1997.

Parliament approved an emergency decree to establish special-purpose juristic persons (or special-purpose vehicles) for securitization on July 4, 1997. Detailed regulations regarding the establishment of a legal entity able to undertake a securitization program had already been set by the Securities and Exchange Commission. But by November 1997 no special-purpose vehicles had been established, mainly due to turmoil in the Thai financial sector and unclear taxation policies.

On February 3, 1997 the government injected 20 billion baht worth of loans with a subsidized 9 percent fixed mortgage rate to government officials and state enterprise employees through the Government Housing Bank and the Government Savings Bank to boost demand for housing and to speed up the transfer of home ownership. In June 1997 the government decided to offer these concessional loans to the general public and extended the repayment period from 15 to 30 years. Within a few days of offering to the general public, 20 billion baht worth of loans were snapped up, because the market interest rates then stood at about 12–14 percent. However, it is notable that the 20 billion baht mortgage fund for first-time homebuyers was not as successful as the government intended. Most borrowers were not new homebuyers but had already bought houses and were ready to transfer ownership. This scheme distorted the housing finance market and not only did not help ease the real estate crisis but rather worsened the market situation. Moreover, the subsidized loans will weaken the country's administrative strength in the long run.

In other government action, the Ministry of Finance already announced the exemption of income tax on property transfer, provided that the transaction was made in 1997 and the transfers were made after one year and before the end of 2007. The Office of the Securities and Exchange Commission set regulations regarding the establishment and operation of property mutual funds, although by October 1997 no property mutual funds had been established.

Although the government has attempted to solve the real estate slump, the crisis is not yet over. This is partly because the key issues have been addressed on a piecemeal basis. Aware of the importance of the real estate business to the overall economic and financial system, the government appointed a steering committee for solving the real estate crisis in June 1997. The key role of the committee is to propose unified strategies to solve the problems of homebuyers, developers, and mortgage lenders in the short and long term. Since its inception the committee has yet to introduce any new measures for solving the depressed real estate business.

Meanwhile, the Thai economy has suffered an acute crisis of confidence brought on by a weak financial sector, an expanding current account deficit, and slumping exports. The financial system is particularly exposed, mainly due to the fundamental economic situation; legal, institutional, and information deficiencies; excessive risk-taking in the private sector; and a weak supervisory system. Financial institutions, particularly finance companies, have extended too many loans for real estate development and speculative investment and have financed long-term loans with short-term funding. Many banks, finance companies, and private corporations have taken on excessive debt from both domestic and offshore lenders.

Consequently, 16 ailing finance companies were ordered suspended by the Bank of Thailand and another 42 finance companies were also temporally closed to give them time to come up with rehabilitation plans, or be stripped of their assets and be permanently closed. The total loans of the 58 suspended finance companies (out of a total of 91) was about 900 billion baht, of which about 300 billion baht are expected to be bad loans. In August 1997 the government set up the Resolution Steering Committee to oversee financial institution mergers and acquisitions.

The Ministry of Finance and the Bank of Thailand then announced the comprehensive strategic program to resolve the crisis facing the financial sector. The strategy is mainly to separate and suspend the weakest institutions and fully support the remaining ones, while dealing appropriately with each group. In addition, to maintain sound and strong operations, financial institutions should make every effort possible to increase their capital. This can be done by voluntarily refraining from dividend payments over the next 12 months and allowing foreign majority participation for up to 10 years, which will help strengthen management and increase efficiency.

The Bank of Thailand will announce a moderate tightening of loan classification rules and will introduce new loan classification and provisioning rules, which should gradually bring the sector into line with international standards by 2000. The public has been reassured that no institution shall close its doors. Depositors will be honored through the Financial Institutions Development Fund, which may borrow funds for this purpose and is fully guaranteed by the government. If financial institutions are poorly managed and experience large losses that endanger the public interest, the Bank of Thailand will take appropriate action to replace management and protect the public interest.

## Assessment of potential links between capital markets and housing finance

The size of the capital market in Thailand in terms of the equity and bond markets is quite small compared with financial institution loans. However, its contribution increased significantly during the past five years. Its potential to grow depends on the stability and economic growth of the country. To mobilize long-term funds and boost long-term domestic savings, the capital market needs further development. With the markets now in the process of restructuring, the Financial Market Reform Program of the World Bank will develop alternative routes for raising and intermediating funds through the domestic financial market, to provide borrowers and investors with access to funds constrained by the current difficulties in the banking and finance sector.

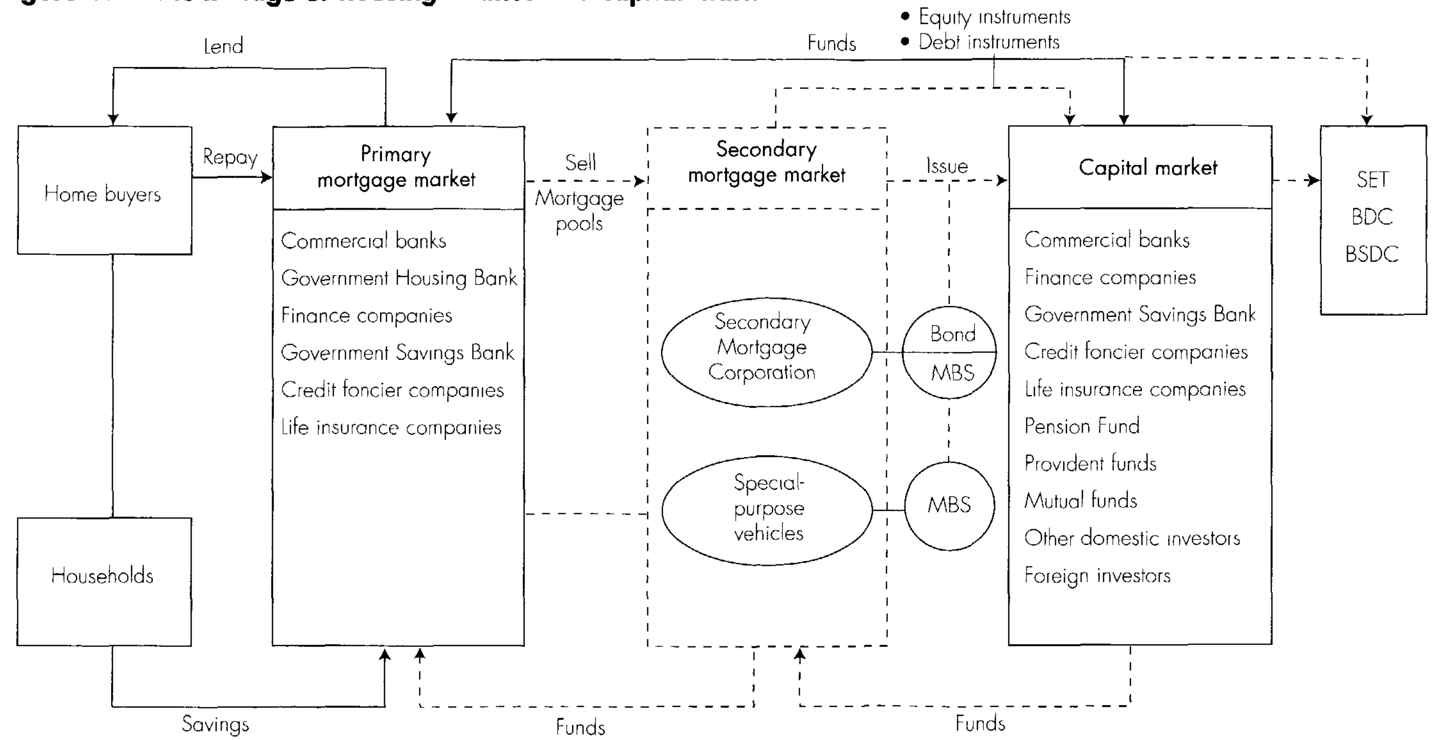
Currently, funds available for housing finance depend heavily on short-term domestic sources of funds and offshore borrowing. The development of the capital market will allow more financial instruments to mobilize long-term funds and develop long-term institutional sources of funds. In the near future more long-term sources of funds will be available to finance housing (figure 10.2).

The secondary mortgage market, particularly mortgage securitization, can play a significant intermediation role between long-term investors and long-term borrowers of home loans. Mortgage securitization can be considered as a bridge or linkage between the retail housing finance market and the wholesale securities market. The Thai government recognizes the benefits of securitization and passed the securitization laws to provide a solid framework for securitzation. The government is also committed to eliminating taxes and other regulations that are potential obstacles. In addition, the government has established the Secondary Mortgage Corporation as a state enterprise to promote the secondary mortgage market in Thailand. Initial government ownership with the initial capital of 1 billion baht will help create a more favorable environment and confidence in the market. However, the government-supported corporation is not a monopoly in the transaction of mortgage loans, and originators will also have the opportunity to sell their mortgage loans to the special-purpose vehicles as an alternative choice. This will provide flexibility and opportunities to both mortgage lenders and investors.

Apart from the government support of mortgage securitization, its success will depend on the needs of the market, particularly issuers and investors. It is noticeable that financial institutions in Thailand, especially finance companies and credit foncier companies, are increasingly aware of the benefits of selling their mortgage loans to secondary institutions so as to provide more financial liquidity, and off-balance sheet financing to improve capital adequacy ratios, increase fee income business through mortgage selling and servicing, and improve risk management.

Investors are also seeking alternate long-term investments instead of equity instruments, which have been subject to heavy volatility in the past five years. In this regard mortgage-backed securities will provide an attractive alternative investment. The issuance of mortgage-backed securities will provide investors with attractive yields (compared to securities in the fixed-

**Figure 10.2 The linkage of housing finance and capital markets**




—— Existing, - - - Potential/new linkage

*Note:* SET = Stock Exchange of Thailand, BDC = Bond Dealers Club, BSDC = Bangkok Stock Dealing Center, MBS = Mortgage-based security

*Source:* Author's schematization

income market), safe investments with excellent ratings through a credit enhancement mechanism, and good liquidity with tradability in the capital market. The potential domestic investors in mortgage-backed securities are commercial banks, the Government Savings Bank, provident funds, mutual funds, and life insurance companies.

However, Thailand's macroeconomy has been unstable since 1996. If the supply of long-term funds for housing finance is to expand further, the macroeconomy, particularly prices, needs to be stable so that long-term interest rate fluctuation risks as well as exchange rate risks can be reduced. Since the collapse of many finance companies, other financial institutions also face systemic risk. Thus long-term funds will be difficult to raise either domesticly or abroad. Under these circumstances it will be hard for the secondary mortgage market and mortgage securitization to evolve.

Without the sound development of the domestic capital market it will be difficult for mortgage securitization to flourish. This includes the debt market, particularly the government bond market, which will be used as a benchmark yield. Other necessary developments include adequate regulations, supervision, and information for investors.

Several unclear policies persist regarding the development of mortgage securitization.

First, ambiguous taxation on securization transactions (such as value-added tax, specific business tax, and income tax) is still one of the major impediments to the securitization business in Thailand. To foster securitization the government should propose eliminating double or unfair taxation, which increases the cost of transactions to originators, issuers, or investors.

Second, off-balance sheet status can be achieved when the transfer of assets is undertaken as a "true" sale or if certain criteria are met, which vary from country to country. In Thailand it should be the responsibility of the Bank of Thailand to set the criteria for off-balance treatment.

Third, in Thailand the risk weightings for the mortgage-backed securities or asset-backed securities have not yet been announced. To boost the mortgage securitization business, the Bank of Thailand should set the risk weight of mortgage-backed securitries lower than 50 percent, probably at 10–20 percent.

Fourth, the operation of the Secondary Mortgage Corporation as well as other secondary vehicles in the secondary mortgage market will involve many risks, including credit risk, interest rate risk, liquidity risk, prepayment risk, and operational risk. To manage these risks effectively, all parties involved must introduce prudent risk management mechanisms and measures. Considering the present situation of the housing and housing finance market in Thailand, credit risk deserves greater attention because of the volatility in housing prices and increasing mortgage loan defaults. To safeguard against credit risk of mortgage loans, a prudent purchasing standard must be adopted. In addition, since nearly all mortgage loans in Thailand carry floating interest rates, the issuance of long-term bonds to fund the purchase of floating-rate mortgage or the issuance of mortgage-backed securities for sale to investors should also carry a floating rate to reduce interest rate risk.

Fifth, mortgage securitization is a rather new field in Thailand. The Thai educational system has not yet produced sufficient qualified personnel in this technically complex and highly competitive market. In the early period of development, the Secondary Mortgage Coporation or other parties involved in the securitization business may need to acquire securitization technology through experienced foreign agencies or international consultants. For the sustainable development of mortgage securitization in Thailand, further education and training are required at all levels.

Weaknesses in the primary mortgage market that must be addressed include:

- *The quality of mortgage loans to be sold.* The sound underwriting criteria of mortgage lenders needs to be improved to ensure that a borrower has the ability and willingness to repay the debt. This suggests that a credit bureau or credit reporting agency should be established to provide credit reports to lenders and that professional property valuation needs to be carefully scrutinized to determine the accurate value of the collateralized property. In addition, standardized documents need to be developed in order to reduce the transaction costs of evaluating mortgage loans and the processing cost of issuing and administering mortgage-backed securities.
- *The quality of servicing and collection.* Since the servicing of mortgages is normally assigned to the originators, the efficient collection of mortgage payments and the periodic remittance of these payments to the investors needs to be improved. Moreover, the timely foreclosure of default loans needs to be improved so that the investors will be able to receive the claims on the collateralized property over a reasonable time.
- *The level of information on portfolio performance.* Information on the underlying loans and their characteristics are normally required by issuers as well as investors so that they will be able to understand and evaluate their risk and return potentials. Background information on portfolio performance, such as defaults, delinquencies, and prepayments, is also required in the risk assessment. To provide complete, accurate, and timely information, originators in the primary market need to develop effective automated mortgage information systems.

The development of domestic capital markets to finance economic growth has long been a strong focus of the International Finance Corporation (IFC). This book examines the links between capital markets and housing finance, especially the role of primary and secondary mortgage institutions and the legal and regulatory environment in Asia. It is based on reports presented at an IFC workshop in Bali, Indonesia, in February 1998 on lessons learned in Japan, the United States, and European countries as well as in developing economies in Asia. The workshop was intended to improve the flow of information on issues and opportunities associated with the development of secondary mortgage markets in Asia.

The book contains case studies for Hong Kong, India, Indonesia, Japan, the Republic of Korea, Malaysia, the Philippines, and Thailand.