PN-ABP-915
84472

INDONESIAN SECONDARY MORTGAGE MARKET STUDY

by

Michael J. Lea

June 1993

Report prepared for the
U.S. Agency for International Development
Bureau for Private Enterprise
Office of Housing and Urban Programs

USAID Project No. 499-0357
USAID Contract No. PCE-1008-I-00-2070-00
UI Project No. 6384
Delivery Order No. 1

THE URBAN INSTITUTE
Washington, D.C.

TABLE OF CONTENTS

Abstract

Prospects for an Indonesian Secondary Mortgage Market

The purpose of this study is to assess the feasibility of creating a secondary mortgage market in Indonesia. The paper begins with a review of the approaches used to finance owner-occupied housing and a definition of the concept of a secondary market. A secondary market is seen as a solution to the problem of insufficient lending by primary market institutions. The appropriate organization of the secondary market depends on the specific reasons why primary market lenders are not providing sufficient funds to meet demand.

Secondary mortgage markets exist in a variety of forms in different countries. The study briefly reviews the experience with such markets and identifies the requirements for their successful operation. The feasibility of a secondary mortgage market in Indonesia is evaluated through a review of the primary market conditions. The major conclusion of the study is that a secondary mortgage facility could significantly improve the allocation of credit by reducing the liquidity risk for primary market lenders and increasing the flow of funds from long term sources of capital (e.g., pension funds).

Executive Summary

Prospects for an Indonesian Secondary Mortgage Market

The purpose of this study is to assess the feasibility of creating a secondary mortgage market in Indonesia. The paper begins with a review of the approaches used to finance owner-occupied housing and a definition of the concept of a secondary market. A secondary market is seen as a solution to the problem of insufficient lending by primary market institutions. The appropriate organization of the secondary market depends on the specific reasons why primary market lenders are not providing sufficient funds to meet demand.

Secondary mortgage markets exist in a variety of forms in different countries. The study briefly reviews the experience with such markets and identifies the requirements for their successful operation. The feasibility of a secondary mortgage market in Indonesia is evaluated through a review of the primary market conditions. The major conclusion of the study is that a secondary mortgage facility could significantly improve the allocation of credit by reducing the liquidity risk for primary market lenders and increasing the flow of funds from long term sources of capital (e.g., pension funds).

Indonesian Secondary Mortgage Market Study

I. Overview

The purpose of this study is to assess the feasibility of creating a secondary mortgage market in Indonesia. The study is organized in six sections: Section II provides a brief overview to the approaches used to finance owner-occupied housing and defines the concept of a secondary mortgage market. Section III describes the rationale and principal benefits associated with a secondary market. Section IV defines the basic principles of a secondary market and the conditions necessary for its viability. Section V briefly reviews the experience with secondary markets in other countries. Section VI discusses the feasibility of a secondary market in Indonesia. Section VII notes several issues that must be addressed in order for the development of a secondary market in Indonesia.

II. Housing Finance Systems

Description: The aim of a housing finance system is to provide the funds which homebuyers need to purchase their homes.[1] This simple description has spawned a broad array of institutional arrangements, ranging from contractual savings schemes, to depository institutions specializing in mortgage finance, to the issuance, sale and trading of mortgage-backed securities ("MBS"). All of these arrangements have been created with the same purpose in mind, to channel funds from savers to borrowers.

A sign of financial sector development is the funding of owner-occupied housing by formal financial institutions (as contrasted with informal savings clubs, relatives or landlords). These institutions can be private sector entities, which can be shareholder owned or mutual organizations or special circuits (i.e., government-backed institutions operating apart from the broader financial markets). As economies develop, provision of housing finance often moves away from extensive reliance on special circuits towards integration of housing finance into the broader financial markets.[2]

The traditional model of formal financial sector finance of housing is the deposit taking system.

---

[1] *For a comprehensive description of housing finance systems in the early 1980s, see Boleat [1985].*
[2] *For a recent analysis of European and U.S. housing finance systems, see Diamond and Lea [1992 a,b].*

(Exhibit 1). In this model, an institution gathers savings from households and enterprises and makes loans to homebuyers.[3] Thus, it originates, services and funds the loan. There are several types of deposit taking institutions, including commercial banks which offer a complete range of banking services, savings banks which deal largely with the household sector, and specialist housing finance institutions (building societies or savings and loan associations) which focus their lending primarily on housing. The United Kingdom is an example of a country which relies largely on depository institutions for housing finance. In Asia, housing finance in both Malaysia and Thailand is provided primarily by depository institutions.

An alternative to the depository institution model is the mortgage bank system (Exhibit 2). In such systems, specialized institutions (mortgage banks) originate and service portfolios of mortgage loans which are funded by securities they issue. The securities are general obligations of the mortgage bank and are typically purchased by institutions with long term sources of funds (e.g., pension funds and insurance companies). The mortgage bank model has been around since the mid-1800s and is extensively used in continental Europe (particularly Denmark, Germany and Spain). Asian mortgage banks exist in India and Pakistan.

A depository system is frequently referred to as a retail approach as institutions deal directly with the public in lending and borrowing funds. The mortgage bank system is a combination of a retail and a wholesale approach. Its wholesale character comes from the funds raising side wherein funds are obtained primarily from institutional sources through the broader capital market rather than directly from the public.

In many countries, purely wholesale institutions exist to facilitate the flow of funds to the primary mortgage market (Exhibit 3). These institutions, referred to as liquidity, rediscounting or secondary mortgage facilities, are typically government owned or supported. They issue general obligation bonds in the capital markets and use the proceeds to refinance the portfolios of primary market lenders. In the U.S., the Federal Home Loan Banks have been making collateralized loans to mortgage lenders since the 1930s. In France, the Caisse de Refinancement de Hypothecaire ("CRH") (earlier known as the Marche Hypothecaire) performs a similar function. In Asia, the National Bank of India and the National Home Mortgage Finance Corporation ("NHMFC") of the Philippines were created for this purpose.[4] Cagamas in Malaysia purchases mortgage loans from

---

[3]*For the purposes of this study, contract savings schemes are viewed as specialized depository institution circuits.*

[4]*A number of countries have national housing banks which operate primarily on a retail basis.*

primary market lenders (with recourse and buy back agreements). Its securities are general obligations of the company and not collateralized by the loans. This model is referred to as a secondary mortgage facility ("SMF").

A fourth approach is a secondary mortgage market ("SMM"; see Exhibit 4). A SMM involves the sale of mortgage loans (or loan portfolios) or MBS backed by specific pools of mortgages.[5] As such, it involves the transfer of the risks and ownership of mortgage loans to a third party. The loans may be sold to specialized institutions called conduits or special purpose, separately capitalized vehicles. These entities raise funds through issuance of securities backed (or collateralized) by the loans. The majority of residential mortgage loans in the U.S. are funded through the SMM. MBS have been issued in Australia, France, Spain, Sweden and the U.K.

The SMM model was originally developed in the U.S. as a method to sell mortgage loans (i.e., achieve off-balance sheet financing) in order to reduce the interest rate risk associated with fixed rate mortgage lending. The provision of payment guarantees with the securities issued by government sponsored conduits facilitated investor acceptance. The investor in a guaranteed security does not have to worry about default risk (but still is exposed to interest rate risk). In recent years, private SMMs have developed in the U.K. and U.S. without the aid of government.[6] These markets developed because wholesale sources of funds were cheaper than retail and lenders were capital constrained.

The use of one or more of these systems depends on the stage of development of a country's financial markets as well as government policies. As housing finance involves lending to individuals, it usually emerges as a retail activity. Wholesale funds mobilization develops if the banking system is constrained from supplying sufficient mortgage credit to meet demand or if capital market sources of funding are more cost effective. The issuance of securities is, however, premised on the existence of well developed capital markets. The creation of secondary market institutions has been motivated by the desire to expand the supply of credit available to homebuyers.

Examples in Asia include Bank Tabungan Negara in Indonesia, the Government Housing Bank in Thailand and the Korean Housing Bank. NHMFC has both retail and wholesale functions.

[5]An MBS also is referred to a pass-through security in which borrowers' monthly principal and interest payments and loan payoffs are passed directly to the investor net of servicing and guarantee fees.

[6]In the U.S. and more recently in the U.K. an extensive secondary market in mortgage loan servicing rights also has developed.

III. Rationale for Secondary Markets

Why Primary Market Lenders May Not Lend: The need for secondary markets arises when primary market (retail) lenders are not viewed as providing sufficient funds for owner-occupied housing. There are a number of reasons why mortgages may not be attractive investments for retail lenders (Exhibit 5). First, because mortgages are obligations of individuals, secured by property in a particular location, assessment of credit risk can be costly and time consuming. The ability of the lender to foreclose on loans in default in a reasonable time period with reasonable costs also is a major determinant of credit risk.

Second, even if credit risk is manageable retail lenders may perceive significant risk in funding mortgage investment. Mortgages are typically long term assets (typically 15 to 30 year maturity).[7] Lenders with primarily short term liabilities (notably deposits) are subject to significant liquidity risk if they allocate a substantial portion of their assets to mortgages. Also, mortgage borrowers may demand fixed rate loans. Lenders with primarily short term deposits are subject to considerable interest rate risk if they invest in such loans.[8]

A third factor influencing mortgage investment may be capital. If a lender is capital constrained, it cannot expand its balance sheet significantly without being able to sell the loans it originates. The concept of capital adequacy is fundamentally risk based. If mortgages are viewed as more risky than other forms of investment (e.g., government securities) the lender may choose to invest in lower risk assets which do not use significant amounts of scarce capital.

A fourth factor influencing mortgage investment activities by private sector lenders is the presence of a state subsidized competitor(s). If one or more institutions in the primary market have preferential access to low cost (government subsidized) sources of funds, they can crowd out private lenders from the market by offering lower rates and/or better terms. Borrowers will often queue to receive below market rate loans, depriving private lenders offering market rate a profitable customer base.

---

[7] *Although have relatively long maturities, they amortize and are often subject to early repayment. The duration, or average life, of a mortgage is considerably less than its stated maturity. Mortgages with maturities of 20 to 30 years have durations of 5 to 7 years.*

[8] *The vast majority of U.S. savings and loan institutions became insolvent in the early 1980s because of interest rate risk. Until 1980 they were required to put 80 percent of their assets in 30 year fixed rate mortgages. Their liabilities were primarily short term deposits. Their problems began during the late 1970s when deposit interest rate controls were removed.*

Solutions to the Lack of Lending: The proper solution to the perceived lack of mortgage lending depends on the primary cause of the market breakdown. If default risk arising underdeveloped systems of property ownership or an inefficient foreclosure process is viewed as a major barrier, government provision of mortgage insurance (e.g., similar to the Federal Housing Administration or "FHA" in the U.S.) may stimulate more lending. If the difficulties are primarily due to the costs of underwriting loans or achieving broader geographical diversification, a private mortgage insurance system may suffice. Insurance or security guarantees remove concern over the lack of standardization in or information about mortgages for institutional investors.

A SMF is appropriate if primary market lenders have poor access to the broader capital markets or concerns exist about their ability to manage interest rate or liquidity risk. Security issuance is a more efficient way of raising funds than individual loan sales. SMF may be able to issue longer maturity bonds than individual institutions. If the institution is well capitalized (or supported by the government) it can achieve a higher credit rating on and lower cost funding for its activities than private issuers. Issuance of debt by a centralized institution may involve lower transactions costs of developing a market and issuing securities.[9] Issuance of a large volume of standardized securities can result in greater liquidity than issues of individual institutions.

SMMs have been created when true off-balance sheet financing is desired. Transfer of ownership enables lenders with relatively little capital to participate in the mortgage market. Although MBS can be issued by private sector concerns they are complex, unique and costly to issue. In addition, the issuing entity still must confront the problems associated with introducing a new security and assuring investors of its liquidity and credit worthiness.

Establishing a conduit can facilitate creation of a successful SMM (Exhibit 6). A conduit can work with mortgage originators and servicers to standardize mortgage design, documentation and underwriting, ultimately lowering the transactions costs of mortgage lending. Second, by purchasing mortgages from banks on a nationwide basis, it can achieve geographical diversification, lowering the credit risk on securities relative to those of an individual bank. Third, it can expand the investor base for mortgages, increasing the availability of funds and management of risk. It can do so through credit enhancement, tailoring securities to meet the needs of

[9]*A SMF can issue a sufficient volume of securities to justify the up-front costs. It also solves the free rider problem that exists when up-front costs are not borne by subsequent issuers. An alternative to a single institution undertaking this effort is for a consortium of banks to develop the market jointly.*

investors and providing a centralized source of standardized securities. Fourth, it can lower the transactions cost of and develop a market for MBS or debt securities. Finally, a conduit can be a catalyst for innovation in the housing finance system, for both loans and securities.[10]

The problem of competition with a subsidized direct lending competitor cannot be solved through introduction of a secondary market. The lending activities of such competitors must be targeted to those in greatest need. Introduction of a secondary market can facilitate greater availability of funds for the remainder of the home buying population (i.e., those borrowing at market rates).

Benefits of Secondary Markets: Properly structured, a secondary market can provide significant benefits to a housing finance system, and ultimately to the entire economy (Exhibit 7). The primary benefit is an increase in the availability of funds for housing. A secondary market can overcome a geographic mismatch between the suppliers and demanders of funds (e.g., if there is a lack of nationwide banking or efficient payments system). It can overcome an institutional mismatch between institutions wherein the capacity or inclination to hold and originate long term assets differs. By expanding the pool of funding options available to primary market lenders, there is less pressure on governments to provide direct (and often subsidized) credit to homebuyers. In turn, governments can target scarce resources to the most deserving groups.

A SMM can also lower the cost of mortgage credit through a more efficient allocation of risk. For example, a SMF may improve interest rate risk allocation through matching of long term mortgages with long term sources of funds.[11] A SMM may lower credit risk through nationwide diversification. Liquidity risk may be reduced through expansion of funding opportunities for primary lenders.

A SMF can reduce the transactions cost of mortgage lending and investment through standardization of mortgage loan documentation, underwriting and servicing and creation of standardized securities. Expansion of the market and functional specialization can reduce costs

---

[10]*For example, Freddie Mac in the U.S. pioneered the use of the collateralized mortgage obligation which divides cash flows from a pool of mortgages into different maturity securities. Ginnie Mae has facilitated the introduction of new mortgage instruments through its pool insurance activities.*

[11]*Prepayment risk is a form of interest rate risk arising from the early repayment of mortgages. Specialized securities (derivatives) have been created in the U.S. to more efficiently allocate prepayment risk. A SMF may be exposed to significant prepayment risk if it purchases mortgages funded with straingth debt. However, it may be in a better position to hire experts to manage this risk than individual lenders.*

through economies of scale. By expanding the funding sources for mortgages, a SMM improves the competitive environment which can lead to cost reductions for participants and borrowers.

All of these factors can lead to lower relative mortgage rates. A secondary market also can improve affordability of housing finance for borrowers through the offering of longer maturity mortgages and alternative mortgage instruments (e.g., indexed loans and GPMs).

Finally, an active secondary market enhances the marketability of the securities, reducing the risk of investment and ultimately mortgage rates.[12] Not only will improved marketability lower the relative costs of mortgage securities, it can also be a catalyst for the development of the overall bond market.

IV. Principles of Secondary Mortgage Market Operation

Primary Market: The starting place for the discussion of the requirements for a successful SMM is the primary mortgage market and within that the mortgage instrument itself (Exhibit 8). First and foremost, **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. Thus, the mortgage rate must be sufficient to cover the investor's marginal funding cost (both debt and equity), the risks of mortgage investment and the administrative cost of servicing mortgages (and MBS).[13] In addition, the mortgage market must be at a sufficient stage of development to produce a significant volume of loans to justify the up-front costs of developing the SMM infrastructure.

A second key primary market characteristic is **standardization** of the mortgage instrument. There can be many types of mortgages present in the housing finance system, but only those with sufficient volume are candidates for sale and securitization.[14] In order to reduce the transactions costs of evaluating mortgage loans and the processing costs of issuing and administering MBS, the characteristics (e.g., rate adjustment, amortization schedule, term) of the mortgages should be uniform. In addition, standardized documentation must be available for all loans. Typical

[12]*In the U.S. the trading volume of MBS has surpassed that of Treasury securities.*
[13]*For a detailed discussion, see Lea [1993]. The risks of mortgage investment include credit, interest rate, option, spread and liquidity.*
[14]*Standardization is less important for collateralized lending. Pools of diverse mortgages can provide effective collateral as long as they can be identified, legally pledged and valued.*

documentation includes the mortgage note (document describing the mortgage obligation) and deed (document conveying ownership to lender as security for the repayment of the mortgage) the application, property appraisal and borrower credit report.

Along with standardization of mortgage instrument and design, the **underwriting** of mortgages should be performed in a comprehensive and consistent manner. The underwriting process establishes guidelines ensuring that a borrower has the ability and the willingness to repay the debt and that the property provides sufficient security for the mortgage. 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 through examination of the sales prices of similar properties, construction costs of new properties and market conditions and trends.

The **servicing** of mortgages is a critical component of a viable secondary mortgage market. 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). In addition, servicers are the primary repository of information on the mortgage loans. Thus, they must maintain accurate and up-to-date information on mortgage balances, status and history and provide timely reports to investors.

Ultimately, the attractiveness of mortgages and MBS depends on the ability of investors to understand the instruments and quantify their risk and return potential. Standardization of mortgage instruments is an important step in reducing the **information** costs to investors. In addition, historical performance data on mortgage payments (e.g., default and prepayment) is important in risk assessment. Because of the importance of data in the assessment of risk, the demands on servicers (and conduits) are potentially great. These institutions must be able to process and disseminate large amounts of information. Thus, they must develop effective, automated management information systems.

An important part of the servicing is establishment of clear guidelines for the **collection** of mortgage payments. The documents must spell out payment obligations (dates, amounts, terms of adjustments, obligations for taxes and insurance) and procedures to be followed in the event of default. Although lender discretion in working with borrowers is an important part of the collection process, third party investors must know what those procedures are before making their investment (in order to assess the degree of default risk) and what latitude exists in dealing with the borrower (e.g., forbearance or restructuring). Servicers also must make decisions about and implement procedures leading to foreclosure and repossession in the case of defaulted loans.

Legal and Regulatory Framework: A successful housing finance system is premised on a well developed legal and regulatory structure (Exhibit 9). The primary concern for investors is the security interest. In other words, how enforceable is the claim the investor has on the collateral (house) in the event of default. The answer depends on the clarity of land title, the ability to establish priority of liens on the collateral (i.e., an effective title and lien registration system) and the ability to enforce foreclosure and repossession over a reasonable time period.[15]

Enforceable security interest is a necessary but not sufficient condition for a successful housing finance system. For transactions involving asset sale or pledging (i.e., 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. Thus, transfer and recordation fees should be nominal and borrowers should not have to approve the transfer.[16]

An additional legal concern for investors is the solvency of seller, servicers or other third parties (i.e., credit enhancers, trustees). In the event of insolvency, payments to investors may be delayed while a court reviews the merits of various claimants. Thus, the rights of investors to the cash being collected on their behalf is important. Also, investors should be able to monitor the financial condition of servicers. Investors may demand the right to "pull" or transfer servicing in the event the solvency of a servicer becomes impaired (i.e., to avoid the hazards of diverting cash flow, delaying payments or inadequately collecting loan payments).

In general, the regulatory environment also must be supportive of a secondary mortgage market. Capital requirements on mortgages and MBS must reflect the relative risks and ensure a "level

---

[15]*In the short run, a government mortgage insurance fund can overcome these concerns. However, a reasonable and enforceable title and foreclosure process is a necessary condition of a viable mortgage insurance fund.. Once a functioning legal process for protecting investor rights is in place, private mortgage insurers can provide default guarantees to investors. A government insurance fund can be provide targeted assistance to certain groups (e.g., low to moderate income first-time homebuyers).*
[16]*As long as borrowers receive adequate service on their loans (e.g., get their questions answered and have access to accurate information on payment changes and balances outstanding) they should not care who the ultimate investor is. Consumer information issues may arise when loan servicing is transferred.*

playing field" (i.e., one that does not favor certain institutions or instruments). Proper accounting standards (including the requirements for off-balance sheet or sale treatment) should exist to provide institutions, investors and regulators with accurate and consistently defined information. In many countries, imposition of withholding taxes on asset transfer have proved to be a formidable impediment to the development of a secondary mortgage market.

Appropriate Role of Government Institutions: In a well developed capital market, wholesale funding and secondary mortgage markets can be developed by the private sector. However, in less well developed capital markets, government support may be necessary to achieve investor acceptance and increased access to funds. Careful attention must be given to the organization and mission of institutions with such support. (Exhibit 10).[17]

Secondary market institutions must have sufficient scale and capital to absorb the start-up costs of developing the systems, procedures and marketing as well as the risk associated with making a market in mortgages. A back-up guarantee by the government (either explicit or implicit) can provide the necessary comfort to investors to encourage acceptance of the securities. The use (and maintenance) of private capital in government institutions can encourage appropriate risk management and efficiency. Private capital reduces the potential moral hazard associated with the dispensing of government guarantees.[18] The use of private capital does involve a trade-off, however. A government-supported conduit is a monopoly. Therefore, careful attention must be given in defining its mission and monitoring its risk taking.

Secondary market institutions are not appropriate vehicles for subsidizing mortgage credit. Their primary mission should be to mobilize private capital, broaden the financial markets and improve risk allocation. If the funds for subsidizing mortgage borrowers come from savers or private investors they will not supply sufficient capital for the institution to meet demand. As a result, the institution will have to resort to non-price rationing of mortgage credit during periods of rising demand. Its lending activities will crowd other intermediaries from the market and potentially

---

[17]*After a secondary market is successfully introduced, the government support can be withdrawn. This was the case with the CRH in France. Discussions about the privatization of Fannie Mae and Freddie Mac have taken place in the U.S. Reduced government support enhances market discipline and reduces the contingent liability of the government for the activities of the institution.*

[18]*A moral hazard exists when the activities of the insured directly affect the exposure of the insurer. An insured individual who engages in high risk activities presents a moral hazard to the insurer. In the U.S., the high risk lending by bankrupt savings and loans represented a moral hazard to the government which insured the deposits of these institutions.*

distort capital allocation. Affordability issues can be better addressed through mortgage design and direct borrower income or downpayment support.

Secondary markets by definition involve the separation of the functional activities associated with mortgage lending (i.e., the institution that owns the mortgage may not have originated it and may not service it). In such a system, principal-agent problems exist. The owner (principal) of the mortgages relies on the actions of the originator and servicer (the agents) to undertake prudent and conservative actions consistent with long-term preservation of capital (this is also the case with collateralized lenders). The agents may have different incentives. For example, a cash short servicer may divert some mortgage payments (claiming the borrowers are in default) to meet short-term needs. Or an originator may relax underwriting guidelines to increase the volume of loans sold or fee income. The principal (or the guarantor) must conduct proper due diligence of servicers and sellers and develop effective incentives to safeguard against such actions.

V. Experience With Secondary Mortgage Markets (Exhibit 11)

U.S.: The SMM mobilizes a majority of funds for owner-occupied housing in the U.S. The roots of the SMM go back to the Great Depression. That period was characterized by collapse of the financial system caused in large part by a lack of liquidity in the financial markets, an erosion of confidence in financial institutions and, in the mortgage market, a lack of understanding of asset default risk on the part of investors. The U.S. government created several institutions in the early 1930s to restore public confidence and improve liquidity in the financial markets. In the mortgage market, the Federal Home Loan Bank system was established in 1932 to provide regulatory oversight and liquidity to the nation's thrift institutions, the primary provider of mortgage credit at the time. Deposit insurance was also set up for thrifts and banks to enhance public confidence.

In 1934, the FHA was created to insure mortgages, increasing investor confidence in mortgage assets (by reallocating credit risk) and fostering the adoption of the long-term, self-amortizing mortgage instrument. In order to promote the adoption of this instrument and increase liquidity in the mortgage market, Fannie Mae was created to provide a secondary market for originators of FHA mortgages. Until the 1980s, Fannie Mae functioned as a portfolio investor in mortgages, funding its purchases with general obligation debt. Both Fannie Mae and the Federal Home Loan Banks (which make collateralized loans to primary market lenders) enjoy relatively low funding rates. Although they are not government agencies, they benefit from a line of credit with the U.S.

Treasury, various security law advantages and a widespread perception that the government would come to their rescue in times of trouble. As a result their debt trades at rates higher than comparable maturity U.S. government debt but less than comparable maturity corporate AAA (the highest private rating) debt.

This system worked well until the 1960s when the combination of inflation, volatile interest rates and deposit interest rate ceilings led to shortages in the availability of mortgage credit. Thus, Ginnie Mae was created in 1968 and Freddie Mac in 1970 to develop secondary mortgage markets.[19] Ginnie Mae is a government agency, and its securities are issued with a payment guarantee backed by full faith and credit of the U.S. The pool insurance provided by Ginnie Mae enables mortgage bankers to sell portfolios of FHA loans directly in the capital markets. Freddie Mac is a government sponsored enterprise with a similar structure as Fannie Mae.[20] In its early years, Freddie Mac concentrated its efforts at standardizing the conventional (non-government insured) mortgage. It began issuing mortgage pass-through securities in the mid-1970s. Fannie Mae began issuing such securities in the early 1980s.

The U.S. SMM came of age in the 1980s when thrift institutions with below market fixed rate mortgages were given tax incentives to sell their loans in the secondary market (in effect swap them for securities which they sold or used as collateral for borrowing). The swap activities added liquidity to the MBS market and facilitated an enormous increase in the trading volume of mortgages and MBS. The introduction of the collateralized mortgage obligation ("CMO") provided a better match between mortgage assets and investor preferences. The increased liquidity and flexibility of MBS brought pension plans, insurance companies and foreign investors into the mortgage market. By the end of the 1980s, a majority of new single-family mortgage originations were being sold directly into the SMM.

The development of the U.S. SMM has not been without controversy. The FHA suffered significant default losses during the 1980s and subsequently had to tighten its qualification standards and raise its insurance fees. Fannie Mae had several years of negative earnings and a

---

[19]*Two major factors influencing the development of the secondary mortgage market in the U.S. are a prohibition against nationwide banking and the requirement (until 1980) that federally insured depository institutions make only fixed rate mortgages.*

[20]*Both Fannie Mae and Freddie Mac are shareholder-owned corporations. They have limited purpose charters, are regulated by the government and have Boards with both shareholder elected and Presidential appointed directors. The FHLBs are mutual institutions (owned by their members) with owner elected boards. They are also regulated by the government.*

negative mark-to-market net worth in the early 1980s, the result of investments in fixed-rate mortgages in a volatile interest rate environment. Portfolio lenders claim that the economies of scale and implicit government backing of the secondary market agencies crowd them out of the mortgage market by reducing spreads to the point where it is no longer profitable (on a risk-adjusted basis) to hold mortgages. The U.S. appears to have weathered all of these problems. Congress has passed and the agencies currently meet new capital requirements. FHA's non-subsidized activities are once again actuarially sound. And U.S. homebuyers continue to benefit from ample availability and a relatively low cost of mortgage credit.

U.K.: Unlike the U.S., the SMM in the U.K. developed without any government involvement. In the mid-1980s, centralized mortgage lenders entered the market in response to wide spreads between mortgage rates and money market rates. These institutions (private conduits) lend through a network of brokers and insurance agents and fund themselves entirely through wholesale sources, primarily MBS. The centralized lenders were able to build a share as high as 13 percent of the market over a short period of time, aided by favorable wholesale-to-retail funding rates and aggressive marketing and product differentiation, Their share fell in the early 1990s to less than 5 percent of the market, reflecting the aggressive pricing of building societies, which benefited from significant deposit inflows in the wake of the October 1987 stock market crash. Downgrading of insurance companies, which provide credit enhancement for centralized lender MBS, and unfavorable risk based capital treatment of MBS (until recently at 8 percent, rather than the 4 percent level of residential whole loans) adversely affected the cost of funds of the centralized lenders.

Europe: Unlike the U.K. and U.S., MBS markets have not yet developed in Europe. In recent years there have been isolated issues (in France, Spain and Sweden) but no on-going programs. The primary reasons for the slow pace of securitization has been the lack of capital pressure on lenders, low rates on mortgages (particularly in France), high costs of developing securitization programs and legal and regulatory uncertainty.

Wholesale funding of mortgages is well established in Europe. France, Germany, Spain and the Nordic countries have active and well developed mortgage bond markets. Bonds are issued by private and state-owned mortgage banks. Investors (particularly insurance companies and pension funds) are major holders of mortgage bonds. They typically have restricted investment opportunities or incentives to hold mortgage bonds. Government supported wholesale banks exist in France, Germany and Spain. These institutions refinance the portfolios of primary market lenders. It is notable that all of these countries have highly developed securities markets.

Asia: The only Asian country with a true (but small) SMM is **Australia.** MBS were introduced in Australia in 1986.[21] By 1991 over $6 billion had been raised through this approach. Most of the MBS issuance has been by mortgage companies specializing in low start rate loans guaranteed by state housing authorities.

A secondary market institution, Cagamas, was created in **Malaysia** in 1987 to purchase loans from primary market lenders. Both market rate and government subsidized loans are purchased with the intent of reselling them to the lenders after a period of 3 to 7 years (selected by the lender).[22] The loans are acquired on recourse from the lenders which administer them on behalf of the company. The mortgage acquisitions are financed with the proceeds of general obligation bond issues. Both fixed and floating rate bonds have been issued corresponding to the characteristics of Cagamas' loan purchases. The government has created incentives for the holding of these securities through tax preferences, assignment of the lowest risk based capital weight for depository institutions, authorization for investment by pension funds and insurance companies and inclusion of the securities as part of the investments that can be held as liquid assets.

Cagamas is a predominately private company with 80 percent ownership by banks and finance companies. The Central Bank of Malaysia has a 20 percent ownership interest (the next largest shareholder has a 7.9 percent interest). Thus, the company's securities have the perception of government backing. Cagamas is by far the largest issuer of private debt securities. It issued over RM 3.3 billion of debt securities in 1992 and had over RM 5.1 billion outstanding at the end of the year.

A number of Asian countries have created wholesale institutions to provide liquidity through refinancing primary market loans. In **India**, the National Housing Bank ("NHB") has achieved a degree of success in mobilizing new funds for owner-occupied housing.[23] Most of its funds have come from government directed sources or through bond issues carrying special tax advantages. In addition, NHB developed a contract savings scheme that initially brought in new funds but will eventually result in a net outflow of funds (as it begins lending to savers that fulfill their

---

[21] *Whitehead & Yates [1991].*
[22] *CAGAMAS [1992].*
[23] *Struyk and Ravicz [1992].*

contracts). In general, NHB's access to new funds lags its commitments and it has had only limited success in tapping the broader financial markets.

The Government Housing Bank (GHB) in **Thailand** obtains its funds primarily through deposits. The GHB's main influence appears to have been as a competitor to other primary market lenders. It began offering to refinance (at lower interest rates) existing mortgage loans held by commercial banks in the mid-1980s, using its cost advantage in raising funds (as a government-backed institution). The banks responded by significantly increasing their volume of mortgage lending in order to retain their customer base. The GHB has been noted as a constructive source of innovation and competition in the system.[24]

The experience of the **Philippines** with government supported mortgage institutions has not been positive. The major government lending entity, the NHMFC, mobilizes funds from government pension plans and mutual funds to provide mortgage loans to their members. As such, it is a combination retail/wholesale institution.[25] It has suffered from very high default rates and currently is undergoing its second "rehabilitation" in the last 6 years. The current plan calls for it to be reconstituted as a SMM conduit purchasing loans from banks and developers and issuing MBS.

The existence of specialized housing banks in **Sri Lanka and Korea** has not significantly improved the availability of housing finance. Both countries are plagued with severely repressed financial systems in which the government actively attempts to direct credit. Housing finance is provide primarily through specialized state mortgage banks that operate on a retail (direct lending) as well as wholesale (security issuance) basis. Mortgage rates are not market determined and what funding is available comes from directed sources (e.g., state pension funds). The volume of lending is small (relative to the size of the economy) and private sector participation is limited.[26]

---

[24]*Mayo [1990].*
[25]*Philippine institutions appear to suffer from a lack of well defined and targeted purpose. It is notable that the government pension funds also are direct mortgage lenders. A government institution insuring loans to private developers also originates loans and provides interim financing to community groups (the ultimate owners).*
[26]*Struyk and Ravicz [1992].*

VI. Feasibility of a Secondary Mortgage Market in Indonesia

Primary Market Conditions (Exhibit 12): The volume of mortgage lending through formal sector institutions in Indonesia is relatively low, particularly in relation to housing needs. There are several factors responsible for this situation. First, real interest rates have been very high in recent years, reducing affordability and depressing demand. Second, the majority of lending has been through a special circuit isolated from the broader financial markets.[27] Both Bank Tabungan Negara ("BTN") and P.T. Papan Sejahtera (now known as Bank Papan) have had access to low cost government credit. The relatively large volume of subsidized loans made by these two institutions has discouraged mortgage lending by other banks. Most private bank lending has been at the high end of the market, often in conjunction with real estate development (e.g., providing construction funds followed by end loans to purchasers).

In addition to competition from subsidized competitors, private banks have shied away from a significant volume of mortgage lending due to perceived risk. Mortgage lending involves significant credit risk reflecting the costs and uncertainties associated with the foreclosure and possession process. However, several private banks interviewed for this report have developed ways to manage this risk including guarantees obtained from developers, setting up direct deposit and payroll deduction plans with employers and aggressively using the court system. Furthermore, there is a belief that house price inflation offsets much of the high cost of foreclosure and provides an incentive for borrowers to sell their houses instead of risking loss through foreclosure. The consensus among the small group of interviewees is that housing loans are less risky than business loans.

The issue of credit risk may be a more general problem, reflecting the slow down in the economy and the increase in bad debts held by banks. Many institutions have reduced their lending (not just mortgage lending), preferring to invest in short term, low risk securities (both domestic and off-shore).

A second significant source of risk is liquidity risk arising from the nature of mortgage assets and bank deposits. Mortgage loans typically have maturities of 15 to 20 years. Because they amortize and are subject to prepayment, their average lives are typically 5 to 7 years. The vast majority of commercial bank liabilities are deposits with terms of 2 years or less. As a result,

---

[27] *Struyk, Hoffman and Katsura [1990].*

most private bank mortgages are 3 to 5 year loans. Rapid amortization significantly reduces affordability. Even with such terms, many banks are reluctant to allocate more than 5 to 10 percent of their portfolios to mortgages. Liquidity risk concerns were heightened by the abrupt tightening of monetary policy in 1991 and the failure of Bank Summa in 1992.

Interest rate risk is a potential concern to lenders. There is a demand for fixed rate mortgages by a segment of their customer base. However, the banks have no corresponding liabilities or experience in pricing such instruments.

Mortgage Funding: There is a notable lack of investment in mortgages by long term investors (pensions and insurance funds). The only vehicle for such investment have been the bond issues of BTN and Bank Papan, which represent a small fraction of total bond issuance and pension fund assets. A large portion of state pension fund assets are invested in government short term paper (BI certificates) and time deposits. Therefore, there is a large reservoir of long term funds that could be used to fund housing.

Private banks can issue bonds to finance their mortgage portfolios. However, there are a number of reasons why this has not been an attractive option to date. Bond issuance is very expensive with all-in costs of 3 to 4 percent. There are limits on the ability of subsidiaries to issue debt and special purpose vehicles and trusts have not been introduced. There may be a credit risk premium required by investors for private bank bonds reflecting uncertainty over their credit quality. The Bank Summa failure and on-going reference to bad debt problems have undermined confidence in private banks. Credit enhancement options are limited. Private bank bonds need state bank guarantees to be purchased by state pension funds. Currently, capital shortages in state banks reduce their ability to issue guarantees. Foreign bank guarantees are costly and may not be widely accepted. The regulations necessary to issue subordinated debt have not been developed.

There is a marketability premium for holding Indonesian bonds. There is very little secondary trading in bonds and no valuation or quotation system (which inhibits foreign investment). Also, there are no long term bonds (the longest maturity issues have been 5 years). One factor may be the lack of a government bond market. Without such a market, there is no reference rate for bond pricing (i.e., risk free rate for comparable maturity securities) nor a large volume issuer with the capabilities of establishing liquidity in the market.

Legal and Regulatory Issues: In addition to the difficulties in foreclosing on delinquent loans, there are several legal and regulatory constraints which inhibit mortgage lending and investment. Mortgages carry a 100 percent CAR risk weight as opposed to the 50 percent weight incorporated in the Bank for International Settlement standards. Bond purchasers are limited to 10 percent of an issue - a potentially binding constraint in a market with relatively few buyers. The sale of mortgages requires borrower consent which is time consuming and costly. Although collateralized borrowing involves a self-executing deed, obtaining the collateral must be done through a court procedure which is costly and time consuming. A lengthy process will inhibit collateralized borrowing or sale of mortgage loans with the lender retaining the servicing. In both cases it is imperative that the creditor or owner of the mortgages obtain access to the cash flows as soon as possible.

The civil law system in Indonesia is not conducive to rapid change. Innovations such as securitization have to spelled out in new legislation in advance of adoption. It is often difficult for legislation to be flexible enough to accommodate the full range of market needs. This contrasts with Anglo-American or common law in which market participants are free to introduce new contract and organizational forms as long as they are not specifically precluded under existing law.

Market Needs: The Indonesian economy has been undergoing rapid change and growth. As a result, the demands on the financial system are becoming greater with each passing day. With growth and change comes increased awareness of the financing needs of particular sectors. One of the major roles for government is to identify and prioritize the principal problems affecting provision of credit for important social and investment needs and adopt appropriate policies to problem is improvement in the land titling and court systems - both of which are long term projects. Provision of mortgage insurance through the government could reduce or eliminate credit risk for mortgage investors. However, it could expose the government to significant liabilities if it is not properly priced and underwritten. The need for government mortgage insurance is unclear as private banks appear to have found ways to deal with mortgage credit risk. An opportunity may exist for a private mortgage insurer ("PMI") to profitably price and manage this risk. Through the activities of a PMI the costs of credit risk could be reduced through nationwide diversification and improved foreclosure procedures.

A third market need is greater access to long term sources of funds. There are substantial sources of long term funds that could be invested in mortgages if proper investment vehicles are made available. In addition, development of long term funding options could reduce liquidity and interest rate risk concerns that may be inhibiting mortgage lending in Indonesia. A SMF may be the most appropriate way to improve access to long term sources of funds for mortgage lending. Private banks could obtain long term advances (collateralized loans) from a SMF funded by general obligation bond issuance. The bonds would be purchased by pension plans, insurance companies and other banks.

The appeal of this alternative is that it is relatively simple to implement. If the collateralized lender can get prompt access to the borrower's payments in the event of loan default, the risk of such lending should be modest (as it is typically done on an overcollateralized basis). If the SMF has some form of government involvement, it will have a ready demand for its bonds among long term investors.

If mortgage lenders are unable or unwilling to significantly expand their mortgage investments the a mechanism for sale of the loans will need to be developed. One alternative could be for a SMF to purchase loans, funded by its bond issues. However, the legal issues that exist in selling mortgages and managing servicing risk suggest that it would take an extended period of time to develop such a system.

A true SMM model would be expensive and time consuming to form. Systems for tracking and transferring cash and information would have to be developed. Mortgage design and underwriting would have to be standardized to permit MBS issue. Legal obstacles to ownership transfer would have to be resolved as well as determining how credit enhancement would be provided. A SMM can be developed in the future if demand for off-balance sheet financing arises.

VII. Issues Associated with Development of a Secondary Market in Indonesia

As the banking system becomes stronger and the capital markets develop, a greater volume of housing finance is likely to be forthcoming from the private sector. However, at the present time funding risk appears to be a significant impediment to expansion. Thus, maintaining the status quo is not an attractive option for the housing finance system in Indonesia. The creation of a government supported institution (an SMF) to refinance bank originated mortgages funded through the issuance of bonds would have several beneficial effects (Exhibit 13). First, it would provide a source of long-term financing for private banks, removing a major obstacle for mortgage investment. Second, it would facilitate investment in mortgages by pension funds and insurance companies, potentially improving their investment performance and increasing the supply of funds available for housing. Third, it would help stimulate development of a bond market in Indonesia which would benefit private companies and government enterprises in their efforts to raise capital.

Ideally the SMF should be capitalized primarily from private sources to promote efficiency and prudent risk management. However, to facilitate pension plan and insurance company investment the SMF should have some government connection. This involvement could be limited (e.g., minority investment by Bank of Indonesia).

Given the current stage of development of the capital markets, it would be preferable for the bonds issued by a SMF to be a simple as possible (e.g., fixed term bullet bonds with either fixed or floating rates). Once formed, the restriction against pension fund investment in bonds issued by companies with less than three years of operating experience would have to be waived. The SMF can work with institutional investors to achieve acceptance of longer term bonds. However, the bonds do not have to be over 10 years in maturity to provide the necessary long term financing for mortgages. Interest rate risk management guidelines should be developed before the SMF begins operation. It will be particularly important to develop procedures or capabilities to manage prepayment risk if the loans can be called. One option in conjunction with making collateralized loans to banks would be charging prepayment penalties for early pay-off. This approach would keep the responsibility for interest rate risk management with the lender.

Initially, it will be simpler to make loans to banks collateralized by their mortgage portfolios rather than to develop the systems necessary for sale and transfer of individual loans. Collateralized loans (or advances) can be made either with blanket liens on an entire portfolio or with identification, segregation and valuation of individual loans. The SMF can lend on an overcollateralized basis to minimize its credit risk. This type of lending also obviates the need for standardization of loan characteristics and documentation. The SMF must conduct a thorough review of the underwriting, servicing and performance of individual lenders before it makes the decision to extend credit. Cash and management information systems for managing loan and security payments must be developed.

Advances collateralized by loans are unknown in Indonesia. A careful review of the legal and regulatory issues associated with this type of lending needs to be undertaken. If the SMF is to purchase mortgages, guidelines (i.e., documentation and underwriting) will have to be developed. Purchases should be limited to those lenders with a demonstrated track record in originating and servicing mortgages. Also, the requirement for borrower consent of loan transfer would have to be dropped.

Creation of an SMF can be viewed as the first step towards development of a true SMM in Indonesia. Many of the issues concerning loan standardization, information processing and servicing also will have to be addressed if individual banks decide to sell loans or MBS directly into the capital markets. In this regard, a SMF can provide a valuable demonstration effect for the rest of the banking system and capital market. As market participants gain experience in originating, servicing and managing mortgage investments, new forms of funding tailored to the needs of lenders are likely to emerge.

References

1. Boleat, M., *National Housing Finance Systems: A Comparative Study,* London, Croon-Helm Ltd, 1985.
2. Cagamas Berhad, *1992 Annual Report* , Malaysia 1993.
3. Diamond, D.B. and M. J. Lea, "The Decline of Special Circuits in Developed Country Housing Finance", *Housing Policy Debate*, 3, 3, 1992b.
4. Diamond, D.B. and M.J. Lea, "Housing Finance in Developed Countries: An International Comparison of Efficiency". *Journal of Housing Research*, 3, 1, 1992a.
5. Lea, M.J., "Mortgage Pricing in Russia: A Methodological Introduction", Urban Institute Working Paper, May 1993.
6. Mayo, S., "Housing Finance Development: Experiences in Malaysia and Thailand and Implications for Indonesia", paper prepared for the Office of the State Minister of Housing, Indonesia, January 1990.
7. Struyk, R. and M. Ravicz, *Housing Finance in LDCs: India's National Housing Bank as a Model?* Urban Institute Report 92-2, Washington D.C., 1992.
8. Struyk, R., M. Hoffman and H. Katsura, *The Market for Shelter in Indonesian Cities*, The Urban Institute Press, Washington D.C., 1990.
9. Whitehead, C. and J. Yates, "Deregulation and the Private Financing of Housing in Australia and the U.K.", paper presented at the Housing Finance Workshop, Conference on European Cities: Growth and Decline, The Hague, The Netherlands, April 1992.

Exhibits

Exhibit 1

Depository System

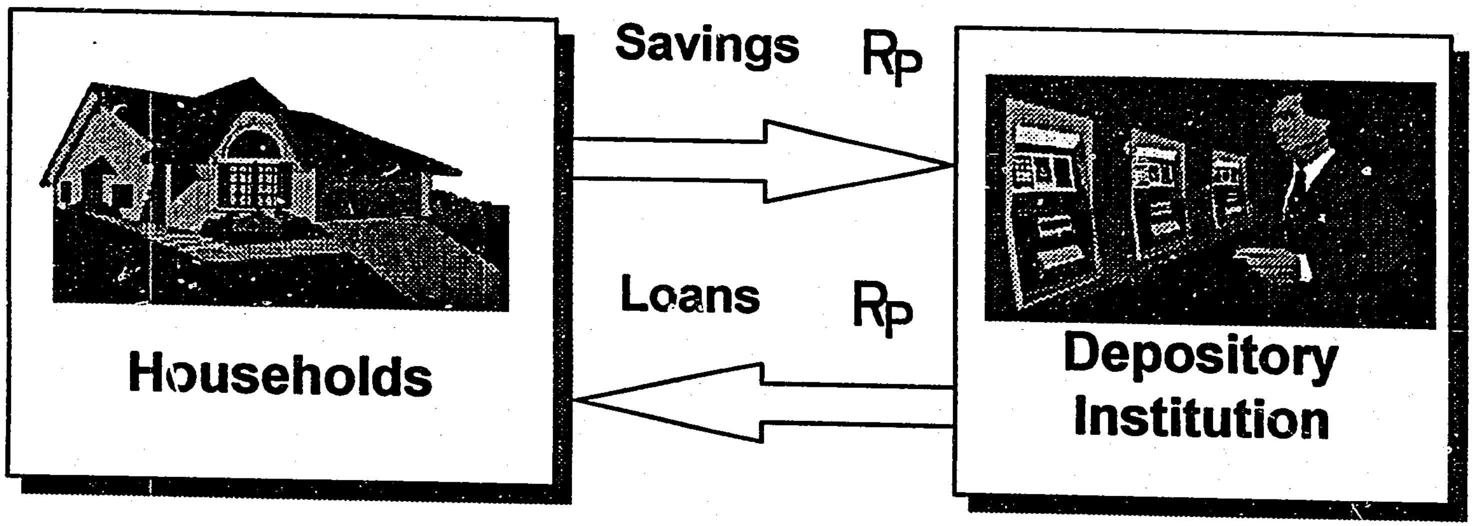


Exhibit 2

Mortgage Bank System

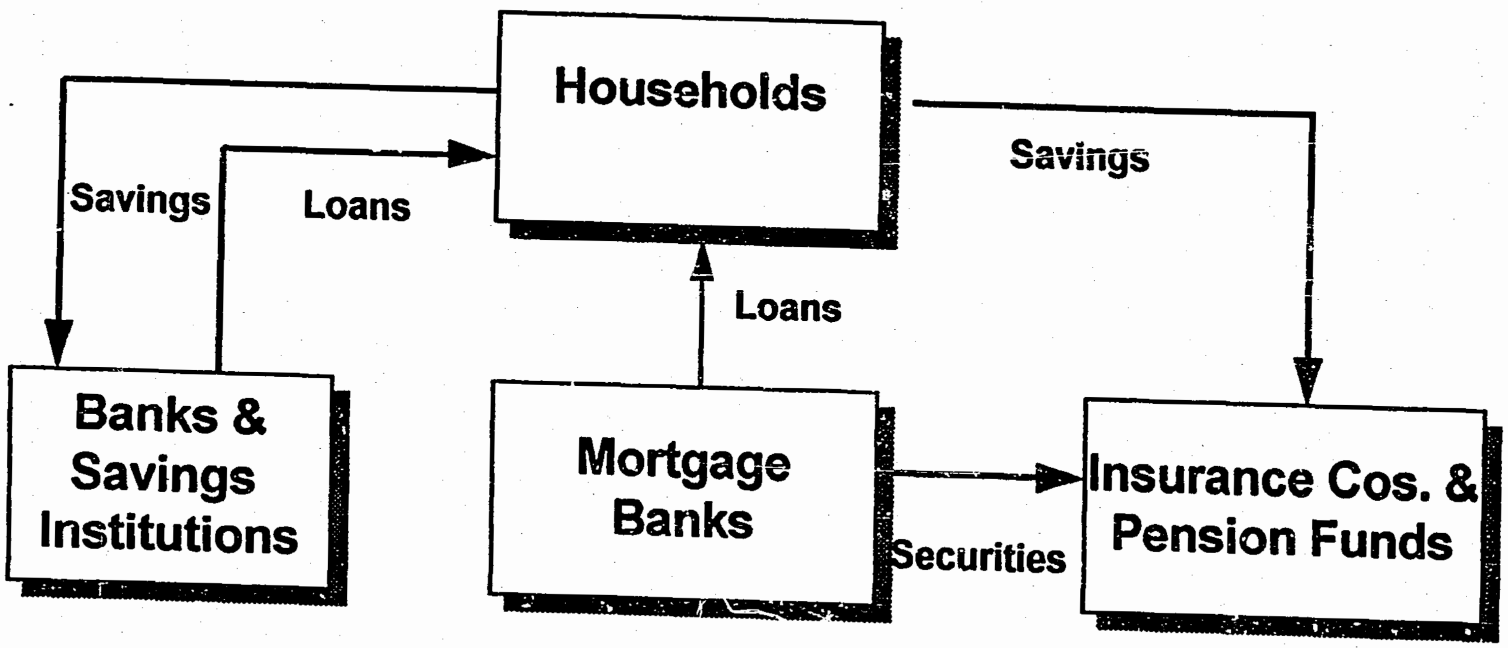


Exhibit 3

Secondary Mortgage Facility

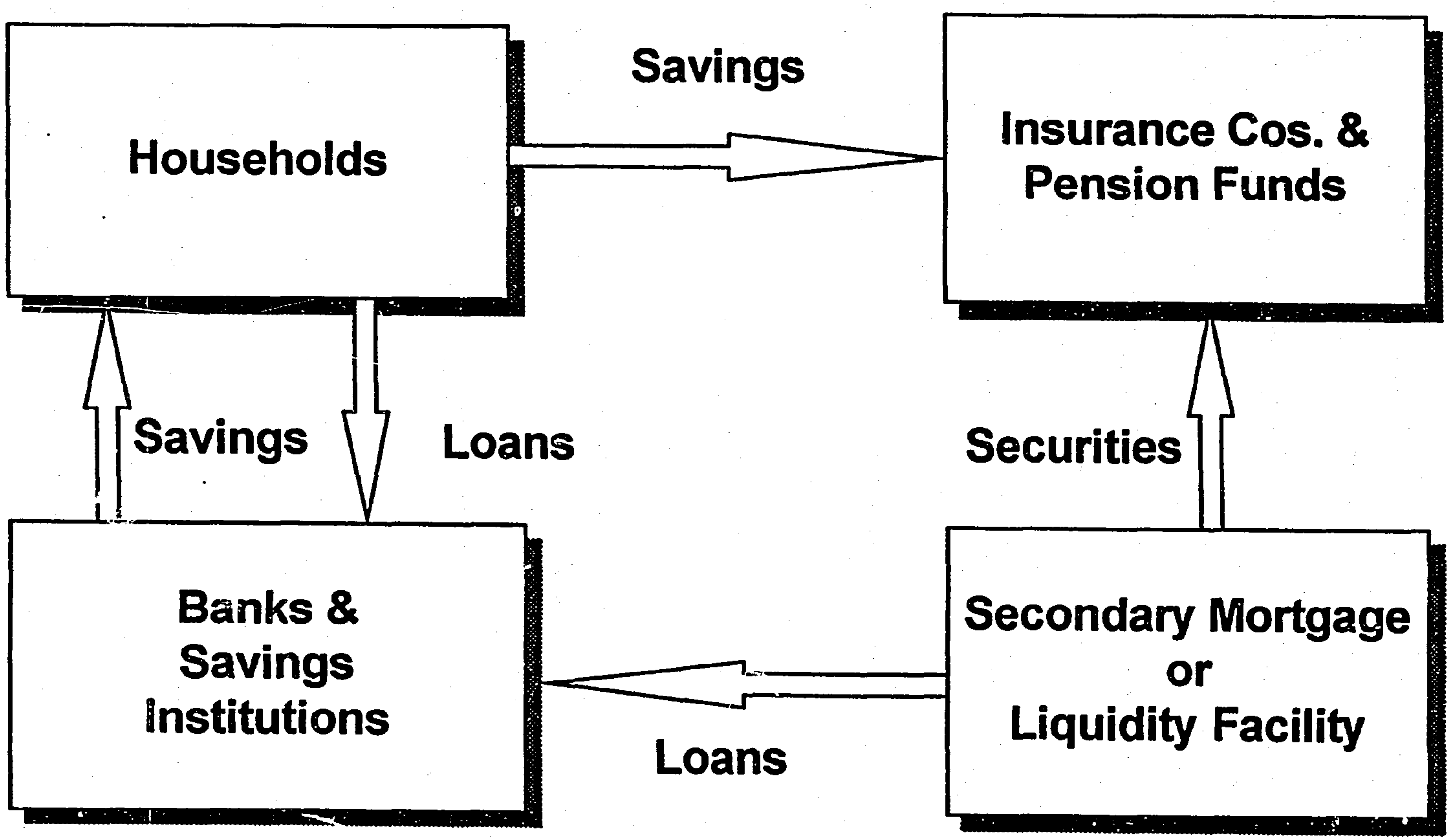
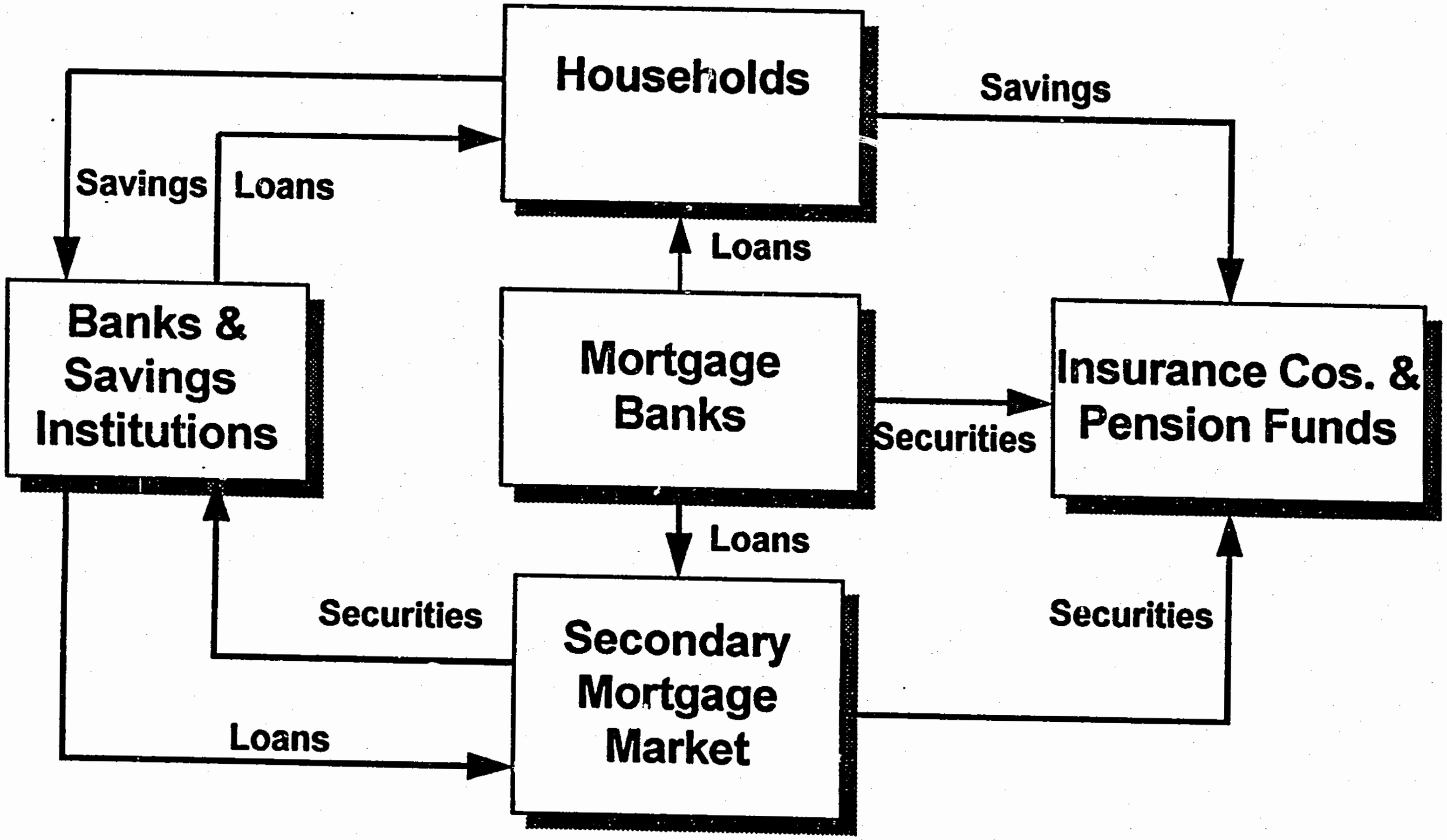


Exhibit 4

Housing Finance with Secondary Mortgage Market



Obstacles and Solutions for Expansion of Lending

Obstacles	Solutions
Credit Risk	Mortgage Insurance
Funding Risk	Secondary Mortgage Facility
Capital Adequacy	Secondary Mortgage Market
Subsidized Competitor	Targeting

Exhibit 6

Role of a Secondary Market Institution

- Standardize mortgage design, documentation and underwriting
- Expand the investor base for mortgages
- Achieve geographic diversification
- Catalyst for innovation
- Reduce costs of security issuance and investment

Exhibit 7

Benefits of a Secondary Mortgage Market

- Increased availability of funds
- More efficient allocation of risk
- Lower transactions costs
- Lower relative mortgage rates
- Stimulate development of capital markets

Exhibit 8

Primary Market Requirements

- Mortgage attractive investments
- Standardization of documents & underwriting
- High quality servicing and collection
- Good information on mortgage characteristics & performance

Exhibit 9

Legal & Regulatory Requirements

- Enforceable security interest
- Transferable security interest
- Bankruptcy rights of investors
- Level regulatory playing field

Exhibit 10

Appropriate Role of Government

- Target mission of supported institutions

- Appropriate capitalization and supervision of supported institutions

- Integrate housing finance into broader capital market

- Monitor principal-agent problems and risk-taking

Exhibit 11

Experience with Secondary Markets

- U.S.
  - FHA: Mortgage Insurance
  - FHLBs: Secondary Mortgage Facility
  - Fannie Mae, Freddie Mac: Secondary Mortgage Market
- U.K.
  - Private Mortgage Insurance
  - Private Secondary Mortgage Market
- Europe
  - Secondary Mortgage Facilities: France, Germany, Spain
- Asia
  - Secondary Mortgage Facility in Malaysia
  - Private Secondary Mortgage Market in Australia
  - State Housing Banks (India, Thailand, Philippines)

Exhibit 12

Indonesian Market Conditions

- Primary Market Conditions
  - High interest rates & low affordability
  - Difficulties of foreclosure
  - Market distortions
- Mortgage Funding
  - Liquidity risk
  - Interest rate risk
- Legal & Regulatory Environment
  - Bond market requirements
  - Ownership transfer issues
  - System rigidities

Exhibit 13

Indonesian Secondary Mortgage Facility

- **What it Can Do**
  - Long term collateralized loans to originators
  - Long term bond issues to investors
- **Benefits to Lenders**
  - Long term source of funds
  - Better risk management
- **Benefits to Investors**
  - Long term bond investments
  - Bond market development
- **Benefits to Borrowers**
  - More affordable mortgage credit
  - Increased competition among lenders
  - More flexible mortgage terms